

Critique of Pure Reason

IMMANUEL KANT

Plain English Translation

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Translated by Michael Berardi

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THIS EDITION

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TRANSLATOR

Michael Berardi

THE WORK

Written 1787 · Philosophy

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[B i]

Critique of Pure Reason by Immanuel Kant

Professor at Königsberg, and a member of the Royal Academy of Sciences in Berlin

Second edition, improved here and there (1787)

[B ii]

Bacon of Verulam

The Great Renewal. Preface.

About ourselves we keep silent. About the matter in hand we ask this: that people think of it as a work to be done and not as an opinion, and be sure that we are laying the foundations not for any sect or doctrine, but for human benefit and human greatness. Then we ask that they be fair about their own interests, take counsel together for the common good, and take a share in the work themselves. And we ask that they hope for the best. They shouldn't picture our Renewal, as some do, as something endless and beyond what a mortal can do, or take it that way in their minds. In truth it is the end of endless error, and its rightful limit.

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To His Excellency, the Royal State Minister, Baron von Zedlitz

[B v]

Gracious Sir!

Anyone who helps the sciences grow, in whatever small part, is working in Your Excellency's own interest. Your interest is closely bound up with the sciences. It is tied to them not only by your high post as their protector, but by something much more personal: you are a lover of them and an enlightened expert. So I'm using the one means that lies, in some measure, within my power to show my thanks for the gracious trust with which Your Excellency honors me, as if I could contribute something to this aim.

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Your Excellency graciously gave your attention to the first edition of this work. To that same attention I now dedicate this second edition. With it I also hand over every other concern of my literary calling. I remain, with the deepest respect,

Your Excellency's most humble and obedient servant, Königsberg, April 23rd, 1787 Immanuel Kant

Preface to the Second Edition



[B vii]

Preface to the Second Edition

You can soon tell from the results whether work on the cognitions that belong to reason's business is taking the secure path of a science. Suppose a study makes many arrangements and preparations, but gets stuck as soon as it comes to its goal. Or suppose it often has to go back and take another road to reach that goal. Or suppose the people working on it can't agree among themselves on how to go after their shared aim. In any of these cases you can be sure that the study is still far from the secure path of a science. It is only groping around. Finding that path, if it can be found, already does reason a service. That holds even if some things have to be dropped as futile that were part of the aim adopted earlier without much thought.

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Logic has gone down this secure path since the earliest times. You can see it from the fact that it hasn't had to take one step backward since Aristotle. (The exception would be if you counted as improvements the removal of a few needless subtleties or a clearer statement of what it teaches. But those have more to do with the elegance of the science than with its security.) What is also remarkable about logic is that, up to now, it hasn't been able to take a single step forward either. By all appearances it is closed and complete. Some recent writers did think they could enlarge it. They pushed in some psychology, with chapters

on the various powers of cognition (imagination, wit). They pushed in some metaphysics: chapters on where cognition comes from, or on how certainty varies with the kind of object (idealism, skepticism and the like). And they pushed in some anthropology: chapters on prejudices, with their causes and the cures for them. All of this comes from not knowing the special nature of this science. When you let the boundaries of sciences run into each other, you don't enlarge them. You deform them. The boundary of logic is fixed quite exactly by what kind of science it is.

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All it does is lay out in full the formal rules of all thinking, and prove them rigorously. Those rules hold for any thinking at all, whether a priori or empirical, from any source and about anything, and whether it meets accidental or natural obstacles in our mind.

Logic owes its success only to its narrow scope. That scope entitles it, in fact obliges it, to set aside all objects of cognition and the differences between them. So in logic the understanding has nothing to deal with except itself and its form. It was naturally much harder for reason to find the secure path of a science when it has to deal not just with itself but with objects too. That is why logic, as a preliminary discipline, makes up only the forecourt of the sciences, so to speak. When we're talking about bodies of knowledge, we do presuppose a logic for judging them. But their acquisition has to be sought in those sciences that are properly and objectively so called.

If these sciences are to involve reason, they have to contain something cognized a priori. Reason's cognition can relate to its object in two ways. One way is simply to fix the object and its concept (which has to be given from somewhere else).

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The other is to make the object actual as well. The first is theoretical cognition of reason, the second practical. In each of the two, the pure part has to be presented first and on its own. This is the part where reason fixes its object wholly a priori, however much or little there is of it. What comes from other sources must not be mixed in with it. Otherwise the household is badly run. You spend

whatever comes in without looking. Then, when the money runs short, you can't tell which part of the income can cover the spending, and which part of the spending you have to cut.

Reason has two theoretical cognitions whose job is to determine their objects a priori. They are mathematics and physics. Mathematics does so in entirely pure form. Physics does so at least partly in pure form, and beyond that by way of sources of cognition other than reason.

Mathematics took the secure path of a science from the earliest times that the history of human reason reaches, among the admirable people of the Greeks. But don't think that mathematics had it as easy as logic, where reason deals only with itself. Hitting on that royal road was harder for mathematics.

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Or rather, it had to build that road for itself. I believe it kept groping around for a long time, especially among the Egyptians. And I think this change should be credited to a revolution. One lucky idea of a single man, in a single experiment, brought it about. After that nobody could miss the road that had to be taken, and a science's secure course was set out and mapped for all time, reaching into endless distances. That revolution in the way of thinking mattered much more than finding the way around the famous cape. But the history of that revolution hasn't been preserved for us, and neither has the story of the lucky man who brought it about. Still, there is the story told by Diogenes Laertius. He names the supposed discoverer of even the smallest elements of geometrical demonstrations, elements that ordinary judgment thinks need no proof at all. The story shows that mathematicians must have found the memory of the change extremely important, the change set off by the first glimpse of this new road. That is what made it unforgettable. A light dawned on the first man to demonstrate the equilateral triangle (call him Thales, or whatever name you like).

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That was because he found that he must not go looking in the figure as he saw it, or in the bare concept of the figure, and so to speak learn its properties from there. He had to bring them out by what he himself had thought into the fig-

ure a priori, according to concepts, and presented in it (by construction). And to know something a priori for certain, he could credit the thing with nothing beyond what must follow from whatever he had himself put into it through his concept.

Natural science took far longer to reach the main highway of science. That is because it was only about a century and a half ago that the proposal of that clever man, Bacon of Verulam, helped bring on this discovery. It also gave the discovery more life, because people were already on its track. This too can be explained by a quick revolution in the way of thinking. Here I'll look only at natural science so far as it is founded on empirical principles.

Galileo let balls of a weight he had picked himself roll down a slope. Torricelli made the air carry a weight that he had thought beforehand to be equal to a column of water he knew. Later still, Stahl turned metals into calx.

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He changed the calx into metal again by removing something from the metals and returning it*. Then a light dawned on all investigators of nature. They understood this: reason can see into only those things that it brings forth itself on a plan of its own. It must go ahead with the principles of its judgments, which follow constant laws, and force nature to answer its questions. It must not just let nature lead it around on a string, so to speak. Otherwise accidental observations, made on no plan drawn up beforehand, don't connect up in any necessary law, and that is exactly what reason is looking for and needs. Reason must go up to nature holding its principles in one hand (these are the only thing that lets agreeing appearances pass as laws). In its other hand it must hold the experiment it has devised on their basis. It goes to learn from nature, certainly. But it doesn't go like a pupil who just repeats whatever the teacher wants said. It goes like an appointed judge who makes the witnesses answer the questions put to them. So even physics owes its fortunate revolution in thinking to one idea alone.

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The idea is to be guided by what reason itself puts into nature, and in that light to look in nature (not to invent it and hand it to nature) for what reason has to learn from nature and could never know by itself. Only this brought natural science onto the secure path of a science, after it had been nothing more than groping around for so many centuries.

* I'm not following the thread of the history of the experimental method exactly here. Its first beginnings aren't well known either.

Metaphysics is a wholly isolated kind of speculative cognition of reason. It rises completely above what experience can teach, and it does this through concepts alone. Unlike mathematics, it doesn't apply concepts to intuition. Here reason is supposed to be its own pupil. So far, fate hasn't been kind enough to let metaphysics take the secure path of a science. And yet it is older than all the other sciences. It would remain even if all the others were swallowed up together in the abyss of an all-destroying barbarism. That is because reason constantly gets stuck in metaphysics, even when it wants to see a priori (as it presumes it can) the laws that the most ordinary experience confirms. In metaphysics you have to go back over the road countless times, because you find it doesn't lead where you want to go.

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As for agreement among its followers in what they assert, metaphysics is so far from it that it is rather a battlefield. It seems to have been designed for exercising one's strength in mock combat. On it no fighter has ever won even the smallest piece of ground, or built a lasting possession on that victory. So there is no doubt that its procedure has been nothing but groping around so far, and what is worst, groping among mere concepts.

So why hasn't a secure scientific path been found here yet? Is it perhaps impossible? Then why did nature plague our reason with a restless drive to hunt for this path as one of its most important concerns? And there's more. How little cause we have to put our trust in reason, when it fails us in one of the weightiest matters we're curious about! It doesn't just fail us. It strings us along with false

promises and finally cheats us. Or has the path only been missed so far? Then what sign is there that we could use to hope for better luck than others had before us, if we search again?

I'd say the examples of mathematics and natural science, which became what they are now through a revolution brought about all at once, are remarkable enough.

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That should make us think about the essential part of the change in thinking that did them so much good. And we should try imitating them in this respect, at least as an experiment, as far as their likeness to metaphysics, as cognitions of reason, allows. People have so far assumed that our cognition, all of it, has to conform to objects. But on that assumption, every attempt to establish something about objects a priori through concepts, something that would extend our cognition, came to nothing. So let's try, for once, whether we get on better with the tasks of metaphysics if we assume that objects have to conform to our cognition. That agrees better with the demanded possibility of a priori cognition of objects, which is supposed to settle something about objects before they are given to us. It's the same as with the first thoughts of Copernicus. He wasn't getting far in explaining the motions of the heavens, so long as he assumed that the whole host of stars revolved around the spectator. So he tried whether he would do better by making the spectator revolve and leaving the stars at rest.

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In metaphysics we can try something similar with the intuition of objects. If intuition had to conform to the nature of objects, I don't see how anyone could know anything of it a priori. But if it's the object (considered as an object of the senses) that fits itself to how our faculty of intuition is built, then I can picture that possibility very well. Still, if these intuitions are to become cognitions, I can't leave it at that. I have to relate them, as representations, to something that serves as their object, and use them to determine that object. So there are two options. First, I could assume that the concepts by which I carry out this determination also conform to the object. Then I'm in the same difficulty

again about how I could know anything about the object a priori. Second, I could assume that objects conform to these concepts—or, to say the same thing, that experience does, since experience is the only place where objects are cognized as given. Then I see an easier way out at once, because experience itself is a kind of cognition that requires understanding. I have to presuppose the understanding's rule in myself before any objects are given to me, and so a priori. That rule is expressed in a priori concepts.

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So all objects of experience must necessarily conform to these concepts and agree with them. As for objects that reason alone thinks, and thinks as necessary, though experience can't supply them at all (not, at any rate, in the way reason thinks them): our attempts to think them—and think them we must—will afterward provide an excellent touchstone for what we adopt as the changed method of thinking. The method is this: the only thing we cognize a priori about things is what we ourselves put into them.*

* The method copied from the investigator of nature is to look for the elements of pure reason within whatever an experiment can confirm or refute. Now, no experiment can be run on the objects of pure reason's propositions (as can be done in natural science) when those propositions are being tested, particularly when they dare to go past every boundary of possible experience. So an experiment will be workable only with concepts and principles that we adopt a priori. We have to set them up so that one and the same set of objects can be looked at from two sides. On one side they are objects of the senses and understanding for experience. On the other side they are objects that are merely thought—objects, at most, for reason in isolation, striving beyond the boundaries of experience. Suppose we find that, when we look at things from that double point of view, they agree with the principle of pure reason, while from a single point of view reason falls into an unavoidable conflict with itself. Then the experiment settles the matter: the distinction is correct.

This attempt works out as we hoped. The first part of metaphysics deals with a priori concepts, and the matching objects for these can be given in experience, to fit them. For that part, the attempt promises the secure path of a science.

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Once we change our way of thinking like this, we can explain the possibility of a priori cognition quite well. What is more, the laws that underlie nature a priori—nature understood as the sum of the objects of experience—can now be given proofs that satisfy. Both were impossible with the old procedure. But our deduction of the power to cognize a priori gives a strange result in the first part of metaphysics. The result seems to do great harm to the whole purpose of metaphysics, which is the business of its second part. It is that, with this power, we can never get beyond the boundary of possible experience. Yet getting beyond that boundary is exactly the most essential concern of this science.

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But right here lies an experiment that counter-checks the truth of the result of that first appraisal of our a priori cognition of reason. The result was that this cognition applies only to appearances, and leaves the thing in itself aside, as real on its own account but unknown to us. For something drives us necessarily past the boundary of experience and of every appearance: the unconditioned. Reason demands the unconditioned in things in themselves, necessarily and with every right, for everything conditioned. In that way it demands that the series of conditions be complete. Suppose we find the following. First case: we assume that objects, taken as things in themselves, are what our cognition of experience has to conform to. Then we find we cannot think the unconditioned without contradiction. Second case: we assume that our representation of things, as they are given to us, doesn't conform to them as things in themselves; instead these objects, as appearances, conform to our manner of representing. Then the contradiction goes away. And we find that, as a consequence, the unconditioned has to turn up, not in things in so far as we know them (the things given to us), but in the same things in so far as we don't know them, as things in themselves.

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Then it turns out that what we first adopted merely as an experiment is well founded.* Speculative reason is denied any way forward in this field of the supersensible. What remains for us is to try whether practical cognition of rea-

son contains data that can determine that transcendent concept of reason, the unconditioned. In that way, as metaphysics wishes, we would get past the boundary of all possible experience, using our a priori cognition—though one that is possible only for a practical purpose. In doing so, speculative reason has at the very least cleared a space for such an extension, even though the space had to be left empty.

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We are still free to fill it, and reason itself urges us to, with its practical data, if we can.**

* This experiment of pure reason is much like the chemists' experiment. They sometimes call it the trial of reduction, and in general the synthetic procedure. The metaphysician's analysis split pure a priori cognition into two very different elements: things as appearances, and things in themselves. Dialectic then combines the two again so that they agree with the necessary idea of reason, the unconditioned. It finds that the agreement can be had only by drawing that distinction, so that the distinction is the true one.

** Likewise, the central laws governing the motion of the heavenly bodies gave proven certainty to what Copernicus at first assumed only as a hypothesis. They also proved the existence of the invisible force that binds the structure of the world together (Newtonian attraction). That force would have stayed undiscovered forever if Copernicus hadn't dared, in a way that went against the senses but was still true, to look for the observed motions not in the objects of the sky but in their spectator. In this preface I too put forward only as a hypothesis the change in the way of thinking that is set out in the Critique, which is analogous to that hypothesis. In the treatise itself, though, the proof isn't hypothetical at all but apodictic, drawn from what space and time, as we represent them, are like, and from the basic concepts of the understanding. I do this just to make the first attempts at such a change noticeable. Such attempts are always hypothetical.

That attempt to change the old procedure of metaphysics is what this critique of pure speculative reason is all about. We carry out a complete revolution in metaphysics, following the example of the geometers and the investigators of

nature. The critique is a treatise about method, not a system of the science as such. Even so, it sketches the whole outline of that science, including its boundaries. It also sketches the whole inner structure of its parts.

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That is because pure speculative reason has a peculiar feature. It can and should measure out its own power according to the different ways it chooses objects for thought. It can and should also list in full the many ways of setting itself problems. And so it can and should draw up the whole preliminary sketch for a system of metaphysics. This is so for the following reasons. On the first point: in a priori cognition, objects can be given only what the thinking subject draws out of itself. On the second point, as regards principles of cognition, pure reason is a wholly separate unit that stands on its own. In it each member is there for all the others, and all are there for each, as in an organized body. No principle can be taken with certainty in one relation unless it has also been examined in its thorough relation to the whole pure use of reason. In return, metaphysics has a rare good fortune, one that no other science of reason dealing with objects can share (for logic is concerned only with the form of thinking as such). Once this critique has put metaphysics on the secure path of a science, it can take in the whole field of cognitions that belong to it. It can then finish its work and lay it down for later generations to use, as capital that can never be increased.

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That is because the only things it deals with are principles and the restrictions on their use, and these are determined by the principles themselves. As a foundational science, then, it is also obliged to reach this completeness. And it has to be possible to say of metaphysics: nil actum reputans, si quid superesset agendum ("he counts nothing done while anything remains to be done").

But what kind of treasure is it, someone will ask, that we mean to leave to later generations in a metaphysics that has been purified by critique, and so brought into a lasting state? A quick look at this work will make people think its usefulness is only negative. It teaches us never to venture beyond the boundary of experience with speculative reason. And that is in fact its first use. But the use

becomes positive straight away, once we see what follows. Speculative reason ventures beyond its boundary by means of certain principles. Those principles don't really widen our use of reason. Looked at closely, they inevitably narrow it. They actually threaten to stretch the boundaries of sensibility, where they properly belong, over everything.
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In that way they threaten to push out the pure (practical) use of reason altogether. So a critique that restricts the speculative use of reason is negative, so far as that goes. But it also clears away an obstacle that restricts, or even threatens to wipe out, the practical use. In that way it is in fact of positive and very great value, once we are persuaded that pure reason has a practical use that is absolutely necessary—the moral use. In this use reason inevitably extends itself beyond the boundaries of sensibility. For that it needs no help from speculative reason. But it must be secured against speculative reason's counteraction, so that it doesn't fall into contradiction with itself. Denying that this service of the critique is of any positive use is just like saying the police do no good. After all, their chief job is only to bolt the door against the violence that citizens have to fear from one another, so that everybody can go about their affairs calmly and safely. The analytic part of the critique proves the following. Space and time are nothing but forms of sensible intuition, and so nothing but conditions under which things exist as appearances. Next, we have no concepts of the understanding, and so no elements for cognizing things, except under one condition.
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The condition is that an intuition matching those concepts can be given. So of no object can we have cognition as a thing in itself. We can cognize an object only as appearance, that is, only so far as it is something that sensible intuition can take as its object. From this it follows, of course, that all possible speculative cognition of reason is limited to mere objects of experience. Even so—and this must be well noted—it is always held in reserve that we have to be able at least to think these same objects as things in themselves, though we can't cognize them that way*. Otherwise we'd get an absurd result.
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There would be an appearance with nothing there that appears. Suppose we had never drawn the distinction that our critique forces on us. One side of it is things as objects of experience. The other side is those very same things as things in themselves. Then the principle of causality, and with it the mechanism of nature, would have to govern the determination of all things whatever, since all would count as efficient causes. I couldn't say of one and the same being, for instance the human soul, that its will is free and also that it is subject to natural necessity (which means not free), because I'd be contradicting myself plainly. In both statements I would have taken the soul in exactly the same meaning, as a thing in general (a thing in itself). And without a critique first, I couldn't have taken it any other way. But the critique teaches us to take the object in two meanings, as appearance or as thing in itself. Suppose it hasn't erred. Suppose the deduction of its concepts of the understanding is correct, so that the principle of causality holds only for things in the first sense, as objects of experience, while those same things in the second sense are exempt from it.
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Then the same will, in appearance (in its visible actions), necessarily conforms to the law of nature and so is not free. From the other side, as something that belongs to a thing in itself, that will isn't subject to the law, and so it is thought of as free. No contradiction arises. Now, looked at from that second side, I can't cognize my soul by any speculative reason, and still less by empirical observation. Nor can I have cognition of freedom, understood as a property of a being I credit with effects in the world of sense. For that I would have to cognize such a being as determined in its existence, yet not in time. This is impossible, because I can't put any intuition under my concept. Even so, I can think freedom. That is, thinking of it at least involves no contradiction, as long as our critical distinction stands. That is the distinction between the two kinds of representation (sensible and intellectual), together with the limitation it brings on the pure concepts of the understanding, and so on the principles that flow from them. Suppose now that morality has to presuppose freedom, in its strictest sense, as something belonging to our will, and cites original practical principles in our reason as its a priori data.

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Without freedom as a presupposition, those principles would be flatly impossible. And suppose speculative reason had proved that freedom can't be thought at all. Then the moral presupposition would have to yield to the other one, the opposite of which contains a plain contradiction. So freedom, and with it morality (whose opposite contains no contradiction unless freedom has already been presupposed), would have to make room for the mechanism of nature. As things stand, though, I need nothing more for morality than this: freedom must only not contradict itself, and so must at least be thinkable, without my needing to see into it any further. It must also not stand in the way of the natural mechanism that governs this same action when it is viewed in a different respect. So the doctrine of morals holds its place, and the doctrine of nature holds its own. That would not have happened if the critique had not first taught us our unavoidable ignorance about things in themselves, and cut back whatever we can know in theory to appearances alone. The same account of the positive use of critical principles of pure reason applies equally to the concept of God and to the simple nature of our soul, though I pass over it to keep this short.

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Unless I take away from speculative reason its pretension to excessive insights at the same time, I couldn't even accept God, freedom and immortality to serve my reason's necessary practical use. That is because, to reach those insights, speculative reason has to rely on principles that in truth reach no further than objects of possible experience. When these are applied to something that can't be an object of experience, they always turn it into an appearance. That is how speculative reason ends up declaring every practical extension of pure reason impossible. So I had to set knowledge aside to make room for faith. The dogmatism of metaphysics—the prejudice that headway in metaphysics can be made with no critique of pure reason—is the real source of all the unbelief that clashes with morality, and that unbelief is, every time, highly dogmatic.—So if it won't be hard for someone to leave later generations a legacy of systematic metaphysics, written in keeping with the critique of pure reason, that is a gift

not to be thought small. It is so whether we look merely at the cultivation of reason through the secure path of a science in general, compared with reason's baseless groping and careless roaming without a critique.

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Or we may look at the better use of time by inquisitive young people. Under ordinary dogmatism they get so much encouragement, and so early, to reason comfortably about things they don't understand, and in which, like everyone in the world, they will never see anything. They are encouraged, too, to go in for inventing new thoughts and opinions, and so to neglect learning solid sciences. It is so most of all when we count the invaluable advantage of ending every objection to morality and religion for all future time, in the Socratic way: by proving beyond doubt that the objectors are ignorant. That matters because some metaphysics or other has been in the world all along, and probably always will be. And with it there will also be a dialectic of pure reason, since that is natural to reason. So the first and most important concern of philosophy is to rid it, once and for all, of every harmful influence by plugging the source of the errors.

* To cognize an object, I have to be able to prove that it is possible. The proof may come from experience, which attests to its actuality, or it may come a priori through reason. But I can think whatever I like, as long as I don't contradict myself. That is, my concept just has to be a possible thought. I can't vouch, though, for whether an object corresponding to it exists within the sum of all possibilities. To give such a concept objective validity (real possibility; the first kind was merely logical), something more is required. This something more doesn't have to be looked for in theoretical sources of cognition. It can lie in practical ones as well.

This change in the field of the sciences is an important one. Speculative reason must lose what it has so far imagined it possessed.

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Even so, everything stays as it was with the common human concern, and with the benefit the world has so far drawn from the teachings of pure reason. It remains in just as good a state as it ever was. The loss hits only the monopoly of

the schools. It doesn't touch the interest of human beings at all. I ask the most unbending dogmatist: have any of these proofs, once they came out of the schools, ever reached the public and had the slightest influence on its conviction? There is the proof that our soul lasts after death, from the simplicity of substance. There is the proof that the will is free against the general mechanism, built on fine yet feeble distinctions between subjective and objective practical necessity. And there is the proof of God's existence that starts out from the concept of a being that is the most real of all (or from how contingent anything changeable is, and how necessary a first mover is). That hasn't happened. And since common human understanding is unfit for such subtle speculation, it can never be expected to happen. Instead, as for the first proof, there is a disposition of human nature that everyone notices: it can never be satisfied by what is temporal, which is inadequate to the dispositions of its whole vocation; that has produced the hope of a future life.

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In the case of the second, the plain and clear statement of duties, set against every claim of the inclinations, has produced the consciousness of freedom. And in the third case, nature's wonderful order, beauty and care, visible everywhere, have by themselves produced faith in a wise and great originator of the world. These alone must produce the conviction that spreads to the public, so far as it rests on grounds of reason. If so, this possession isn't just left undisturbed. It gains even more standing from the fact that the schools are now taught not to claim any higher or wider insight, on a point that concerns the common human interest, than the insight that the large crowd (the one we have most reason to respect) can reach just as easily. The schools are taught, then, to limit themselves to cultivating only those grounds of proof that everyone can understand and that are enough for moral purposes. So the change affects only the arrogant claims of the schools. In this matter (as rightly in many others) they would like to be taken for the only experts and keepers of such truths. They share with the public only the use of these truths, and hold on to the key (quod mecum nescit, solus vult scire videri).

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Even so, provision is also made for a fairer claim of the speculative philosopher. The philosopher remains the exclusive keeper of a science that benefits the public without its being aware of it, namely the critique of reason. For this science can never become popular, and doesn't need to be. The people have no more taste for finely spun arguments in favor of useful truths than they ever think of equally subtle objections to them. The school, on the other hand, like every person who rises to speculation, inevitably gets caught up in both. So the school is obliged to examine the rights of speculative reason thoroughly, once and for all. That heads off a scandal that must sooner or later reach even the people from the disputes in which metaphysicians (and eventually clergymen too, as metaphysicians) are inevitably entangled without a critique, and which in the end distort their own teachings. Only this critique can cut off at the root materialism, fatalism, atheism, free-thinking unbelief, fanaticism and superstition, all of which can do damage to everyone. In the end it can also cut off idealism and skepticism, which threaten the schools more and are hardly likely to pass into the public.

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If governments choose to take an interest in the affairs of scholars, it would be much more in keeping with their wise concern for both sciences and people to give such a critique the freedom it needs. Only a critique can put the work of reason on a firm footing. Doing so would suit them far better than backing the schools in their absurd despotism. The schools raise a loud outcry over public danger when someone tears their cobwebs. The public has never taken notice of those cobwebs, and so can never feel their loss.

The critique is not opposed to the dogmatic procedure of reason in its pure cognition, as a science. (That procedure must always be dogmatic, that is, strictly proving from secure a priori principles.) What the critique opposes is dogmatism. Dogmatism is the presumption that one can get on with pure cognition from concepts (philosophical cognition), using principles reason has long been using, without finding out in what way and by what right reason came to them. So dogmatism means reason's dogmatic procedure in pure cog-

nition, with no critique of its own power beforehand. This opposition isn't meant to defend talkative shallowness. That shallowness goes under the assumed name of popularity.

[B xxxvi]

Nor is it meant to defend skepticism, which makes short work of all of metaphysics. On the contrary, the critique is the necessary preliminary arrangement for advancing a thorough metaphysics as a science. That science must necessarily be dogmatic, and carried out systematically by the strictest standard, and so in proper scholarly form (not popularly). This demand on metaphysics is not to be waived, since metaphysics undertakes to do its work entirely a priori, and so to the full satisfaction of speculative reason. When the plan that the critique prescribes is put into practice, in the system of metaphysics still to come, we will one day have to follow the strict method of the famous Wolf, the greatest of all dogmatic philosophers. He was the first to show how the secure path of a science is to be taken: by settling principles in a lawful way, defining concepts clearly, trying for strictness of proof, and avoiding bold leaps in drawing conclusions. With this example he also became the founder of Germany's spirit of thoroughness, which hasn't gone out yet. For that very reason he was especially able to bring a science like metaphysics into that state, if it had occurred to him to prepare the field first by a critique of the organ, that is, of pure reason itself.

[B xxxvii]

That is a shortcoming to be charged not so much to him as to the dogmatic mindset of his time. Where this is concerned, the philosophers of his day and of every earlier day have no right to blame one another. Those who reject his method of teaching and, at the same time, the critique's procedure can be after only one thing: shaking off the shackles of science altogether, so that what they get is play in place of work, opinion in place of certainty, and philodoxy in place of philosophy.

As for this second edition, I naturally didn't want to let its occasion go by without remedying, as far as I could, the difficulties and obscurity. They may have led to some of the misreadings that sharp-minded men have run into when judging this book, perhaps not without fault of mine. I found nothing to

change in the propositions as such, or in the arguments that support them, or in the form or completeness of the plan. This is due partly to the long examination I put them through before I laid the work before the public. It is due partly to the nature of the subject itself, namely a pure speculative reason. That reason has a genuine articulated structure, where everything works as an organ. In it everything exists for the sake of one thing.

[B xxxviii]

And each single part exists for the sake of all. So every weakness, however slight, whether a fault (an error) or a lack, must inevitably show itself when the system is used. I hope this system will keep its ground, unchanged. My confidence comes not from conceit but from the evidence of one experiment, getting the same result both ways. One starts from the smallest elements and goes up to the whole of pure reason. The other goes back from the whole to every part (the whole too is given of itself, by reason's final aim in the practical sphere). This is because any attempt to change even the smallest part brings on contradictions at once, not just in the system but in human reason in general. But the presentation still needs work. In this edition I have tried to improve it, to remedy several things. One is the misunderstanding of the Aesthetic, mainly of the concept of time. Another is the way the deduction of the understanding's concepts is obscure. A third is the alleged shortage of convincing evidence in the proofs for the principles of the pure understanding. The last is the misreading of the paralogisms that are charged against rational psychology.

[B xxxix]

My changes in the manner of presentation* extend this far and no farther. That is, they go only as far as the point where the first chapter of the transcendental dialectic ends.

[B xl]

The reason is that the time was too short.

[B xli]

And in the rest of the book no expert and impartial examiner had come across any misunderstanding.

[B xlii]

Even though I may not name them and give them the praise they have earned, they will find, in the right places, the notice I took of their remarks. This improvement comes with a small loss for the reader, which couldn't be prevented unless I let the book grow too bulky. Several things had to be left out or presented in shortened form. They don't belong essentially to the completeness of the whole. But some readers would be sorry to lose them, because they may serve other purposes. They had to go to make room for my presentation, which I hope is now easier to follow. At bottom it alters not a thing in the propositions, or even in the arguments for them. But here and there it departs so far from the earlier one in its method of presenting that it couldn't be done by inserting additions. Anyone who likes can make up this small loss by comparing the first edition. And I hope the greater clarity more than makes up for it.
In various public writings (partly in reviews of books, partly in separate treatises) I've noticed, with grateful pleasure, two things. First, the German spirit of thoroughness is not dead. It was only shouted down, for a short time, by the fashionable tone of a genius-style freedom in thinking.
[B xliii]
Second, the thorny paths of the critique lead to a science of pure reason that is scholarly in form, and as such alone lasting and therefore most necessary. Those paths haven't kept courageous and bright minds from mastering that science. These deserving men combine so happily the thoroughness of insight with the talent for a clear presentation (which I'm not conscious of having). I leave it to them to finish my treatment where it may still be defective in the latter respect here and there. What an author risks in this situation isn't refutation. It's failing to be understood. For my part, I can't get into disputes from now on. I will, though, pay careful attention to every hint, whether from friends or opponents, so that I can use them in the future working out of the system, in keeping with this preliminary study. In the course of this work I've grown fairly far into old age. This month I enter my sixty-fourth year. If I want to carry out my plan to deliver a metaphysics of nature and a metaphysics of morals, as confir-

mation that the critique of speculative and of practical reason is correct, I have to be sparing with my time. I expect two things from the deserving men who have adopted this work as their own.

[B xliv]

One is the clearing up of the obscurities that were hardly avoidable in this work at first. The other is the defense of the whole. Any philosophical exposition can be picked at in individual passages (it can't come armored the way a mathematical one does). Meanwhile the articulated structure of the system, viewed as a unity, isn't in the slightest danger. When a system is new, few people have the nimbleness of mind to take it in at a glance, and fewer still the wish, since every novelty is inconvenient to them. Apparent contradictions can be dug out of any book, especially one written as free discourse, by tearing individual passages out of context and comparing them with each other. In the eyes of someone who relies on other people's judgment, such contradictions cast an unfavorable light on the book. But someone who has got hold of the idea as a whole will find them easy to dissolve. Still, when a theory stands firm in itself, action and reaction, which at first threatened it with great danger, only serve over time to wear down its rough spots. And if men of impartiality, insight and true popularity take it up, they can also give it the necessary elegance in a short time.

Königsberg, April 1787.

* The only real addition I could name, and even that only in the way of proof, is the one I made through a new refutation of psychological idealism, and a strict proof (the only possible one, I believe) that outer intuition has objective reality, on page 273. Idealism may be taken to be as harmless as you like, so far as the essential aims of metaphysics go (it actually is not harmless). Even so, it remains a scandal to philosophy and to human reason in general that we have to accept the existence of things outside us on faith alone. (From these things we draw the whole material of cognitions, even for our inner sense.) And if someone happens to doubt that existence, we have no satisfying proof to set against them. Because the proof is somewhat obscure in its third through sixth lines, I ask that this sentence be altered to read: "This permanent thing, however, cannot be an intuition in me. For all the grounds that determine my exis-

tence and that can be found in me are representations. As representations they themselves require something permanent that is different from them. Only in relation to that permanent thing can their change—and therefore my existence in the time where they change—be determined." People will probably object to this proof: I am immediately aware only of what is in me, namely my representation of outer things. So it remains undecided whether anything corresponding to it exists outside me or not. Yet I am aware of my existence in time (and thereby of its being determinable in time) through inner experience. That is more than being conscious merely of my representation. But it is the same as the empirical consciousness of my existence, which can be determined only by relation to something that is connected with my existence and is outside me. So my consciousness of existing in time is bound up, as one and the same thing, with consciousness of standing in a relation to something outside me. And what connects the outer inseparably with my inner sense is experience and not invention, sense and not imagination. Outer sense is, after all, in itself a relating of intuition to something real outside me. Its reality, as distinct from imagination, rests only on its being inseparably tied to inner experience itself, as the condition that makes inner experience possible. That is what happens here. Suppose I could join to my intellectual consciousness of existing—the representation I am, which goes along with all my judgments and acts of understanding—a determination of my existence by intellectual intuition. Then awareness of a relation to something outside me wouldn't have to be part of that determination. As things are, that intellectual consciousness does come first. But my existence can be determined only in inner intuition, and that intuition is sensible and tied to the condition of time. This determination, and with it inner experience itself, depends on something permanent that is not in me. It can therefore depend only on something outside me, something I have to see myself as related to. So the reality of outer sense is tied by necessity to that of inner sense, if experience at all is to be possible. That is, I'm exactly as sure that there are things outside me which stand in relation to my sense as I am sure that I myself exist, determined in time. As for which given intuitions really have objects outside me answering to them, so that they belong to outer sense (to

which, and not to imagination, they must be credited), this has to be settled case by case. It is settled using the rules that tell experience in general (inner experience included) from imagination. The proposition that there really is outer experience always underlies this. One more remark can be added. Having a representation of something permanent in existence is not the same as having a permanent representation. A permanent representation can be very changeable and shifting, like all our representations, even the representations of matter. Yet it relates to something permanent. That must therefore be an outer thing, distinct from all my representations. The existence of that thing is necessarily bound up with determining my own existence, and the two together make up a single experience. That experience wouldn't even take place inwardly if it were not (in part) outward at the same time. The How? can't be explained any further here, any more than we can explain how we think the abiding in time at all. Its existing together with what changes produces the concept of change.

Introduction



[B 1]
Introduction
I. How pure and empirical cognition differ
That all our cognition begins with experience is beyond any doubt. What else would wake our faculty of cognition into action, if not objects that stir our senses? In part these objects produce representations on their own. In part they set our activity of understanding in motion, so that it compares those representations, connects or separates them, and so processes the raw stuff of sense impressions into a cognition of objects, which goes by the name of experience. In time, then, no cognition in us comes before experience, and all of it begins with experience.
But even though all our cognition begins with experience, it doesn't follow that it all arises out of experience. After all, it may well be that even our cognition from experience is a compound of two things. One is what we receive through impressions. The other is what our own faculty of cognition supplies from itself, merely prompted by sensible impressions.
[B 2]
We can't tell this addition from the raw stuff until long practice has made us notice it and taught us to separate it out.

So at least this much is a question that needs closer investigation, and can't be brushed aside at first glance: is there any cognition that does not depend on experience, or even on any sense impressions? Such cognitions are called a priori. They are distinguished from empirical cognitions, which have their sources a posteriori, that is, in experience.

That expression, though, isn't yet precise enough to cover the full sense of the question before us. We commonly say of some cognition derived from sources in experience that we are capable of it, or have a share in it, a priori. We say so because we derive it not directly from experience but from a general rule, which we nevertheless took from experience ourselves. We say of someone who dug away the foundation of their house that they could have known a priori it would collapse. That is, they didn't have to wait for the experience of it actually collapsing. Still, they couldn't have known this entirely a priori. They had to learn through experience beforehand that bodies are heavy, and so fall when their support is taken away.

From here on, then, by a priori cognitions we won't mean cognitions that are independent of this or that experience.

[B 3]

We will mean cognitions that occur absolutely independently of all experience. The opposite of these are empirical cognitions, or those that are possible only a posteriori, that is, only through experience. Among a priori cognitions, those are called pure into which nothing empirical is mixed. For example, "every change has its cause" is a proposition a priori, though not a pure one, since the concept of change is one that can only be taken from experience.

II. We possess certain cognitions a priori, and even ordinary understanding is never without them

What we need here is a mark that lets us reliably tell pure cognition from empirical. Experience teaches us that something is such and such, but not that it couldn't be otherwise. So, first: suppose a proposition turns up that is thought together with its necessity. Then it is a judgment a priori. If, besides, it is derived only from a proposition that itself holds as necessary, it is absolutely a

priori. Second: experience never lends its judgments true or strict universality. It lends them only supposed, relative universality (by way of induction). So what it really amounts to saying is this.

[B 4]

As far as we have observed so far, no exception turns up to this or that rule. Now take a judgment that is thought as strictly universal, which means one that allows no exception at all as even possible. It isn't derived from experience. It is valid absolutely a priori. Empirical universality is thus only an arbitrary raising of validity, from the validity that holds in most cases to the one that holds in all, as in the proposition "all bodies are heavy." But where strict universality is an essential part of a judgment, it points to a special source of cognition for that judgment, namely a faculty of cognition a priori. Necessity and strict universality are therefore sure marks of a priori cognition, and they belong together inseparably. In practice, though, it is sometimes easier to show how limited a judgment is in an empirical way than to show its contingency. And sometimes it is more evident to show the unlimited universality that we attribute to a judgment than its necessity. So it's advisable to use these two criteria separately, since each of them is infallible by itself.

It is easy to show that human cognition really does contain such necessary and strictly universal, and therefore pure, a priori judgments. If you want an example from the sciences, you only have to look at all the propositions of mathematics.

[B 5]

If you want one from the commonest use of the understanding, the proposition that every change must have a cause will do. In fact, in the latter case the concept of a cause itself includes, so unmistakably, the idea of an effect tied to it by necessity and of a rule that is strictly universal, that the concept would be lost entirely if we tried to derive it, as Hume did, from the frequent pairing of what happens with what comes before it, and from the habit that grows out of that (a necessity that is merely subjective) of connecting representations. We could even do without such examples as proof that pure a priori principles actually exist in our cognition. We could show that these principles are indis-

pensable for the possibility of experience itself, and so show it a priori. For where would experience itself get its certainty, if all the rules by which it proceeds were themselves empirical, and so contingent? So these rules can hardly be allowed to count as first principles. Here, though, we can be content to have set out the pure use of our faculty of cognition as a fact, together with its marks. But it isn't only in judgments that an a priori origin of some of them shows up. It shows up in concepts too. Take away from your experiential concept of a body, step by step, everything empirical in it: color, hardness or softness, weight, even impenetrability. The space the body took up still remains (the body itself has now vanished entirely).

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You can't take that space away. In the same way, take away from your empirical concept of any object, bodily or not, all the properties that experience teaches you. You still can't remove what makes you think of it as a substance, or as clinging to a substance (even though this concept packs in more determination than the concept of an object in general). Convinced by the necessity with which this concept presses itself on you, you have to admit that it has its seat in your faculty of cognition a priori.

III. Philosophy needs a science to determine the possibility, the principles and the range of all a priori cognitions

Something that says far more than all the above is this. Some cognitions even leave the whole field of possible experience. They seem to widen the range of our judgments beyond all its boundaries, by means of concepts for which no corresponding object can ever be given in experience.

And it is exactly in these latter cognitions that the inquiries of our reason lie. They go beyond the world of sense, into territory where experience can give neither guidance nor correction.

[B 7]

In importance we rank these inquiries far higher, and their final aim far more sublime, than anything the understanding can pick up on the territory of appearances. For their sake we would risk anything, even the danger of error, before we would give up such pressing inquiries from any scruple, or from con-

tempt and indifference. The problems pure reason cannot avoid are God, freedom and immortality. The science whose final aim, with all its preparations, is really directed only at solving them is called metaphysics. Its procedure at the start is dogmatic. That is, it confidently takes on the job without first examining whether reason is able or unable to carry out so great an undertaking.

It does seem natural that, having left the ground of experience, we would not go and put up a building at once with cognitions we possess without knowing where from, and on the credit of principles whose origin we don't know. It seems natural that we would first have made sure of the building's foundation by careful investigation. We would surely have asked long ago how the understanding can come by all these a priori cognitions, and what range, validity and worth they may have. And really, nothing is more natural—if "natural" means what ought to happen, going by fairness and good sense.

[B 8]

But if you mean what usually happens, then nothing is more natural and understandable than that this investigation had to be put off for so long. For one part of these cognitions, the mathematical ones, has long been in possession of reliability, and so raises favorable expectations for the others as well, although they may be of a quite different nature. Besides, once you're beyond the circle of experience, you're safe from being refuted by experience. The pull of widening one's cognitions is so strong that only running into a plain contradiction can stop one's progress. And that can be avoided, if one is careful in making up one's fictions. They remain fictions all the same. Mathematics offers a splendid example of how far we can get in a priori cognition without any help from experience. Now mathematics does deal with objects and cognitions only so far as they can be presented in intuition. But this circumstance is easily overlooked, because that intuition itself can be given a priori, and so is hardly distinguished from a mere pure concept. Taken in by such a proof of the power of reason, the drive to extend knowledge sees no boundaries. The light dove, as it cleaves the air in free flight and feels the air's resistance, could form the idea that it would do much better in empty space.

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In the same way, Plato left the world of sense because it sets such narrow limits on the understanding. He dared to go past it, carried on the wings of ideas, out into the empty space of pure understanding. He didn't notice that he was making no headway by his efforts. That was because he had nothing pushing back against him, nothing like a support on which he could brace himself and put his strength to use to get the understanding moving. It is a usual fate of human reason, when it speculates, to get its building finished as soon as it can, and only then to ask whether the foundation was well laid. Then all sorts of excuses are sought to comfort us about its soundness, or even to turn away such a late and dangerous examination. While we are building, what keeps us untroubled and unsuspicious, and gives us a flattering air of thoroughness, is this. A large part of the business of our reason, perhaps the largest, consists in analyses of the concepts we already have of objects. This supplies us with a mass of cognitions. They are nothing more than clarifications or explanations of what our concepts already contained in thought (though still in a confused way). Yet they are at least valued, in form, as equal to new insights. In matter or content, though, they do not extend the concepts we have. They only spread them out. Since this procedure gives real a priori cognition, which moves ahead securely and usefully, reason slips in assertions of a quite different kind under this pretense, without even noticing it.

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In these, reason adds to given concepts something wholly foreign, and does so a priori. We don't know how reason arrives at this, and the question doesn't even enter our minds. So I'll deal right at the start with the difference between these two kinds of cognition.

IV. How analytic and synthetic judgments differ

In every judgment where a subject's relation to a predicate is thought (I'm considering only the affirmative ones, since applying this to negative ones is easy afterward), that relation can come about in two ways. Either predicate B belongs to subject A as something already contained in the concept A, though hidden there. Or B lies wholly outside the concept A, although it is connected with it. I call the judgment analytic in the first case, synthetic in the second. So

affirmative analytic judgments are the ones in which the predicate's connection with the subject is thought through identity. Judgments in which that connection is thought without identity are what I mean by synthetic judgments.

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The first kind could also be called judgments of clarification, and the others judgments of extension. The reason is that the first kind use the predicate to add nothing to the subject's concept. They only split it up, by analysis, into the partial concepts that were already thought in it, if only confusedly. The second kind, by contrast, attach to the subject's concept a predicate that wasn't thought in it at all, and couldn't have been drawn out of it by any analysis. Take "all bodies are extended." That is an analytic judgment. I don't have to go beyond the concept I combine with body to find extension as connected with it. I need only dissect that concept, which is to say, become aware of whatever manifold I think in it each time, to find this predicate there. So it is an analytic judgment. But take "all bodies are heavy." Here the predicate is something altogether different from what I am thinking when I have the bare concept of body in general. Adding such a predicate therefore gives a synthetic judgment.

Any judgment of experience, taken as such, is synthetic. It would make no sense to base an analytic judgment on experience. To form an analytic judgment I never have to step outside my concept, so I don't need any testimony from experience. Take the statement that a body is extended. It stands firm a priori.

[B 12]

It is no judgment of experience. Before I go to experience at all, every condition for my judgment is already in the concept. All I have to do is pull the predicate out of it by the principle of contradiction. In doing so I also become aware that the judgment is necessary, which experience would not even have taught me. It's different with the predicate of weight. When I think of a body in general, I don't count weight as part of the concept. Still, that concept designates an object of experience by means of one part of it, and to that part I can add other parts of the same experience, as belonging with the first. To begin with, I can know the concept of body analytically. That happens through the marks of

extension, impenetrability and shape, among others, which are all thought in the concept. Then I broaden my cognition. I look back at the experience from which I had drawn this concept of body, and I find weight always connected with those marks as well. So I add weight to the concept as a predicate, and I do it synthetically. It is experience, then, that makes it possible to join weight, as a predicate, synthetically to the concept of body. Neither concept is contained in the other. Even so, the two go together, though only contingently, as parts of one whole. That whole is experience, and experience in turn is a synthetic combination of intuitions.

For synthetic a priori judgments this help is missing altogether.

[B 13]

Say I have to step outside concept A and recognize some other concept, B, as joined to it. What do I stand on? What makes that synthesis possible? I have no chance here to look around in the field of experience. Take the statement "Everything that happens has its cause." When I think of something that happens, I do think of an existence with a stretch of time before it, and so on. Analytic judgments can be drawn from that. But the concept of a cause lies wholly outside that concept. It signals something different from what happens, so the representation of what happens doesn't contain it at all. How, then, do I get to say something quite different about whatever happens? How do I get to recognize the concept of cause as belonging to it, and even necessarily, when it is not contained in it? What is the unknown = X that the understanding leans on, when it thinks it has found, beyond the concept of A, a foreign predicate B that it still takes to be tied to A? It can't be experience, because the principle in question adds the second representation to the first with greater universality, and it also states necessity. So it works entirely a priori, from mere concepts. Now everything our speculative a priori cognition ultimately aims at depends on synthetic principles like this one, the ones that extend. Analytic principles are of course very important and necessary.

[B 14]

But they only serve to make concepts clear enough for a secure and far-reaching synthesis, which is what counts as the real new gain.

V. Every theoretical science of reason contains synthetic a priori judgments among its principles

1 Mathematical judgments are all synthetic. The people who dissect human reason seem to have missed this so far. It even seems to contradict everything they have supposed. Still, it is beyond dispute, and it will matter a great deal later on. Here is how they went wrong. They saw that mathematicians' inferences all proceed by the principle of contradiction, which any apodictic certainty requires by its very nature. From that they persuaded themselves that the basic principles, too, are known by the principle of contradiction. They were mistaken. A synthetic proposition can be seen to be true by the principle of contradiction, but only when another synthetic proposition is assumed from which it can be inferred. It can never be seen that way by itself.

First, a point to note. Mathematical propositions in the proper sense are always a priori judgments, never empirical ones, since they bring necessity with them, and experience can't yield necessity.

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If someone won't grant that, well then, I limit my claim to pure mathematics. By its very concept, pure mathematics contains no empirical cognition at all, only pure a priori cognition.

At first you would think that 7 + 5 = 12 is a merely analytic proposition. It would follow by the principle of contradiction from the concept of a sum made of seven and five. On a closer look, the concept "sum of 7 and 5" turns out to hold only the union of those two numbers in one single number. It says nothing at all about which single number takes in both. Merely thinking of seven and five joined together does not yet give me the concept of twelve. I can keep taking apart my concept of such a possible sum for as long as I like. I will never come upon twelve in it. To get there, we have to go beyond these concepts and use an intuition that matches one of them, for instance our five fingers, or five points, as Segner does in his Arithmetic. So we take the five that

intuition gives us, and add its units, one after another, to the concept of seven. I start with the number 7. For the concept of 5 I use the fingers of my hand as the intuition.

[B 16]

The units I earlier put together to make the number 5, I now add one at a time to the number 7 in that image of mine, and I watch the number 12 come out. The concept of the sum 7 + 5 did include the thought of adding 7 to 5. But I did not think that the sum equals 12. So an arithmetical proposition is always synthetic. You see this more clearly with somewhat larger numbers. Then it is obvious that we could turn our concepts this way and that, and still never find the sum by merely taking them apart, unless intuition came to our aid.

No principle of pure geometry is analytic either. Take this claim: between two points, the straight line is the shortest. That is a synthetic proposition. My concept of the straight contains nothing about magnitude. It contains only a quality. So the concept of the shortest is a complete addition, and no analysis can pull it out of the concept of a straight line. Intuition has to be brought in to help here, and only through it is the synthesis possible.

Geometers do presuppose a few principles that really are analytic, and these rest on the principle of contradiction. But like identical propositions, they only serve as links in the chain of method.

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They don't serve as principles. Take a = a, which says that the whole equals itself. Or take (a + b) > a, which says that the whole is greater than its part. And yet even these are let into mathematics only because intuition can display them, even though they hold by concepts alone. We tend to think that, in judgments of this apodictic kind, the predicate already lies in our concept, so that the judgment is analytic. The only thing that makes us think so is an ambiguity in how we put it. We are supposed to add a certain predicate in thought to a given concept, and this necessity is already attached to the concepts. But the question isn't what we are supposed to add in thought to the given concept. The question is what we actually think in it, even if only obscurely. That is where we

find that the predicate does go with those concepts necessarily, though it is not thought within the concept itself. It attaches by means of an intuition that has to come in addition to the concept.

2 Natural science (Physica) has synthetic a priori judgments inside it, as its principles. I'll cite just a couple of propositions as examples. One is that in all changes of the bodily world the quantity of matter stays unchanged. The other says that whenever motion is passed on, action and reaction must always be equal. In both, the necessity is clear, and with it their a priori origin. It is also clear that they are synthetic propositions.

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For in the concept of matter I don't think permanence. I think only its presence in space, by its filling of space. So I really do go beyond the concept of matter, in order to think in addition to it, a priori, something I did not think in it. The proposition is therefore not analytic but synthetic, and still thought a priori. The remaining propositions in the pure part of natural science work the same way.

3 Metaphysics, even if we see it only as a science that has so far merely been attempted, but that human reason's nature makes indispensable, is meant to contain synthetic a priori cognitions. Its business isn't at all just to take apart the concepts we make for ourselves a priori of things, and so to clarify them analytically. We want to extend our a priori cognition. For that we need principles that put something into the given concept which it did not hold before. And through synthetic a priori judgments we may even go so far beyond it that experience itself can't follow us there. An example is the proposition that the world must have a first beginning, along with others of that kind. So metaphysics, at least in its aim, consists of nothing but synthetic a priori propositions.

[B 19]

VI. The general problem of pure reason

We gain a lot when we can sum up a whole series of investigations in the formula of one problem. It makes our own task easier, because we define it exactly. And it makes it easier for anyone else who wants to examine our work to judge whether we have done justice to our aim or not. The real problem of pure reason is contained in the question: How are synthetic a priori judgments possible?

The reason metaphysics has stayed so long in a shaky state of uncertainty and contradiction is simply that nobody thought of this problem earlier, and perhaps not even of the difference between analytic and synthetic judgments. Whether metaphysics stands or falls depends on solving this problem, or on giving a satisfying proof that the possibility it wants explained does not exist at all. Of all philosophers, David Hume came closest to this problem. But he was far from stating it precisely enough, or in its full generality. Instead he merely stopped at one synthetic proposition, the one about how an effect is connected with its causes (Principium causalitatis).

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He believed he had worked out that such a proposition is completely impossible a priori. By his reasoning, everything we call metaphysics would come down to a delusion. We would think we had rational insight into something that is really just borrowed from experience, and that habit has dressed up with the illusion of necessity. He would never have come out with this claim, which would destroy all pure philosophy, if he had kept our problem in its full generality in view. He would then have noticed that his argument rules out pure mathematics too, because pure mathematics undoubtedly holds synthetic a priori propositions. His good sense would surely have kept him from that claim.

When we solve the problem above, we settle at the same time how reason can be used purely, in setting up and carrying out every science that includes theoretical a priori cognition of objects. In other words, it answers these questions:

How is pure mathematics possible? How is pure natural science possible?

Since these sciences actually exist, it is perfectly fitting to ask how they are possible. That they must be possible is proved by their being actual*. Metaphysics is another matter.

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Its poor progress so far gives everyone good reason to doubt that it is possible. And of no metaphysics presented to date can we say, as far as its essential purpose goes, that it truly exists.

* Some might still doubt this last point about pure natural science. But all one has to do is look through the various propositions that appear at the start of physics proper (empirical physics). Among them are the permanence of the same amount of matter, inertia, equal action and reaction, and so forth. That will quickly persuade you that together they form a physicam puram (or rationalem), meaning a pure or rational physics. It well deserves to be set up on its own as a separate science, in its whole extent, whether narrow or wide.

Still, this kind of cognition must also be regarded, in a certain sense, as given. Metaphysics is real, if not as a science, then as a natural disposition (metaphysica naturalis). For human reason is driven by a need of its own, not by mere vanity about knowing a lot. It presses on, unstoppably, to questions that no use of reason in experience can answer, and no principles borrowed from experience either. So in all human beings, as soon as their reason broadens out into speculation, some metaphysics has always existed, and it will always remain there. And so the question arises about this metaphysics too:

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How is metaphysics possible as a natural disposition?

In other words, what in the nature of universal human reason gives rise to the questions that pure reason puts to itself? Its own need drives it to answer them as well as it can.

Every attempt so far to answer these natural questions has landed in contradictions that couldn't be avoided. Such questions include whether the world had a beginning or has always been there, and others of the sort. So we can't stop at the bare natural disposition toward metaphysics. That disposition is just the pure faculty of reason itself, out of which some metaphysics or other, whichever it may be, always grows. It must be possible to use that disposition to reach certainty, either in knowing or in not knowing the objects. That is, we must be able either to decide about the objects of its questions, or to decide about rea-

son's ability or inability to judge anything about them. So we must either extend our pure reason reliably, or set definite and secure limits to it. The last question, which follows from the general problem stated above, would properly read: How is metaphysics possible as a science?

So the critique of reason ends up, necessarily, in science. Its dogmatic use without critique, on the other hand, ends up in groundless assertions.

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Equally plausible assertions can be set against them. That leads to skepticism.

Nor can this science be so sprawling that it scares people off. Its business is not with objects of reason, whose variety is endless. Its business is only with reason itself. The problems it deals with arise entirely from within reason. They are not set for it by the nature of things that differ from it, but by reason's own nature. Suppose reason has first come to know its own power completely, as regards the objects that may come up for it in experience. Then it has to be easy to settle fully and securely how far reason's use extends, and where its boundaries lie, when it tries to venture past every boundary of experience.

That means we can and should treat every dogmatic attempt so far to set up a metaphysics as if it had never been made. Whatever is analytic in one attempt or another, namely the mere taking apart of concepts that live in our reason a priori, is not yet the goal at all. It is only preparation for metaphysics proper, whose goal is to extend one's cognition a priori, synthetically. And it is useless for that goal. All it does is display what these concepts already contain. It never explains how we get hold of such concepts a priori in the first place.

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Knowing that would let us go on to settle how they may validly be used on the objects of cognition in general. It takes little self-denial to give up all these claims. The contradictions of reason with itself cannot be denied, and in the dogmatic procedure they cannot be avoided either, and they have long since cost every metaphysics so far its standing. It will take more steadfastness not to let difficulty from within and resistance from outside hold us back. The task is

to bring a science that human reason cannot do without to healthy, fruitful growth at last, by a treatment quite opposite to the previous one. One can chop off every shoot that science sends up, but one cannot pull out its root.

VII. Idea and division of a particular science, to be known as the critique of pure reason

This alone already gives us the idea of a distinct science. It can be named the critique of pure reason. Reason, after all, is the faculty that hands us the principles of a priori cognition. Pure reason, then, is the kind that holds the principles for cognizing anything wholly a priori. An organon of pure reason would be the sum total of those principles.

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With them, all pure a priori cognitions could be acquired and actually produced. Applying such an organon in full detail would give us a system of pure reason. But that is asking a great deal. It is still open whether we can widen our cognition at all in this area, and in what cases it could be done. So we can regard a science that does nothing but assess pure reason, its sources and its boundaries, as the preliminary study, the propaedeutic, for the system of pure reason. It would have to be called critique of pure reason, not a doctrine. Its usefulness, as far as speculation goes, would really be only negative. It would not widen our reason. It would only cleanse it and keep it clear of mistakes, and that is already a lot to gain. Here is what I call transcendental: any cognition that deals less with objects than with how we can cognize objects, so far as that is meant to be possible a priori. A system built of such concepts would go by the name transcendental philosophy. But for a start even that is too much. Such a science would have to contain analytic cognition in full, and synthetic a priori cognition in full. So, for our purpose, it is too wide in scope. We may push the analysis only as far as we must to survey every principle of a priori synthesis, in its full range. That is our only concern.

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We can't properly call the investigation we are now engaged in a doctrine, only a transcendental critique. It doesn't try to widen cognitions themselves. It tries only to set them right, and it is to be the test that shows whether an a priori

cognition has any worth or none. So the critique prepares the way for an organon, if that can be done. If it can't, it prepares at least for a canon of pure reason. A canon like that might one day let the full system of the philosophy of pure reason be laid out, both analytically and synthetically. That system could consist in extending its cognition, or merely in setting its boundaries. We can already judge in advance that this is possible, and that such a system need not be so large that we have to give up hope of completing it. The reason is that the subject matter here is not the nature of things, which is inexhaustible. The subject matter is the understanding, the faculty that judges about the nature of things, and only its a priori cognition at that. We are not to look for its stock outside, so it cannot stay hidden from us. In all likelihood it is small enough to be taken in completely, judged for its worth or worthlessness, and given its proper valuation.

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Still less should anyone expect here a critique of the books and systems of pure reason. What we offer is the critique of the pure faculty of reason itself. Once that is in place, and not before, we have a trustworthy test for appraising the philosophical value of works in this field, old and new. Otherwise an unqualified historian and judge assesses the groundless assertions of others by means of his own, which are just as groundless.

Transcendental philosophy is the idea of a science. The critique of pure reason is to sketch its whole plan architectonically, that is, from principles, with full guarantee of the completeness and certainty of every part that makes up this building. It is the system of all the principles of pure reason. This critique isn't itself called transcendental philosophy for one reason only. It would have to be a complete system, and for that it would also need a thorough analysis of everything in human cognition that is a priori. Of course our critique must also set out a complete list of all the basic concepts that make up the pure cognition in question. But it rightly refrains from a detailed analysis of these concepts themselves, and from a full review of the concepts derived from them. There are two reasons. First, such an analysis would not serve the purpose.

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It lacks the cause for concern that comes with synthesis, and it is for the sake of that concern that the whole critique exists. Second, it would clash with the unity of the plan to be answerable for the completeness of such an analysis and derivation. Given our aim, we could be excused from that duty anyway. That completeness can easily be supplied later, both for the analysis and for the derivation from the a priori concepts still to be delivered. The one requirement is that those concepts first be there as full-fledged principles of synthesis, and that nothing is missing for this essential aim.

So everything that makes up transcendental philosophy belongs to the critique of pure reason. The critique is the complete idea of transcendental philosophy. It is not that science itself yet, since its analysis goes only as far as a full assessment of synthetic a priori cognition demands.

The main concern in dividing such a science is this: no concepts may enter it that contain anything empirical. The a priori cognition, in short, has to be wholly pure. So the supreme principles of morality and their basic concepts are indeed a priori cognitions, but they do not belong in transcendental philosophy. The reason is this.

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They don't base their prescriptions on the concepts of pleasure and displeasure, or on those of desires and inclinations, all of which are empirical in origin. Still, the concept of duty forces them to bring these concepts into the construction of a system of pure morality. There they show up as a hindrance to be conquered, or as an inducement that must not become the motive. That makes transcendental philosophy a philosophy of reason that is pure and merely speculative. Anything practical that involves incentives relates to feelings, and feelings are among the empirical sources of cognition.

Say we want to lay out the divisions of this science the way one would for any system whatever. The division we offer here then needs two parts. One is a doctrine of elements for pure reason. The other is a doctrine of method for it. Each part would split further, though the reasons for those splits can't be laid out yet. For the introduction, or preliminary remark, only this much seems necessary. Human cognition has two stems, namely sensibility and understanding.

Perhaps they grow from one common root that we don't know. Through the first, objects are given to us. Through the second, they are thought. Now suppose sensibility does contain a priori representations. They form the condition for objects being given to us.

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To that extent it would belong to transcendental philosophy. That makes the transcendental doctrine of the senses part of the first division of the science of elements. It has to come first, since the conditions under which objects of human cognition are given precede the conditions under which they are thought.

Transcendental Aesthetic



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Critique of Pure Reason
I. Transcendental Doctrine of Elements
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Of the Transcendental Doctrine of Elements First Part The Transcendental Aesthetic
§ 1
Whatever way a cognition relates to objects, and whatever means it uses, intuition is the way it connects to them directly. All thinking works toward intuition as its means. But intuition happens only when the object is given to us. And that, for us humans at least, can happen only if the object affects the mind in some way. We call the capacity (receptivity) to get representations through the way objects affect us sensibility. Objects are therefore given to us through sensibility, and only sensibility gives us intuitions. The understanding, by contrast, thinks objects, and concepts come from it. Still, all thinking has to refer back to intuitions in the end, whether straight on (directly) or by a roundabout way (indirectly), and it does so by means of certain marks. For us that means going back to sensibility, since an object can be given to us by no other route.
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The effect an object has on our capacity for representation, when it affects us, is sensation. Intuition that refers to its object through sensation is called empirical. What we call an appearance is the undetermined object of an empirical intuition.

In an appearance, I call the part that corresponds to sensation its matter. I call the part that makes it possible for the manifold of the appearance to be ordered in certain relations the form of the appearance. The thing in which sensations alone can be ordered and put into a certain form cannot itself be sensation again. So the matter of every appearance is given to us only a posteriori. Its form, however, must lie ready for all appearances together in the mind a priori, and so it can be considered apart from all sensation.

I call a representation pure (in the transcendental sense) when it has nothing in it that belongs to sensation. It follows that a priori, in the mind, we meet the pure form of sensible intuition in general. In that form the whole manifold of appearances gets intuited in certain relations. This pure form of sensibility we will also call pure intuition.

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Suppose I take the representation of a body and separate out what the understanding thinks in it, such as substance, force and divisibility. Suppose I also separate out what belongs to sensation, such as impenetrability, hardness and color. Something is still left over from this empirical intuition, namely extension and shape. These belong to pure intuition, which exists in the mind a priori as a bare form of sensibility, whether or not any real object of sense or sensation is there.

What I call transcendental aesthetic* is the science of all the a priori principles of sensibility. There has to be such a science.

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It is Part One of the transcendental doctrine of elements. Its counterpart is the science that holds the principles of pure thinking, which is named transcendental logic.

* Only the Germans use the word "aesthetic" these days for what other peoples call the critique of taste. The word rests on a hope that failed. The excellent analyst Baumgarten hoped to bring the critical assessment of the beautiful under rational principles and to lift its rules to the level of a science. But this effort is in vain. Such rules, or criteria, are merely empirical in their main sources. They can therefore never serve as definite a priori laws that our judgment of taste would have to follow. It is rather the judgment of taste that is the real touchstone for whether the rules are correct. For this reason it is advisable to let the term lapse again and keep it for the doctrine that is true science. That would also move us nearer to the speech and thinking of the ancients. For them, dividing cognition into aistheta kai noeta (what can be sensed and what can be thought) was very well known. The other option is to share the term with speculative philosophy, and to take "aesthetic" partly in the transcendental sense, partly in the psychological sense.

So in the transcendental aesthetic we begin by isolating sensibility. To do that, we set aside everything the understanding thinks about it with its concepts, so that only empirical intuition remains. Next we split off from that intuition everything that belongs to sensation, leaving only pure intuition and the bare form of appearances. Sensibility can supply nothing else a priori. As we go, we will find that sensible intuition has two pure forms, serving as principles of a priori cognition: space and time. We turn to examine them now.

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Of the Transcendental Aesthetic First Section On Space

§ 2 Metaphysical exposition of this concept

Outer sense is a property of our mind. By means of it we picture objects as lying outside us, every one of them in space. Space is where their shape, size and relation to one another are fixed, or can be fixed. Inner sense is how the mind looks at itself, or at its inner state. It does not, to be sure, hand us any intuition of the soul itself taken as an object. But there is a definite form under which alone we can intuit our inner state. That is why everything among our inner determinations is represented as standing in temporal relations. Neither can time be intuited as something outer, just as space cannot be intuited as some-

thing in us. So what are space and time? Are they real beings? Or are they merely determinations, or also relations, of things, but of a kind that would belong to them even in themselves, whether anyone intuited them or not? Or do they cling only to the form of intuition?

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And so to the subjective makeup of our mind alone? Without that makeup, these predicates could not be given to any thing at all. To find out, we first lay out the concept of space. Under the heading of exposition (expositio) I understand a representation that is distinct, though not exhaustive, of whatever belongs to a concept. An exposition is called metaphysical when it covers whatever shows the concept to be given a priori.

1 Space is not an empirical concept drawn from outer experiences. Two things have to be possible. One is that I can refer certain sensations to something outside me. By that I mean something at another spot in space than the spot where I am. The other is that I can represent sensations as outside one another and side by side, so as not just different but in different places. For both, the representation of space must already be the foundation. That means experience cannot have lent us the representation of space from the relations among outer appearances. It is the other way around: this outer experience itself becomes possible only through that representation.

2 Space is a necessary representation, given a priori, which underlies every outer intuition. We can never picture there being no space, though we can easily think of it as containing no objects at all.

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For that reason space counts as the condition that makes appearances possible, not as a determination that depends on them. It is an a priori representation, and it necessarily underlies outer appearances.

3 Space is not a discursive concept, or what people call a general concept of the relations of things as such. It is a pure intuition. To begin with, we can only imagine a single space. If we talk of many spaces, we really mean parts of one

and the same space. Nor can these parts precede the one all-embracing space as its building blocks, as if its composition were made possible by them. They can only be thought within it. Space is essentially one. What is manifold in it, and with that the general concept of spaces as such, depends solely on limitations. The consequence is that every concept of space rests on an intuition of it that is a priori and not empirical. That also explains why geometrical principles never come from general concepts of line and triangle. Take the principle that two sides of a triangle together are greater than the third. Such principles are derived from intuition, and a priori, with apodictic certainty.

4 Space is represented as a given magnitude that is infinite.

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Every concept has to be thought of as a representation contained in infinitely many different possible representations, as the mark they share. A concept therefore holds those representations under it. Yet no concept as a concept can be pictured as having infinitely many representations within it. Space is thought of that way, though, since all the parts of space, going on without end, exist at once. So the original representation of space is an a priori intuition and not a concept.

§ 3 Transcendental exposition of the concept of space

By a transcendental exposition I mean the explanation of a concept as a principle from which the possibility of other synthetic a priori cognitions can be understood. This requires two things: 1) that such cognitions actually follow from the given concept, and 2) that they are possible only if this concept is explained in a certain given way.

The science of geometry determines the properties of space, and does so synthetically yet a priori. So what must the representation of space be, for cognition of that kind to be possible at all? It has to be an intuition from the start.

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That's because no propositions going beyond a concept can be drawn from a mere concept, yet geometry draws them (Introduction V). That intuition must also be found in us a priori, before any perception of an object. So it is pure

intuition and not empirical. After all, every geometrical proposition is apodictic, meaning it is joined with a consciousness of its necessity. Space has only three dimensions, for example. Such propositions can't be empirical, or judgments of experience, and can't be concluded from them (Introduction II).

Now, how can an outer intuition exist in the mind before the objects themselves, and in such a way that the concept of those objects can be fixed a priori? Plainly it can only be if the intuition has its seat in the subject alone. It would be the subject's formal makeup for being affected by objects and so getting an immediate representation of them, that is, an intuition. So it can only be the form of outer sense in general.

Only our explanation lets us understand how geometry can be a synthetic a priori cognition. Any way of explaining things that does not deliver this can be told apart from ours most reliably by this sign, even if it seems at first glance to resemble ours somewhat.

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Conclusions from the concepts above

a) Space does not represent any property of things in themselves, nor of those things in their relation to one another. In other words, it shows no determination that clings to the objects themselves and would stay once we leave out every subjective condition of intuition. Absolute determinations and relative ones alike cannot be intuited before the things they belong to exist. So they can't be intuited a priori either.

b) Space is simply the form of all appearances to the outer senses, in other words the subjective condition of sensibility under which outer intuition is possible for us at all. The subject's receptivity to being affected by objects necessarily comes before every intuition of those objects. That is how we can grasp that the form of every appearance is given in the mind before any real perception, which is to say a priori. And we can grasp how the same form, being a pure intuition in which every object has to be determined, can contain principles for the relations of those objects before any experience at all.

So we can speak of space, of extended beings and so on, only from the human standpoint. Say we drop the subjective condition under which alone we get outer intuition, namely the way objects may affect us. The representation of space then signifies nothing whatsoever.

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Things get this predicate only to the degree that they appear to us, meaning that they are objects of sensibility. Sensibility is the name for this receptivity, and its form is permanent. It is the necessary condition of every relation within which objects get intuited as external to us. Leave those objects out of account, and what remains is a pure intuition that goes by the name of space. We can only turn the particular conditions of sensibility into conditions for the possibility of appearances, not of things. So we can fairly say that space takes in everything that may appear to us outwardly. It does not take in all things in themselves, whether or not they are intuited, and whoever the subject may be. We cannot tell, for other thinking beings, whether their intuition is bound by the very conditions that limit ours and hold universally for us. Suppose we attach a judgment's restriction to the concept of the subject. Then the judgment holds without condition. The proposition "All things are side by side in space" is valid with a restriction, the restriction being that we regard the things as objects of our sensible intuition. Suppose I add that condition to the concept and say "As outer appearances, all things are side by side in space." Then the rule holds universally and with no restriction.

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Our expositions thus teach us the reality (the objective validity) of space for everything that can meet us outwardly as an object. They teach the ideality of space as well, with regard to things that reason weighs as they are in themselves, with no account taken of the nature of our sensibility. We therefore claim the empirical reality of space (for all possible outer experience), and in the same breath its transcendental ideality. That is, space is nothing at all as soon as we set aside what makes all experience possible, and treat space as something that lies at the base of things in themselves.

Apart from space, no other subjective representation that relates to something outer deserves to be called objective a priori. For none of the others lets us derive synthetic propositions a priori, as the intuition in space does (§ 3). So, strictly speaking, they have no ideality at all. They do resemble the representation of space in one respect: they belong only to the subjective makeup of a kind of sense, such as sight, hearing or touch, through sensations of colors, tones and warmth. But these are mere sensations, not intuitions. By themselves they let us cognize no object, least of all a priori.

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This remark has just one aim: to stop anyone from trying to illustrate the claimed ideality of space with examples that fall far short. Colors, taste and the like, for instance, are rightly regarded not as qualities of things but only as changes in our subject, and these can even vary from one person to the next. In that case what is originally only an appearance, a rose for example, counts in the empirical sense as a thing in itself, though it can look different in color to each eye. By contrast, the concept of appearances in space, taken transcendentally, serves as a critical reminder. Whatever we intuit in space is not a thing in itself. Nor is space a form that would belong to things in their own right. Objects in themselves are simply unknown to us. What we call outer objects are only representations of our sensibility, and space is the form of that sensibility. Through them we do not cognize their true correlate, the thing in itself, and we cannot. And experience never asks about it.

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Of the Transcendental Aesthetic Second Section On Time

§ 4 Metaphysical exposition of the concept of time

First (1.), time is not an empirical concept drawn from any experience. Without the representation of time underlying it a priori, we could not perceive simultaneity or succession at all. Time has to be presupposed before one can picture some things as simultaneous (in one and the same time), or as successive (in different times).

2 Time is a necessary representation underlying all intuitions. As far as appearances go, we can't remove time itself, though we can easily remove the appearances from time. So time is given a priori. All actuality of appearances is possible only in it. The appearances may all vanish, but time itself, as the general condition of their possibility, can't be abolished.
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3 On this a priori necessity rests, too, the possibility of apodictic principles concerning time-relations, or of axioms about time generally. Time has only one dimension. Different times are not together but one after another, just as different spaces are not one after another but together. Experience cannot be the source of these principles, since it would give neither strict universality nor apodictic certainty. We could report that common perception shows things this way, but never that they have to be this way. These principles hold as the rules under which any experience is possible, and they instruct us ahead of experience, not by means of it.

4 Time is no discursive concept, nor what people call a general concept. It is a pure form of sensible intuition. Different times are merely parts of the very same time. A representation that only a single object can give is an intuition. Besides, no general concept could yield the proposition that different times can't exist together. That proposition is synthetic, and concepts alone cannot produce it. So it is contained directly in the intuition and representation of time.

5 To say that time is infinite means only that any determinate length of time is possible by limiting one underlying time.
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So the original representation, time, has to be given as unlimited. Whenever the parts themselves, and every magnitude of an object, can be represented as determinate only through limitation, the whole representation cannot be given by concepts, because concepts hold only partial representations. Immediate intuition must lie at its base.

§ 5 Transcendental exposition of the concept of time

So I can point to number 3, where, to keep it short, I put what is properly transcendental under the entries of the metaphysical exposition. Here I add the following. The concept of change is possible only through and within the representation of time. So is the concept of motion, which is change of place. Suppose this representation were not an (inner) intuition a priori. No concept of any kind could then explain to us how a change is possible. A change is a combination of predicates that contradict each other, in one and the same object. Take a thing's being at a place and the very same thing's not being at that place.

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Only in time can a single thing be found with both of those contradictory determinations, namely one after the other. So our concept of time explains how there can be as much synthetic a priori cognition as the general doctrine of motion lays out, a doctrine that is far from barren.

§ 6 Conclusions from these concepts

a) Time is not something that would exist by itself, nor something attached to things as an objective determination, which would then remain if one abstracted from all the subjective conditions of intuiting them. If it were the first, time would be real without anything real to go with it. If it were the second, time would be a determination or an order inhering in the things themselves. As such it could not come ahead of the objects as their condition. Nor could synthetic propositions make it known and intuited a priori. Being known and intuited a priori in that way does work, by contrast, if time is merely the subjective condition under which any intuition can occur in us. In that case we can represent this form of inner intuition ahead of the objects, hence a priori.

b) Time is only the form of inner sense, meaning the way we look at ourselves and at our inner state. It cannot be a determination of outer appearances.

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It has nothing to do with shape or position and the like. What it determines is the relation among representations in our inner state. And because this inner intuition gives us no shape, we try to make up the lack through analogies. We represent the sequence of time as a line extending to infinity. The manifold in it forms a series with only one dimension. Every property of time but one we read off from the properties of this line: the parts of the line exist together, but the parts of time are always one after another. This also makes plain that the representation of time is itself an intuition: all its relations can be put into an outer intuition.

c) Time is the formal a priori condition of all appearances in general. Space is the pure form of all outer intuition, and as an a priori condition it reaches no further than outer appearances. Time has no such restriction. Every representation, whether it has outer things as its object or not, belongs in itself, as a determination of the mind, to the inner state. This inner state stands under the formal condition of inner intuition and therefore under time. Time is thus an a priori condition of every appearance. It is the direct condition of inner appearances (those of our souls) and, by that very fact, the indirect condition of outer ones too.

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I can say a priori that every outer appearance is in space and is fixed a priori according to spatial relations. In just the same way, the principle of inner sense lets me say quite generally: every appearance there is, that is, every object of the senses, is in time and necessarily stands in time-relations.

Suppose we leave aside our way of intuiting ourselves inwardly, the way through which all outer intuitions get taken up into our power of representation. Suppose we then consider objects as they might be in themselves. In that case time is nothing. It is objectively valid only for appearances, because those are already things we accept as objects of our senses. Leave out the sensibility of our intuition, our own peculiar way of representing, and speak of things in general: then time is no longer objective. Time is therefore nothing more than a subjective condition for our (human) intuition. Our intuition is always sensible, meaning it depends on objects affecting us. In itself, outside the subject,

time is nothing. Even so, it is necessarily objective for all appearances, and so for all things that can meet us in experience. We cannot say that all things are in time.

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The reason is that the concept of things in general leaves out every kind of intuition of them, and that intuition is the real condition under which time enters the representation of objects. Now join the condition to the concept. The principle then reads: when things count as appearances, as objects of sensible intuition, they are all in time. In that form it has sound objective correctness and a priori universality.

Our claims thus teach the empirical reality of time, in other words its objective validity for any object that can ever be presented to our senses. Our intuition is always sensible. So in experience we can never be given an object that escapes the condition of time. What we deny to time is any claim to absolute reality, that is, the idea that time would belong to things simply as a condition or property, even apart from the form of our sensible intuition. The senses could never hand us properties of that sort, the kind that belong to things in themselves. This is what the transcendental ideality of time consists in. According to it, time is simply nothing when the subjective conditions of sensible intuition are set aside. Take objects as they are in themselves, with no regard to how they relate to our intuition. Time can't be counted among them, whether as subsisting or as inhering.

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Still, this ideality, just like that of space, must not be set beside the subreptions of sensation. In those cases one assumes that the appearance itself, the thing these predicates inhere in, has objective reality. Here that reality disappears altogether, except so far as it is merely empirical, that is, where the object itself is regarded purely as an appearance. For this, see the remark above in the first section.

§ 7 Clarification

The theory allows time to be empirically real while contesting that it is absolutely or transcendentally real. I have heard one objection to it from insightful men, so unanimously that I conclude every reader unused to these thoughts must naturally come up with it. It runs as follows. Changes are real. (Our own representations keep alternating, and that proves it, even if someone wished to deny every outer appearance and its changes.) Now changes are possible only in time. So time is something real. The reply is not hard. I accept the whole argument. Time is indeed something real, namely the real form of inner intuition. It therefore has subjective reality in respect of inner experience. In other words, I truly have the representation of time.

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I also have a representation of my determinations in it. So time is not, in fact, an object. It is the way in which I represent myself as an object. But suppose that I, or another being, were able to intuit me without the condition of sensibility. The same determinations that now appear to us as changes would then give a cognition containing no representation of time and so none of change. Its empirical reality thus stays, as the condition of all our experiences. Absolute reality is the one thing we cannot grant it, in light of the earlier points. Time is no more than the form that our inner intuition takes*. Take away the special condition of our sensibility and the concept of time disappears too. It does not cling to the objects themselves. It clings only to the subject doing the intuiting.

* I can indeed say that my representations follow one another. That says only that we are aware of them in a time sequence, which is to say, in the form of inner sense. Time is not, for that reason, something in itself, or a determination attached objectively to things.

The reason why this objection is raised so unanimously, even by people who can find nothing convincing to say against the doctrine of the ideality of space, is this.

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They did not hope to prove the absolute reality of space apodictically, because idealism stands in their way. According to idealism, the actual existence of outer objects can't be strictly proved. Our inner senses, by contrast, have an

object (myself and my state), and its actuality is plain straight from consciousness. The former could be a mere illusion. The latter, they thought, is undeniably something actual. What they overlooked is that both belong only to appearance, even though no one may dispute their actuality as representations. An appearance always has two sides. In one, the object is considered in itself, whatever the way of intuiting it. For that very reason, its nature always stays problematic. In the other, we look to the form of intuition of this object. That form is not to be sought in the object itself but in the subject to which the object appears. Even so, it belongs to the appearance of this object really and necessarily.

So time and space are two sources of cognition. Various synthetic cognitions can be drawn from them a priori, as pure mathematics shows brilliantly, above all in its cognitions of space and its relations.

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That is because the two together are the pure forms of all sensible intuition, and for that reason they make synthetic a priori propositions possible. Yet by the very fact that they are mere conditions of sensibility, these a priori sources set their own boundaries. They reach only objects viewed as appearances. They never present things in themselves. Only appearances make up the field where they hold. Outside it they have no further objective use. This reality of space and time, incidentally, leaves the certainty of empirical cognition untouched. Our certainty about it is the same either way: it makes no difference whether these forms necessarily cling to things in themselves or only to how we intuit those things. People who claim absolute reality for space and time, on the other hand, whether as subsisting or merely as inhering, are bound to clash with the principles of experience itself. Take the first choice (commonly the party of the mathematical natural scientists). They then have to accept two eternal and infinite entities that exist on their own and yet are not real things (space and time). These are there, though nothing real is there, merely to contain everything real. Now take the second choice (some metaphysical natural philosophers hold it). Space and time then count for them as relations among appearances (side by side or one after another), relations abstracted from experience.

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Considered in isolation, they are represented only in a confused way. Then they must deny that the doctrines of a priori mathematics are valid for actual things (in space, for instance), or at least deny their apodictic certainty. The reason is that apodictic certainty never comes from the a posteriori. In their view, the concepts we hold a priori of space and time are mere products of imagination. Their source has to be sought in experience. Out of relations abstracted from experience, imagination has made something that contains what they have in common but cannot exist without the restrictions that nature has tied to them. The first group gains this much: the field of appearances is cleared for mathematical claims. But these same conditions badly trip them up when the understanding wants to go past that field. The second group gains something regarding the latter. The representations of space and time cause them no trouble when they judge objects not as appearances but purely by their relation to the understanding. What they cannot do is explain how a priori mathematical cognition is possible, since they have no true, objectively valid a priori intuition. Nor can they make the propositions of experience agree necessarily with those claims.
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Our theory of the true nature of these two original forms of sensibility removes both difficulties.
Lastly, the transcendental aesthetic can contain only these two elements, space and time, and the reason is clear. Every other concept belonging to sensibility presupposes something empirical, even the concept of motion, which unites both. Motion presupposes the perception of something movable. But nothing movable exists in space considered in itself. So the movable has to be something found in space only by experience, and therefore an empirical datum. Likewise the transcendental aesthetic cannot count the concept of change among its a priori data. Time itself does not change. Something in time does. So the concept needs the perception of some existing thing and of the succession of its determinations, and therefore it needs experience.
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§ 8 General remarks on the transcendental aesthetic

I. To begin, we must say as plainly as we can what we think about the basic makeup of sensible cognition in general, so as to prevent any misreading of it.

What we meant to say was this. All our intuition is only the representation of appearance. The things we intuit are not what we take them to be in themselves, and their relations are not in themselves as they look to us. If we removed our subject, or even only the subjective makeup of the senses in general, all properties and relations of objects in space and time would vanish, and space and time themselves too. As appearances they can exist not in themselves but only in us. How objects are constituted in themselves, taken apart from this whole receptivity of our sensibility, is something we never learn. All we know is our way of perceiving them. It is peculiar to us, and it need not belong to every being, even though it belongs to every human. We have to do only with this way. Space and time are its pure forms.

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Sensation in general is its matter. The pure forms alone can we cognize a priori, before any actual perception, and that is why they are called pure intuition. Sensation is what makes a cognition one a posteriori, an empirical intuition, as we call it. Pure forms are bound to our sensibility with sheer necessity, no matter what kind of sensations we have. Sensations can differ widely. Say we managed to make this intuition of ours as distinct as it can possibly be. We still would not come nearer to the nature of objects in themselves. For we would still cognize completely only our own way of intuiting, our sensibility, and always under the conditions of space and time that are original to the subject. What objects may be in themselves would never be known to us, however enlightened our cognition of their appearance is, the only thing that is given to us.

To say that our whole sensibility is just a confused representation of things is a falsification of the concepts of sensibility and appearance. It makes the whole doctrine of them useless and empty. On that idea, sensibility contains only what the things have in themselves, but heaped together with marks and partial representations that we don't consciously sort out.

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Distinct versus indistinct is only a logical difference between representations. It leaves their content alone. Doubtless the concept of right that sound understanding uses holds exactly what the subtlest speculation can unfold from it. In everyday practical use, though, we are not aware of the many representations contained in these thoughts. For that reason the everyday concept can't be called sensible or said to contain mere appearance. Right can't appear at all. Its concept lies in the understanding and stands for a property (the moral one) that actions have in themselves. The representation of a body in intuition is different. Nothing in it could belong to an object in itself. All it holds is the appearance of something and the way that thing affects us. We call this receptivity of our faculty of cognition sensibility. Even if we could see through the appearance to its very bottom, sensibility would still be worlds away from cognition of the object in itself.

Leibniz-Wolfian philosophy gave every inquiry into where our cognitions come from, and what they are, a wholly mistaken starting point. It regarded the difference between sensibility and what is intellectual as purely logical. In fact the difference is transcendental.

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It is not only a matter of the form of distinctness or indistinctness. It also concerns origin and content. The consequence is that sensibility does not merely show us the nature of things in themselves indistinctly. It does not show it at all. Take away our subjective makeup and the represented object, with all the properties sensible intuition gave it, is not to be met with anywhere, nor could it be. For that makeup is just what fixes its form as an appearance.

We are used to sorting appearances into two kinds. One kind belongs essentially to their intuition and is valid for any human sense at all. The other kind belongs to it only by chance. The second kind is not valid for sensibility generally, but only for the particular position or organization of this sense or that. The first kind is then said to be cognition that presents the object in itself, and the second to present only its appearance. This distinction, though, is only empirical. Suppose we stop there, as usually happens, and fail to look at that

empirical intuition in turn as mere appearance (as we should), so that nothing in it touches any thing in itself. Then our transcendental distinction is lost. We still believe that we cognize things in themselves. Yet everywhere in the world of sense we deal with appearances only.

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This holds even for the deepest investigation of its objects. We would call a rainbow a mere appearance in a sun shower, and call the rain the thing in itself. That is even right, provided the second concept is understood merely physically: as whatever general experience finds determined in intuition in just this way and not otherwise, from every position relative to the senses. But take this empirical thing in general, and ask, without regard to whether it agrees with every human sense, whether it too presents an object in itself (not the raindrops, for those are empirical objects already, as appearances). The question about how the representation relates to the object is then transcendental. Not only are these drops mere appearances. Even their round shape is nothing in itself, and so is the space in which they fall. They are only modifications, or foundations, of our sensible intuition. The transcendental object remains unknown to us.

A second weighty matter for our transcendental aesthetic is this: it should not merely earn some goodwill as a plausible hypothesis. It should be as certain and beyond doubt as any theory can be asked to be that is meant to serve as an organon. To make this certainty fully evident, we will choose a case.

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Through it, the validity of the theory can become obvious. It can also make clearer what was said in § 3.

Suppose space and time were objective in themselves and conditions for the possibility of things in themselves. Then, to begin with, a great many apodictic and synthetic propositions arise a priori from both, above all from space, which we will therefore use as our main example. Geometry's propositions are cognized as synthetic a priori and with apodictic certainty. So I ask: where do you get such propositions? What does our understanding stand on, to reach truths that are so absolutely necessary and universally valid? The only routes are con-

cepts and intuitions, and each of these is given either a priori or a posteriori. Empirical concepts, and the empirical intuition they are based on, can give only a synthetic proposition that is itself empirical, a proposition of experience. Such a proposition can never contain necessity and absolute universality, yet those are exactly what mark all geometrical propositions. That leaves the a priori kind as the only means left: to reach such cognitions through concepts alone or through a priori intuitions. Here it is clear that concepts alone give no synthetic cognition, only analytic.

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Take the proposition that two straight lines can enclose no space, so that no figure is possible, and try to get it out of the concept of straight lines together with the number two. Or take the claim that three straight lines make a figure possible, and try the same with nothing but those concepts. All your effort is wasted. You are forced to run to intuition, as geometry always does. So you give yourselves an object in intuition. What sort of intuition is it, though, pure and a priori or empirical? Were it empirical, it could never yield a universally valid proposition, let alone an apodictic one, because experience cannot provide that. So you must give your object in intuition a priori and build your synthetic proposition on it. Now suppose you had no capacity to intuit a priori. Suppose also that this subjective condition were not, in its form, at once the universal a priori condition for the very possibility of the object of this (outer) intuition. Suppose, too, that the object (the triangle) existed in itself, unconnected to you as a subject. Then how could you claim that whatever your own subjective conditions necessarily involve in constructing a triangle must hold necessarily of the triangle in itself? You could not add anything new (the figure) to your concepts (of three lines).

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That new thing would then have to turn up in the object as a matter of necessity, because the object is given ahead of your cognition, not by means of it. Suppose space, and time too, were not a mere form of your intuition, containing the a priori conditions under which alone things can be outer objects for you (objects that are nothing in themselves without these subjective condi-

tions). Then you could establish nothing at all synthetically, a priori, about outer objects. It is therefore not merely possible, or probable, but certain, that space and time are nothing but subjective conditions of all our intuition. They are the necessary conditions of all experience, outer and inner. In relation to them all objects are mere appearances, not things given for themselves in this way. About their form, therefore, much can be said a priori, but never the slightest about the thing in itself that may lie beneath these appearances.

II. One remark does a lot to back up this theory. The theory says outer sense and inner sense are ideal, so every object of the senses is a mere appearance. Here is the remark. Whatever in our cognition counts as intuition holds relations and nothing else. (I set aside feelings of pleasure and pain, and the will, because those aren't cognitions at all.) There are relations among places within an intuition, which gives us extension.

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There are changes of place, which give us motion. And there are the laws that fix those changes, which give us the moving forces. None of this shows us what is actually present in a place. It doesn't show what the things themselves do besides move about. Bare relations can never get us to a cognition of a thing in itself. So we should conclude the following. Outer sense hands us only representations of relations. All it can carry, then, is how an object stands to the subject, within the subject's representation. It can't carry the inner nature that belongs to the object by itself. The same goes for inner intuition. For one thing, the representations of the outer senses are the real material we fill our mind with. But there is more to it. We place those representations in time. Time comes before our awareness of them in experience, and it lies beneath our placing of them in the mind, as a formal condition. And time already holds relations: of one thing after another, of things at once, and of what lasts while other things follow one another (the permanent). Now whatever can precede every act of thinking something, as a representation, is intuition. When intuition holds only relations, what we have is its form. This form presents nothing unless something is placed in the mind. So the only thing it can be is the way the mind gets affected by its own activity.

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That activity is this very placing of its representation. Thus the mind is affected by itself. Put differently, this is inner sense, taken as to its form. Anything a sense represents is, in that respect, always an appearance. So either we should not grant inner sense at all, or the subject that is its object can show up through it only as an appearance. It couldn't show up the way it would judge itself to be, supposing its intuition were pure self-activity, that is, intellectual. All the difficulty here comes down to one question: how can a subject look inward at itself? But every theory faces that difficulty. Being conscious of oneself (apperception) is just the bare representation of the I. Suppose that representation alone gave the subject everything manifold in it, by the subject's own activity. Then inner intuition would be intellectual. In human beings, this consciousness needs an inner perception of the manifold that was already given to the subject. How that manifold gets into the mind without any spontaneity has to be called sensibility, to mark the difference. Now take the capacity to become conscious of oneself. If it is to hunt for whatever lies in the mind (to apprehend it), it has to affect the mind. That is the only way it can bring about an intuition of itself. But the form of this intuition already lies in the mind as a ground. It fixes how the manifold sits together in the mind.

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It does this within the representation of time. So the mind looks at itself, not as it would present itself straight from its own activity, but as it is affected from within. It sees itself as it seems to itself, not as it is.

III. When I say that intuition in space and time represents two things as they affect our senses, that is, as they appear, I do not mean that these objects are mere illusion. The two things are the outer objects and the mind's intuition of itself. For when something appears, its objects are always taken as really given, and so are the properties we assign them. The one catch is this. Suppose a property hangs only on how the subject intuits, within the relation between the given object and the subject. Then we tell the object as appearance apart from that same object as it is in itself. So I am not claiming that bodies only seem to exist outside me, or that my soul merely seems to be given in my consciousness

of myself. I claim that space and time owe their character to how I intuit, not to these objects in themselves. I place both bodies and soul by that character, as the condition of their existence. I would have only myself to blame if I made illusion out of what I should count as appearance*.

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But that doesn't happen under our principle that all our sensible intuitions are ideal. Rather, if you give those forms of representation objective reality, you cannot avoid turning everything into mere illusion. Suppose you treat space and time as properties that could only exist if they were found in things in themselves. Now look at the absurdities you get tangled in. You end up with two infinite things. They aren't substances, and they aren't anything really belonging to substances, and yet they exist.

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They are even the necessary condition for the existence of all things. And they would stay put even if every existing thing were taken away. With all that on the table, nobody can fairly criticize good Berkeley for demoting bodies to mere illusion. Worse, our own existence would turn into pure illusion along with time. Our existence would then hang on the self-standing reality of a non-thing like time. No one so far has been guilty of such an absurdity.

* We can ascribe predicates of appearance to the object itself, as it relates to our sense. The red color of a rose, or its smell, is an example. Illusion, though, can never be treated as a predicate of the object. The reason is exactly that illusion hands the object, taken alone, something that belongs to it only through the senses, or through the subject generally. The two handles people first gave Saturn are an example. Whatever is never in the object by itself, but always in how it stands to the subject, and can't be pulled apart from the representation of it, is appearance. So it is right to give the objects of the senses, as such, the predicates of space and time. There is no illusion in that. It is different when I credit the rose with redness in itself, or Saturn with handles, or all outer objects with extension in themselves. That happens when I overlook how these objects stand to the subject in some definite way, and fail to hold my judgment to that. Only then does illusion arise.

IV. In natural theology we imagine an object that is no object of intuition for us whatever. More than that, it can't be an object of sensible intuition even for itself. So people take great care to strip the conditions of time and space away from all of its intuition. (Everything it cognizes must be intuition, not thinking, since thinking always shows limits.) But by what right do we do that? We would already have turned space and time into forms of things in themselves. They would be forms that stay, as a priori conditions for the existence of things, even if the things were removed. They would hold for all existence whatever, so they would hold for God's existence too. Suppose we refuse to treat them as objective forms of everything. Then we have one choice left.

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We must treat them as forms that belong to the subject, to our way of intuiting, outer and inner alike. We call this way of intuiting sensible because it isn't original. An original intuition would be one in which the object's very existence gets given. (As far as we could tell, only the original being could have that.) Ours depends instead on the object's existence. It is possible only when the object affects the subject's capacity for representation.

We also needn't limit the intuiting that happens in space and time to the sensibility of human beings. Perhaps every finite thinking being has to match human beings here. (We can't settle that.) Even so, being universal doesn't stop it from being sensibility. The reason is that this intuition is derived (intuitus derivativus) and not original (intuitus originarius). So it is not intellectual intuition. As just argued, only the original being seems to have intellectual intuition. It never belongs to a being that is dependent, in its existence as well as in its intuition (the intuition that fixes its existence relative to given objects). Still, we should count that last remark as an illustration of our aesthetic theory only, and not as a proof.

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Conclusion of the Transcendental Aesthetic

Here we have one piece of what we need in order to solve the general problem of transcendental philosophy: how are synthetic propositions a priori possible? The piece is the pure intuitions a priori, space and time. Say we want to leave a

given concept behind in a judgment a priori. In these intuitions we meet what the concept lacks. It can be discovered a priori in the intuition that fits the concept, and joined to the concept synthetically. For that very reason, though, such judgments reach no further than objects of the senses. They hold only for objects of possible experience.

Transcendental Analytic



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Of the Transcendental Doctrine of Elements Second Part The Transcendental Logic
Introduction The idea of a transcendental logic
I. Logic in general
Our cognition has two basic sources in the mind. One is the taking in of representations, which is receptivity to impressions. The other is the power to cognize an object by means of those representations, which is the spontaneity of concepts. Through the first we are given an object. Through the second the object is thought, in relation to that representation, which is only a determination of the mind. So intuition and concepts together are the elements of all our cognition. A concept with no intuition matching it in some way can't yield a cognition, and neither can an intuition with no concepts. Either kind can be pure or empirical. It is empirical if it includes sensation, which presupposes that the object is really present. It is pure if the representation has no sensation mixed in. Sensation is what we may call the matter of sensible cognition.
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That is why pure intuition holds only the form in which something gets intuited, and a pure concept holds only the form of thinking an object at all. Pure intuitions and pure concepts alone are possible a priori. The empirical ones are possible only a posteriori.

Call the mind's receptivity, its ability to take in representations when it is affected in some way, sensibility. Then the ability to produce representations on its own, the spontaneity of cognition, is the understanding. Our nature is such that intuition can only be sensible. It holds nothing but the way objects affect us. The ability to think the object of a sensible intuition is the understanding. Neither of these qualities ranks higher than the other. If we had no sensibility, no object would come to us. If we had no understanding, none would be thought. Thoughts with no content are empty, and intuitions with no concepts are blind. So we need to make our concepts sensible, by giving them an object in intuition. We equally need to make our intuitions understandable, by bringing them under concepts. The two abilities, or capacities, can't swap their jobs either. The understanding can't intuit a thing, and the senses can't think a thing. Only when the two unite can cognition arise.

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Still, that is no reason to blend their contributions. There is good cause to keep each carefully apart from the other and to tell them apart. That is why we distinguish aesthetic, the science of the rules of sensibility as such, from logic, the science of the understanding's rules as such.

Logic can in turn be taken up with either of two aims. It can deal with the understanding's use in general, or with its use in some particular field. The first sets out the absolutely necessary rules of thinking. Without them the understanding isn't used at all. They apply whatever the objects are that the understanding may be aimed at. The logic of the particular use gives rules for thinking correctly about one certain kind of object. We can call the first elementary logic. The second is the organon of this or that science. Schools mostly put the second first, as preliminary training for the sciences. Yet in the actual course of human reason it comes last. Reason gets to it only when a science has long been finished and needs just a final touch to be corrected and perfected. That is because you must already know the objects quite well.

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Only then can you give the rule for how to set up a science of them.

General logic is either pure or applied. In pure logic we leave out all the empirical conditions under which our understanding works. Some examples are how the senses influence us, how imagination plays, the laws memory follows, the sway of habit, inclination, and so on. That also removes the sources of prejudice, and in fact every cause that might produce certain cognitions in us or slip them in. Such causes bear on the understanding only in certain circumstances where it is applied, and you need experience to know those circumstances. So a general but pure logic deals only with principles a priori. It is a canon for the understanding and for reason, but only for the formal side of how they are used, no matter what the content is, empirical or transcendental. A general logic counts as applied when it is directed at how the understanding is to be used under the subjective, empirical conditions that psychology teaches us. It therefore has empirical principles, though it is general in covering the use of the understanding with no regard to its objects. This is why it is not a canon for the understanding as such, and not an organon of particular sciences either.

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It serves only as a purgative for the common understanding.

So within general logic, the part that is to be the pure doctrine of reason must be kept strictly apart from the part that is applied logic (which is still general). Only the former is truly a science. It is short and dry, as a school-style presentation of the elements of the understanding has to be. Logicians must always bear two rules in mind here.

1 As general logic, it ignores all content of the understanding's cognition and every difference among its objects. It deals with the bare form of thinking and with nothing else.

2 Considered as pure logic, it contains no empirical principles. So it takes nothing from psychology (as people have at times been talked into believing), and psychology has no say in the canon of the understanding. Pure logic is a demonstrated doctrine, and every part of it must be certain a priori without exception.

What I call applied logic is not what that word usually means. Normally it would hold certain exercises for which pure logic provides the rule. My applied logic represents the understanding together with the rules that govern its necessary use in concreto. By that I mean its use under the subject's accidental conditions.

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Those conditions can hinder or help that use, and all of them are given only empirically. This logic treats attention, what gets in its way and what follows from it, where error comes from, and the states of doubt, scruple and conviction, and so on. General and pure logic relates to it the way pure morals relates to the proper doctrine of virtue. Pure morals holds just the moral laws that any free will, as such, must obey. The doctrine of virtue weighs those laws against the obstacles of feelings, inclinations and passions, to which people are more or less subject. It can never be a true, demonstrated science, since like that applied logic it needs empirical and psychological principles.

II. Transcendental logic

As we showed, general logic ignores all content of cognition, that is, every relation of cognition to its object. It looks only at logical form, at how cognitions are related to each other, which is the form of thinking in general. But intuitions come in pure and empirical kinds (as the transcendental aesthetic shows).

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So perhaps thinking about objects might likewise divide into pure and empirical. If so, there would be a logic that doesn't set aside all content of cognition. A logic holding only the rules for pure thinking of an object would shut out every cognition with empirical content. It would also reach the origin of our cognitions of objects, so far as that origin can't be attributed to the objects. General logic has nothing to do with that origin. It considers representations solely by the laws that govern how the understanding sets them in relation to each other as it thinks. Whether the representations were first given a priori in us or only empirically makes no difference. It concerns only the form the understanding can give to representations, wherever they may otherwise have come from.

At this point I make a remark whose influence reaches all the investigations that follow, so it should stay in view. Not every a priori cognition should be called transcendental. The name belongs only to a cognition by which we know that certain representations (intuitions or concepts) are used purely a priori, and how, or that they are possible that way. (Here transcendental means an a priori possibility of cognition, or an a priori use of it.)

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So space is not a transcendental representation, and neither is any geometrical determination of space a priori. What can be called transcendental is the cognition that these representations have no empirical origin, along with the cognition of how they can still relate a priori to objects of experience. In the same way, using space for objects in general would also be transcendental. Restrict that use to objects of the senses, though, and it is called empirical. The difference between the transcendental and the empirical thus belongs only to the critique of cognitions. It has nothing to do with how they relate to their object.

We can expect, then, that perhaps there are concepts that refer to objects a priori. They would do so not as pure or sensible intuitions do, but only as acts of pure thinking. They would be concepts, yet neither empirical nor aesthetic in origin. With that in mind, we sketch ahead of time the idea of a science of pure understanding and rational cognition, one by which we think objects entirely a priori. A science of this sort would settle the origin, the range and the objective validity of such cognitions. It would have to be called transcendental logic, because it is concerned just with the laws of the understanding and of reason, and only as those apply to objects a priori.

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Unlike general logic, it doesn't cover empirical and pure rational cognitions without distinction.

III. How general logic divides into analytic and dialectic

The old, famous question was meant to corner the logicians. People hoped it would force them either to be caught in some wretched quibble or to admit their ignorance, and with it the vanity of their whole art. The question is this:

What is truth? The definition of the word truth, that it means cognition agreeing with its object, is granted and taken as given here. What people want to know is the general and reliable criterion for the truth of any cognition.

Knowing what it is reasonable to ask already shows a lot of sense and insight, and it is necessary. A question that is absurd in itself, and demands pointless answers, embarrasses whoever raises it. Sometimes it does more harm. It can lure an unsuspecting listener into absurd answers.

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It also produces a laughable sight: one person (as the ancients put it) milks a he-goat while another holds a sieve underneath.

If truth consists in a cognition's agreeing with its object, then that agreement must tell this object apart from others. A cognition is false when it fails to agree with the object it refers to, even if it contains something that could be true of other objects. A criterion of truth that was general would have to hold for every cognition, whatever its objects. But clearly any such criterion would have to ignore everything a cognition contains (including its relation to its object), and truth is about exactly that. So to ask for a sign by which to tell that this content is true is impossible and absurd. A sign of truth that is both sufficient and general therefore cannot be given. Earlier we named a cognition's content its matter. So we have to say that for the truth of a cognition as to its matter, no general mark can be demanded, because that demand contradicts itself.

Now take cognition as to its mere form, with all content set aside. It is just as clear here that a logic must supply criteria of truth.

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It supplies them in the rules it sets out as the general and necessary rules of the understanding. Whatever contradicts those rules is false, since then the understanding goes against its own general rules of thinking, and so against itself. But these criteria bear only on the form of truth, which means the form of thinking in general. As far as they go they are entirely right, but they aren't enough. A cognition can fit the logical form perfectly, that is, not contradict itself, and still contradict its object. The merely logical criterion of truth is a cognition's agreement with the general, formal laws of the understanding and of reason. It is the

conditio sine qua non (the condition without which there is no truth), and so the negative condition of all truth. But logic can't go beyond that. It has no touchstone that could detect an error which affects not the form but the content.

General logic takes the entire formal business of the understanding and of reason apart into its elements, and presents these as the principles for any logical assessment of our cognition. So we can give this part of logic the name analytic. For that very reason it is at least the negative touchstone of truth. We have to test and size up every cognition by these rules as to its form first. Only afterwards do we examine its content.

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We examine it to find out whether it holds positive truth about its object. But the mere form of cognition, however perfectly it fits logical laws, is far from enough to establish the cognition's material (objective) truth. So no one can dare to judge objects or claim anything about them by logic alone. First they must have collected sound information about the objects from outside logic. After that, they can try to use and connect it in a coherent whole according to logical laws. Better still, they can simply test it against those laws. Even so, there is something so tempting in having such a showy art, one that puts the understanding's form on every one of our cognitions, even when we remain very empty and poor in content. Because of this, that general logic, which is only a canon of assessment, has come to be used as though it were an organon for really producing something. At least it has been used to produce a dazzling show of objective claims. In fact it has been misused. General logic taken as this supposed organon is called dialectic.

The ancients meant quite different things by this label for a science or an art. Still, how they actually used it makes one thing certain. What they called dialectic was only the logic of illusion.

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It was a sophist's trick for giving an air of truth to one's ignorance, and even to one's deliberate dazzling tricks. The trick worked by imitating the thorough method that logic prescribes, and by using logic's topics to dress up any empty

claim. Here is a warning we can take as sure and useful. Treat general logic as an organon, and it is always a logic of illusion, in other words dialectical. For it tells us nothing at all about what a cognition contains. All it gives are the formal conditions for fitting the understanding, and those are completely indifferent to objects. So the suggestion that we use it as a tool (an organon) for spreading and extending our knowledge, at least in appearance, can only lead to chatter. We would be able to assert whatever we like with some show of truth, or attack it just as we please.

Teaching of that kind doesn't suit the dignity of philosophy at all. That is why people have preferred to file this name, dialectic, under logic as a critique of dialectical illusion. We want it understood that way here too.

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IV. How transcendental logic divides into transcendental analytic and dialectic

In a transcendental logic we single out the understanding, just as the transcendental aesthetic singled out sensibility earlier. We pull out of our cognition only the part of thinking that originates in the understanding alone. This pure cognition, however, can be used only on one condition: objects must be given to us in intuition, so that it has something to apply to. Without intuition, all our cognition has no objects and stays entirely empty. One part of transcendental logic presents the elements of the understanding's pure cognition. It also presents the principles that any thinking of an object at all depends on. This part is the transcendental analytic, and it is also a logic of truth. For no cognition can go against it without losing all content on the spot, that is, all relation to any object, and so all truth. Now it is very tempting and alluring to use these pure cognitions and principles on their own, even beyond the boundaries of experience. But only experience can hand us the matter (objects) to which those pure concepts of the understanding can be applied.

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Thus the understanding risks putting the bare formal principles of pure understanding to a material use, through empty reasoning. It would end up judging about objects without discrimination, though they aren't given to us and may not be givable in any way. The analytic is really supposed to be only a canon for

judging empirical use. It gets abused if we let it stand as the organon for a general, unlimited use. That happens when someone ventures, relying on pure understanding by itself, to judge synthetically about objects in general, and to assert and decide things about them. Using the pure understanding that way would be dialectical. Hence the second part of transcendental logic has to be a critique of this dialectical illusion. Its name is transcendental dialectic. It isn't an art of stirring up such illusion dogmatically. (Sadly, that art is very popular, and it consists of many kinds of metaphysical conjuring.) It is a critique that examines understanding and reason in their hyperphysical use. Its job is to expose the false illusion in their groundless pretensions. They claim to discover and extend knowledge, and they think they can manage it through transcendental principles alone. The critique brings those claims down to something modest: judging the pure understanding and protecting it from sophistical dazzle.

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Of the Transcendental Logic First Division The Transcendental Analytic

This analytic takes all our a priori cognition apart into the elements of the pure understanding's cognition. Four things matter here. 1. The concepts must be pure, not empirical. 2. They must belong to thinking and the understanding, not to intuition and sensibility. 3. They must be elementary concepts, kept clearly distinct from derived ones and from ones assembled from others. 4. Their table must be complete, and between them they must cover the entire territory of the pure understanding. Now, the completeness of a science can't be trusted when it rests on a rough count of a heap pieced together by trial and error. Completeness can come only from an idea of the understanding's a priori cognition as a whole, together with the division of its concepts that this idea determines. In other words, it is possible only if the concepts are connected in a system. The pure understanding sets itself completely apart, not just from everything empirical but from all sensibility. It is therefore a unity that stands on its own and suffices for itself.

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No addition from outside can enlarge it. The whole sum of its cognition will thus form a system, grasped and determined under one idea. How complete and how well articulated that system is can serve at the same time as a touchstone for the correctness and genuineness of every piece of cognition that fits into it. This entire part of transcendental logic has two books. One holds the concepts of the pure understanding, and the other holds its principles.

Of the Transcendental Analytic First Book The Analytic of Concepts

By the analytic of concepts I don't mean analysis of them. Analysis is the usual way of working in philosophical inquiry: you take concepts that come to hand, break them down by their content and make them distinct. I mean something that has seldom been tried, a dissection of the power of understanding itself. The aim is to investigate how concepts a priori are possible, by hunting for them in the understanding alone, where they are born, and by analyzing the understanding's pure use as a whole.

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That is the proper job of a transcendental philosophy. Anything else is the logical handling of concepts in philosophy generally. We will therefore follow the pure concepts down to their earliest germs and dispositions in human understanding. That is where they lie prepared, until experience gives the occasion for them to unfold. The same understanding then frees them from the empirical conditions attached to them and presents them in their purity.

Of the Analytic of Concepts First Chapter On the guiding thread for discovering all pure concepts of the understanding

When a faculty of cognition is set in motion, various concepts come forward as the occasions vary. They make the faculty known, and they can be gathered into a more or less detailed account, once someone has watched for them over a longer time or with sharper insight. With this mechanical method, as it were, we can never say for sure when the inquiry will be done. What is more, the concepts one finds only on occasion like this turn up in no order at all. They lack systematic unity too.

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In the end they are just paired by likeness and ranked by the size of their content, from simple ones to more composite ones. These rankings are anything but systematic, although in their way they are produced by method.

Transcendental philosophy has an advantage, and an obligation too: it must look for its concepts by a principle. The reason is that they spring pure and unmixed out of the understanding, which is an absolute unity, and so they must hang together under one concept or idea. Such a connection provides a rule. By it we can fix, a priori, the place each pure concept of the understanding has, and how complete the whole set is. Otherwise everything here would be left to taste or chance.

Of the Transcendental Guiding Thread for Discovering All Pure Concepts of the Understanding First Section On the logical use of the understanding in general

Earlier we explained the understanding only in negative terms, as a faculty of cognition that isn't sensible. Without sensibility, we can have no intuition at all. So the understanding is not a faculty of intuition.

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But apart from intuition there is no way to cognize except by concepts. So the cognition of any understanding, human ones at least, works through concepts. It is not intuitive but discursive. All intuitions, being sensible, depend on affections. Concepts depend on functions instead. By function I mean the unity of the act of arranging various representations under one that they share. So concepts rest on the spontaneity of thinking, as sensible intuitions rest on the receptivity of impressions. The only use the understanding can make of concepts is to judge with them. No representation goes straight to the object except intuition. A concept therefore never relates directly to an object. It relates to another representation of the object, which may be an intuition or may itself be a concept already. Judgment is thus cognition of an object at one remove: the representation of a representation of it. Every judgment has a concept that holds of many things. Among them it takes in a given representation, and that representation is the one related directly to the object. Consider "All bodies are

changeable." The concept of the divisible refers to a number of other concepts. Among them, here, it refers especially to the concept of body. And body in turn is referred to certain appearances that come our way.

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So these objects are represented at one remove, through the concept of divisibility. All judgments are therefore functions of unity among our representations. A higher representation replaces the immediate one in cognizing the object. It takes in the immediate one and several others besides, and in this way many possible cognitions are pulled together into one. We can trace all acts of the understanding back to judgments. So the understanding in general can be pictured as a power to judge. For, as said above, it is a power to think, and thinking is cognition by concepts. Concepts, as predicates of possible judgments, refer to some representation of an object not yet determined. The concept of body, for example, means something such as metal, which that concept can be used to cognize. It is a concept only because other representations fall under it, and by means of them it can refer to objects. So it is the predicate in a possible judgment, such as "Every metal is a body." We can find all the functions of the understanding, then, if we can present the functions of unity in judgments completely. The next section will show that this can be done quite well.

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Of the Guiding Thread for Discovering All Pure Concepts of the Understanding Second Section

§ 9 On the logical function of the understanding in judgments

Take any judgment and set aside all of its content. Look only at the form of the understanding in it. We then find that the function of thinking in a judgment can be brought under four headings, and that each heading contains three moments. A table can set them out conveniently, as follows.

1 Quantity of judgments: universal, particular, singular

2 Quality: affirmative, negative, infinite

3 Relation: categorical, hypothetical, disjunctive

4 Modality: problematic, assertoric, apodictic
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This division seems to depart from the logicians' customary technique in a few points, though not essential ones. So the following safeguards against a possible misunderstanding won't be out of place.

1 Logicians rightly say that when judgments are used in syllogisms, singular judgments can be treated like universal ones. For singular judgments have no extension at all. Precisely for that reason, their predicate can't be drawn to apply to just some of what is contained under the subject concept while being excepted from the rest. It holds without exception for that concept, just as though it were a concept with general validity and an extension, with the predicate true of everything it means. Now compare a singular judgment with a universally valid one purely as a piece of cognition, in terms of size. The singular stands to the universal as one stands to infinity, so the two differ essentially in themselves. Suppose, then, that I assess a singular judgment (judicium singulare) not only for its inner validity but also, as a cognition in general, for its size relative to other cognitions. It then certainly differs from generally valid judgments (judicia communia), and it deserves a place of its own in a complete table of all the moments of thinking.
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(It would not deserve one in a logic limited merely to the way judgments are used with one another.)

2 Likewise, a transcendental logic must still distinguish infinite judgments from affirmative ones. General logic is right to file them with the affirmative ones, and it does not treat them as a separate item in its division. For general logic ignores the whole content of the predicate (even a negative one). It asks only whether the predicate is laid on the subject or set against it. Transcendental logic goes further. It also weighs what such a logical affirmation, made through a merely negative predicate, is worth and contains. And it asks what that adds

to cognition overall. Suppose I had said the soul is not mortal. A negative judgment like that would at least have kept an error out. But now I say that the soul is non-mortal. In logical form I have truly affirmed something, since I place the soul in the unbounded range of beings that do not die. The range of possible beings has the mortal as one part and the deathless as another. So my proposition says only that the soul is among the endless number of things left over once I remove everything mortal. But that merely narrows the infinite sphere of the possible. The mortal is cut away from it.

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Then the soul is placed in the leftover stretch of that space. The space stays infinite even after this exception. More parts can be taken out, and still the soul's concept does not grow by a bit or receive a positive determination. So as to logical range, these infinite judgments only limit, when we look at the content of cognition generally. To that extent they mustn't be skipped in the transcendental table of all the moments of thinking in judgments. The function the understanding performs in them might prove important within the territory of its pure cognition a priori.

3 There are three kinds of relation that thinking can have in judgments: a) of predicate to subject, b) of ground to consequence, c) of a divided cognition and the gathered members of the division to each other. The first kind of judgment relates just two concepts. The second relates two judgments, and the third relates several judgments, to one another. Consider the hypothetical statement "If perfect justice exists, the persistently wicked are punished." It really holds a relation between two statements: perfect justice exists, and the persistently wicked are punished. Whether either statement is true in itself stays undecided here. The judgment thinks only the link of consequence.

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Finally, a disjunctive judgment contains a relation among two or more statements. That relation is not one of succession, but of logical opposition, since the sphere of one rules out the sphere of the other. Yet it is also one of community, since together the spheres fill out the sphere of the cognition proper. So it

is a relation among the parts of a cognition's sphere. Each part's sphere supplements the other's, to make up the whole range of the divided cognition. For example: the world is there either by blind chance, by inner necessity, or by an external cause. Each statement occupies one part of the sphere of possible cognition about the existence of a world as such, and together they occupy the whole sphere. Taking the cognition out of any one of these spheres means placing it in another one. And placing it in one sphere means taking it out of the others. So a disjunctive judgment has a certain community of cognitions: they shut each other out, yet by doing so they fix the true cognition as a whole, since together they make up the entire content of one given cognition. That is all I find I need to say about this here, given what follows.

4 Modality in judgments is a quite special function of its own.
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What marks it out is that it adds nothing to the content of the judgment. (Beyond magnitude, quality and relation, nothing else makes up the content of a judgment.) It bears only on the worth of the copula, in its connection to thinking as a whole. In problematic judgments, affirming or denying is taken as merely possible (up to one's choice). In assertoric ones, it is seen as actual (true). In apodictic ones, it is seen as necessary*. Thus the two judgments whose relation forms a hypothetical judgment (antecedens and consequens) are both only problematic. So are the judgments whose interplay forms the disjunctive (the members of the division). In the example above, "There is perfect justice" is not asserted. It is thought of as a judgment one may take up or not, one that someone could possibly accept, and only the consequence is asserted. Judgments like these can therefore be plainly false and yet, taken problematically, serve as conditions for cognizing truth. In the disjunctive judgment, for instance, "The world exists by blind chance" has only problematic force. That is, someone might accept the proposition for a moment.
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And still it helps us find the true one, the way marking a false path helps among all the paths one could take. The problematic proposition is thus one that expresses only logical possibility (which is not objective). It expresses a free choice to let a proposition count, a purely arbitrary taking of it into the understanding. An assertoric proposition tells of logical actuality, that is, of truth. Take a hypothetical syllogism: the antecedent turns up problematic in the major premise and assertoric in the minor. The assertoric form shows that the proposition is already tied to the understanding by the understanding's laws. An apodictic proposition thinks of the assertoric one as fixed by these same laws of the understanding, and so as asserting a priori. This is how it expresses logical necessity. Here everything gets absorbed into the understanding by degrees. First one judges something problematically. Then perhaps one accepts it as true, assertorically. Finally one maintains that it is bound to the understanding inseparably, so that it is necessary and apodictic. So we may also name these three functions of modality three moments of thinking in general.

* It's as though thinking belonged to the understanding in the first case, to the power of judgment in the second, and to reason in the third. This is a remark that will only be cleared up later.

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Of the Guiding Thread for Discovering All Pure Concepts of the Understanding Third Section

§ 10 On the pure concepts of the understanding, or categories

As I have said several times, general logic sets aside all the content of cognition. It waits for representations to be given to it from somewhere else, wherever that is, so that it can first turn them into concepts. That process is analytic. Transcendental logic, in contrast, has a manifold of sensibility a priori laid out before it. The transcendental aesthetic supplies it, so as to give the pure concepts of the understanding some stuff to work on. Lacking it, they would hold no content whatever and be completely empty. Space and time hold a manifold of pure intuition a priori. They are nonetheless among the conditions of our mind's receptivity, the ones under which alone it can take in representations of objects. So they must always affect the concept of those objects too. But the

spontaneity of our thinking demands more. The manifold has first to be gone through in a certain way, taken up, and combined, if a cognition is to come of it. I call this act synthesis.

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By synthesis, in the widest sense, I mean the act of putting different representations together and grasping their variety in one cognition. A synthesis is pure when the manifold comes not from experience but a priori, as with space and time. Before we can analyze our representations at all, they must have been given to us. No concepts can arise analytically as far as their content goes. Synthesizing a manifold, whether it was given empirically or a priori, is what first yields a cognition. At the start that cognition may still be crude and confused, and so call for analysis. Yet synthesis is what actually gathers the elements into cognitions and joins them into a definite content. So it is the first thing we need to look at if we are to judge where our cognition begins.

As we will see later, synthesis in general is simply the work of the imagination. The imagination is a blind but indispensable function of the soul. We would have no cognition at all without it, yet we are hardly ever aware of it. Bringing that synthesis under concepts, however, is a job for the understanding. Only through that does the understanding first give us cognition in the strict sense.

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Pure synthesis, stated in general terms, yields the pure concept of the understanding. By this synthesis I mean the kind that depends on a ground of synthetic unity a priori. Counting is an example (you notice it most with large numbers). It is a synthesis by concepts, since it follows a shared ground of unity, such as the decimal system. So under this concept, the unity in the synthesis of the manifold becomes necessary.

Representations are brought under a concept analytically. (General logic handles that job.) What transcendental logic teaches is different. It teaches how to bring under concepts, not the representations, but their pure synthesis. For the cognition of all objects a priori, the manifold of pure intuition is the first thing that has to be given. The imagination's synthesis of that manifold comes second, but it still yields no cognition. Third come the concepts that give this pure

synthesis its unity. They consist only in the representation of that necessary synthetic unity. They contribute the third element toward cognizing an object that presents itself, and they rest on the understanding.

One function unifies different representations in a judgment.

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That same function also unifies the bare synthesis of different representations in an intuition. Put generally, that is what we call the pure concept of the understanding. So one and the same understanding, by the very same acts through which it produces the logical form of a judgment in concepts by means of analytic unity, also brings a transcendental content into its representations by means of the synthetic unity of the manifold in intuition as such. That is why they are called pure concepts of the understanding: they go to objects a priori. General logic can't manage that.

In this way the pure concepts of the understanding that arise number exactly as many as the logical functions that the previous table found in every possible judgment. They relate a priori to objects of any intuition at all. For the understanding is used up completely by the functions we have named, and its capacity is fully measured by them. We will call these concepts categories, after Aristotle. Our aim is at bottom the same as his, though in execution it departs from his a great deal.

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Table of Categories

1 Of quantity: unity, plurality, totality.

2 Of quality: reality, negation, limitation.

3 Of relation: inherence and subsistence (substantia et accidens); causality and dependence (cause and effect); community (interaction between what acts and what is acted on).

4 Of modality: possibility—impossibility, existence—nonbeing, necessity—contingency.

This is the register of every original, pure concept of synthesis which the understanding holds within itself a priori. They are the reason it is a pure understanding at all, since only through them can it understand anything about the manifold of an intuition, which means thinking an object of it. The division is produced systematically from one shared principle, namely the power to judge, which amounts to the power to think. It did not turn up piecemeal, from a search for pure concepts launched at random.

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One can never be sure such a search is complete, since completeness is only inferred by induction. And I won't even mention that, with the second method, one never sees why exactly these concepts, and no others, dwell in the pure understanding. Aristotle's plan to look for these basic concepts was worthy of a keen mind. But he had no principle. So he scooped them up as they came his way. First he turned up ten, which he called categories (predicaments). Later he thought he had found five more, and added them under the name postpredicaments. Even so his table stayed deficient. It also contains some modi of pure sensibility (quando, ubi, situs, and likewise prius, simul), and one empirical item (motus). These don't belong in this ancestral register of the understanding at all. Or else it counts derived concepts among the original ones (actio, passio), while some of the derived ones are missing entirely.

As for those derived ones, there is a further point to make. The categories are the true root concepts of the pure understanding, and they have derived concepts of their own that are just as pure. A complete system of transcendental philosophy could not possibly pass these over. In a purely critical essay I am content just to mention them.

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Allow me to call these concepts of the understanding, pure yet derived, the predicables of pure understanding, as opposed to the predicaments. With the original, primitive concepts in hand, the derived and subordinate ones are easy to add on, and the pure understanding's genealogy can be drawn in full. My concern here is not for the system's completeness but only for the principles of a system. I am saving the supplement for another undertaking. Still, you can

come close to that goal by taking up ontology textbooks. Under the category of causality, for instance, they place the predicables force, action and being acted on. Under community, they place presence and resistance. Under the predicaments of modality they place arising, passing away, change and so on. Categories combined with the modi of pure sensibility, or with one another, give a large number of derived concepts a priori. It would be a useful and not unpleasant labor to take note of these and, where possible, list them completely, but it can be spared here.

I deliberately decline to give definitions of these categories in this treatise, though I may well have them ready. I will break these concepts down later, as far as the doctrine of method I'm working on requires.

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In a system of pure reason, people could fairly demand definitions from me. Here, though, they would only pull attention away from the main point of the inquiry, because they would provoke doubts and attacks. These can safely be deferred to another project without taking anything from the essential aim. Meanwhile the little I have said on the matter makes one thing plain. A complete dictionary, with all the explanations it needs, is possible and also easy to put together. The compartments exist already, and they only need filling. And a systematic topic like the present one makes it hard to miss the spot where a given concept properly belongs. It also shows us at once which spot is still empty.

§ 11

Some neat observations can be made about this table of categories. They could perhaps carry weighty consequences for the scientific form of all cognitions of reason. Here is why. In the theoretical part of philosophy the table is uncommonly useful. It is even indispensable for drawing up the plan of a whole science in full, so long as that science rests on concepts a priori, and for dividing the science mathematically on fixed principles. This is evident from the table itself. It sets out every elementary concept of the understanding in full.

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It even gives the form that a system of them takes in the human understanding. So it gives direction for each moment of a planned speculative science, and for their order as well. I have given a sample of this elsewhere*, too. Here, then, are a few of the remarks.

* Metaphysical Foundations of Natural Science.

The first is that this table has four classes of concepts of the understanding, and that it splits first into two divisions. One division is aimed at objects of intuition, pure and empirical alike. The other is aimed at the existence of those objects, whether in relation to each other or to the understanding.

I would name the first class the mathematical categories and the second the dynamical ones. As you see, only the second class has correlates, and the first has none. This difference has to have a basis in the nature of the understanding.

2nd remark. In every class the number of categories is the same, namely three. This too is worth thinking about, because otherwise any division a priori by concepts has to be a dichotomy. On top of that, the third category in each class always comes from joining the second to the first one in its class.

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Totality, for instance, is just plurality regarded as a unity. Limitation is just reality joined to negation. Community is one substance's causality in determining another reciprocally. And necessity is just existence given through possibility itself. Do not conclude, however, that the third category is therefore only derived and not a root concept of the pure understanding. For to combine the first and second so as to produce the third concept takes a special act of the understanding. It is not the same act as the one used for the first and second. Number belongs to the category of totality, yet it is not always possible even where the concepts of multitude and of unity are present. The representation of the infinite is an example. Likewise, combining the concept of a cause with that of a substance does not yet make influence understandable at once. By influence I mean how one substance can come to be the cause of something in another substance. This shows that the understanding has to perform a special act here, and the same holds for the rest.

3rd remark. Of just one category, community, which stands under the third heading, the agreement is less obvious than it is for the others. The agreement is with the form that corresponds to it in the table of logical functions.

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That form is the disjunctive judgment.

To be sure of this agreement, we have to notice that in every disjunctive judgment the sphere (everything that falls under the concept) is pictured as a whole split up into parts (the subordinate concepts). The parts are thought of as side by side, not one under another, since none can be contained in another. So they fix one another's place not in one direction, as in a series, but mutually, as in an aggregate. (Posit one member of the division and all the rest are ruled out, and vice versa.)

We think of a like connection in a whole of things. There one thing is not placed under another as its effect, with the other as the cause of its existence. Instead the things stand side by side, at once and mutually, as causes with regard to fixing each other's state. (A body whose parts pull on each other and also resist each other is an example.) That is a connection of a wholly different kind from the one found in the bare relation of cause and effect (ground and consequence). In that relation the consequence does not in turn determine the ground, so it does not form a whole with the ground. The creator of the world, for instance, does not form one with the world. The understanding uses the same method when it pictures the sphere of a divided concept.

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It also uses it when it thinks of a thing as divisible. In the first case the members of the division exclude each other and yet are joined in one sphere. In the same way the understanding pictures the parts of a divisible thing. The existence of each part (as a substance) belongs to it to the exclusion of the others, and yet the parts are joined in one whole.

§ 12

The transcendental philosophy of the ancients holds one further chapter. It contains pure concepts of the understanding that are not counted as categories. Even so, they ought to rank, right after the categories, as concepts of objects

that hold a priori. But then they would swell the number of categories, which can't happen. The proposition so famous among the scholastics sets these concepts out: quodlibet ens est unum, verum, bonum (any being whatever is one, true and good). In the conclusions drawn from it, which were only tautologies, this principle has proved very meager indeed. In more recent times it gets hauled out in metaphysics, almost solely for the sake of honor. Still, an idea that has lasted this long, however hollow it seems, always deserves a look at its origin. It suggests that the thought rests on some rule of the understanding, one that has simply, as so often happens, been misread.

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These supposed transcendental predicates of things are just logical requirements and criteria that every cognition of things must meet. They are founded on the categories of quantity: unity, plurality and totality. The difference is this. Strictly, those categories should be taken as material, as belonging to the possibility of the things themselves. But the predicates actually used them in a formal sense only, as part of the logical demand on any cognition. And yet they carelessly made these criteria of thinking into properties of things in themselves. Every cognition of an object has unity of concept. We can call it qualitative unity, to the extent that only the unity of gathering the manifold of cognitions together is meant. The single theme of a play, a speech or a fable is an example. Second comes truth with regard to consequences. A given concept shows more signs of objective reality the more true consequences can be drawn from it. We could call this the qualitative plurality of the marks that belong to a concept as their shared ground (they are not thought as a quantity in the concept). Third and finally comes perfection. It consists in this: conversely, the plurality taken together leads back to the unity of the concept, and fits that concept completely and no other. We may call this qualitative completeness (totality).

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It is clear from this that these logical criteria for the possibility of any cognition transform the three categories of magnitude. In the categories of magnitude, unity in producing a quantum has to be assumed homogeneous throughout.

Here the transformation serves only to connect even unlike pieces of cognition in one consciousness, and it does so by the quality of a cognition as a principle. Thus the definition is the test of whether a concept is possible (not whether its object is). A definition needs the concept's unity and the truth of whatever can first be derived from it. In the end it needs completeness in what has been drawn out. Together these supply what the whole concept requires. A hypothesis likewise has a criterion: the explanatory ground it assumes must be intelligible, or have unity (with no auxiliary hypothesis). The consequences derived from it must be true (consistent with each other and with experience). And the explanatory ground must be complete for them. They then point back to exactly what the hypothesis assumed, neither more nor less. They give back analytically, a posteriori, the very thing that had been thought synthetically a priori, and they agree with it. —So the transcendental table of categories gets no supplement from the concepts of unity, truth and perfection, as if it were somehow lacking. All that happens is that the relation of these concepts to objects is set entirely aside.

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The procedure with them is then brought under general logical rules for how cognition agrees with itself.

Of the Transcendental Analytic Second Chapter On the Deduction of the Pure Concepts of the Understanding

First Section

§ 13 On the principles of a transcendental deduction in general

When legal scholars talk about entitlements and presumptions, they separate two questions in a lawsuit: what is lawful (quid juris) and what is the fact (quid facti). They demand proof on both. The proof that is to show the entitlement, the legal claim, they call the deduction. We use a great many empirical concepts and nobody objects. Even with no deduction we feel entitled to give them a sense and a supposed meaning. We can do so because we always have experience at hand.

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With it we can prove their objective reality. There are also usurped concepts, though, fortune and fate for instance. They go around with nearly everyone's tolerance. But now and then someone confronts them with the question quid juris. Then we are in no small difficulty about their deduction, because we can name no clear legal ground, whether from experience or from reason, that would clarify the right to use them.

Among the many concepts that make up the very mixed web of human cognition, some are also destined for pure use a priori, entirely apart from experience. The entitlement for these always calls for a deduction, because proofs drawn from experience don't suffice to make such use lawful. Yet we must still find out how such concepts are able to refer to objects that they take from no experience. I therefore name the explanation of how concepts a priori can relate to objects their transcendental deduction. I set it apart from empirical deduction, which shows how a concept was acquired through experience and through reflection on experience. That kind concerns not lawfulness but the fact from which possession arose.

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We now have two kinds of concepts, very different in character, which agree in this: both relate to objects wholly a priori. They are the concepts of space and time, which are forms of sensibility, and the categories, which are concepts of the understanding. Attempting an empirical deduction of them would be pure wasted labor. That is because what sets their nature apart is exactly that they relate to their objects without borrowing anything from experience to represent them. So if they need a deduction, it must always be transcendental.

Still, one can look in experience for the occasions on which these concepts, like all cognition, are produced, even if not for the principle of their possibility. There the impressions of the senses give the first push to open up our entire power of cognition in regard to them, and to build up experience. Experience has two very different elements. One is a matter for cognition, from the senses. The other is a form for ordering that matter, which comes from the inner well

of pure intuiting and thinking. These first get exercised on the occasion of the matter, and they produce concepts. We can trace the first efforts of our cognitive power in this way.

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The aim is to climb from single perceptions to general concepts. Doing so is, no doubt, of great use. The famous Locke deserves credit for first opening the way. But a deduction of pure concepts a priori is never produced by it. It doesn't lie on that path at all. Their later use is meant to be wholly independent of experience, so they must show a very different birth certificate from descent out of experience. This attempted physiological derivation can't properly be called a deduction at all, as it concerns a quaestionem facti (a question of fact). So I will call it the explanation of how a pure cognition came to be possessed. It is thus clear that only for these concepts can there be a transcendental deduction, and in no way an empirical one. As for pure concepts a priori, the empirical kind is nothing but idle attempts, which only someone who hasn't grasped the quite special nature of these cognitions could busy themselves with.

Suppose we grant that the transcendental route is the only possible kind of deduction for pure a priori cognition. That still doesn't show that this deduction is so absolutely necessary. Earlier we used a transcendental deduction to follow the concepts of space and time all the way back to their sources.

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We also explained their objective validity a priori and fixed it. Even so, geometry moves ahead with sure steps through nothing but a priori cognitions. Its basic concept, space, has a pure and lawful origin, so geometry has no need to ask philosophy for a certificate vouching for it. But in this science the concept is used only for the outer world of the senses. Space is the pure form of our intuition of that world. All geometrical cognition rests on a priori intuition, and that is why it is immediately evident. The objects are given in the intuition a priori (as to their form) by the cognition itself. The pure concepts of the understanding are another matter. Here a need arises that cannot be avoided: to look for a transcendental deduction of them, and of space as well. The reason is this. These concepts speak of objects a priori through predicates of pure thinking,

not through predicates of intuition and sensibility. So they relate to objects in general, apart from every condition of sensibility. They aren't grounded in experience. They also can't show any object in a priori intuition on which they could base their synthesis before all experience. For these reasons they arouse suspicion about the objective validity and the limits of their use. They make the concept of space ambiguous as well. The cause is a habit of theirs.

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They use it outside the conditions of sensible intuition. That is why a transcendental deduction of space was needed above, too. Before readers take even one step into the field of pure reason, they have to be persuaded that this kind of transcendental deduction cannot be avoided. Otherwise they proceed blindly, wander about in all directions, and still end up back in the ignorance they started from. The reader must also see the unavoidable difficulty clearly ahead of time. Then they won't complain of obscurity where the subject itself lies deeply hidden, and they won't lose patience too soon over clearing away the obstacles. That is because what matters is this: either we abandon every claim to insight by pure reason in its favorite territory, the territory beyond the boundaries of all possible experience, completely and for good, or we bring this critical investigation to completion.

Earlier, with the concepts of space and time, we were able without much effort to make clear how these, as cognitions a priori, must still relate to objects of necessity, and how they make possible a synthetic cognition of objects independent of all experience. Such pure forms of sensibility are the only way an object can appear to us. In other words, they are the only way it can be an object of empirical intuition. So space and time are pure intuitions.

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In them lies, a priori, what objects need in order to be possible as appearances. And the synthesis found in them is objectively valid.

The categories of the understanding are different. They show us nothing of the circumstances in which intuition gives us objects. Objects, then, may well show up for us with no need to be tied to any functions of the understanding. The understanding then wouldn't contain their conditions a priori. Here a diffi-

culty shows up that we didn't meet in the field of sensibility. How can subjective conditions of thinking have objective validity? That is, how can they supply conditions for the possibility of all cognition of objects? Appearances can, after all, be handed to us in intuition when the understanding's functions play no part. Take the concept of cause. It means a particular kind of synthesis: when something A is given, something quite different, B, is posited after it according to a rule. Nothing a priori tells us why appearances should hold anything like it. (We can't point to experiences as proof, since it must be possible to show this concept's objective validity a priori.) So it is doubtful a priori whether such a concept might be completely empty and find no object anywhere among appearances. Objects of sensible intuition must fit certain conditions.

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These are the formal conditions of sensibility that lie a priori in the mind. That much is clear, because otherwise they wouldn't be objects for us. But they must also fit the conditions the understanding needs for its synthetic insight in thinking, and the inference to that is not so easy to see. For appearances might well be such that the understanding found them in no way fitting the conditions of its unity. Everything might lie in such confusion that, for example, the sequence of appearances offered nothing to suggest a rule of synthesis and so to match the concept of cause and effect. The concept would then be entirely empty. It would be null, with no meaning at all. Even so, appearances would still present objects to our intuition, since intuition doesn't need the functions of thinking in any way.

Someone might hope to escape the hard work of these investigations by saying this: experience never stops supplying examples of this kind of regularity among appearances. These give us ample reason to draw the concept of cause out of them, and thereby to prove its objective validity as well. But that overlooks something. The concept of cause can't arise in this way at all. It has to be rooted wholly a priori in the understanding. Otherwise we must drop it altogether as a mere fantasy.

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What the concept requires is that a thing A be such that another thing B follows from it. This must happen of necessity, and by a rule with no exceptions at all. Appearances do offer cases from which we can get a rule. It is a rule saying what usually happens. But they never show that the result is necessary. That is why putting a cause together with an effect has a special standing, which no empirical statement can express: the effect doesn't just come in addition to the cause, but is posited by it and follows from it. Strict universality of a rule isn't a property of empirical rules, either. Through induction they can gain only comparative universality, that is, wide usefulness. But the use of the pure concepts of the understanding would change completely if we wanted to treat them as merely empirical products.

§ 14 Transition to the transcendental deduction of the categories

There are only two cases in which a synthetic representation and its objects can come together, relate to each other necessarily, and, so to speak, meet. Either the object is the only thing that makes the representation possible.

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Or the representation is the only thing that makes the object possible. In the first case the relation is only empirical. The representation can then never be possible a priori. That is how it is with appearances, as far as the sensation in them goes. In the second case, a representation by itself does not produce its object as far as existence goes. (We aren't talking here about the causality it has through the will.) Still, the representation determines the object a priori when it alone makes it possible to cognize something as an object. Now there are two conditions under which alone the cognition of an object is possible. The first is intuition, by which the object is given, though only as appearance. The second is a concept, by which an object corresponding to that intuition is thought. It is clear from what came before that the first condition, the one under which alone objects can be intuited, does in fact lie a priori in the mind as the ground of the objects, as to their form. Every appearance must therefore fit this formal condition of sensibility. Only through that condition can it appear at all, which

is to say, be intuited and given empirically. Now the question is whether concepts also come first a priori, as conditions under which alone something is thought as an object in general, even though it isn't intuited.

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If they do, then every empirical cognition of objects has to fit such concepts. The reason is that without them nothing could be an object of experience. All experience contains two things: first, the sensory intuition that gives us something, and second, a concept of the object that is given in that intuition or appears in it. Concepts of objects in general will thus lie at the base of all cognition drawn from experience, as a priori conditions. The categories are a priori concepts. Their objective validity will therefore depend on the following: only through them is experience possible (as to the form of thinking). For then they relate necessarily and a priori to objects of experience, since it is only by means of them that any object of experience can be thought at all.

This means the transcendental deduction of every a priori concept rests on one principle, and the whole inquiry has to be aimed at it. It is this: we have to recognize these concepts as a priori conditions that make experiences possible (conditions of the intuition we find in experience, or of the thinking). Concepts that supply the objective ground for the possibility of experience are necessary for exactly that reason. But setting out the experience in which they turn up is not their deduction. It is only an illustration, because on that approach they would still be merely contingent.

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Without this original relation to possible experience, the setting in which all objects of cognition occur, we couldn't understand at all how they relate to any object.

The famous Locke never considered this. He found pure concepts of the understanding in experience, so he derived them from experience as well. Yet he was so inconsistent that he used them to attempt cognitions that go far beyond every boundary of experience. David Hume recognized that such an attempt would need these concepts to originate a priori. But he couldn't explain how the understanding is bound to think concepts as necessarily combined in the

object when they aren't combined in the understanding itself. He also never thought of this possibility: through these same concepts the understanding itself might be what produces the experience where its objects turn up. Forced by necessity, he derived the concepts from experience. That is, he derived them from a subjective necessity that arises through frequent association in experience and is finally mistaken for an objective one. In other words, he derived them from habit. After that, though, he was very consistent. He called it impossible to use these concepts, or the principles they lead to, to get past the boundary of experience.

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But the empirical derivation that both men fell back on can't be squared with the actual a priori scientific cognitions we have, namely pure mathematics and general natural science. So the fact refutes it.

The first of these two famous men threw the doors wide open to fanaticism. Once reason has entitlements on its side, vague appeals to moderation can no longer hold it within limits. The second gave himself up completely to skepticism, once he believed he had found so general a deception in our faculty of cognition, a deception taken for reason. We are now about to try an experiment. Can human reason be steered safely between these two rocks, be given definite boundaries, and still be left open to the whole field of its fitting activity?

First I want to set down the definition of the categories. Each one is a concept of an object as such. Through such a concept, that object's intuition counts as determined in respect to one of the logical functions in judging. Take the function of the categorical judgment. That function was the relation of a subject to a predicate. Here is an example: "All bodies are divisible." Yet the merely logical use of the understanding left one thing undetermined.

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It did not say which of the two concepts plays subject and which plays predicate. We can just as well say, "Something divisible is a body." The category of substance settles this. Put the concept of a body under it, and the question is

decided: the empirical intuition of a body must in experience always be taken as a subject, and never as a bare predicate. The same goes for all the other categories.

Of the Deduction of the Pure Concepts of the Understanding Second Section Transcendental Deduction of the Pure Concepts of the Understanding

§ 15 On the possibility of combination in general

An intuition that is purely sensible, which is to say nothing but receptivity, can have a manifold of representations given in it. Its form can already be present in our faculty of representing, a priori. Even so, it is only the manner in which the subject is affected. Combination (conjunctio) is another matter. When a manifold in general is combined, that combination can never reach us through the senses. So it can't be contained along with the pure form of sensible intuition, either.

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It is an act in which the power of representation shows its spontaneity. To tell this power apart from sensibility, we have to call it understanding. So all combination is an action of the understanding. That holds whether or not we become aware of it, and whether it combines the manifold of intuition or various concepts, and, in the case of intuition, whether the intuition is sensible or nonsensible. We would give this action the general name synthesis. That also points out that we can't represent anything as combined in the object unless we have first combined it ourselves. Combination is unique among representations: objects never give it to us. Only the subject itself can carry it out, because it is an act of the subject's own self-activity. It is easy to see here that this action must be originally one, and the same for all combination. And taking apart, which is analysis and seems to be its opposite, always presupposes it. Where the understanding hasn't combined anything beforehand, it can't take anything apart either, since the power of representation could be given something as combined only by the understanding.

But the concept of combination brings along more than the concept of the manifold and its synthesis. It also brings the concept of the manifold's unity. What combination amounts to is a representation of a manifold's synthetic

unity*.

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So the representation of this unity cannot come out of the combination. Rather, it is added to the representation of the manifold, and that is what first makes the concept of combination possible. This unity comes before all concepts of combination, a priori. It is not the category of unity (§ 10), because all categories rest on logical functions in judgments. In those judgments combination, and so unity of given concepts, is already thought. The category therefore already presupposes combination. So we have to look for this unity (as qualitative, § 12) higher still. We must look for it in whatever holds the ground for different concepts being unified in judgments. That same thing holds the ground for the understanding being possible at all, even when it is used only logically.

* Whether the representations are themselves identical, so that one could be thought through another analytically, is not a question here. As long as we are talking about a manifold, the consciousness of one representation must always be told apart from the consciousness of another. All that matters here is the synthesis of this (possible) consciousness.

§ 16 On the original synthetic unity of apperception

The "I think" must be able to go along with all my representations. Otherwise something would get represented in me.

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That something could not be thought at all. And that comes to the same thing as saying the representation would be impossible, or at least would be nothing to me. A representation that can be given before any thinking is called intuition. Every manifold in intuition therefore stands in a necessary relation to the "I think." It does so in the very subject where that manifold is found. This representation, though, is an act: an act of spontaneity. That is, it cannot be counted as belonging to sensibility. I call it pure apperception, to tell it apart from empirical apperception. I also call it original apperception. It is the kind of self-consciousness that brings forth the representation "I think." This representation has to be able to go along with all the others. In all consciousness it is one and the same. No further representation can accompany it. I also call the

unity of this apperception the transcendental unity of self-consciousness, to mark that cognition a priori is possible from it. If the manifold representations given in some intuition did not all belong to a single self-consciousness, they would not all be mine. Put differently, as my representations they must meet a certain condition, whether or not I am aware of them as mine. Under that condition, and no other, they can be gathered into one general self-consciousness. Otherwise they would not belong to me completely.

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We can draw many conclusions from this original combination.

Namely, a manifold is given in intuition, and its apperception is identical throughout. That identity contains a synthesis of the representations. It is possible only through consciousness of this synthesis. Empirical consciousness, which goes along with different representations, is scattered in itself and has no relation to the identity of the subject. That relation doesn't come about just because I accompany each representation with consciousness. It comes about because I add one representation to another and am conscious of their synthesis. I can represent the identity of consciousness within these very representations only because I am able to combine a manifold of given representations in a single consciousness. To say it differently: analytic unity of apperception is possible only if some synthetic unity is assumed*.

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So when I think, "All these representations given in intuition belong to me," I am saying: "I unite them in one self-consciousness, or at least I can." This thought is not yet awareness of the synthesis of the representations itself. But it does presuppose the possibility of that synthesis. I call all these representations mine only because I can grasp their manifold in one consciousness. Otherwise I would have a self as many-colored and varied as the number of representations I am conscious of. Synthetic unity belongs to the manifold of intuitions, and it is given a priori. That unity is therefore the ground of apperception's identity, and that identity precedes, a priori, every determinate thought of mine.

Combination, however, does not lie in the objects. We cannot borrow it from the objects by way of perception and so bring it into the understanding for the first time.

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It is solely a performance of the understanding. The understanding itself is just the ability to combine a priori, and to bring the manifold of given representations under apperception's unity. This principle is the highest in all of human cognition.

* All common concepts, as such, carry with them the analytic unity of consciousness. Suppose I think of red in general. Then I represent a property that can be found (as a mark) in something or other, or can be combined with other representations. So I can represent the analytic unity only by way of a synthetic unity that I have thought of beforehand as possible. Suppose a representation is to be thought of as shared by different things. Then it is counted as belonging to things that also have something distinct in themselves, apart from it. It has to be thought beforehand in synthetic unity with other representations, possible ones at least. Only after that can I think of the analytic unity of consciousness in it, the unity that turns it into a conceptus communis, a common concept. That is how the synthetic unity of apperception comes to be the highest point. All use of the understanding has to be fastened to it, including logic as a whole and, after logic, transcendental philosophy. In fact this faculty is the understanding itself.

The principle of apperception's necessary unity is itself an identity, which makes it an analytic proposition. Still, it declares a synthesis necessary: a synthesis of the manifold given in one intuition. Without it, the thoroughgoing identity of self-consciousness cannot be thought. The I, as a simple representation, gives no manifold at all. A manifold can only be given in intuition, which is different from the I, and it can be thought only by being combined in one consciousness. An understanding in which self-consciousness would at the same time give all the manifold would intuit. Ours can only think, and has to look in the senses for intuition. I am therefore conscious of an identical self in relation to the manifold of representations given me in one intuition. The reason is that

I call them all mine, and so they make up one. It comes to this: I have, a priori, a consciousness of a necessary synthesis of them. This is called the original synthetic unity of apperception.

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All the representations given to me stand under it, but they also have to be brought under it by a synthesis.

§ 17 The principle of the synthetic unity of apperception is the highest principle of all use of the understanding

The Transcendental Aesthetic gave us the highest principle for the possibility of any intuition, so far as sensibility goes. It was this: the whole manifold of that intuition comes under space and time as its formal conditions. The supreme principle of the very same thing, in relation to the understanding, is this: all that is manifold in intuition stands under the conditions set by the original synthetic unity of apperception*. Under the first stand all the manifold representations of intuition, insofar as they are given to us. Under the second they stand insofar as they must be able to be combined in one consciousness.

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If that fails, they can yield no thought and no cognition. The given representations would not share the act of apperception, the "I think," and so they would not be gathered together in one self-consciousness.

* Space and time, together with all their parts, are intuitions. So they are single representations, together with the manifold they contain in themselves (see the Transcendental Aesthetic). They are therefore not mere concepts. A concept contains one and the same consciousness as being in many representations. Space and time contain many representations as being in one, together with the consciousness of them. They therefore show up as composite, and so the unity of consciousness is found in them as synthetic, though still as original. This singleness of theirs matters in application (see § 25).

Speaking generally, the understanding is the faculty of cognitions. A cognition is the determinate way given representations are related to an object. By an object we mean whatever has, in its concept, the manifold of a given intuition united. Any uniting of representations needs consciousness to be one in syn-

thesizing them. So the unity of consciousness is the one thing that makes up the relation of representations to an object, and with it their objective validity and their becoming cognitions. The very possibility of the understanding rests on it.

So the understanding's first pure cognition is the principle of apperception's original synthetic unity. All the rest of the understanding's use is based on it, and it is also entirely independent of all conditions of sensible intuition. Consider space, the bare form of outer sensible intuition. It is not yet any cognition. All it does is provide, a priori, the manifold of intuition for a cognition that may come. To cognize anything in space, a line for instance, I have to draw it.

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So I have to produce, synthetically, a determinate combination of the given manifold. The unity of the action must at the same time be unity of consciousness, found in the concept of a line. Only then is an object (a determinate space) cognized. So the synthetic unity of consciousness is an objective condition of all cognition. I don't need it merely for my own cognizing of an object. Each intuition must stand under it if it is to become an object for me. Otherwise, and without this synthesis, the manifold would never come together in one consciousness.

As noted, this last proposition is analytic in itself, although it makes synthetic unity a condition for all thinking. It says only this: each of my representations, in whatever intuition is given, must meet one condition. Only if they meet it can I count them as mine, as belonging to the identical self, and gather them as synthetically combined in one apperception under the general expression "I think."

Still, this principle does not hold for every understanding that could exist. It holds only for an understanding whose pure apperception gives no manifold whatever in the representation "I am." Take an understanding whose self-consciousness would at the same time give the manifold of intuition.

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Suppose its representation would at the same time make the objects of that representation exist. A special act of synthesizing the manifold into one consciousness would be unnecessary for it. The human understanding, which only thinks and does not intuit, does need it. For the human understanding, though, this principle is unavoidably the first one. It cannot form the slightest concept of any other possible understanding. That other understanding might be one that itself intuited. Or it might have a sensible intuition as its ground, but one of a different kind from the intuition in space and time.

§ 18 What the objective unity of self-consciousness is

The transcendental unity of apperception is the unity through which everything manifold given in an intuition is united into a concept of the object. That is why it is called objective. Do not confuse it with the subjective unity of consciousness. That one is a determination of inner sense. Through that determination the manifold of intuition is given empirically for such a combination. Whether the manifold reaches my empirical awareness as simultaneous or as one thing after another depends on circumstances, that is, on empirical conditions.

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So the empirical unity of consciousness, produced by associating representations, is about an appearance itself, and it is wholly contingent. The pure form of intuition in time is different. Taken simply as intuition in general, which contains a given manifold, it stands under the original unity of consciousness. It does so only because the manifold of intuition is necessarily related to the one "I think." That is to say, it does so by way of the understanding's pure synthesis, which lies a priori beneath the empirical synthesis. Only the first unity is objectively valid. We aren't looking here at empirical unity of apperception. It is derived from the first kind, under given conditions in concreto. It has merely subjective validity. Take two people. One combines the idea of a given word with one thing, and the other combines it with another thing. In the empirical realm, consciousness's unity is not necessary, and it is not universally valid, regarding what is given.

§ 19 Every judgment's logical form lies in the objective unity of apperception among the concepts it holds

I have never been able to feel satisfied with the definition that logicians give of a judgment in general. In their words, it is the representation of how two concepts are related.

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I won't quarrel with them here over what is wrong with that definition. At best it fits categorical judgments but not hypothetical and disjunctive ones, since these contain a relation not of concepts but of judgments themselves. (This oversight in logic has led to a number of awkward results.)* I only remark that the definition leaves open what the relation consists of.

* The drawn-out theory of the four syllogistic figures deals only with categorical inferences of reason. It is nothing more than a trick. Immediate inferences (consequentiae immediatiae) are tucked in among the premises when a pure inference of reason is drawn. That slips in an illusion of extra kinds of inference beyond the one in the first figure. Even so, this trick alone would have had no great success if it had not also managed to give categorical judgments exclusive standing, as the ones to which all others must be traceable. According to § 9, that is false.

I examine more closely how given cognitions are related inside any judgment. I tell this relation, which belongs to the understanding, apart from the relation that follows the laws of the reproductive imagination (which has only subjective validity). What I find is this: a judgment is simply the way of bringing given cognitions under apperception's objective unity. That is what the little relating word "is" aims at in judgments.

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It separates the objective unity of given representations from the subjective unity. For "is" marks the relation of the representations to original apperception and their necessary unity, even when the judgment itself is empirical and therefore contingent, as in "Bodies are heavy." By this I don't mean that these representations belong together necessarily in empirical intuition. My point is that they belong together because apperception is necessarily one when intuitions

are synthesized. In other words, they go together according to principles that determine all representations objectively, to the extent that cognition can arise from them. Every one of these principles is derived from the principle of apperception's transcendental unity. Only this makes the relation a judgment, meaning a relation with objective validity. It is then clearly different from a relation among the same representations that has only subjective validity, for example one that follows the laws of association. By those laws I could say only this: "When I carry a body, I feel the pressure of its weight." I could not say, "The body itself is heavy." To say that would be to say the two representations are combined in the object, whatever state the subject is in. It would not be merely that they turn up together in perception, however often that repeats.

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§ 20 Every sensible intuition falls under the categories, which are the only conditions for its manifold to join in a single consciousness

A manifold given in a sensible intuition must belong under apperception's original synthetic unity. Only through that unity can intuition itself be a unity (§ 17). The understanding acts to bring a manifold of given representations under one apperception. These representations may be intuitions, or they may be concepts. That action is the logical function of judgments (§ 19). So the manifold in a single empirical intuition is fixed, in relation to one logical function of judging. Through it the manifold is brought to a consciousness as such. But the categories are just these functions of judging, so far as a given intuition's manifold is determined in respect of them (§ 13). It follows that the manifold in a given intuition is also bound to stand under categories.

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§ 21 Remark

A manifold contained in an intuition that I call mine is represented, through the understanding's synthesis, as belonging to the necessary unity of self-consciousness. This happens through the category*. What the category shows is that the empirical consciousness of a manifold given in one intuition stands beneath a pure self-consciousness, a priori. That parallels empirical intuition, which stands beneath a pure sensible intuition that also holds a priori.—So the

proposition above begins a deduction, and its subject is the pure concepts of the understanding. In that deduction the categories arise in the understanding alone, independent of sensibility. That means I must still set aside how the manifold gets given for an empirical intuition. I look only at the unity that the understanding adds to the intuition by means of the category. Later (§ 26) we will look at how empirical intuition is given in sensibility.

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It will turn out that this unity is exactly the one the category prescribes (see § 20 just above) for any given intuition's manifold. Once the category's a priori validity for all objects of our senses is explained in that way, the deduction will at last reach its goal in full.

* The ground of the proof is the represented unity of intuition, by which an object is given. That unity always involves a synthesis of whatever manifold is given for one intuition. It also already holds the relation of this manifold to apperception's unity.

But there was one point in the proof above that I could not abstract from. It was this: the manifold for intuition has to be given ahead of the understanding's synthesis, and apart from it. How it is given is left undetermined here. Suppose I tried to conceive an understanding that itself intuited, a divine one, say. It would not represent objects that are given to it. Its very representation would give or produce the objects at the same time. The categories would mean nothing at all for cognition of that kind. They are rules, and rules only, for an understanding whose entire power lies in thinking. What it can do is act: it takes a manifold that has reached it by way of intuition, from some other source, and brings the synthesis of that manifold to apperception's unity. Such an understanding cognizes nothing by itself. The most it does is combine and arrange the raw stuff of cognition, namely intuition, which the object has to give it. Our understanding has a peculiarity: it can bring about the unity of apperception a priori only by means of the categories.

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And it can do so only by just this kind and number of them. No further ground can be given for this. Equally, we cannot explain why we have exactly these functions of judging and no others. Nor can we explain why time and space are the sole forms of intuition possible for us.

§ 22 The category has no use for cognizing things except its application to objects of experience

Thinking an object and cognizing an object are therefore not the same thing. Cognition takes two things. One is the concept (the category) through which an object as such is thought. The second is the intuition by which the object is given. Suppose no intuition corresponding to the concept could ever be given. In that case the concept would be a thought in form only. It would have no object, and no cognition of any thing could come through it. For as far as I could know, there would be nothing, and nothing that could be, to which my thought could be applied. Every intuition that we can have is sensible (Aesthetic). For us, then, thinking an object as such by a pure concept of the understanding becomes cognition only when that concept is referred to objects of the senses.

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Sensible intuition comes in two kinds. One is pure intuition (space and time). The other is empirical intuition of whatever is represented in space and time immediately as real, by means of sensation. By determining the first, we can get cognitions a priori of objects (in mathematics), but only as to their form, as appearances. Whether any things exist that have to be intuited in this form remains undecided. Mathematical concepts are therefore not cognitions on their own. They become cognitions only if we presuppose things that can show themselves to us solely in the form of that pure sensible intuition. But in space and time, things are given to us only as perceptions, and a perception is a representation that comes with sensation. So they are given through empirical representation. Even when pure concepts of the understanding are applied to a priori intuitions (mathematics does this), they provide cognition only on one condition: those intuitions can themselves be applied to empirical intuitions, and the concepts of the understanding along with them. In the same way the cate-

gories, working through intuition, offer no cognition of things except by being possibly applied to empirical intuition. All they do is make empirical cognition possible. And that is called experience. The categories have no other use in cognizing things.

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They can be used only insofar as those things are taken as objects of possible experience.

§ 23

The proposition above is of the greatest importance. It marks out the boundaries within which the pure concepts of the understanding can be used on objects. Earlier, the Transcendental Aesthetic did this for how the pure form of our sensible intuition may be used. Space and time are the conditions that allow objects to be given to us. They hold only for objects of the senses, which means only for experience. Past these boundaries they stand for nothing, because they exist only in the senses and have no reality apart from them. The pure concepts of the understanding are free of this restriction. They reach to objects of intuition as such. It makes no difference whether that intuition resembles ours, provided it is sensible and not intellectual. But stretching the concepts further, beyond our sensible intuition, does us no good. They would then be empty concepts of objects. Through them we can't judge at all whether such objects are even possible or not. They are bare forms of thought with no objective reality. We lack any intuition to which they could apply the synthetic unity of apperception. That unity is all they contain.

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Without such an intuition they cannot determine an object. Only our sensible and empirical intuition can give them sense and meaning.

Suppose, then, that we assume an object of a nonsensible intuition as given. We can of course represent such an object through all the predicates that the assumption itself carries, namely that nothing belonging to sensible intuition fits it. It is not extended, or in space. Its duration is not time. No change (the succession of determinations in time) is found in it. And so on. But that is no real cognition. I am only indicating how the object's intuition is not, without

being able to say what it does contain. In that case I have given my pure concept of the understanding no possible object whatever. I was unable to give an intuition to match it. I could only say that ours doesn't hold for it. The chief point, though, is that no category, not even one, could be applied to such a something. Consider the concept of substance, meaning something that can exist as a subject and never as a mere predicate. Whether any thing could match this way of determining a thought, I have no idea, unless empirical intuition supplies a case where it applies. But more of this later.

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§ 24 On the application of the categories to objects of the senses in general

Through the understanding alone, the pure concepts of the understanding relate to objects of intuition in general. It is left open whether that intuition is ours or some other one, though still a sensible one. That is precisely why they are only forms of thought. Through them no determinate object has yet been cognized. Their synthesis or combination of the manifold had to do only with apperception's unity, and so it was the ground of the possibility of cognition a priori, so far as that cognition rests on the understanding. It is therefore not only transcendental but also purely intellectual. In us, though, a certain form of sensible intuition lies underneath, a priori. It rests on the receptivity of the faculty of representation (sensibility). That lets the understanding, being spontaneous, determine inner sense by means of the manifold of given representations, matching apperception's synthetic unity. Thus it can think, a priori, of the manifold of sensible intuition as having synthetic unity of apperception. It takes this unity as the condition that all objects of our (human) intuition are bound to meet. Through this the categories, which are mere forms of thought, get objective reality.

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They can be applied, that is, to objects that may be given to us in intuition, though only as appearances. For only of appearances are we capable of intuition a priori.

This synthesis is possible and necessary a priori, and it concerns the manifold of sensible intuition. It may be called figurative (synthesis speciosa). The other synthesis is thought in the bare category, for the manifold of an intuition as such. It is called combination by the understanding (synthesis intellectualis). The names keep the two apart. Both are transcendental. The reason is not only that they themselves proceed a priori. They also provide the basis for other cognition a priori to be possible.

Figurative synthesis can aim solely at the original synthetic unity of apperception, which is the transcendental unity thought in the categories. When it does, we must call it the transcendental synthesis of imagination. This sets it apart from the merely intellectual combination. Imagination is our ability to represent an object in intuition when it isn't there. All our intuition is sensible. For this reason imagination counts as part of sensibility: it can supply a matching intuition for the concepts of the understanding only under that subjective condition. Still, its synthesis exercises spontaneity. Spontaneity determines; sense, by contrast, can only be determined.

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So imagination can determine sense a priori as to its form, in line with the unity of apperception. To that extent imagination is a faculty for determining sensibility a priori. When it synthesizes intuitions as the categories require, that has to be the transcendental synthesis of imagination. This synthesis is something the understanding does to sensibility. It is the first way the understanding gets applied to objects of the intuition we can have, and it is the ground of every other application too. As figurative, this synthesis is distinguished from the intellectual synthesis, which is carried out by the understanding alone, without any imagination. Insofar as imagination is spontaneity, I sometimes also call it productive imagination. I use that name to distinguish it from reproductive imagination. The synthesis of the reproductive kind answers only to empirical laws, those of association. It adds nothing toward explaining how cognition a priori is possible. For that reason it belongs to psychology, not to transcendental philosophy.

* * *

This is the point at which to clear up a paradox. Everyone who read the account of the form of inner sense (§ 6) must have noticed it. It is this: inner sense shows us to our own consciousness only as we appear to ourselves, and not as we are in ourselves.

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The reason is that we intuit ourselves only in the way we are affected from within. That seems contradictory, since we would have to relate to ourselves as passive. That is why psychological systems like to give out inner sense as identical with the faculty of apperception (which we keep carefully apart).

What determines inner sense is the understanding, with its original power to combine the manifold of intuition, that is, to bring it under one apperception (on which its own possibility rests). In us humans the understanding is not itself a power of intuitions. And even when an intuition is given in sensibility, the understanding can't take it up into itself, so as to combine, so to speak, the manifold of its own intuition. So when the understanding is considered on its own, its synthesis is nothing other than the unity of an action. It is aware of this action as such even without sensibility. By this action it is able to determine sensibility inwardly, with respect to whatever manifold may be given to it in the form of sensibility's intuition. The understanding, then, acts on the subject whose faculty it is, and that subject is passive. The action goes by the name of transcendental synthesis of imagination. Because of this action we are justified in saying that inner sense is affected.

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Apperception, with its synthetic unity, is anything but the same thing as inner sense. Apperception is the source of all combination. Under the name of the categories it applies to the manifold of intuitions in general, and to objects in general, before any sensible intuition. Inner sense, by contrast, contains only the bare form of intuition, without combination of the manifold in it, and so no determinate intuition yet. No determinate intuition can exist unless we are conscious of the way the manifold is determined. The determining comes from imagination's transcendental action. That action is the understanding's synthetic influence on inner sense, and figurative synthesis is what I have named it.

We also always perceive this in ourselves. To think a line, we have to draw it in thought. We can't think a circle without describing it. We can't represent the three dimensions of space at all without setting three lines at right angles to each other from the same point. We can't even represent time without attending, as we draw a straight line (which is to be the outward, figurative representation of time), solely to the action of synthesizing the manifold by which we determine inner sense in succession. In doing so we attend to the succession of this determination within inner sense. Consider motion as an action of the subject.

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Do not take it as a determination of an object*. Motion is thus the synthesis of the manifold in space. And this synthesis is what first gives rise to the very concept of succession. This happens when we abstract from space and attend solely to the action by which we determine inner sense in line with its form. So the understanding doesn't find a combination of the manifold of that kind already there in inner sense. It produces the combination by affecting inner sense. Now how can the I that thinks be different from the I that intuits itself (since I can represent another kind of intuition as at least possible), and yet be the same subject as the latter? How can I say: "I am an intelligence and a thinking subject. I cognize myself as an object that is thought, insofar as intuition also gives me to myself. Even then I am cognized only as other phenomena are, not as I am for the understanding, but as I appear to myself"? That puzzle is exactly as hard as another one: how can I be an object for myself at all?

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I mean an object of intuition and of inner perceptions. That things really must be this way can be made plain, provided we accept that space is merely the pure form of the appearances of the outer senses. Time is no object of outer intuition. Still, the only way we can picture it is as a line, and only while we draw that line. Without such a presentation we would have no way to recognize that time's extent is one. The same goes for fixing how long a time lasts, or where something sits in time, for any inner perception. We always have to take that from the changing things that outer objects show us. From all this we must put

the determinations of inner sense in order, as appearances in time, in exactly the way we put the outer senses' determinations in order in space. So suppose we are willing to concede that the outer senses let us cognize objects only to the extent that we are affected from outside. Then we must concede the same about inner sense: it lets us intuit ourselves only as we are affected from within, by ourselves. In inner intuition, then, our own subject is cognized only as an appearance, and not according to what it is in itself**.

* A pure science has no place for the motion of an object in space, and so neither does geometry. That something is movable can't be cognized a priori, only through experience. Motion taken as the describing of a space is another matter. It is a pure act: a synthesis of the manifold that proceeds step by step, in outer intuition as such, performed by productive imagination. Such motion belongs to geometry, and to transcendental philosophy as well.

** I don't see why people find so much difficulty in inner sense's being affected by ourselves. Any act of paying attention gives us an example. In attention, the understanding determines inner sense each time. It does so to match the combination it is thinking, and the result is the inner intuition that corresponds to the manifold in the understanding's synthesis. How strongly the mind is commonly affected by this, everyone can notice in themselves.

§ 25

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By contrast, I am conscious of myself in the transcendental synthesis of the manifold of representations in general, and so in the original synthetic unity of apperception. I am conscious neither of how I appear to myself nor of how I am in myself. I am conscious only that I am. This representation is a matter of thinking, not of intuiting. Cognizing ourselves takes more than the action of thinking, which brings the manifold of any possible intuition to the unity of apperception. It also takes a certain kind of intuition, by which this manifold is given. So my own existence is not appearance (much less mere illusion).

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But the determination of my existence* can happen only in line with the form of inner sense, and in the particular way the manifold that I combine is given in inner intuition. So of myself as I am, I have no cognition. I have it only as I appear to myself. Being conscious of oneself is far from cognizing oneself. That holds despite all the categories, which make up the thinking of an object as such by combining the manifold in a single apperception. Cognizing an object other than myself takes more than thinking an object in general (in the category). I also need an intuition by which I determine that general concept. In the same way, to cognize myself I need more than the consciousness, or the fact that I think myself. I also need an intuition of the manifold in me, by which I determine this thought. And I exist as an intelligence that is conscious only of its power of combining.

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With respect to the manifold it is to combine, it is subject to a limiting condition that it calls inner sense. The only way it can make that combination intuitable is through relations of time, and these lie wholly outside the understanding's concepts proper. So it can cognize itself only as it appears to itself, in view of an intuition (one that cannot be intellectual and given by the understanding itself). It cannot cognize itself as it would if its intuition were intellectual.

* "I think" is the expression of an act: the act of determining my existence. My existence is thereby already given. What that does not give is the way I am to determine it, meaning how I am to posit in myself the manifold that belongs to it. For that, self-intuition is needed. Self-intuition rests on a form given a priori, which is time. Time is sensible, and it belongs to the receptivity of what can be determined. Now suppose I have no further self-intuition of this kind: one that would give me the determining element in myself, the element whose spontaneity is all I am conscious of. Such an intuition would give it before the act of determining, the way time gives what is determinable. In that case I can't determine my existence as the existence of a self-acting being. All I can do is picture to myself the spontaneity of my thinking, which is to say, of determining. My existence stays determinable only in a sensible way, as the existence of an appearance. Still, it is this spontaneity that makes me call myself an intelligence.

§ 26 Transcendental deduction of the generally possible use of the pure concepts of the understanding in experience

The metaphysical deduction showed where the categories come from a priori: they agree completely with the general logical functions of thinking. The transcendental deduction then presented how they are possible as a priori cognitions of objects of any intuition at all (§§ 20, 21). What has to be explained now is how the categories let us cognize a priori any and all objects that can ever come before our senses. This holds not as to the form of their intuition but as to the laws of their combination. That is, we must explain how the categories can, so to speak, prescribe the law to nature and even make it possible.

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If the categories lacked this fitness, we could not see why everything that comes before our senses has to obey laws arising a priori from the understanding alone.

To begin, a note: I take the synthesis of apprehension to be the composing of a manifold inside an empirical intuition. This makes perception possible, that is, empirical consciousness of that intuition (as appearance).

Space and time, as representations, give us a priori forms for outer and for inner sensible intuition alike. Whenever we apprehend the manifold of appearance by synthesis, it has to conform to those forms, since it can only take place in this form. Yet space and time are not represented a priori merely as forms of sensible intuition. They are represented as intuitions themselves (which contain a manifold), and so with the determination of the unity of that manifold in them (see Transcendental Aesthetic)*. It follows that a unity of synthesis of the manifold, whether outside us or in us, is given a priori already.

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It comes along with these intuitions (but not in them). It is the condition of the synthesis of all apprehension. It is also a combination, and everything that is to be represented as determinate in space or time must conform to it. This synthetic unity can only be one thing: the unity of combining the manifold of any given intuition in one original consciousness, according to the categories. The only difference is that here it is applied to our sensible intuition. So all syn-

thesis through which perception itself becomes possible stands under the categories. Experience is cognition by way of perceptions that are connected. That makes the categories conditions for experience being possible. So they also hold a priori for every object of experience.

* When space is represented as an object, as geometry really needs it to be, it holds more than the bare form of intuition. It also holds a gathering together of the manifold that sensibility's form supplies, into a single intuitive representation. So the form of intuition gives only manifold, while the formal intuition gives unity of representation. In the Aesthetic I counted this unity as belonging merely to sensibility. I wanted only to note that it comes before all concepts. Even so, this unity presupposes a synthesis that isn't the senses' business. That synthesis is what makes any concept of space and time possible in the first place. Space or time is first given as an intuition by way of that synthesis, in which the understanding determines sensibility. The unity of such an intuition therefore belongs a priori to space and time themselves, and not to a concept of the understanding. (§ 24.)

* * *

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Take an empirical intuition of a house. I make it a perception by apprehending its manifold. The necessary unity of space, and of outer sensible intuition in general, lies at the base of this. I sketch the shape of the house, as it were, in keeping with the synthetic unity of the manifold in space. Leave aside the form of space, and this same synthetic unity turns out to have its seat in the understanding. It is the category for synthesizing what is homogeneous in an intuition as such. In other words, it is the category of magnitude. The synthesis of apprehension, meaning perception, has to fit this category in every respect*.

* This is how it gets proved that the empirical synthesis of apprehension must conform of necessity to the synthesis of apperception. The latter is intellectual and is contained wholly a priori in the category. A single spontaneity is at work in both. It puts combination into the manifold of intuition. In the one place it goes under the name of imagination, in the other the name of understanding.

Take another example: I perceive water freezing. I apprehend two states, a fluid state and a solid state, as related to each other in time. But take the time that I put under the appearance, as inner intuition.

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In that time I represent a synthetic unity of the manifold, and I can't do otherwise. Without it, that relation could not be given determinately in an intuition (with regard to the time sequence). This synthetic unity is an a priori condition. I combine under it the manifold of an intuition as such. Set aside the abiding form of my inner intuition, which is time. What remains of the unity is the category of cause. I apply that category to my sensibility. By it I determine the relation of everything that happens in time as such. So the apprehension in an event of this sort falls under the concept of how effects and causes are related. So does the event itself, so far as possible perception of it goes. And so it is in all other cases.

* * *

Categories are concepts that lay down laws a priori for appearances, and so for nature, understood as the sum total of appearances (natura materialiter spectata). Now a question arises. The categories are not drawn from nature, and nature is not their model, since they would then be merely empirical. So how can we understand that nature must conform to them? That is, how can they determine a priori the combination of nature's manifold without taking it from nature? Here is the solution to this riddle.

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It is no more puzzling that the laws of appearances in nature have to fit the understanding and its a priori form than that appearances themselves have to fit the a priori form of sensible intuition. That form of the understanding is its power to combine the manifold as such. Laws don't exist in the appearances any more than appearances exist in themselves. Laws exist only in relation to the subject that the appearances inhere in, and only because that subject has understanding. Appearances likewise exist only in relation to that same being, and only because it has senses. Things in themselves would have their lawfulness of necessity, whether or not an understanding cognizes them. But appear-

ances are only representations of things, and those things exist unknown, as to whatever they may be in themselves. Being mere representations, they are bound by no law of connection other than the one that the faculty doing the connecting lays down. Imagination is the faculty that does the connecting of the manifold of sensible intuition. For the unity of its intellectual synthesis, imagination relies on the understanding. For the variety in apprehension, it relies on sensibility. Every possible perception rests on the synthesis of apprehension. That empirical synthesis itself depends on the transcendental one, and so on the categories. Hence all possible perceptions must, as to how they are combined, stand under the categories.

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So must everything that can ever come into empirical consciousness. That means all appearances of nature. Nature (considered simply as nature in general) depends on the categories as the original ground of its necessary lawfulness (as natura formaliter spectata). The pure power of the understanding, using mere categories, cannot prescribe any further a priori laws to appearances. It stops at the laws on which a nature as such rests, namely the lawfulness of appearances in space and time. Particular laws concern empirically determined appearances. They can't be fully derived from the categories, even though they all stand under them. Experience has to be added to get to know the particular laws at all. Only the a priori laws instruct us about experience in general and about what can be cognized as an object in it.

§ 27 Result of this deduction of the concepts of the understanding

We can't think an object except through categories. We can't cognize a thought object except through intuitions that correspond to those concepts. All our intuitions, however, are sensible. A cognition whose object is given is therefore empirical. Empirical cognition is experience.

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That leaves us with no possible a priori cognition except of objects of possible experience*.

* I want to head off a rash stumble over the harmful consequences that may be feared from this proposition. So let me only remind readers that the categories, in thinking, are not held back by the conditions of our sensible intuition. They have an unbounded field. Only the cognizing of what we think, the determining of the object, needs intuition. When intuition is absent, thinking of the object may still have true and useful effects on how the subject uses reason. But this use of reason is directed not always at determining the object, and so at cognition, but also at determining the subject and its willing. So it can't be set out here yet.

Now this cognition, though limited to objects of experience, is not for that reason all borrowed from experience. Take both the pure intuitions and the pure concepts of the understanding. These are elements of cognition, and they are found in us a priori. Only two routes are open if we want to think of a necessary agreement between experience and the concepts of its objects. Either experience is what makes these concepts, or else these concepts are what make experience possible.

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The first does not hold for the categories (or for pure sensible intuition either). They are concepts a priori, and so independent of experience. To claim an empirical origin for them would be a kind of generatio aequivoca, or spontaneous generation. Only the second is left (a kind of system of epigenesis of pure reason): the point being that the categories, coming from the understanding's side, hold the grounds that make any experience possible at all. How the power of judgment is used transcendentally is the subject of the next chapter. That chapter will say more about how the categories make experience possible. It will also cover which principles of its possibility they hand us when they are applied to appearances.

Imagine someone offering a middle path between the only two ways we named. Namely, the categories would be neither first principles of our cognition thought up by ourselves a priori, nor drawn from experience. These would be dispositions for thinking, subjective ones, that were placed in us at the very moment we came to exist. Our Maker would have arranged them so that using

them matches precisely the laws of nature that experience follows (a sort of preformation system of pure reason). Besides the fact that there is no end in sight to how far one might push the assumption of predetermined dispositions toward future judgments on such a hypothesis, one thing would settle the case against this middle way.

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On that view, the categories would lack the necessity that is part of what their concept means. Consider cause. Its concept states that a result follows necessarily once a condition is presupposed. The concept would then be false, if all it rested on were some arbitrary subjective necessity, built into us, that makes us combine certain empirical representations by a rule of that kind. I couldn't say the effect and the cause are combined in the object, meaning that they are combined necessarily. I could only say, "I am built in such a way that I cannot think these representations as connected in any other way." The skeptic could ask for nothing better. Our insight would then be nothing but sheer illusion, since our judgments would only seem to be objectively valid. And there would be no lack of people who wouldn't admit this subjective necessity in themselves (it has to be felt). At the very least, one could quarrel with no one over what rests merely on how that person's subject is organized.

Brief account of this deduction

It lays out the pure concepts of the understanding (and with them all theoretical cognition a priori) as principles of the possibility of experience. Next it presents experience as the determining of appearances in space and time as such.

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Last it presents this determining as derived from the principle of the original synthetic unity of apperception. That principle is the understanding's form, taken in relation to space and time, the original forms of sensibility.

* * *

I consider the division into numbered sections necessary only up to this point, because we were dealing with the elementary concepts. Now we want to show how these concepts are used. From here the exposition can go on as one contin-

uous argument, without such numbering.

Of the Transcendental Analytic Second Book
The Analytic of Principles

A ground plan underlies general logic, and it coincides exactly with how the higher faculties of cognition are divided. Those faculties are understanding, power of judgment, and reason. So in its analytic, that doctrine deals with concepts, judgments and inferences, exactly in line with the functions and the order of those powers of the mind, which are all included under the broad name of the understanding in general.

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Formal logic of this bare kind sets aside all content of cognition, pure or empirical. It is concerned solely with the form of thinking as such, that is, of discursive cognition. So in its analytic part it can include the canon for reason as well. The form of reason has a reliable prescription of its own. It can be seen a priori, without looking at the special nature of whatever cognition is in use, just by analyzing the acts of reason into their moments.

Transcendental logic can't imitate general logic in this division, because it is limited to a definite content, namely pure cognitions a priori only. As it turns out, reason has no objectively valid transcendental use. So it doesn't belong to the logic of truth, that is, the analytic. As a logic of illusion, it calls for a special part of the scholastic system, under the name of transcendental dialectic.

Understanding and power of judgment therefore find, in transcendental logic, their canon for a use that is objectively valid and so true. That puts them in its analytic part. Reason is another story. It tries to settle things about objects a priori and to widen cognition past the boundaries of possible experience.

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In all of this it is dialectical through and through. Its illusory assertions don't fit into a canon at all, and the analytic is supposed to contain such a canon.

The analytic of principles will therefore be only a canon for the power of judgment. It instructs the power of judgment in applying to appearances the understanding's concepts. These concepts hold the condition for rules a priori. That

is why, in treating the understanding's actual principles as my topic, I will call the work a doctrine of the power of judgment. It marks this task more exactly.

Introduction On the Transcendental Power of Judgment in General

Define the understanding in general as the faculty of rules. The power of judgment is then the faculty of subsuming things under rules. That is, it tells whether something falls under a given rule (casus datae legis) or not. General logic has no instructions for the power of judgment, and it could not have any. It abstracts from all content of cognition, so nothing is left to it but one task: to take apart, analytically, the bare form of cognition as it appears in concepts, judgments and inferences.

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In this way it arrives at formal rules covering every use of the understanding. Suppose it wanted to show in general how to subsume under these rules, that is, how to tell whether something falls under them or not. That could be done only through another rule. But this rule, just because it is a rule, again needs guidance from the power of judgment. Here we see that the understanding can be instructed and furnished by rules. The power of judgment, by contrast, is a talent of a special sort. It can't be taught at all. It can only be practiced. That is why the power of judgment is the specific mark of so-called mother wit, and no school can make up for a lack of it. A school can hand a limited understanding plenty of rules, borrowed from other people's insight, and graft them on, so to speak. But the ability to use them correctly must belong to the pupil, and no rule one might prescribe for this purpose is safe from misuse if the pupil lacks such a natural gift*.

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So a doctor, a judge or a statesman may carry many fine pathological, legal or political rules in their head, to the point where they could become a thorough teacher of them. And yet they can easily slip in applying them. Perhaps they lack natural power of judgment (though not understanding). In abstracto they can see the general rule, but whether a case in concreto belongs under it, they can't tell. Or perhaps they haven't been trained enough for this judgment through examples and real business. This is also the one great use of examples:

they sharpen the power of judgment. As for the correctness and precision of insight by the understanding, examples usually do it some harm instead. Seldom do they satisfy the rule's condition adequately (as casus in terminis). Often, too, they sap the understanding's effort to see rules in all their sufficiency, in general and apart from the particular circumstances of experience. They get us used to using rules more like formulas than like principles.
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So examples are the baby walker of the power of judgment, and anyone who lacks the natural talent for it can never do without one.
* Lack of power of judgment is really what we call stupidity, and nothing can be done about such a defect. A dull or limited mind that lacks nothing except the proper degree of understanding and concepts of its own can be well equipped by learning, even up to scholarship. Such a mind usually lacks judgment too (the secunda Petri). So it is common to find very learned men who, when they put their science to use, keep revealing that incurable lack.
The power of judgment gets no prescriptions from general logic. Transcendental logic is quite different, so much so that it seems its real task is to correct and secure the power of judgment, by definite rules, in the use of the pure understanding. To extend the understanding in the field of pure cognitions a priori, philosophy as a doctrine seems not to be needed at all. Or rather, it seems out of place, since after all attempts so far, little or no ground has been gained that way. As critique it is different. There, philosophy is called up with all its sharpness and skill at testing, to guard against slips of the power of judgment (lapsus judicii) when we use the few pure concepts of the understanding that we have. The benefit is then only negative.
Transcendental philosophy has this distinctive feature. The pure concept of the understanding supplies a rule, or better, the general condition for rules. Transcendental philosophy can, in addition, point out a priori the case where the rule is to be applied.
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It enjoys this advantage over every other teaching science (mathematics excepted), and the cause of it is this: it deals with concepts that are supposed to relate to their objects a priori. So their objective validity can't be shown a posteriori, since that would leave their dignity entirely untouched. What transcendental philosophy must do instead is spell out the conditions that allow objects to be given in line with those concepts. It must do so through marks that are general yet sufficient. Otherwise the concepts would be without any content, mere logical forms and not pure concepts of the understanding.

The power of judgment gets its transcendental doctrine in two chapters. The first treats the sensible condition that alone allows pure concepts of the understanding to be used. That is the schematism of pure understanding. The second treats synthetic judgments. On those conditions, a priori, these judgments follow from pure concepts of the understanding. They also lie beneath every other a priori cognition. These judgments are the principles of the pure understanding.

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Of the Transcendental Doctrine of the Power of Judgment (or Analytic of Principles) First Chapter On the Schematism of the Pure Concepts of the Understanding

Think of any case where an object is subsumed under a concept. The representation of the object has to be of one kind with the concept. In other words, whatever is represented in the object being subsumed must be something the concept contains. That is all it means to say an object is contained under a concept. Take the empirical concept of a plate and the pure geometrical concept of a circle. They are of one kind, because the roundness thought in the plate can be intuited in the circle.

Pure concepts of the understanding are a different matter. Set beside empirical intuitions, and indeed beside any sensible intuitions, they are not of one kind with them at all, and no intuition will ever contain one of them. So how can intuitions be subsumed under such concepts? How can a category be applied to appearances? Nobody will say of a category, causality for instance, that it can also be intuited.

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Nobody will say that the senses can intuit it, or that it is contained in the appearance. The question is natural and weighty. This is the actual reason why the power of judgment must have a transcendental doctrine. Its task is to show how appearances as such can have pure concepts of the understanding applied to them. Other sciences don't face this. In them, the concepts that think the object in general are not so different from, or so unlike, the concepts that present it in concreto just as it is given. So no special discussion is needed there of how the first kind is applied to the second.

One thing is clear. A third item has to exist. It must be of one kind with the category on one side and with the appearance on the other, and it has to make the category's application to the appearance possible. This go-between representation must be pure, with nothing empirical in it. Yet it must be intellectual in one respect and sensible in another. The transcendental schema is such a thing.

A concept of the understanding holds the pure synthetic unity of the manifold as such. Time is what formally conditions the manifold of inner sense. That makes it the formal condition for the connecting of all representations. In pure intuition, time holds a manifold a priori. Now take a transcendental determination of time. It resembles the category, which makes up its unity, in being universal and in resting on a rule a priori.

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But it also resembles the appearance, because time is contained in each empirical representation of a manifold. So the category can be applied to appearances, through the transcendental determination of time. Such a determination serves as the schema for concepts of the understanding. It is what brings the appearances under the category.

After what the deduction of the categories has shown, I hope nobody is unsure how to settle a certain question. Are these pure concepts of the understanding meant only for empirical use, or can they also be used transcendentally? In other words, do they relate a priori only to appearances, as conditions of possible experience? Or can they reach out to objects in themselves, as conditions of the possibility of things as such, with no restriction to our sensibility? The

deduction showed several things. First, no concept can exist, or mean anything, unless an object is given for it, or at least for the parts it is made of. So concepts cannot apply to things in themselves, no matter whether or how such things may be given to us. Second, objects are given to us in one way only: as a modification of our sensibility. Third, pure concepts a priori have to hold something besides the function of the understanding found in the category.

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They must also contain formal conditions of sensibility, in particular of inner sense, a priori. These conditions hold the general requirement under which a category can be applied to any object at all. We will name this formal and pure condition of sensibility the schema of the concept of the understanding that is restricted to it in use. And we will call the understanding's way of handling these schemata the schematism of pure understanding.

By itself, a schema is always just a product of imagination. Even so, a schema must be told apart from an image. The reason is that imagination's synthesis aims at no single intuition. It aims only at unity in how sensibility is determined. Put five points in a row:..... You then have an image of the number five. Now suppose I just think of a number as such, which might be five or a hundred. Thinking it amounts more to representing a method than to forming an image. The method is a way of picturing a multitude (a thousand, for example) in an image, following a certain concept. If it were the image I had in mind, I could hardly take it in at a glance and compare it with the concept. Consider the representation of a general procedure of imagination. The procedure gives a concept its image.

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I call that representation the schema of the concept.

Our pure sensible concepts rest, in truth, on schemata, not on images of objects. No image would ever fit the concept of a triangle as such. It could not reach the generality of the concept, which lets the concept cover all triangles, right-angled, oblique and the rest. An image would always cover only one part of that range. A triangle's schema exists only in thought, and nowhere else. It stands for a rule by which imagination synthesizes pure figures in space. Still

less does any object of experience, or image of one, ever attain the empirical concept. The empirical concept relates directly to imagination's schema. That schema is a rule telling how to determine our intuition under a given general concept. Take the concept of a dog. It means a rule: my imagination can follow it to outline a four-footed animal's shape in a general way. It is not tied to any one particular shape that experience gives me, or to any image I might present in concreto. This schematism of our understanding, where appearances and their bare form are concerned, is a hidden art deep in the human soul. We will hardly ever pry its true tricks from nature and lay them open to view.

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This much we can say. An image is a product of the empirical power of productive imagination. A sensible concept's schema, as for figures in space, is made by pure imagination a priori. You could call it a monogram. Images first become possible through this schema and in keeping with it. Images can be linked to the concept only through the schema that they mark out, and taken alone they never fully match the concept. A pure concept of the understanding has a schema of another kind. It cannot be turned into any image at all. It is nothing but the pure synthesis that follows a rule of unity according to concepts in general, the rule that the category expresses. It is a transcendental product of imagination. It has to do with how inner sense in general is determined, by the conditions of its form (time), for all representations that are supposed to hang together a priori in one concept, in keeping with the unity of apperception.

Let us skip a dull and tiresome breakdown of what transcendental schemata for pure concepts of the understanding call for. We would prefer to present them following the order of the categories, each linked to its category.

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Space is the pure image of all magnitudes (quantorum) for outer sense. For the senses' objects in general, time is that image. The pure schema of magnitude (quantitatis), which is a concept of the understanding, is number. A number is a representation that sums up the step-by-step addition of one unit to another,

units of the same kind. Number, then, is simply the oneness of synthesizing the manifold of an intuition that is homogeneous, whatever it may be. It comes about by my generating time itself while I apprehend the intuition.

In the pure concept of the understanding, reality means what answers to sensation as such. That means it is whatever has a concept that in itself points to being (in time). Negation is whatever has a concept that represents not-being (in time). The two are set against each other through a difference within one and the same time: it can be filled or empty. Time is only the form of intuition, and so of objects as appearances. So whatever in those objects answers to sensation is the transcendental matter of every object considered as a thing in itself (thinghood, reality). Every sensation has a degree or magnitude. By it the sensation can fill the same time, that is, inner sense in regard to one and the same representation of an object, more or less, until it ends in nothing (= 0 = negatio).

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So there is a relation and a coherence, or better a passage, from reality to negation. This makes every reality representable as a quantum. A reality's schema is the quantity of something so far as it fills time. That schema is exactly this continuous, uniform production of the reality in time. One either descends in time from a sensation of a certain degree until it vanishes, or climbs gradually from negation up to the sensation's magnitude.

The schema of substance is the permanence of the real in time. It is the representation of the real as a substratum for the empirical determination of time in general. The substratum stays while everything else changes. (Time itself does not run on. What runs on in time is the existence of whatever can change. To time, which is itself fixed and lasting, there answers in appearance what is fixed in existence, namely substance. Only by substance can succession and simultaneity of appearances be determined with respect to time.)

The schema of cause, and of the causality of a thing as such, is the real, which is always followed by something else whenever it is posited at will. It therefore consists in the succession of the manifold, so far as the succession is subject to a rule.

Community (interaction) is the reciprocal causality of substances regarding their accidents.
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Its schema is the coexistence of the determinations of the one substance with the other's, following a general rule.
The schema of possibility is the agreement between the synthesis of various representations and the conditions of time in general. An example is that opposites cannot be in one thing at once but only one after the other. So possibility is the determination of a thing's representation at some time.
The schema of actuality is existence in a determinate time.
The schema of necessity is the existence of an object at all times.
All of this shows what the schema of each category holds and makes representable. For magnitude, the schema contains the creation (synthesis) of time itself as an object is apprehended one part after another. For quality, it contains sensation (perception) synthesized with the representation of time, which is to say the filling of time. For relation, it contains the way perceptions are related to each other at every time (that is, by a rule for determining time). Finally, for modality and its categories, it contains time itself, as the correlate for determining whether and how an object belongs to time. The schemata are therefore nothing but determinations of time a priori, by rules. These rules follow the order of the categories. They bear on the time series and on what time contains.
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They also bear on time's order, and last on time taken as a whole, for every possible object.
This makes it plain where the schematism of the understanding leads, by way of imagination's transcendental synthesis. It leads to nothing but the unity of the whole manifold of intuition in inner sense. Indirectly it leads to the unity of apperception, which is a function matching inner sense (a receptivity). Thus the schemata of pure concepts of the understanding are the real and sole conditions under which those concepts relate to objects and so have meaning. The categories end up with no use except a possible empirical one. All they do is subject appearances to general rules of synthesis, resting on a unity that is nec-

essary a priori (because all consciousness has to be united in one original apperception). In that way they make appearances suitable for complete connection in a single experience.

Every cognition we have lies inside the whole of possible experience. Transcendental truth consists in the general relation to that whole. It comes ahead of every empirical truth, and empirical truth is possible only because of it.

Still, one more thing stands out. The schemata of sensibility are what first realize the categories.

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Yet they also restrict the categories, confining them to conditions that lie outside the understanding, in sensibility. A schema is thus really only the phenomenon, or sensible concept of an object, as it fits the category. (Numerus est quantitas phaenomenon, sensatio realitas phaenomenon, constans et perdurabile rerum substantia phaenomenon—aeternitas, necessitas, phaenomena, and so on.) Say we drop a restricting condition. It seems we then widen the concept that was narrowed before. The categories in their pure meaning, free of every condition of sensibility, would then hold of things as they are. Their schemata, in contrast, only show things as they appear. The categories would then have a meaning that depends on no schemata and reaches much further. In fact, once every sensible condition has been put aside, the pure concepts of the understanding do keep a meaning. It is a logical meaning only, that of the bare unity of representations. No object is given to those representations. So they get no meaning either that could provide a concept of an object. Substance is an example. Leave out the sensible determination of permanence, and substance means only a something that can be thought as a subject, without being a predicate of anything else. I can do nothing with that idea.

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It doesn't show me what determinations belong to the thing that is supposed to count as such a first subject. Without schemata, the categories are only functions the understanding uses for forming concepts. They don't present any

object. Their meaning comes from sensibility, which makes the understanding real by restricting it at the same time.

Of the Transcendental Doctrine of the Power of Judgment (or Analytic of Principles) Second Chapter

System of All Principles of the Pure Understanding

In the last chapter we looked at the transcendental power of judgment only for the general conditions under which, and only under which, it may use the pure concepts of the understanding to form synthetic judgments. Our job now is to set out, in a connected system, the judgments that the understanding really does produce a priori when it works with this critical care. For this, our table of categories must without doubt give us a natural and safe guide. For the categories are the very concepts whose relation to possible experience must make up all pure cognition of the understanding a priori.

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How the categories relate to sensibility in general will therefore lay out all the transcendental principles that govern how the understanding is used, fully and as one system.

Principles a priori have that name for two reasons. They contain the grounds of other judgments, and they are not themselves grounded in any higher or more general cognitions. Still, this second quality doesn't always excuse them from needing a proof. A proof can't be carried any further on the side of the object, since the principle itself lies at the base of all cognition of its object. But that doesn't stop a proof from being possible, and even necessary, if it draws on the subjective sources that make cognition of an object in general possible. Without one, the proposition would fall under the heaviest suspicion of being a claim slipped in by trickery.

Second, we'll stick to the principles that concern the categories. So the principles of the transcendental aesthetic, which say that space and time are what make all things possible as appearances, don't belong in the field we've marked out. Neither does the restriction on those principles, namely that they can't be

applied to things in themselves. The mathematical principles aren't a part of this system either. That is because they are drawn from intuition alone, not from a pure concept of the understanding.

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Still, they are synthetic judgments a priori, so we must make room here for the question of how they are possible. We won't be proving that they're correct or apodictically certain; they don't need that. We only want to make it understandable how such evident cognitions a priori are possible, and to deduce that possibility.

We will also have to talk about the principle of analytic judgments. We will set it against the principle of synthetic judgments, which are what we are really concerned with. Putting the two side by side frees the theory of the synthetic ones from every misunderstanding. It also lays their special nature plainly before our eyes.

The System of the Principles of Pure Understanding First Section The Supreme Principle of All Analytic Judgments

Our cognition may have any content, and it may relate to its object in any way. Even so, there is one general condition that all our judgments must meet, though it's only a negative one: they mustn't contradict themselves. If they do, they are nothing in themselves, even apart from any object.

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But a judgment can contain no contradiction and still tie concepts together in a way the object doesn't allow. Or it may have no ground at all, whether a priori or a posteriori, to justify making it. So a judgment can be free of every inner contradiction and still be false, or without ground.

"A predicate that contradicts a thing can't belong to that thing." This proposition is called the principle of contradiction. It is a universal criterion of truth, though only a negative one. It does, however, belong to logic and to nothing else, since it holds of cognitions simply as cognitions, whatever they're about. And what it says is that contradiction wipes them out and cancels them completely.

The principle can be used positively, too. It doesn't just serve to banish falsehood and error where these rest on a contradiction. It also lets us recognize truth. If a judgment is analytic, whether it affirms or denies, the principle of contradiction is always enough to recognize its truth. Here's why. Take whatever our cognition of the object already contains as a concept and thinks in it. Its opposite will always be correctly denied of the object. The concept itself, on the other hand, has to be affirmed of it.

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The reason is that the opposite of the concept would contradict the object.

So we have to grant the principle of contradiction the status of universal, fully adequate principle for all analytic cognition. But that's as far as its authority and usefulness go, as a criterion of truth that suffices. No cognition can go against it without wiping itself out. That makes the principle a conditio sine qua non, a condition without which nothing could be true. But it does not make the principle what determines whether our cognition is true. Our real business is just the synthetic part of cognition, so we'll always be careful never to act against this principle, which can't be broken. But when it comes to the truth of cognition of that kind, we can never hope to learn anything from it.

Here is a formula of this famous principle (a purely formal one, empty of all content) that does contain a synthesis. The synthesis got into it through carelessness, and quite needlessly. The formula says: "It's impossible for something to be and not be at once." The word "impossible" adds apodictic certainty, and that was unnecessary. The certainty ought to follow from the proposition by itself. On top of that, the formula is affected by the condition of time.

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It says, in effect: a thing = A, which is something = B, can't at the same time be non B. But it can very well be both, B and non B, one after the other. Example: someone who is young can't be old at the same time. Yet one and the same person can be young at one time, and at another time not young, which means old. Now the principle of contradiction is purely logical. It mustn't limit what it says to relations of time. So a formula like this one runs against the principle's whole point. The misunderstanding comes only from this. First people split a

predicate off from a thing's concept. Then they join its opposite to that predicate. This never yields a contradiction with the subject. It yields one only with the subject's predicate, the one that was joined to it synthetically. And even that happens only when the first and second predicates are set down at the same time. Say I claim that an unlearned person is not learned. Then I must add the condition "at once," because someone unlearned at one time may well be learned at another. Say instead that no unlearned person is learned. Then the proposition is analytic, because the mark (being unlearned) now helps form the concept of the subject. The negative proposition then follows straight from the principle of contradiction, with no need to add "at once."

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That's also why I changed the formula above: so that it shows clearly what an analytic proposition is.

The System of the Principles of Pure Understanding Second Section The Supreme Principle of All Synthetic Judgments

Explaining how synthetic judgments are possible is a task that general logic has nothing to do with. It isn't even allowed to know the task's name. In a transcendental logic, though, it is the most important job of all. It is even the only job, when the question is the possibility of synthetic judgments a priori, along with the conditions and the extent of their validity. For once it is done, transcendental logic can fully meet its aim, which is to fix the extent and the boundaries of the pure understanding.

In an analytic judgment I stay with the concept I've been given and settle something about it. If the judgment affirms, I give the concept nothing except what it already held in thought. If it denies, I just shut out the concept's opposite. In synthetic judgments, though, I must go outside the given concept. I have to consider something entirely different from what was thought in it, and consider how that stands in relation to the concept.

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That relation is never one of identity or of contradiction. And you can't tell from the judgment itself whether it's true or mistaken.

Suppose we grant that to compare a given concept synthetically with another, we have to step outside it. Then a third thing is required, and only within it can two concepts be synthesized. But what could this third thing be, this medium of all synthetic judgments? It is nothing but the whole collection that contains all our representations: inner sense, together with its form a priori, which is time. The synthesis of representations depends on imagination. Their synthetic unity, which judgment needs, depends on the unity of apperception. So here is where we have to look for what makes synthetic judgments possible. All three of these hold sources of representations a priori, so this is also where we must look for the possibility of pure synthetic judgments. Given these grounds, such judgments are even necessary, if any cognition of objects is to come about that depends on nothing but the synthesis of representations.

For a cognition to have objective reality, that is, to refer to an object and have meaning and sense in it, the object must be able to be given in some way. Without that, concepts are empty. With them you have thought, yes.

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But in fact that thinking cognized nothing; you've only played with representations. Now, giving an object (not merely in an indirect way, but by presenting it directly in intuition) comes down to relating its representation to experience, actual or at least possible. Even space and time are as free of everything empirical as concepts can be, and it's certain that they are represented in the mind completely a priori. Even so, they would have no objective validity, sense or meaning unless we could show that they must be used on objects of experience. Indeed, our representation of them is just a schema, and a schema always points back to the reproductive imagination, the faculty that summons the objects of experience. Without those objects the representation would mean nothing. The same goes for every concept, without exception.

So the possibility of experience is what gives objective reality to all our cognitions a priori. Experience, in turn, rests on the synthetic unity of appearances. That means it rests on a synthesis that goes by concepts of the object of appearances as such. Without that synthesis, appearances wouldn't even amount to

cognition. They'd be a rhapsody of perceptions that wouldn't fit together within any context ruled by a thoroughly connected (possible) consciousness. They wouldn't fit the transcendental, necessary unity of apperception either.
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Experience therefore has principles of its form lying beneath it a priori. These are general rules for unity in the synthesis of appearances. As necessary conditions, they can always be shown to have objective reality in experience, even in its very possibility. Apart from this relation, synthetic propositions a priori are altogether impossible. There's no third thing for them, no pure object, where the synthetic unity of their concepts could show objective reality.
In synthetic judgments about space as such, and about the shapes productive imagination sketches in it, we can know a great deal a priori. We don't actually need any experience for that. Even so, this cognition would be nothing at all. It would be an occupation with a mere figment of the brain, unless space counts as a condition of the appearances that supply the stuff of outer experience. So these pure synthetic judgments refer to possible experience, or rather to the possibility of experience itself, though only indirectly. They rest the objective validity of their synthesis on that alone.
Experience, as empirical synthesis, is the only way of cognizing that lends reality to all other synthesis, through its own possibility. So that other synthesis, as cognition a priori, has truth in only one way.
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Its truth, its agreement with the object, comes only from containing nothing more than the synthetic unity of experience in general requires.
The highest principle of all synthetic judgments, then, is this: any object stands under the conditions that are necessary if the manifold of intuition is to have synthetic unity within a possible experience.
This is how synthetic judgments a priori become possible. We start from the formal conditions of intuition a priori, plus the synthesis of imagination, plus the necessary unity of that synthesis in a transcendental apperception. We relate all of them to a possible cognition by experience as such. Then we can say that

the conditions for the possibility of experience as such are the same conditions that make the objects of experience possible. That is why they have objective validity in a synthetic judgment a priori.

The System of the Principles of Pure Understanding Third Section Systematic Presentation of All Its Synthetic Principles

The fact that there are principles anywhere is owed entirely to the pure understanding. It is more than the faculty of rules for what happens.

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It is itself the source of principles, which make everything that can ever show up for us as an object stand necessarily under rules. Without rules like these, appearances could never provide cognition of an object matching them. Even natural laws, when we regard them as basic laws of how the understanding is used empirically, bring along an expression of necessity. At the very least they suggest that they're settled by grounds that hold a priori, before any experience. And yet every law of nature, without exception, is subordinate to higher principles of the understanding, because it only applies them to particular cases of appearance. Only these higher principles give us the concept that contains the condition for a rule in general, and in a way its exponent. Experience gives us the case that falls under the rule.

There is really no danger of mistaking merely empirical principles for principles of the pure understanding, or the other way around. That is because the pure principles are marked by a necessity according to concepts. Any empirical proposition lacks that necessity, however generally it may hold, and the lack is easy to notice. So this mix-up is easy to avoid. But there are some pure principles a priori that I still wouldn't assign specifically to the pure understanding. My reason is that they are not drawn from pure concepts.

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They are drawn from pure intuitions (though by means of the understanding). And understanding is the faculty of concepts. Mathematics has principles of this kind. But their application to experience, and with it their objective validity, still always rests on the pure understanding. So does the possibility of such synthetic cognition a priori (the deduction of it).

That's why the principles of mathematics won't be listed among mine. What I will list are the principles on which the possibility of mathematics and its objective validity a priori are founded. They should be seen as the principium, the source, of the mathematical principles. They begin with concepts and move toward intuition. They do not begin with intuition and move toward concepts.

When pure concepts of the understanding are applied to possible experience, their synthesis is used in one of two ways: mathematically or dynamically. The reason is that the synthesis is directed partly at intuition alone and partly at the existence of an appearance as such. The conditions of intuition a priori are completely necessary for any possible experience. The conditions for objects of some possible empirical intuition actually existing are merely contingent in themselves. So the principles that govern mathematical use will state something unconditionally necessary, that is, apodictic. The principles of dynamic use will carry a character of necessity a priori too. But that necessity holds only on the condition that empirical thinking goes on in some experience.

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So they carry it only mediately and indirectly, and they lack the immediate evidence that the mathematical principles have (although this doesn't harm their certainty, which extends to experience in general). We'll be able to judge this better at the close of this system of principles.

The table of categories points us quite naturally to the table of principles. The principles, after all, are just rules for putting the categories to objective use. So the principles of the pure understanding, all of them, are

1 Axioms of intuition

2 Anticipations of perception

3 Analogies of experience

4 Postulates of empirical thinking in general

I chose these names with care, so that the differences in evidence and in the way these principles are carried out wouldn't slip by unnoticed. But it will soon be clear that they do differ.

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In evidence, and in how they determine appearances a priori, the principles of quantity and quality (if we look only at the form of the latter) stand sharply apart from the other two. The first two admit of intuitive certainty. The other two admit only of discursive certainty. But both kinds can be completely certain. So I will call the first group the mathematical principles and the second the dynamic principles*.

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Please notice, though, that I have in mind neither the principles of mathematics (in the first case) nor those of general, physical dynamics (in the second). I mean only the principles of the pure understanding, in relation to inner sense, whatever representations are given in it. These are what give all those other principles their possibility. So I'm naming them for how they're applied, more than for what they contain. Now I'll consider them in the same order the table presents them.

* Combination (conjunctio) comes in two kinds: composition (compositio) and connection (nexus). Composition is the synthesis of a manifold that doesn't have to belong together. Take the two triangles you get when a diagonal cuts a square in half. By themselves they don't have to belong together. That is also how things of the same kind are synthesized in everything that can be treated mathematically. (This synthesis can itself be split into aggregation and coalition. The first deals with extensive magnitudes, the second with intensive ones.) The second kind of combination, connection (nexus), is the synthesis of a manifold whose parts do have to belong together. An accident belongs to some substance this way, and an effect to its cause—so such a manifold is also represented as combined a priori, even though its parts are different in kind. This combination is not arbitrary. I call it dynamic because it concerns how the existence of the manifold is combined. (This kind splits again, into the physical kind, which joins appearances to one another, and the metaphysical kind, which joins them in the faculty of cognition a priori.)

1 Axioms of Intuition

The principle for these is: all intuitions are extensive magnitudes.

Proof

Each appearance has, in its form, an intuition in space and time, and that intuition lies beneath all of them a priori. So the only way to apprehend them, meaning to take them into empirical consciousness, is through the synthesis of the manifold. This synthesis produces the representation of a definite space or time. It does so by composing what is of one kind.

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And it brings with it consciousness of the synthetic unity of that (homogeneous) manifold. Now consciousness of a homogeneous manifold in intuition as such is the concept of a magnitude (quanti), to the extent that this consciousness is what first makes representing an object possible. So even the perception of an object, taken as appearance, depends on the very same synthetic unity in the manifold of the given sensible intuition. Through that unity we think the unity of composition of the homogeneous manifold in the concept of a magnitude. In other words, all appearances are magnitudes, and specifically extensive ones. They appear as intuitions in space or time. So the synthesis that represents them has to be the one that also determines space and time as such.

I call a magnitude extensive when representing its parts is what makes it possible to represent the whole (so the representation of the parts necessarily comes first). However short a line is, I can't picture it without drawing it in my thought. That means generating all its parts one by one from a point, and only in this way sketching the intuition at all. Time is exactly the same, even the tiniest bit of time. All I think in it is the step-by-step advance from one instant to the next. Out of all the parts of time and their being added together, a definite stretch of time finally results. Space or time is the bare intuition in all appearances.

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So every appearance, as an intuition, is an extensive magnitude: it can be cognized in apprehension only by a successive synthesis, from part to part. Hence all appearances are already intuited as aggregates (collections of parts given

beforehand). This isn't so for every kind of magnitude. It's so only for magnitudes that are represented and apprehended by us as extensive.

Geometry, the mathematics of extension, and its axioms are built on this successive synthesis by productive imagination as it produces shapes. The axioms express the conditions of sensible intuition a priori. Only under these conditions can a pure concept of outer appearance get its schema. For example: two points allow just one straight line; two straight lines can't enclose a space; and so on. These are the axioms, and they properly concern only magnitudes (quanta) as such.

Now take magnitude in the sense of quantitas, the answer to the question "How big is it?" Several propositions about this are synthetic and immediately certain (indemonstrabilia). Even so, strictly speaking, none of them is an axiom. Consider the statements that adding equals to equals, or subtracting equals from equals, gives equals. These are analytic, since I am directly aware that one way of generating a magnitude is the same as the other.

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But axioms are supposed to be synthetic propositions a priori. The evident propositions about relations of number are synthetic, to be sure. But they aren't universal the way geometry's propositions are. For exactly that reason they aren't axioms either; call them numerical formulas. The statement 7+5=12 is not analytic. In the representation of 7, in that of 5, and in the representation of putting the two together, I nowhere think the number 12. (Whether I'm supposed to think it in adding the two isn't at issue here. With an analytic proposition, the only question is whether the predicate is really thought in what I represent as the subject.) The proposition is synthetic, but it's still a single, particular proposition. Since we look here only at the synthesis of what is of one kind (units), the synthesis can only go one way, even though these numbers can be used generally afterward. Take the statement that a triangle can be drawn from three lines, two of which together are longer than the third. What I have here is nothing but the function of productive imagination,

which is free to draw the lines longer or shorter and to let them meet at any angles you like. The number 7, on the other hand, can arise in only one way, and so can 12, which is produced by combining that number with 5.

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Propositions like these shouldn't be called axioms (there would be infinitely many then), but numerical formulas.

This transcendental principle behind the mathematics of appearances gives our a priori cognition a large extension. For it alone lets pure mathematics, with all its precision, be applied to objects of experience. Without the principle that would not be so obvious, and it has even stirred up quite a few objections. Appearances are not things in themselves. Empirical intuition is possible only by way of pure intuition (of space and time). So what geometry says about pure intuition holds without argument for empirical intuition, too. We have to drop the evasions that say objects of the senses needn't follow the rules of construction in space (the infinite divisibility of lines or angles, for instance). That would take objective validity away from space, and with it from all of mathematics. We would no longer know why mathematics applies to appearances, or how far. The synthesis of spaces and times, which are the essential form of all intuition, is the very thing that makes it possible to apprehend an appearance, and so makes outer experience possible, and with it all cognition of the objects of that experience. Whatever mathematics proves about that synthesis in its pure use must hold necessarily for apprehension of appearances as well.

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All objections to this are the tricks of a reason that has been taught wrongly. It mistakenly thinks it can pull the objects of the senses free of the formal condition that our sensibility imposes. It pictures them as things in themselves, given to the understanding, even though they are only appearances. In that case, of course, nothing could be known about them a priori by synthesis, not even through pure concepts of space. And geometry itself, the science that fixes those concepts, wouldn't be possible.

2 Anticipations of Perception

Their principle is this: in every appearance what is real, the object of sensation, has an intensive magnitude, which is to say a degree.

Proof

Perception is empirical consciousness, meaning consciousness that includes sensation. As objects of perception, appearances are no pure intuitions, no merely formal ones like space and time, since those can't be perceived in themselves at all. So an appearance holds more than intuition. It also holds the matter for some object as such (this is what represents something existing in space or time). That matter is the real of sensation. It is a purely subjective representation. All we can be aware of through it is that the subject is affected.

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And we relate it to an object as such. Now a gradual transition is possible from empirical consciousness to pure consciousness. The real of empirical consciousness fades away completely, and what remains is a merely formal consciousness (a priori) of the manifold in space and time. So there is also a synthesis that generates the magnitude of a sensation, beginning at pure intuition = 0 and running up to any magnitude you like. Sensation in itself is no objective representation at all. It contains no intuition of space and none of time. So it has no extensive magnitude. But it does have a magnitude, which comes to it through apprehension. In apprehension, empirical consciousness can grow in some stretch of time from nothing = 0 up to its given amount. So sensation has an intensive magnitude. And correspondingly an intensive magnitude, a degree of influence on the sense, has to be ascribed to every object of perception, insofar as it contains sensation.

If a cognition lets me know and fix a priori something that belongs to empirical cognition, we can name it an anticipation. No doubt this is the sense in which Epicurus used his word προληψις. But there is something in appearances that can never be cognized a priori. It is also exactly what separates the empirical from cognition a priori.

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That is sensation, the matter of perception. It follows that sensation is the very thing that cannot be anticipated. On the other hand, the pure determinations in space and time, concerning both shape and magnitude, we could call anticipations of appearances. They represent a priori what is always going to be given a posteriori in experience. But suppose something turns out to be knowable a priori of every sensation as sensation in general (without any particular one being given). That would deserve the name "anticipation" in an outstanding sense, because it seems odd to get ahead of experience in just the part that makes up its matter, which we can get only from experience. And that is truly how things stand here.

Apprehension through sensation alone fills just one instant (if I set aside the succession of many sensations). As something in the appearance, it is not apprehended by a successive synthesis moving from parts to the whole representation. So it has no extensive magnitude. If the sensation is absent in that instant, the instant would be represented as empty, hence = 0. Reality (realitas phaenomenon) is what answers to sensation in empirical intuition. What answers to the lack of sensation is negation = 0.

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But every sensation can be diminished, so that it fades and gradually disappears. That gives a continuous chain of many possible intermediate sensations linking reality in appearance to negation. Their differences from one another are always less than the gap from the given sensation down to zero, that is, to complete negation. In other words, the real in an appearance always has a magnitude. We just don't meet that magnitude in apprehension, because apprehension by mere sensation happens in an instant, not by the successive synthesis of many sensations, and so it doesn't go from parts to the whole. The real thus does have a magnitude, though not an extensive one.

A magnitude that is apprehended only as a unit, and in which plurality can be represented only as an approach to negation = 0, I call intensive. Every reality in appearance, then, has an intensive magnitude, a degree. If we regard this reality as a cause (whether of a sensation or of some other reality showing up in appearance, an alteration for instance), the degree of the reality as a cause is

called a moment, the moment of gravity for example. It is called that because a degree names only a magnitude whose apprehension is instantaneous, not successive. I mention this only in passing, because I don't yet have to deal with causality.

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So every sensation, and with it every reality in appearance, has a degree, no matter how small it is. That is, it has an intensive magnitude, and there is always room to reduce it further. Reality and negation are linked by an unbroken chain of possible realities, and of possible smaller perceptions. Take any color, red for instance. Its degree, however small, is never the smallest one. Heat is the same, and so is the moment of gravity, and so on, everywhere.

Continuity is what we call it when no part of a magnitude is the smallest possible, that is, no part is simple. Space and time are quanta continua. We never get a part of them except by fencing it in with boundaries, the points and instants. So any part you give is itself a space, or a time. Space is therefore made up of nothing but spaces, and time of nothing but times. A point or an instant is only a boundary, a mere position marking where something is limited. Positions, however, always presuppose the intuitions they're supposed to limit or determine. And you can't build space or time out of mere positions, as if they were ingredients that could be given ahead of space or time. We may also call magnitudes of this kind flowing, because the synthesis (of productive imagination) that generates them is a progress through time.

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Time's continuity is what we usually mark with the word "flowing" (or "flowing away").

Appearances in general are therefore all continuous magnitudes, extensive ones in their intuition and intensive ones in mere perception (sensation, and so reality). Suppose the synthesis of an appearance's manifold breaks off. Then we have an aggregate of many appearances, and not properly one appearance as a quantum. An aggregate isn't produced by simply carrying on one kind of productive synthesis. It is produced by repeating a synthesis that keeps stopping. Calling 13 thalers a quantum of money is right only on one reading: that I

mean what one mark of fine silver contains. A mark of fine silver is a continuous magnitude. No part of it is the smallest; any part could make a coin, and that coin would always contain material for smaller ones. But if I take that name to mean 13 round thalers, counted as that many coins (their silver content being whatever it may be), then calling it a quantum of thalers is improper. I have to call it an aggregate, a number of coins. Every number needs unity as its base. So an appearance, as a unity, is a quantum, and as a quantum it is always a continuum.

Now all appearances, considered extensively or intensively, are continuous magnitudes.

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Given that, the claim that every alteration (a thing's passing from one state into another) is continuous as well could be proved here easily, with mathematical evidence. It could, if the causality of an alteration in general did not lie completely beyond the boundaries of transcendental philosophy and presuppose empirical principles. The understanding tells us nothing a priori about whether a cause is possible that changes the state of things, meaning one that sets them to the opposite of some given state. There are two reasons. First, the understanding doesn't see how such a thing could be possible. (We lack that insight in several cognitions a priori, too.) Second, being open to change affects only certain determinations of appearances, which only experience can teach, while their cause is found in what doesn't change. And here all we have to work with are the pure basic concepts of all possible experience, with nothing empirical allowed among them. So we can't jump ahead to general natural science, which rests on certain basic experiences, without damaging the unity of the system.

Still, we have plenty of proof of how much influence our principle has. It anticipates perceptions, and it even makes up for their absence, to the point of shutting the door on all false conclusions that could be drawn from their absence.

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Perception shows every reality with a degree, and an endless series of ever lower degrees runs between it and negation. Still, every sense must have some definite degree of receptivity for sensations. Given both, no perception is possible, and

so no experience either, that would prove a total absence of everything real in the appearance. It doesn't matter whether the proof would be direct or indirect, or what detour of reasoning one takes. In other words, experience can never give a proof of empty space or empty time. That is because, first, a total absence of the real in sensible intuition can't itself be perceived. Second, it can't be concluded from any single appearance and the differences in its degree of reality. And it must never be assumed in order to explain one. Even if the whole intuition of a given space or time were real through and through, with no part empty, there would still have to be infinitely many different degrees in which space or time is filled. That is because each reality has its degree, and that degree can drop by infinite steps all the way to nothing (the empty) while the appearance's extensive magnitude stays the same. So the intensive magnitude can be smaller or greater in different appearances, even when the extensive magnitude of the intuition is the same.

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Here's an example. Nearly all natural philosophers see a big difference in how much matter of different kinds there is in the same volume. They see it partly in the moment of gravity, or weight, and partly in the moment with which it resists other matter in motion. From this they all draw the same conclusion: this volume (the extensive magnitude of the appearance) must be empty in every kind of matter, though to different degrees. Which of these investigators of nature, who are mostly mathematicians and mechanists, would ever have guessed that their conclusion rests entirely on a metaphysical assumption, one they claim so firmly to avoid? Yet that's what it does, because they assume that the real in space is the same everywhere (I won't call it impenetrability or weight here, since those are empirical concepts) and that it can be told apart only by extensive magnitude, which means by amount. They couldn't have had any ground in experience for this assumption, which makes it purely metaphysical. Against it I set a transcendental proof. It isn't meant to explain the difference in how space is filled. But it entirely removes the supposed need for the

assumption, namely that the difference can only be explained by positing empty spaces. And it has the merit of leaving the understanding free, at least, to think this variety in another way as well.

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It has that merit in case the explanation of nature should ever make some hypothesis necessary for this. For we can see that equal spaces may be filled perfectly by different matters, so that not a single point in either lacks their presence. Still, whatever is real, at the same quality, has some degree (of resistance or of heaviness). That degree can keep getting smaller without end, without any decrease in extensive magnitude or amount, before it passes into the empty and vanishes. In the same way, an expansion that fills a space, such as heat, and likewise any other reality (in appearance), can shrink in degree without end, without leaving even the smallest part of that space empty. It can still fill the space with these lower degrees every bit as well as another appearance fills it with higher ones. I don't mean here to claim that things really are like this with different matters and their specific gravity. I only want to show, using a principle of pure understanding, that our perceptions are of a kind that makes such an explanation possible. And I want to show that people go wrong in assuming that the real in appearance has equal degrees everywhere and varies only through aggregation and extensive magnitude, and even claim, supposedly, to assert this by a principle of the understanding a priori.

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Still, to an investigator who is used to the transcendental, and has become careful because of it, this anticipation of perception always seems striking. It also stirs some doubt that the understanding can anticipate a synthetic proposition like this one, on the degree that every real thing in appearances has, and so on the possibility of an inner difference in sensation itself (once we set aside its empirical quality). So there remains a question that deserves an answer: how can the understanding rule synthetically, a priori, on appearances, and even anticipate them in just the point that is strictly and merely empirical, namely sensation?

Sensation's quality is always purely empirical. It can't be represented a priori at all (colors, tastes, and the like). But what is real and corresponds to sensations as such, as opposed to negation = 0, stands for something whose concept in itself contains being. It signifies only the synthesis in an empirical consciousness as such. For in inner sense, empirical consciousness can be pushed up from 0 to whatever higher degree you like. So one and the same extensive magnitude of intuition (an illuminated surface, say) can produce as strong a sensation as a whole collection of other, less illuminated surfaces put together.

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We can therefore abstract entirely from the appearance's extensive magnitude. Even then, in the bare sensation at a moment, we can represent a synthesis of steady rise, starting at 0 and reaching the empirical consciousness we're given. So all sensations, as such, are given only a posteriori. But the property they have of possessing a degree can be known a priori. It is remarkable that of magnitudes in general we can know only one quality a priori, continuity. Of all quality (the real in appearances), we can know nothing a priori except its intensive quantity, which is that it has a degree. Everything else is left to experience.

3 Analogies of Experience

Their principle: only if we represent perceptions as necessarily connected is experience possible.

Proof

Experience is empirical cognition, cognition that determines an object by way of perceptions. So it is a synthesis of perceptions. This synthesis isn't itself contained in perception. It contains the synthetic unity of the perceptions' manifold in one consciousness. That unity is what is essential to cognition of the objects of the senses, that is, to experience.

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Experience is not just intuition or sensation of the senses. Now it's true that in experience perceptions come together only by chance. No necessity in their connection shows up from the perceptions themselves, and none can. That's because apprehension merely puts together a manifold of empirical intuition.

Nothing in it represents the appearances it puts together, in space and time, as existing together of necessity. But experience is cognition of objects through perceptions. So the way the manifold's existence is related has to be represented in experience. It has to be represented not the way the manifold is assembled in time, but the way it objectively stands in time. Time itself, though, can't be perceived. So the existence of objects in time can only be determined by combining them in time as such, and so only through concepts that are connected a priori. Such concepts always carry necessity with them. Therefore experience is possible only if we represent perceptions as necessarily connected.

The three modi, or modes, of time are persistence, succession and simultaneity. So there are three rules for all the time relations of appearances. By them the existence of each appearance can be fixed in terms of the unity of all time. These rules come before all experience, and they first make it possible.

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The common principle of the three analogies is grounded in the necessary unity of apperception. This unity covers every possible empirical consciousness (that is, perception), whenever it occurs. And since this unity lies at the base a priori, the principle rests too on the synthetic unity of all appearances in their time relations. For original apperception refers to inner sense (the sum of all representations), and specifically to its form a priori, meaning the relation of the manifold of empirical consciousness in time. Now in original apperception, all of this manifold is to be united in accordance with its time relations. That is what the transcendental unity of apperception says a priori, and under it stands everything that is to belong to my cognition (that is, my one cognition) and so be able to become an object for me. This synthetic unity in the time relation of all perceptions is determined a priori. So the law is that empirical determinations of time all have to answer to rules for the general determination of time. The analogies of experience, which we're about to take up, have to be rules of exactly this sort.

What is special about these principles is that they don't deal with appearances, or with the synthesis behind their empirical intuition. They look only at existence and at how appearances relate to one another as regards that existence.

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Now the way something gets apprehended in an appearance can be fixed a priori, so that the rule for its synthesis can supply this intuition a priori in any empirical example at hand, that is, bring it about. But the existence of appearances can't be cognized a priori. Suppose we managed to infer some existence by this route. We still wouldn't know it determinately. We couldn't anticipate what makes its empirical intuition different from others.

I called the two earlier principles mathematical, because they entitled us to apply mathematics to appearances. They concerned appearances only as to their bare possibility. They taught how appearances can be produced, both as to what is intuited and as to the real that is perceived in them, by the rules of a mathematical synthesis. In both cases, therefore, numerical magnitudes can be put to use, and with them the determination of an appearance as magnitude. For instance, I could compose the degree of the sensations that sunlight causes from about 200,000 illuminations by the moon, and present it as determined a priori, that is, construct it. That's why we can call the first principles constitutive.

It has to be quite different with the principles that are meant to put the existence of appearances under rules a priori. For existence can't be constructed.

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So these principles can only bear on the relation of existence, and the most they can offer are regulative principles. There's no room here for axioms or anticipations. Suppose one perception is given to us in a time relation to others (which stay indeterminate). We won't be able to say a priori which other perception that is, or how large. We can say only how that other perception is necessarily combined with the given one as regards existence, in this modus of time. In philosophy, "analogy" means something very different from what it stands for in mathematics. There it is a formula that asserts the equality of two relations of magnitude, and it is always constitutive: given two terms of the proportion, the third is thereby given, which is to say it can be constructed. In philosophy, an analogy is the equality of two relations that are not quantitative but qualitative. With three terms given, all I can know and give a priori is how a fourth term

would be related to them. The fourth term itself I can neither know nor give a priori. But I do have a rule for looking for it in experience, and a mark for finding it there. An analogy of experience will thus be just a rule by which unity of experience is to arise out of perceptions (not the way perception itself arises, as empirical intuition as such). As a principle about objects (of appearances) it holds not constitutively, only regulatively.

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The very same holds for the postulates of empirical thinking in general. Taken together, they concern the synthesis of intuition alone (appearance's form), of perception (its matter), and of experience (how those perceptions relate). They too are only regulative principles. They differ from mathematical principles, and those are constitutive. The difference lies not in certainty, which is settled a priori for both, but in the kind of evidence: in how intuitive they are (and so also in whether they can be demonstrated).

One thing was remarked about all synthetic principles, and it deserves special notice here: these analogies can only be proved as principles of the empirical use of the understanding, not the transcendental use. That's the only meaning and validity they have, and so it's the only way they can be proved. It follows that appearances don't get subsumed straight under the categories, but only under their schemata. Suppose the objects these principles apply to were things in themselves. Then we couldn't cognize anything about them synthetically a priori. But they are nothing except appearances. Full cognition of them is where all principles a priori finally have to end up, and that is nothing but possible experience. So these principles can aim at nothing except conditions for the unity of empirical cognition within the synthesis of appearances.

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This synthesis is thought only through the schema belonging to the pure concept of the understanding. Of its unity, as a synthesis as such, the category contains the function that no sensible condition restricts. These principles give us the right to put appearances together only in a way that is analogous to the logical, general unity of concepts. In the principle itself we do use the category. But

in carrying it out, when we apply it to appearances, we put its schema in the category's place as the key to its use. Or better, we set the schema next to the category as a restricting condition, calling it a formula of the category.

A. First Analogy

Principle of the Persistence of Substance

Whatever changes among appearances, substance persists. Its quantum is neither increased nor reduced in nature.

Proof

All appearances are in time. Only in time, as their substrate (the lasting form of inner intuition), can being simultaneous and following one another be represented at all.

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So time, which all change of appearances has to be thought in, remains and does not change. For it is that in which being after one another and being together can be represented only as ways time is determined. Time can't be perceived by itself. So among the objects of perception, the appearances, there has to be a substrate to find. It represents time as such, and in apprehension all change or simultaneity can be perceived through the appearances' relation to it. Now the substrate of everything real, that is, of everything that belongs to the existence of things, is substance. Anything that has to do with existence can only be thought of as a determination of substance. Therefore what lasts, and what alone lets us determine all the time relations of appearances, is substance in the appearance: its real, the substrate under all change that never varies. And since substance can't change in existence, its quantum in nature can't be increased or reduced either.

Our apprehension of the manifold of an appearance is always successive, so it is always changing. By it alone we can never decide if the parts of this manifold, taken as an object of experience, exist together or follow one another, unless something lies at its base that always is: something enduring and lasting.

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All change and all simultaneity are just the different modi of time, the ways that lasting thing exists. Time relations are possible only in what lasts (there are just two relations in time, simultaneity and succession). In other words, what lasts is the substratum of the empirical representation of time itself, and only on it can time be determined at all. Persistence is how time as such gets expressed: the constant correlate of every appearance's existence, of all change and all accompaniment. For change doesn't touch time itself, only the appearances in time. (And being simultaneous isn't a modus of time itself, since in time there are no parts that are simultaneous. All are one after another.) If we ascribed succession to time itself, we'd have to think of yet another time in which that succession could happen. Only through what lasts does existence get a magnitude, called duration, in the different parts of the series of time one after another. In mere succession existence is always vanishing and starting up, and never has the slightest magnitude. Without this lasting thing, then, there are no time relations. Time can't be perceived in itself. So this lasting thing in appearances is the substratum for fixing anything in time. It is thus also the condition that makes possible any synthetic unity of perceptions, meaning experience.
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On this lasting thing, any existence and any change in time can only be viewed as a modus of how what remains and lasts exists. So in all appearances, the object itself is what lasts, that is, substance (phaenomenon). Whatever changes, or could change, has to do only with how this substance (or these substances) exists, so only with their determinations.

I find that people have always assumed this persistence as a substratum of all change in appearances, and always will take it as beyond doubt. That goes for the ordinary understanding as much as for the philosopher. The philosopher just says it a little more precisely: in every alteration within the world, the substance stays and only the accidents change. But I find no one making even an attempt to prove a proposition that is so thoroughly synthetic. It also seldom stands, as it ought to, at the head of the laws of nature that are pure and rest wholly a priori. In truth, the proposition that substance persists is a tautology. For it's only this persistence that gives us a reason to apply the category of sub-

stance to appearance. What would have had to be proved is that in every appearance there is something lasting, and that what can change is nothing but a determination of that thing's existence.

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But a proof like that can't be given dogmatically, that is, out of concepts, since it concerns a synthetic proposition a priori. And nobody ever thought that propositions of this kind hold only in relation to possible experience, and can therefore be proved only by a deduction of that experience's possibility. So it's no wonder that the proposition was put at the base of all experience (people feel its need in empirical cognition) but never proved.

A philosopher was asked how much smoke weighs. The philosopher answered: take the weight of the ashes that are left from the weight of the wood that burned, and the difference is the weight of the smoke. So the philosopher took it as beyond dispute that even in fire matter (substance) doesn't perish; only its form is modified. In the same way, the proposition "nothing comes from nothing" was just one more consequence flowing from the principle of persistence, or rather from the principle that the real subject of appearances exists forever. For if what we choose to call substance in an appearance is to be the true substratum for fixing everything in time, then all existence, past and future alike, has to be fixable in it, and in it alone. That is why we can give an appearance the name substance only because we assume that its existence holds at all times.

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The word "persistence" doesn't even capture this well, because it looks more toward future time; still, the inner necessity of lasting is bound up inseparably with the necessity of having always been, so the word can stay. Gigni de nihilo nihil (nothing comes from nothing) and in nihilum nil posse reverti (nothing can go back into nothing) were two propositions that the ancients always linked together. Today people sometimes pull them apart, by mistake. They imagine these propositions are about things in themselves. They fear the first one could clash with the world's being dependent on a highest cause (even as to its substance). That worry is groundless, since we are talking only about appearances in the field of experience. The unity of such appearances would never be

possible if we let new things (as to substance) come into being. We would then lose the one thing that can represent the unity of time, namely the identity of the substratum, in which alone all change has complete unity. This persistence is, after all, only our way of representing the existence of things (in appearance). The determinations of a substance are nothing but particular ways for it to exist, and they're called accidents. Accidents are always something real, since they have to do with the existence of the substance. (Negations are determinations too, but they only express that something is missing in the substance.)

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Now suppose we credit this real element in the substance with a separate existence (motion, say, as an accident of matter). Then we call that existence inherence, as opposed to the substance's existence, which we call subsistence. But this causes many misreadings. It is more exact and more correct to describe an accident only by saying how a substance's existence is determined in a positive way. Even so, given the conditions that govern the logical use of our understanding, we cannot avoid setting apart, so to speak, whatever in a substance's existence can change while the substance stays. We have to look at it in relation to what truly lasts, and is the root. That's why this category sits under the heading of relations: it is more the condition of relations than something that holds a relation in itself.

This persistence also lets us correct the concept of alteration. Coming into being and passing away aren't alterations of the thing that comes into being or passes away. Alteration is one way of existing that follows another way of existing in the very same object. So whatever alters, lasts, and only its state changes. This change touches only determinations, which can stop or start. We can therefore say, in a phrase that sounds a little paradoxical, that only what lasts (substance) is altered.

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What can vary undergoes no alteration but a change, since some determinations stop and others start.

So alteration can be perceived only in substances. Coming into being or passing away in the strict sense, not just as a determination of what lasts, can't be a possible perception at all. For the lasting thing is what makes it possible to represent the passage from one state to another, and from non-being to being, and such passages can be known empirically only as shifting determinations of what remains. Suppose something simply began to be. Then you would need a point of time at which it wasn't. But to what would you fasten that point, if not to something already there? For an earlier empty time is no object of perception. If you tie the coming into being to things that existed beforehand and last until that which comes to be, then the later thing was merely a determination belonging to the earlier one, the lasting thing. Passing away works the same way, because it presupposes an empirical representation of a time in which the appearance is gone.

Substances, as they appear, are what underlies every determination of time. If some came to be and others passed away, that would remove the single condition of the empirical unity of time.

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Appearances would then relate to two kinds of time, with existence flowing along in both side by side. That is absurd. There is only one time, and all the different times have to be set in it, not together but one after another.

So persistence is a necessary condition. Only under it can appearances be determined as things or objects within a possible experience. We'll have a chance later to say what needs saying on the empirical criterion for this necessary persistence, and so for the substantiality of appearances.

B. Second Analogy

Principle of Succession in Time According to the Law of Causality

Every alteration happens in line with the law that links cause and effect.

Proof

(The previous principle showed that all appearances of temporal succession are only alterations, that is, a successive being and non-being of the determinations of the substance that persists. So it also showed that the being of the substance

itself, as following its non-being, or its non-being, as following its existence, does not take place.

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In other words, a substance itself neither comes to be nor passes away. That principle could also have been put this way: Every change of appearances (every succession of them) is only alteration. For coming to be and passing away of a substance are not alterations of it, because the concept of alteration presupposes one and the same subject existing with two opposite determinations, and therefore persisting.—After this preliminary remark, the proof follows.)

I notice that appearances follow one another. That is, at one time a state of things exists whose opposite existed in the state before. So what I'm really doing is connecting two perceptions in time. But connecting isn't something bare sense and intuition can do. Here it's the product of a synthesizing power of imagination, which fixes inner sense with respect to time. This power can combine the two states in either of two ways, so that either one or the other comes first in time. For time can't be perceived by itself, and so we can't settle, empirically in relation to time as it were, what goes before and what follows in the object. All I'm conscious of is that my imagination sets one state first and the other after. I'm not conscious of one state coming before the other in the object.

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Put differently, mere perception leaves the objective relation of the successive appearances open. For that relation to be recognized as settled, we have to think the relation between the two states in such a way that it settles as necessary which of them must be placed first and which second, and not the reverse. A concept that carries necessity of synthetic unity along with it can be nothing but a pure concept of the understanding. It doesn't lie in perception. Here the concept is that of how a cause relates to its effect. The cause fixes the effect in time as its consequence, rather than as something that might merely come first in imagination (or might not be perceived at all). So experience of appearances, that is, empirical cognition of them, is possible only because we subject the suc-

cession of appearances, and with it every alteration, to the law of causality. And that means appearances themselves can be objects of experience only under that same law.

Apprehension of the manifold of an appearance always goes step by step. The representations of the parts come one after another. Whether the parts also come one after another in the object is a separate matter for reflection, and the first doesn't include it. We can, of course, call anything an object, even any representation, so long as we're conscious of it.

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But what the word means when applied to appearances takes deeper study. We're not asking about appearances as objects in the sense of being representations. We're asking what it means to say they designate an object. As mere representations that are also objects of consciousness, they're no different from apprehension, which is their being taken into the synthesis of imagination. So the manifold of appearances, we have to say, gets produced in the mind step by step, every time. If appearances were things in themselves, nobody could infer, from the order in which the representations of their manifold arrive, how it is combined in the object. We only ever deal with our own representations. How things in themselves might be (apart from the representations by which they affect us) is completely outside our sphere of cognition. Appearances aren't things in themselves, though they're all that can be given to us to cognize. So I have to say how the manifold is combined in time within the appearances themselves, even though our representation of it in apprehension is always step by step. Take a house standing in front of me. Apprehending the manifold in its appearance goes step by step. Now, is the manifold of the house also step by step in itself? Of course no one will say so.

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But once I push my concepts of an object up to the transcendental meaning, the house is not a thing in itself at all. It's only an appearance, which is to say a representation, and its transcendental object is unknown. So what is the question really asking when it wants to know how the manifold in the appearance itself (which is nothing in itself) might be combined? Here what lies in the suc-

cessive apprehension counts as representation. The appearance that's given to me, though it's nothing more than a sum of those representations, counts as their object. My concept, which I pull out of the representations of apprehension, is supposed to agree with that object. We see quickly that agreement of cognition with its object is truth. So all we can ask about here is the formal conditions of empirical truth. Appearance, set against the representations of apprehension, can be represented as their distinct object only if it falls under a rule. That rule sets it apart from any other apprehension, and it makes one way of combining the manifold necessary. Whatever in the appearance carries the condition for this necessary rule of apprehension, that is the object.

Now back to our task. Something happens when something, or some state, comes to be that wasn't there before.

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We can't perceive that empirically unless an earlier appearance exists that doesn't contain the state. For a reality following an empty time, a coming to be that no state of things precedes, can be apprehended no more than empty time itself. So any apprehension of an event is a perception that follows another one. But every synthesis of apprehension is like that, as the house example showed earlier. So this doesn't yet set it apart from other apprehensions. Something else, though, I do notice. Take an appearance that involves something happening. Call the earlier state of the perception A and the later one B. B can then only follow A in apprehension. Perception A can't follow B; it can only come before it. For example, I see a ship floating downstream. My perception of its position farther down follows my perception of its position farther up the river's course. And in apprehending this appearance it's impossible to perceive the ship first lower down and afterward higher up. The order in which perceptions succeed each other in apprehension is therefore fixed here, and apprehension is bound by it. In the earlier house example, my perceptions could start at the top and finish at the ground.

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They could just as well start from the bottom and finish at the top, or take in the manifold of empirical intuition from the right or from the left. No fixed order in the series of these perceptions made it necessary for me to begin at one point rather than another in order to combine the manifold empirically. But when I perceive something happening, this kind of rule is always found. It makes it necessary that these perceptions succeed each other in a set order as this appearance is apprehended.

So in our case I have to derive the subjective sequence of apprehension from the objective sequence of the appearances. Otherwise the subjective sequence is wholly undetermined and doesn't tell any appearance from another. By itself it proves nothing about how the manifold is connected in the object, because it's entirely arbitrary. The objective sequence will therefore be found in the order of the manifold of the appearance. By that order, apprehending the one (what happens) follows, by a rule, apprehending the other (what precedes). Only then am I entitled to claim something about the appearance itself, and not just about my apprehension: that there's a sequence in the appearance. That amounts to saying I can't carry out the apprehension in any order but this very one.

So, by a rule of this kind, what precedes an event has to contain the condition for a rule.

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It is a rule by which that event follows always and of necessity. The reverse doesn't hold. I can't go back from the event and fix (by apprehension) what precedes it. For no appearance returns from a later point of time to an earlier one, even though it does refer to some earlier one. Going forward from a given time to the determinate time after it, on the other hand, is necessary. Because something does follow, I must relate it of necessity to something else in general that comes before, and which it follows by a rule, that is, of necessity. In this way the event, as the conditioned, gives reliable direction to some condition, and the condition determines the event.

Suppose nothing came before an event that it was bound to follow by a rule. Then every sequence in perception would lie only in apprehension. It would be merely subjective, and it would settle nothing objectively about which of the perceptions has to be the earlier and which the later. We would have nothing but a play of representations related to no object. Our perception wouldn't set one appearance apart from another as regards time relation. The reason is that the succession in apprehending is the same everywhere, so nothing in the appearance determines it.

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Nothing makes any given sequence objectively necessary. So I won't say that two states follow each other in the appearance. I'll say only that one apprehension follows another. That's merely subjective. It determines no object, and so it can't pass for cognition of any object (not even of one within appearance).

Whenever we experience something happening, we presuppose that there is something earlier which it follows by a rule. Without that, I wouldn't say the object follows. A bare sequence in my apprehension, not fixed by a rule in relation to something earlier, gives no right to claim a sequence in the object. So I always act with a rule in view: the rule by which appearances, in their order of succession (which is to say, as they take place), are determined by the previous state. That's how I give objective status to my subjective synthesis (the one belonging to apprehension). And only on this presupposition is it possible even to experience something that happens.

This does seem to clash with every remark ever made about how our understanding proceeds. According to those remarks, we are led to a rule only by perceiving and comparing the matching sequences of many events after earlier appearances.

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That rule says certain events always follow certain appearances, and it's what first prompted us to form the concept of cause. If so, the concept would be merely empirical. The rule it provides, "whatever happens has a cause," would be as much a matter of chance as experience itself. Its universality and necessity would be made up, with no true general validity, since they would rest on

induction and not on anything a priori. But this is how it goes with other pure representations a priori too (space and time, for instance). We can extract these from experience as clear concepts only because we'd already put them into it, and so brought experience about through them in the first place. Granted, the logical clarity of the idea, a rule that governs the course of events, taken as the concept of cause, is possible only after we've used it in experience. But taking account of such a rule, as the condition for the synthetic unity of appearances in time, is what grounded experience in the first place. So it came before experience, a priori.

What matters, then, is to show with an example that even in experience we ascribe the sequence of an event (where something happens that wasn't there before) to the object only under one condition.

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We distinguish it from the subjective sequence of our apprehension only when a rule lies at the base. This rule forces us to follow this particular order of perceptions rather than any other. And in fact this compulsion is what first makes it possible to represent a succession in the object.

Representations exist in us, and we can become conscious of them. However far this consciousness reaches, and however exact or precise it is, they still remain only representations: inner determinations of our mind within one time relation or another. How, then, do we get to positing an object for these representations? How do we give them an objective reality beyond their subjective reality as modifications, though I couldn't say what kind? Objective meaning can't consist in a relation to another representation (one of the sort we'd call a representation of the object). If it did, the question would simply return: how does that representation, in turn, step outside itself and gain objective meaning beyond the subjective meaning that belongs to it as a determination of a state of mind? Suppose we examine what new quality our representations receive from being related to an object, and what rank they acquire by that. We find it does nothing more than make the combination of the representations necessary in a certain way, and put them under a rule.

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And conversely, they get objective meaning only because a certain order in the time relation of our representations is necessary.

When appearances are synthesized, the manifold of representations always arrives one item after another. No object is represented by that alone, since this sequence is common to all apprehensions and sets nothing apart from anything else. But suppose I perceive, or take for granted, that this sequence involves a relation to the earlier state, from which the representation follows by a rule. Then something presents itself as an event, as something that happens. In other words, I cognize an object, and I have to put it at a certain determinate place in time. Given the earlier state, that place can't be assigned to it any other way. So when I perceive that something happens, that representation holds, to begin with, the thought that something comes before. After all, it's in relation to that earlier something that the appearance gets its time relation: to exist after a prior time in which it wasn't. But it can get its determinate place in time within this relation only if something is presupposed in the earlier state which it always follows, that is, follows by a rule. From this we get two results. First, I can't turn the series around and put what happens ahead of what it follows.

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Second, once the earlier state is posited, this determinate event inevitably and necessarily follows. The upshot is that an order arises among our representations. In that order, the present (as something that has come to be) points back to some earlier state, as a correlate (still undetermined) of this given event. That correlate, however, relates to the event as its consequence, determining it, and connects it of necessity with itself in the series of time.

Suppose our sensibility is under a necessary law, and so a formal condition of all perceptions: the earlier time necessarily determines the later one (I can only reach the later time by going through the earlier). Then it is also an indispensable law for how we represent the series of time empirically. Appearances from past time fix whatever exists in the time that follows. And those later appearances, as events, occur only to the extent that the earlier ones fix their existence in time, that is, settle it by a rule. For it is only in the appearances that we can recognize this continuity in how times connect empirically.

Understanding is part of all experience and of its possibility. Its first contribution is not to give objects distinct representations, but to make representing an object possible at all. Here's how it does that.

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It carries the order of time over to appearances and to their existence. It assigns each appearance, as a consequence, a place in time fixed a priori in relation to the earlier appearances. Without such a place the appearance wouldn't match time itself, which fixes the place of all its parts a priori. This fixing of place can't be taken over from the way appearances relate to absolute time (that is no object of perception). It works the other way around: appearances have to fix each other's places in time itself, and make those places necessary in the order of time. In other words, whatever follows or happens must follow, by a general rule, what the earlier state contained. This gives a series of appearances. By means of the understanding, the series produces in the sequence of possible perceptions the same order and unbroken connection that we find a priori in time, the form of inner intuition, where all perceptions would have to have their places, and it makes that order necessary.

So the fact that something happens is a perception belonging to a possible experience. It becomes actual when I treat the appearance as fixed in its place in time, and thus as an object one can always come upon, by a rule, in the connection of perceptions.

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This rule for fixing something in the time sequence is as follows: the condition under which the event always follows (that is, follows of necessity) is to be found in what comes before. The principle of sufficient reason, then, is the ground of possible experience, that is, of objective cognition of appearances as regards how they relate in the order of time.

The proof of this proposition rests on just these points. All empirical cognition involves the synthesis of the manifold by imagination, and that synthesis always works in sequence. That is, representations always come one after another in it. But imagination doesn't fix the order of the sequence at all (what has to come first and what has to follow), and a series of representations can be run through

backward as easily as forward. Now if this synthesis is a synthesis of apprehension, covering the manifold of a given appearance, the order is settled in the object. More exactly, it contains an ordering of the step-by-step synthesis, and that ordering determines an object. By that order, one thing has to come first, and when it is posited, the other has to follow of necessity. For my perception to hold cognition of an event, where something truly happens, it has to be an empirical judgment. In it we think of the sequence as fixed.

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That is, we think of it as presupposing another appearance earlier in time, which it follows of necessity, or by a rule. Otherwise, if I posited the earlier thing and the event didn't have to follow it, I'd have to take the event for a subjective play of my imaginings. And if I still pictured something objective in it, I'd have to call it a mere dream. So the relation of appearances (as possible perceptions), by which what follows (what happens) is determined in its existence by something earlier, necessarily and by a rule in time, is the relation of cause to effect. It is the condition under which our empirical judgments about the series of perceptions have objective validity, and so empirical truth, and thus experience. For this reason the principle that governs causal relations within the sequence of appearances holds for all objects of experience as well (under the conditions of succession). It is itself the ground of what makes such experience possible.

A further worry comes up here, and it has to be cleared away. In our formula, the proposition of causal connection among appearances is limited to their sequence. Yet when we use it we find it fits their accompaniment too, so that cause and effect can be simultaneous. For instance, a room is warm. The open air is not.

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I search for the cause and come upon a heated stove. Now the stove is the cause, and it exists at the same time as its effect, the warmth in the room. So there is no sequence in time here between cause and effect. They are simultaneous, and the law still applies. Most efficient causes in nature coexist with their effects. The effects follow each other in time only because a cause can't complete its

whole effect in a single instant. But at the instant it first arises, an effect is always simultaneous with its cause's causality, because if the cause had stopped being even an instant sooner, the effect would never have come about. We must keep in mind that what counts is the order of time, not its running out. The relation holds even if no time has gone by. The gap in time between the cause's causality and the effect that follows right away may shrink to nothing (so they're simultaneous), yet how one stands to the other can still always be fixed in time. A ball lies on a stuffed cushion and presses a dimple into it. If I treat the ball as cause, it's simultaneous with its effect. Still, I tell them apart by the time relation in their dynamic connection. For when I put the ball on the cushion, the dimple follows the cushion's earlier smooth shape.

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But if the cushion has a dimple (I don't know how), no lead ball follows.

So succession in time is, after all, the only empirical criterion for telling an effect, in terms of the causality of the cause that comes before it. The glass causes the water to climb above its level surface, even though the two appearances occur together. For the moment I scoop water out of a larger container with the glass, something results: the horizontal level the water had there changes into the concave one it takes on in the glass.

Causality leads to the concept of action, action leads to the concept of force, and through force we arrive at the concept of substance. My critical project goes only to the sources of synthetic cognition a priori. I don't want to burden it with analyses that only clarify concepts (and don't extend them). So I leave the detailed treatment of them to a future system of pure reason. Such analysis is, after all, abundantly available even in the textbooks of this kind that we already have. But I can't pass over the empirical criterion of a substance, to the extent that substance seems to show itself not through the appearance's persistence but better and more easily through action.

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Where there is action, and so activity and force, there is also substance, and that is where the seat of this fruitful source of appearances has to be looked for. That's well put. But if you must explain what you mean by substance, and

want to avoid a bad circle, the answer isn't so easy. How can anyone conclude straight from action to the persistence of the one who acts, which is such an essential and distinctive mark of substance (phaenomenon)? Given what we've said before, though, answering the question isn't so hard, even though by the ordinary method (dealing with your concepts merely analytically) it would be impossible. Action already means how the subject of causality stands toward the effect. Every effect consists in what happens, and so in what can change, marking time by succession. So the ultimate subject of the effect is what lasts, the substratum of everything changing, that is, substance. For the principle of causality makes actions the original ground of every change among appearances. They can't, then, reside in a subject that itself changes, because other actions, and another subject to determine that change, would be needed. By virtue of this, action proves substantiality as a sufficient empirical criterion.
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I don't have to go looking first for the subject's persistence through compared perceptions. That wouldn't even work well this way, given the thoroughness that the scale and strict universal validity of the concept demand. For it is a secure conclusion that the first subject of the causality of all coming to be and passing away cannot itself come to be or pass away (in the field of appearances). That conclusion ends up at empirical necessity and persistence in existence, and so at the concept of a substance as appearance.

When something happens, the mere coming to be, leaving aside what comes to be, is already an object of investigation in itself. The passage from the nonbeing of a state to that state, even supposing the state held no quality in the appearance, needs investigating all on its own. As the discussion under A showed, this coming to be does not touch the substance (which doesn't come to be) but its state. It is merely alteration, and not origin from nothing. If this origin is regarded as the effect of a foreign cause, it's called creation. Creation can't be allowed as an event among appearances, because its mere possibility would wreck the unity of experience. It's different if I consider all things as things in themselves instead of as phenomena.
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And I may regard them as objects of the mere understanding. Then, although they are substances, they can still be seen as dependent on a foreign cause for their existence. But that would bring in entirely different meanings of words, and it wouldn't fit appearances, as possible objects of experience.

How anything at all can be altered, and how a state at one point of time can be succeeded by its opposite at a different point: of that we have not the slightest concept a priori. We'd need knowledge of actual forces for that, and such knowledge can only be given empirically. Moving forces are an example, or what comes to the same, certain successive appearances (motions) that point to such forces. But the form of any alteration is another matter. By form I mean the condition under which alone alteration can occur as the coming to be of another state (no matter what its content is, that is, no matter which state is being altered). This form, and with it the succession of the states themselves (what has happened), can be examined a priori, using the causal law and the conditions that time imposes*.

* Notice that I'm not talking about alteration of certain relations in general, but about alteration of state. So a body that moves uniformly doesn't alter its state (of motion) at all, but it does if its motion speeds up or slows down.

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When a substance goes from a state a to another state b, the point of time of the second state differs from that of the first, and comes after it. Likewise the second state differs from the first, in which reality (in appearance) was missing, just as b differs from zero. So even if state b differed from a only in size, the alteration would be the arising of b-a, which was not in the previous state, and relative to which that state is = 0.

So the question is how a thing goes from a state = a to another state = b. Between two instants there's always some time. Between two states at those instants there's always a difference, and it has a magnitude (every part of an appearance is itself a magnitude). Every transition from one state to another therefore happens in a stretch of time lying between two instants. The earlier instant settles which state the thing is leaving, the later one which state it reaches. Both are therefore boundaries of the time an alteration takes, and so also of

the state in between them. As such, they belong to the alteration as a whole. Now every alteration has a cause, and the cause shows its causality throughout the whole time the alteration goes on. So the cause doesn't produce its alteration abruptly (at once, in one instant). It produces it in time.

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While time runs on from the opening instant a until it is complete in b, the magnitude of the reality (b-a) is likewise being generated, passing through all the smaller degrees between the first and the last. Every alteration is therefore possible only through the continuous action of causality. When that action is uniform it's called a moment. The alteration doesn't consist of such moments. It is produced by them, as their effect.

This is the law of continuity of all alteration. Its ground is this. Neither time nor an appearance within time is made of smallest parts. And yet the thing's state, as it alters, passes through all these parts, like elements, on its way to the second state. In the real of appearance there is no smallest difference, and in the magnitude of times there is none either. That's how the new state of reality develops out of the first, where it was absent, through every one of its infinitely many degrees. The gaps between these degrees are each smaller than the gap between 0 and a.

What use this proposition may have in the study of nature is no business of ours here. But how such a proposition can be possible entirely a priori, when it seems to extend our cognition of nature so far, calls for close examination. That's so even though it's plain to see that the proposition is real and correct.

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And so one might think one need not ask how it was possible. For there are so many baseless claims to extend our cognition by pure reason that we must take it as a general principle to be deeply suspicious. Without documents that can supply a thorough deduction, we must neither believe nor accept anything like that, not even when the dogmatic proof is as clear as can be.

Our empirical cognition never grows, and perception never advances, except by extending the determination of inner sense. That is a progress through time, whatever the objects are, appearances or pure intuitions. This progress deter-

mines everything, and nothing further determines it. That is, its parts exist only in time, and only by being synthesized. They aren't given ahead of that synthesis. So whenever perception moves on to something later in time, time gets determined, because the perception is being produced. Time is always a magnitude, and so are all its parts. So what is produced is a perception that has magnitude, built up through every degree from zero to the degree it finally has. None of those degrees is the smallest. That shows how we can cognize a law of alterations a priori, as far as its form goes.

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We only anticipate our own apprehension, whose formal condition is there in us before any appearance is given, so we must be able to cognize it a priori.

Time carries the sensible a priori condition that makes it possible to move continuously from what exists to whatever comes next. The understanding does the same kind of job. By way of the unity of apperception, it carries the a priori condition for a continuous determination of every position that appearances can take in this time. It does this through the series of causes and effects. A cause always draws its effect's existence after it. That is how empirical cognition of time relations becomes valid for any time at all, that is, universally, and so objectively valid.

C. Third Analogy

Principle of Simultaneity, by the Law of Interaction, or Community

All substances, in so far as we can perceive them in space as existing at the same time, are in thoroughgoing interaction.

Proof

Simultaneity is what we have when, in empirical intuition, perceiving one thing can be followed by perceiving the other, and the reverse.

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(In the temporal sequence of appearances this can't happen, as the second principle showed.) So I may begin by perceiving the moon and move on to the earth, or begin with the earth and move on to the moon. These perceptions can follow each other in either direction. That's why I say the two exist at the same time. Now simultaneity is the existence of a manifold in the same time. But

time itself can't be perceived. So I can't see that things are placed in the same time and conclude from it that perceptions of them can follow each other either way. Imagination's synthesis in apprehension would give me only this: each perception is present in me while the other is absent, and the reverse. It wouldn't tell me that the objects are simultaneous. That would mean: when one exists, the other exists in the same time, and it has to be so, or the perceptions couldn't follow each other both ways. So a concept of the understanding is needed. It must be about the reciprocal sequence of determinations in these things, which exist together though outside one another. With it we can say that the two-way sequence of perceptions has its basis in the object, and so represent the simultaneity as objective. Now consider a relation between substances in which one contains determinations.

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The ground of those determinations is contained in the other. That is the relation of influence. And when the second in turn contains the ground of determinations in the first, the relation is community, or interaction. So experience can recognize substances in space as simultaneous only if we presuppose that they interact. That interaction is therefore also the condition for the things themselves to be possible as objects of experience.

Simultaneous things exist in one and the same time. How do we know they do? By this test: it must make no difference in what order the synthesis of apprehension runs through this manifold. We might go from A through B, C and D to E, or just as well from E back to A. Suppose instead the things came one after another in time, in the order that starts at A and ends at E. Then we couldn't start apprehension with the perception of E and go back to A. A already belongs to past time. So it can't be an object of apprehension any more.

Now suppose a manifold of substances taken as appearances, with every one of them fully isolated. None acts on any other, and none gets influences back from another. I say then that nobody could ever perceive that they exist together.

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And no path of empirical synthesis could lead from one's existence to another's. Imagine them cut off from each other by completely empty space. A perception that travels in time from one to the other could, with a later perception, fix the second one's existence. But it couldn't tell apart two cases: the second appearance objectively comes after the first, or it is rather simultaneous with it.

Besides bare existence, then, something else must be there. Through it A fixes B's place in time, and B fixes A's. Only so can substances we think of as co-existing be represented in empirical terms as existing together. Now one thing fixes another's place in time only by being a cause, either of that other or of its determinations. So each substance (a substance can be a consequence only with regard to its determinations) has to hold two things. It must exercise causality over certain determinations in the other, and it must take in the effects of the other's causality. In short, they must be in dynamic community, directly or indirectly, if their being simultaneous is ever to be cognized in some possible experience. Now whatever objects of experience can't do without, if experience of them is to be possible, is necessary for them.

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So all substances in appearance, in so far as they are simultaneous, necessarily stand in thoroughgoing community of interaction with one another.

The word "community" is ambiguous in our language. It can mean communio, a sharing in common, but it can also mean commercium, an exchange. Here we use it in the second sense, as a dynamic community. Without that, even the community of place (communio spatii) could never be cognized empirically. It's easy to see from our experiences that only continuous influences at every point of space can lead our sense from one object to another. The light that plays between our eye and the heavenly bodies produces an indirect community between us and them, and so proves that they exist at the same time. We can't change our place empirically (that is, perceive the change) unless matter everywhere makes it possible to perceive where we are. And this matter can show its own simultaneity, and so the coexistence of even the most distant objects (though only indirectly), only by means of its reciprocal influence. If

there were no community, each perception (of an appearance in space) would break off from the next. The chain of empirical representations that we call experience would start from scratch with every new object.

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Nothing earlier would connect with it even slightly, or stand in any time relation to it. I don't mean to refute empty space by this. It can exist wherever perceptions don't reach, so that no empirical cognition of simultaneity takes place. But then, for all our possible experience, it is no object at all.

An illustration may help. In our mind, every appearance that belongs to a possible experience must stand in community of apperception (communio). If objects are to be represented as connected and existing together, they must also fix each other's places in a single time, and so form a whole. Now suppose that this community in the subject is to have an objective ground, or to apply to appearances taken as substances. Then the perception of one must make the perception of the other possible, as its ground, and the same the other way round. That is so that the succession always present in perceptions, as apprehensions, isn't ascribed to the objects, and the objects can instead be represented as existing together. But that is a reciprocal influence, that is, a real community (commercium) of substances. Without it, experience couldn't contain the empirical relation of simultaneity.

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Through this commercium, appearances that are outside one another and still connected form a composite (compositum reale). Composites like this become possible in many ways. The three dynamic relations that all others come from are therefore inherence, consequence and composition.

* * *

That makes three analogies of experience. All they do is give principles for determining how appearances exist in time. They cover time's three modi (modes). The first is how an appearance stands to time itself, taken as a magnitude: the magnitude of existence, which is duration. The second is how appearances stand to one another in time, taken as a series: one after another. The third is how they stand in time taken as the sum of all existence: at the same

time. This unity of time-determination is dynamic through and through. That is, we don't treat time as something in which experience can directly assign each existing thing its place. That can't be done, since absolute time is no object of perception, so there is nothing to hold appearances up against. Instead it is the rule of the understanding that gives each appearance its place in time. Only by this rule can the existence of appearances take on synthetic unity according to time relations. So the rule works a priori, and it is valid for every time, whichever one.

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When we speak of nature (in the empirical sense), we mean appearances as linked together in their existence by necessary rules, that is, by laws. So certain laws, and a priori ones, are what first make a nature possible. Empirical laws operate and can be found only through experience, and only in line with those original laws, which are what first make experience possible. What our analogies really show, then, is nature's unity, in the way all appearances hang together, expressed through certain exponents. Each exponent says only how time (in so far as it takes in all existence) relates to the unity of apperception, which can exist only in synthesis by rules. Taken together, the analogies say this: all appearances lie within one nature, and must. Without that unity a priori, experience could have no unity, and objects within it could not be determined.

A remark is needed about the kind of proof we used for these transcendental laws of nature, and what is special about it. The remark should also be very important as a guide for anyone who tries to prove an a priori proposition that is both intellectual and synthetic. Suppose we had wanted to prove the analogies dogmatically, that is, from concepts. We would have had to prove that everything that exists is found only in what persists.

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We would have had to prove that every event presupposes something in the earlier state, on which it follows by a rule. And we would have had to prove that in a manifold of coexisting things the states are simultaneous with respect to each other by a rule (they stand in community). All that effort would have been entirely wasted. From one object and its existence, we can never reach the exis-

tence of another, or its way of existing, by means of the mere concepts of these things. It makes no difference how we take them apart. So what did we have left? The possibility of experience, a cognition in which every object must finally be able to be given to us, if our representation of it is to have objective reality. The essential form of this third thing is the synthetic unity of apperception across all appearances. In it we found a priori conditions for determining time thoroughly and necessarily for all existence in appearance. Without them, no empirical determination of time could be made either. We also found rules of a priori synthetic unity, which let us anticipate experience. People lacked this method. They also imagined they could prove dogmatically the synthetic propositions that the understanding's use in experience recommends as its principles. That is why the principle of sufficient reason has been given proofs so often, and always in vain.

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Nobody thought of the other two analogies, even though people always silently relied on them*, since nobody had the guiding thread of the categories. Only that thread can uncover each gap the understanding has, whether in its concepts or in its principles, and make the gap visible.

* The unity of the whole world, in which all appearances are supposed to be connected, is plainly just a conclusion from the principle of community among all coexisting substances, which has been assumed in secret. If substances were isolated, they would not form a whole as its parts. And suppose their connection (the manifold's interaction) were not necessary already, for the sake of simultaneity. Then we couldn't reason from simultaneity, a merely ideal relation, to that connection as a real one. Still, we showed in its place that community is really the ground of the possibility of empirical cognition of coexistence. So what we are actually doing is to infer back from that cognition to community, which is its condition.

4 The Postulates of Empirical Thinking in General

1 What fits the formal conditions of experience, as regards both intuition and concepts, is possible.

2 [B 266]
Whatever connects with experience's material conditions (sensation) is actual.

3 Whatever has its connection with the actual determined by the general conditions of experience is (exists) necessarily.
Explanation
The categories of modality have one special trait. When they are attached to a concept as predicates, they add nothing to it as a determination of the object. They only express how the concept stands toward the faculty of cognition. Even if a thing's concept is already complete, I can still ask whether the thing is merely possible, or actual too, and if actual, whether it's even necessary. No further determinations of the object itself are thought by this. The question is only how the object, with all its determinations, stands toward the understanding and its empirical use; toward the empirical power of judgment; and toward reason, where reason is applied to experience.
That is exactly why the principles of modality only explain what possibility, actuality and necessity mean when they are applied in experience. They also restrict every category to merely empirical use, and they refuse to allow any transcendental use.
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For if these concepts aren't meant to be merely logical, expressing the form of thinking in an analytic way, but are meant to be about things and about their possibility, actuality or necessity, then they have to point to possible experience, and to the synthetic unity found there. That is the only place where objects of cognition are given.
So the postulate of the possibility of things asks for this: a thing's concept must fit the formal conditions of experience in general. Those conditions are the objective form of experience in general, and they hold all the synthesis that cognizing objects takes. Any concept that takes a synthesis into itself must count as empty, and it refers to no object, unless the synthesis belongs to experience. There are two ways it can. Either the synthesis is borrowed from experience, and then we call the concept empirical. Or it is a synthesis on which experience

as such (its form) depends, as an a priori condition. Then the concept is pure, yet it still belongs to experience, since its object can be met with only there. After all, where would we find the mark of possibility for an object that we think through an a priori synthetic concept? It could only come from the synthesis that forms the empirical cognition of objects. It is true that a concept like this has to be free of contradiction.

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That is a necessary logical condition. But it falls far short of what objective reality needs, I mean the possibility of an object like the one the concept thinks. Consider a figure bounded by two straight lines. Its concept has no contradiction in it. The concepts of two straight lines and of their coming together contain no negation of a figure. The impossibility lies elsewhere. It is not in the concept itself but in constructing it in space, that is, in the conditions of space and how space is determined. Those conditions have objective reality in their turn. They relate to possible things, since they contain the form of experience as such a priori.

Now let's see how far this postulate of possibility reaches and what difference it makes. I might picture a thing that persists, so that all its changes belong only to its state. From that concept alone, I could never cognize that such a thing is possible. Or I might picture something built so that, once it is posited, something else always follows without fail. There is surely no contradiction in thinking that. But it tells me nothing about whether any possible thing has such a property (causality). Or, last, I might picture several things (substances).

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They would be made so that the state of one brings a consequence in the state of another, and the reverse. Whether things can stand in such a relation cannot be read off these concepts at all, since the synthesis in them is merely arbitrary. The only way to recognize the objective reality of these concepts, that is, their transcendental truth, is that they express a priori how perceptions relate in any experience. Of course, cognizing their reality in this way is independent of experience. But it does depend on a relation to the form that any experience has, and to the synthetic unity that alone lets objects be cognized empirically.

Suppose, on the other hand, that we tried to invent brand-new concepts of substances, forces and interactions, out of the material perception offers us, without taking from experience any example of how such things are connected. We would end up with sheer fantasies. Nothing marks their possibility, because we never made experience our teacher or took these concepts from it. Concepts invented like this can't get their mark of possibility a priori, as the categories do, as conditions that all experience depends on. They can get it only a posteriori, as marks that experience itself hands over.

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So their possibility has to be cognized empirically, after the fact, or it can't be cognized at all. Take a substance that is permanently present in space without filling it (the halfway thing between matter and thinking beings that some people wanted to bring in). Or take a fundamental power, special to our mind, of seeing the future ahead of time (not just working it out). Or, finally, take a power of the mind to share thoughts with other people, however far away they are. The possibility of such concepts has no basis whatever. It can't be based on experience and the laws we know from it. Without that basis, each concept is an arbitrary combination of thoughts. No contradiction is in it. But it has no claim to objective reality, and so none to the possibility of an object of the sort we are trying to think here. About reality in particular, it is surely obvious that we should not try to think it concretely without the help of experience. Reality can bear only on sensation, which is the matter of experience. It has nothing to do with the form of the relation, and that form is what one could play games with in fictions.

But I will pass over everything whose possibility can be learned only from its actually showing up in experience. Here I look only at the possibility that things get from concepts a priori.

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On these I go on asserting that their possibility never comes from such concepts by themselves. It always comes only from their serving as formal and objective conditions of experience in general.

It does look as if a triangle's possibility could be known from its concept itself (the triangle is surely independent of experience). After all, we really can give it an object entirely a priori; that is, we can construct it. But that gives us only the form of an object. The triangle would still be nothing but a product of imagination, and whether its object is possible would remain doubtful. For that, something more is needed: the figure must be thought under conditions that all objects of experience rest on, and nothing else. Space is a formal condition of outer experience, and it is a priori. Also, when we build a triangle in imagination, the shaping synthesis we use is entirely the same as the one we use in apprehending an appearance, to form an experiential concept of it. These two facts alone connect the thought of such a thing's possibility with the concept. The same goes for continuous magnitudes, and for magnitudes at all. Their concepts are all synthetic, so their possibility is never clear from the concepts themselves.

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It becomes clear only when the concepts are taken as the formal conditions by which objects get determined in experience at all. And where would we look for objects that match the concepts, if not in experience, which is the only way objects are given to us? Still, we can cognize and describe the possibility of things without first bringing in experience itself. We do it only through the formal conditions under which anything in experience gets determined as an object. That makes it fully a priori. But it holds only in relation to those conditions and inside their boundaries.

To know that things are actual, the postulate demands perception, and with it sensation we are conscious of. It need not be a direct perception of the same object whose existence we are trying to cognize. But the object must be connected with some actual perception, following the analogies of experience, which lay out every real connection within experience at all.

You can't find any mark of a thing's existence in the bare concept of the thing. The concept may be so complete that nothing at all is lacking for thinking the thing with every one of its inner determinations. Existence still has nothing to

do with all of that. It depends only on this: is such a thing given to us, in such a way that perceiving it could come ahead of the concept?

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The concept coming before perception means just that the thing is possible. Perception, which supplies the stuff of the concept, is the one mark of actuality. Still, we can cognize that a thing exists even before we perceive it, and so cognize it a priori in a comparative way. This works whenever the thing is connected with certain perceptions by the principles of empirical connection (the analogies). In that case the thing's existence is connected with our perceptions within a possible experience. With the analogies as guide, we can move from our actual perception to the thing, along the series of possible perceptions. In this way we cognize that a magnetic matter runs through all bodies, from perceiving iron filings being pulled. Our organs make it impossible to perceive this matter directly. Still, under the laws of sensibility, and given how our perceptions fit together, we would meet a direct empirical intuition of it somewhere in experience, if our senses were finer. The coarseness of our senses has no bearing on the form of possible experience at all. So we can cognize that things exist exactly as far as perception and its attachments reach, following empirical laws. Suppose we don't begin from experience.

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Or suppose we don't proceed by the laws of empirical connection among appearances. Then we flatter ourselves in vain when we try to guess or discover that any thing exists. Idealism, though, raises a mighty objection to these rules, which prove existence by indirect means. This is the right place to refute it.

Refutation of Idealism

By idealism I mean the material kind. It is the theory that says objects in space outside us either can only be doubted and can't be proved, or are false and impossible. The first is the problematic idealism of Descartes, which holds just one empirical assertion (assertio) to be beyond doubt: I am. The other is Berkeley's dogmatic idealism, which declares space, along with all the things it is attached to as an inseparable condition, to be something impossible in itself. So it also calls the things in space mere imaginings. Dogmatic idealism cannot

be avoided if we take space to be a property that belongs to things in themselves. Then space and everything it is the condition of would be a non-thing. But we removed the basis for this idealism in the Transcendental Aesthetic. The problematic kind says nothing about that.

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It merely claims that we can't prove an existence beyond our own through immediate experience. This is reasonable, and it suits a thorough philosophical way of thinking, namely to allow no decisive judgment until a sufficient proof has been found. So the proof that is asked for must show that we also have experience of outer things, and not merely imagination. That can hardly be done in any way except by proving that even our inner experience, the one Descartes does not doubt, is possible only if outer experience is presupposed.

Theorem

Mere consciousness of my own existence, though a consciousness that is empirically determined, proves that objects exist in space outside me.

Proof

I am aware that my existence is determined in time. Determining time always presupposes something persistent in perception. That persistent element can't be something in me, because only through it can my existence in time first be determined 1). So perceiving this persistent element requires a thing outside me. A mere representation of such a thing won't do. It follows that my existence in time can be determined only because actual things exist that I perceive outside me.

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Now consciousness in time is, of necessity, combined with consciousness of how this time-determination can be possible. Thus the existence of things outside me, which is the condition of time-determination, is also necessarily combined with it. That is, my consciousness of my own existence is at once an immediate consciousness that other things exist outside me.

[1] Kant's preface to this second edition says the sentence should be changed to read: "But this persistent element can't be an intuition in me. All the grounds that determine my existence and can be found in me are representations. As representations they need something persistent, distinct from themselves, in relation to which their change, and with it my existence in the very time they change in, can be determined."

Remark 1. The proof above shows that idealism's own game is turned back on it, and with better right. Idealism claimed that the only immediate experience is inner. Outer things, it said, are merely inferred from it. But such an inference is shaky, as it always is when we reason from given effects to definite causes. The cause of the representations we ascribe to outer things, perhaps falsely, could lie in us. Here, however, the proof shows that outer experience is in fact immediate*.

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It also shows that only through outer experience is something else possible: not consciousness of our own existence, but the determination of that existence in time, that is, inner experience. Admittedly the representation I am, which expresses the consciousness that can go along with all thinking, immediately includes the existence of a subject. But it is not yet a cognition of the subject, and so not an empirical cognition, that is, not experience. Experience takes more than the thought of something existing. It also takes intuition, in this case inner intuition, in relation to which (time) the subject must be determined. For that, outer objects are altogether required. Inner experience itself is therefore possible only indirectly, and only by way of outer experience.

* The theorem above doesn't presuppose that we are immediately conscious of the existence of outer things. It proves this, whether we can understand how such consciousness is possible or not. The question about its possibility would be this: do we have an inner sense only, with no outer sense, and merely an imagination of outer things? But it is clear that we need an outer sense already, just to imagine something as outside us, that is, to put it before sense in intuition. With that sense, we must be able to tell directly between two things: an

outer intuition, which merely receives, and the spontaneity that marks every act of imagination. For imagining even an outer sense would wipe out the very capacity for intuition that imagination is supposed to determine.

Remark 2. Everything our faculty of cognition does with experience, when it determines time, agrees perfectly with this. Time can be determined only by way of change in outer relations (motion), measured against something that persists in space (the sun's motion, for instance, against the objects of the earth).

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Beyond that, we have nothing persistent at all that could stand under the concept of a substance as its intuition, other than matter. And this persistence is not taken from outer experience either. It is assumed a priori, since every time-determination needs it as a condition. That means it is also assumed as the way inner sense gets determined, for our own existence, by way of the existence of outer things. When I am conscious of myself in the representation I, that is not an intuition. It is an intellectual representation only, of a thinking subject acting by itself. So this I has no predicate of intuition at all that could be persistent and serve as the correlate for time-determination in inner sense. Take impenetrability in matter, which is an empirical intuition: that is the kind of predicate I mean.

Remark 3. For a determinate consciousness of ourselves to be possible, outer objects have to exist. That does not mean every intuitive representation of outer things includes their existence. Such a representation may be nothing but a product of imagination, as in dreams and in madness. Even so, imagination produces it only by reproducing earlier outer perceptions, and, as we have shown, those are possible only because outer objects are actual. What had to be proved here was only this: inner experience at all is possible only through outer experience at all.

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Whether this or that supposed experience is really just imagination has to be settled by looking at its particular determinations and by holding it up to the criteria of all actual experience.

* * *

Now the third postulate. It is about material necessity in existence, not the merely formal, logical necessity that holds in how concepts are connected. We can never cognize any existence of objects of the senses entirely a priori. We can cognize it comparatively a priori, in relation to some other existence that is already given. Even then, what we reach is only an existence that has to lie somewhere in the experience-context to which the given perception belongs as a part. So necessity of existence is never something we learn from concepts. We learn it only from its connection with what is perceived, following the general laws of experience. And in that way only one existence can be cognized as necessary, given other appearances: the existence of effects, from causes that are given, according to laws of causality. So what we can cognize as necessary is never the existence of things (substances) themselves. It is the existence of their state, and that alone.

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We come to know it from other states that perception gives us, by way of the empirical laws of causality. This means the criterion of necessity lies entirely in the law of possible experience: whatever happens is determined a priori in appearance by its cause. The only necessity we can cognize in nature, then, is that of effects whose causes are given to us. The mark of necessity in existence stops where possible experience stops. Even inside that field it does not hold of the existence of things as substances, because we can never see substances as empirical effects, as something that happens and arises. Necessity thus concerns only how appearances relate under the dynamic law of causality. It also concerns the possibility, which rests on that law, of inferring a priori from one given existence (a cause) to another (its effect). Everything that happens is hypothetically necessary. That principle puts change in the world under a law. In other words, it puts it under a rule of necessary existence, and without such a rule there would not even be a nature. So here is an a priori law of nature: nothing comes about through mere blind accident (in mundo non datur casus). So is this one: no necessity in nature is blind; it is conditioned, and therefore intelligible, necessity (non datur fatum). Both of these are laws.

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Through them the play of alterations is brought under a nature of things (as appearances). Or, to say the same, they bring it under the unity of the understanding, since only there can alterations belong to an experience, which is the synthetic unity of appearances. Both principles are among the dynamic ones. The first really follows from the causality principle (among the analogies of experience). The second falls under modality's principles. Those add to the determination by cause the concept of necessity, which stands under a rule of the understanding. The principle of continuity ruled out any leap in the series of appearances (alterations): in mundo non datur saltus. It also ruled out any gap or chasm between two appearances in the whole of empirical intuitions in space: non datur hiatus. The proposition can be put this way: nothing that would prove a vacuum, or merely allow one as part of the empirical synthesis, can come into experience. What about emptiness that one might think of beyond the field of possible experience (the world)? That does not come under the jurisdiction of the mere understanding. The understanding decides only questions about using given appearances for empirical cognition. Emptiness is a task for ideal reason, which steps out past the sphere that possible experience covers.

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It wants to judge what surrounds and bounds that sphere, and so emptiness has to be weighed in the Transcendental Dialectic. We could easily set out all four of the propositions here (in mundo non datur hiatus, non datur saltus, non datur casus, non datur fatum), like all principles of transcendental origin, in an order that follows the order of the categories, and prove each one's place. But a practiced reader will do this alone, or will easily find the guiding thread. All four serve a single aim: to admit nothing into the empirical synthesis that could harm or cut into the understanding, or the way all appearances hang together without a break, which is the unity of its concepts. For only in the understanding is the unity of experience possible, the unity in which every perception must have its place.

Is the field of the possible larger than the field that holds everything actual? And is that field in turn larger than the stock of what is necessary? These are neat questions, and their solution would be a synthetic one. But they too come only under reason's jurisdiction. They ask, more or less, whether all things as appearances belong together to the totality and context of one single experience, so that every given perception is a part of it and could not be combined with any other appearances.

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Or they ask if my perceptions may be spread over more than one possible experience (as connected in general). The understanding supplies a priori only the rule for experience as such. That rule follows from the subjective, formal conditions, both of sensibility and of apperception, which alone make experience possible. Other forms of intuition (besides space and time) might be possible, and so might other forms of understanding (besides the discursive one of thinking, or of cognizing through concepts). Yet we can neither think them up nor make them comprehensible to ourselves in any way. And even if we could, they would not belong to experience, which is the only cognition where objects are given to us. Might there be perceptions beyond all that belongs to our possible experience, and so a wholly different field of matter? The understanding can't decide that. The only thing it deals with is the synthesis of whatever is given. In other respects the poverty of our ordinary inferences stands out: by them we produce a vast realm of the possible, and everything actual (every object of experience) is supposed to be only a small part of it. Everything actual is possible. By the logical rules of conversion, it follows quite naturally that the merely particular proposition holds: some things possible are actual.

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That seems to mean: many things are possible that are not actual. It also looks as if one might simply say that the number of the possible exceeds the number of the actual, because something must be added to the possible to make the actual. But I know of no such addition to the possible. Whatever was to be added to it would be impossible. Only to my understanding can something be added beyond fitting the formal conditions of experience, namely a connection

with some perception. If something is connected with a perception by empirical laws, it is actual, though nobody perceives it directly. But what is given gives us no way to infer that some other series of appearances is possible, one in thoroughgoing connection with what my perception supplies, and so more than a single experience embracing everything. Even less can we infer it when nothing is given at all, since without material nothing can be thought anywhere. Something that is possible just on conditions which are themselves only possible is not possible in every respect. But that is the sense in which the question is meant, when we want to know whether the possibility of things reaches further than experience does.

I touched on these questions merely so that nothing would be missing from what, in common opinion, counts among the concepts of the understanding.

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In fact absolute possibility, which holds in every respect, is not a mere concept of the understanding, and cannot have empirical use in any way. It belongs to reason alone, and reason reaches past any empirical use the understanding could possibly have. So here we had to be satisfied with a critical remark and nothing more. For the rest, we have left the matter in obscurity until we proceed further in the future.

I am closing this fourth part, and with it the whole system of principles of the pure understanding. So I owe the reason why I called the principles of modality postulates. I don't want to take the word here as some recent philosophical authors have taken it. They go against the mathematicians, to whom the word really belongs. For these writers, to postulate means to offer a proposition as immediately certain, with no justification or proof. For suppose we had to concede this for synthetic propositions, however evident they are: that you may demand unconditional approval for them without any deduction, on the strength of what they themselves declare. Then every critique of the understanding is lost. Bold claims are plentiful, and ordinary belief (which is not a letter of credit) does not turn them away.

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So our understanding would lie open to every delusion. It could not refuse its approval to pronouncements which, though without right, demand in the same confident tone to be admitted as true axioms. So when a determination is added a priori and synthetically to the concept of a thing, a proposition of that kind must unfailingly have a deduction of the legitimacy of its claim added to it, if not a proof.

The principles of modality are not objectively synthetic. The predicates possibility, actuality and necessity don't add anything to the concept they are said of; they put nothing further into the representation of the object. But since they are nonetheless always synthetic, they can be so only subjectively. That is, they add something to the concept of a thing (a real thing), though otherwise they say nothing about it. What they add is the faculty of cognition in which the concept arises and has its place. If it is merely connected, within the understanding, with the formal conditions of experience, we call its object possible. If the concept is bound up with perception (sensation, the matter of the senses), and perception, by way of the understanding, determines it, the object is actual. Suppose the connection of perceptions determines it, according to concepts.
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Then the object is called necessary. So the principles of modality say nothing about a concept except the act of the faculty of cognition that produces it. Now in mathematics, the word postulate means a practical proposition. It contains only the synthesis by which we first get ourselves an object and generate its concept. One example is to draw a circle on a plane, starting from a given point, with a given line. A proposition of this kind can't be proved, because the procedure it asks for is exactly the way in which we first produce the concept of such a figure. That gives us exactly the same right to postulate the principles of modality. They don't increase their concept of things in general*, but only show how that concept is combined with the faculty of cognition.

* When I say a thing is actual, I posit more than I do by saying it is possible. But the more is not in the thing. A thing can never hold more in its actuality than its complete possibility already held. Rather, since possibility was only a way of

positing the thing with respect to the understanding (its empirical use), actuality at the same time connects the thing with perception.

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General Remark on the System of Principles

Something here deserves special notice. We can't see that any thing is possible just from the bare category. An intuition must always be at hand, because only in it can a pure concept of the understanding show that it has objective reality. Take the categories of relation, for example. 1) How can something exist purely as a subject, without being just a determination of other things? That is, how can it be a substance? Or 2) how can it be that, because something is, something else must be, so that something can be a cause at all? Or 3) when several things exist, how can the existence of one of them have some result for the rest, and the reverse, so that substances can stand in community? None of this can be seen from mere concepts. The same holds for the other categories too. For example, how can one thing be the same as many things together, that is, be a magnitude, and so on? So as long as intuition is missing, we don't know whether we are thinking an object through the categories, or whether any object at all could correspond to them. This confirms that by themselves they are no cognitions at all. They are mere forms of thought, and their job is to turn given intuitions into cognitions.

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—This is also the reason that mere categories can never yield a synthetic proposition. For example: in all existence there is substance, that is, something that can exist only as a subject and not as a mere predicate. Or: each thing is a quantum, and so forth. In such propositions nothing helps us go beyond a given concept and connect another one with it. That is also why every attempt has failed to prove a synthetic proposition out of pure concepts of the understanding alone. One example is the proposition that everything that exists contingently has a cause. Nobody ever got further than showing this: without that relation, we would be unable to grasp the contingent's existence at all. That is, we couldn't cognize a priori through the understanding that such a thing exists. But that does not make the same relation a condition for the things themselves

to be possible. Think back to how we proved the causality principle. You will see that we could prove it only for objects of possible experience: whatever happens (any event whatever) presupposes a cause. And the only way we could prove it was as a principle that makes experience possible, and so makes it possible to cognize an object that empirical intuition gives us. We couldn't prove it from mere concepts. Still, nobody can deny that the saying "anything contingent must have a cause" is plain to everyone from mere concepts.

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In that case, though, we have already built the concept of the contingent so that it contains not the category of modality (what could be thought not to exist) but the category of relation (what can exist only as the consequence of another thing). And then, of course, the proposition is an identical one: anything that can only exist as a consequence has a cause. In fact, whenever we are asked for examples of contingent existence, we always point to alterations, and not just to the possibility of thinking the opposite*. An alteration is an event.

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Taken as an event, it is possible only by way of a cause, so its nonbeing is possible in itself. This is how we recognize contingency: something can exist only as the effect of a cause. So if we assume a thing to be contingent, then "it has a cause" is an analytic proposition.

* We can easily think of the nonexistence of matter, but the ancients didn't infer its contingency from that. Even the alternation of being and nonbeing in a given state of a thing, which is what all alteration consists in, doesn't prove that the state is contingent, as if proving it from the actuality of its opposite. Take a body's rest following motion. That doesn't yet prove the contingency of its motion, on the ground that rest is the opposite of motion. For here the opposite stands against the other only in a logical way, not realiter, in actual fact. To prove the contingency of the motion, we would have to prove that at the earlier point in time the body could have been at rest instead of moving. Proving that it rests afterward would not do; for in that case both opposites can well exist side by side.

More remarkable still is this: to understand how things are possible according to the categories, and so to show that the categories have objective reality, we need not just intuitions but always outer intuitions. Take the pure concepts of relation, for example. We find that 1) the concept of substance needs something persistent to correspond to it in intuition (and that is what shows the concept's objective reality). For that we need an intuition of matter in space, since space determines everything in a persisting way, while time, and so everything in inner sense, keeps flowing. Alteration is the intuition that corresponds to the concept of causality. To exhibit it, our example has to be motion, which is alteration in space. Only through motion can we make alterations, whose possibility no pure understanding can grasp, something we can see in intuition. Alteration is the combination of determinations that contradict each other, in the existence of a single thing.

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How can a state of a thing be followed, in the same thing, by a state that is its opposite? No reason can make this graspable without an example. It can't even make it understandable without an intuition. That intuition is the motion of a point in space. The point's existing in different places (as a sequence of opposite determinations) is the first thing, and the only thing, that makes alteration visible to us in intuition. Afterwards, to make even inner alterations thinkable, we have to picture time, the form of inner sense, in a figure, as a line. We picture inner alteration as the drawing of this line (motion). So we grasp our own successive existence in different states by way of outer intuition. The real reason for this is that every alteration presupposes something persistent in intuition, if it is to be perceived even as alteration. But inner sense contains no persistent intuition at all.—Finally, take the category of community. Mere reason cannot grasp how it is possible. So we can't see the objective reality of this concept without intuition, and outer intuition in space at that. How are we to think the possibility of this: several substances exist, and from the existence of one something follows (as effect) for the existence of the others, and the reverse? Because something is in the first, something must also be in the others.

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And it can't be understood from the existence of the others alone. Community requires exactly this. But among things that each isolate themselves wholly through their own subsistence, it can't be grasped at all. That is why Leibniz called in a deity as go-between. Leibniz ascribed community to the world's substances only as the understanding alone thinks them. And from their existence alone, community seemed to Leibniz, rightly, impossible to grasp. But we can make the possibility of community (of substances as appearances) quite graspable if we represent it in space, that is, in outer intuition. For space contains a priori the formal outer relations that are conditions of real ones (in action and reaction, and so of community).—It is just as easy to show this for the possibility of things as magnitudes. The category of magnitude, too, can show its objective reality only in outer intuition, and only by means of that intuition can it later be applied to inner sense. To avoid going on at length, I must leave it to the reader to think up examples.

This whole remark is very important. It confirms our earlier refutation of idealism. But it matters even more for another reason.

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We will come to self-knowledge drawn from mere inner consciousness and from the determination of our nature, without the help of outer empirical intuitions. When we do, this remark will show us the limits on the possibility of such cognition.

The last conclusion of this whole section, then, is that all principles of the pure understanding are no more than principles, a priori, for experience to be possible. Every synthetic a priori proposition refers to experience alone, and the possibility of such propositions depends wholly on that reference.

Of the Transcendental Doctrine of the Power of Judgment (Analytic of Principles) Third Chapter

The Ground for Distinguishing All Objects in General into Phaenomena and Noumena

We have now journeyed through the land of pure understanding. We looked closely at each part. We have also measured it out and given everything in it its place. But this land is an island, shut in by nature itself within boundaries that

can't be changed. It is the land of truth (a charming name).
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Around it lies a wide and stormy ocean, the real home of illusion. Out there, many a fog bank and many a block of ice that soon melts passes itself off as new land. They keep deceiving a seafarer who roams about hunting for discoveries, and they offer nothing but empty hopes. The seafarer is drawn into adventures that can't be dropped and can't be finished. Before we dare to go out on that sea, to search it in every latitude and make sure whether anything there is worth hoping for, it will be useful to look once more at the map, before we leave this land behind. We should ask first whether we might be content with what the land holds, or even must be content out of need, if nowhere else offers ground where we could settle. We should ask second by what title we hold this land ourselves, and how we can keep it safe against all hostile claims. We have already answered these questions well enough in the course of the Analytic. But a short summary of the answers can strengthen our conviction, by bringing their separate points together in one place.
What we have seen is this: anything the understanding draws out of itself, without borrowing it from experience, serves it for nothing except use in experience.
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The principles of pure understanding may be constitutive a priori (the mathematical ones) or only regulative (the dynamical ones). Either way, all they hold is, so to speak, the pure schema for a possible experience. Experience has its unity from only one source: the synthetic unity that the understanding gives, originally and by itself, to the imagination's synthesis with respect to apperception. Appearances, as data for a possible cognition, already have to relate and conform to that unity a priori. These rules of the understanding are not only true a priori. They are the very source of all truth, which is our cognition's agreement with objects, since they hold the ground that makes experience possible, and experience is the sum of all cognition in which objects can be given to us. Even so, being told only what is true doesn't seem to us enough. We want to be told what we are eager to know. Now suppose this critical inquiry teaches us nothing beyond what we would have done on our own in the merely empirical

use of the understanding, with no such subtle research. Then the benefit seems not worth the effort and preparation. To that one can reply, it's true, that no rash curiosity does more harm to the growth of our cognition than the kind that insists on knowing the use beforehand, before beginning an inquiry.
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Before the inquiry, one can't form even the faintest notion of that use, even when it is put in front of one's eyes. There is, however, an advantage that even the hardest and most unwilling student of such transcendental research can be made to understand and care about. An understanding busy only with its empirical use, and not pondering where its own cognition comes from, can get on very well. But there is one thing it can't do. It cannot fix for itself the boundaries of its own use, or know what may lie inside or outside its whole sphere. That takes exactly the deep investigations we have made. And if the understanding can't distinguish whether some questions lie in its horizon or not, it is never sure of its claims and possessions. It can only expect many shameful corrections, as it keeps crossing the borders of its territory (which is unavoidable) and wanders into delusion and dazzling tricks.
Here is a proposition with important consequences, if we can really see it to be true: the understanding can make only empirical use of all its principles a priori, and of all its concepts too, and never transcendental use.
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A concept is used transcendentally in a principle when the principle applies it to things in general, things in themselves. It is used empirically when the principle applies it merely to appearances, that is, to objects of a possible experience. Only the second use can ever take place anywhere. We see this as follows. Every concept needs two things. The first is the logical form that any concept (any act of thinking) has. The second is that it must be possible to give the concept an object to refer to. Without the second, the concept means nothing and holds no content at all. All it keeps is the logical function of making a concept from whatever data there happen to be. Now there is only one way to give a concept its object: in intuition. Although a pure intuition is possible a priori even before the object, that intuition itself can get its object, and with it objective

validity, only through empirical intuition, whose mere form it is. So every concept, and every principle with it, however possible a priori, still refers to empirical intuitions, that is, to data for possible experience. Without that, they have no objective validity whatever. They are only a game, played by imagination or understanding with its own representations. Take the concepts of mathematics, and begin with their pure intuitions.

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Space has three dimensions. Between two points there can be only a single straight line. And so on. All these principles are produced in the mind entirely a priori, and so is the representation of the object that this science works on. Yet they would mean nothing if we could not always show their meaning in appearances (empirical objects). That is why an abstract concept has to be made sensible: the object that corresponds to it must be shown in intuition. Otherwise the concept would stay (as the saying goes) without sense, which means without meaning. Mathematics meets the demand by constructing the figure. A figure is an appearance, and the senses can face it, though it was brought about a priori. That same science has the concept of magnitude find its footing and sense in number. Number in turn seeks it in fingers, in the beads of an abacus, or in strokes and dots placed before the eyes. The concept itself is always generated a priori, and so are the synthetic principles or formulas built from such concepts. But using them, and relating them to supposed objects, can be looked for in the end only in experience. Those a priori concepts and principles contain the possibility of that experience, as far as its form goes.

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The same is true of all the categories, and of the principles spun out of them. This also becomes clear from the following. We can't give a real definition of even one category, that is, we can't explain how its object could be possible, without at once stepping down to conditions of sensibility, and thus to the form of appearances. The categories must therefore be restricted to appearances, which are their only objects. Take that condition away, and all meaning, which is relation to the object, falls away. No example can then help us grasp what thing could really be meant by concepts like these.

Nobody can explain the concept of magnitude as such, except roughly as follows: magnitude is what makes it possible to think a thing by how many times a unit has been put into it. But this "how many times" depends on successive repetition, and so on time and on synthesis (of what is of the same kind) in time. Reality, as opposed to negation, can be explained only by imagining a time (the sum of all being) that is either full of something or empty. Suppose I drop persistence (which is existence at all times). Then the concept of substance has nothing left except the logical representation of a subject. I try to make it real by representing something that can occur merely as a subject (without being the predicate of anything).

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Yet I can't name any conditions under which a thing would have this logical advantage. Worse, nothing further can be made of it, and not the slightest conclusion can be drawn, since no object of use is thereby fixed for this concept, and so we don't know at all whether it means anything. Take the concept of cause (leaving out time, in which one thing follows another by a rule). In the pure category I would find only that a cause is something from which the existence of something else can be inferred. Then cause and effect could not be told apart. And since inferring soon takes conditions I know nothing about, the concept would have no determination for how it fits any object. The so-called principle "everything contingent has a cause" enters with quite a solemn air, as if its dignity lay in itself. But if I ask, "What do you mean by contingent?" and you answer, "Something whose nonbeing is possible," then I would like to know how you will recognize this possibility of nonbeing. You will have to picture, in the series of appearances, a succession, and in the succession an existence that follows on nonbeing (or the other way round), and so a change. For to say that a thing's nonbeing does not contradict itself is a lame appeal to a logical condition.

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The condition is necessary for the concept, but far from enough for real possibility. Indeed, I can cancel any existing substance in thought without contradicting myself. Yet I can't infer from this its objective contingency in its exis-

tence, that is, the possibility of its nonbeing in itself. Now take the concept of community. It is easy to see that the pure categories of substance and of causality admit no explanation that determines their object. The reciprocal causality of substances toward one another (commercium) is equally incapable of one. Possibility, existence and necessity have never yet been explained otherwise than by obvious tautology, if the definition was to come from pure understanding alone. For the trick of substituting the logical possibility of the concept (which does not contradict itself) for the transcendental possibility of things (where an object corresponds to the concept) can deceive and satisfy only the inexperienced*.

* In short, nothing can back up any of these concepts, so their real possibility can't be shown, if all sensible intuition (the only one we have) is removed. Then only logical possibility is left, that is, that the concept (thought) is possible. But that is not what is at issue. What is at issue is whether the concept refers to an object, and so means anything at all.

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It follows beyond dispute that the pure concepts of the understanding are never to be used transcendentally; their use is always and only empirical. It also follows that the principles of the pure understanding can be applied only to the general conditions of a possible experience, that is, to objects of the senses. They can never be applied to things in general (without regard to how we might intuit them).

So the Transcendental Analytic leaves us with an important result. A priori, the understanding can do no more than anticipate the form of any possible experience. And whatever is not an appearance can't be an object of experience. So the understanding can never step over the limits of sensibility, the only place where objects are given to us. Its principles only set out appearances. The proud name of an ontology claims to offer, in a systematic doctrine, synthetic cognitions a priori about things in general (the principle of causality, for example). That name has to give way to the modest one: a mere analytic of the pure understanding.

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To think is to relate a given intuition to an object. If the kind of intuition is not given in any way, the object is only transcendental, and the concept of the understanding can have no use other than a transcendental one: the unity of thinking a manifold as such. A pure category leaves out every condition of sensible intuition, the only intuition we can have. So no object is determined through a pure category. It merely expresses, in various modi (modes), the thinking of an object as such. Now using a concept also takes a function of the power of judgment: an object has to be subsumed under the concept. That means at least the formal condition that something must meet to be given in intuition. If the power of judgment lacks this condition (the schema), no subsumption can happen, because nothing is given to bring under the concept. Categories used only transcendentally are therefore, in fact, not used at all. They have no determinate object, nor even one that could be determined as to form. From this it follows that a pure category is not enough for any synthetic principle a priori. It follows too that the principles of the pure understanding have only empirical use, never transcendental use.

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Beyond the reach of possible experience, there are no synthetic principles a priori at all.

It may therefore be wise to say it this way: without the formal conditions of sensibility, the pure categories have only transcendental meaning, and they have no transcendental use. Such use is impossible in itself, because they lack all the conditions of any use (in judgments). Those are the formal conditions for placing some supposed object under these concepts. As mere pure categories they are not supposed to have empirical use, and they cannot have transcendental use. So if we detach them from all sensibility, they have no use whatsoever. They can't be applied to any supposed object. What they are is only the pure form for using the understanding on objects as such, and for thinking. By them alone, however, we can neither think nor determine any object.

A deception lies under this, and it is hard to avoid. By their origin the categories do not rest on sensibility, as the forms of intuition, space and time, do. So they seem to permit an application that reaches beyond all objects of the senses. But

they too are only forms of thought. They contain only the logical power to unite, in one consciousness a priori, the manifold given in intuition.

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If the only intuition possible for us is taken from them, they have still less meaning than those pure sensible forms. The sensible forms at least give an object. A way of combining the manifold that belongs to our understanding means nothing at all if the intuition, the only place the manifold can be given, does not come along.—Still, our concept itself already says something. When we call certain objects appearances, beings of sense (phaenomena), we distinguish how we intuit them from what they are in themselves. That already means we set something over against them, as it were. It might be those very objects, according to how they are constituted in themselves, although we don't intuit them in that constitution. Or it might be other possible things that our senses can never have as objects, things we think as objects through the understanding alone. These we call beings of understanding (noumena). Now the question comes up: do our pure concepts of the understanding mean anything with respect to the latter, and could they be a way of cognizing them?

Right at the start, however, an ambiguity appears here that can lead to a great misunderstanding. When the understanding calls an object a phaenomenon, only in a certain respect, it also forms for itself, apart from that respect, a representation of an object in itself.

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So it supposes it can form concepts of an object of that sort as well. The understanding supplies no concepts other than the categories. So it supposes that the object in this second sense must at least be thinkable through these pure concepts of the understanding. This leads it astray. It takes the wholly indeterminate concept of a being of understanding, meaning a something in general outside our sensibility, to be a determinate concept of a being we can cognize in some way through the understanding.

Take noumenon to mean a thing to the extent that our sensible intuition does not take it as an object, because we abstract from our way of intuiting it. Then we have a noumenon in the negative meaning of the word. Take it instead to

mean an object of a nonsensible intuition. Then we assume a special way of intuiting, namely the intellectual one. That way is not ours, and we can't even see that it is possible. This would be a noumenon in the positive meaning.

The teaching about sensibility is at once the teaching about noumena in the negative sense. These are things the understanding has to think of without any tie to our way of intuiting. So it has to think of them as things in themselves, and not just as appearances. But once the understanding sets them apart like this, it also sees that it can't use its categories to look at them that way.

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The categories mean something only when they're tied to the unity that intuitions have in space and time. And they can fix that unity a priori, through general concepts of combination, only because space and time are merely ideal. Where this unity of time can't be found, which is the case with the noumenon, the categories stop being usable and stop meaning anything at all. We can't even see how the things that are supposed to match the categories could be possible. So all I can do is point back to what I said at the very start of the general remark on the previous chapter. Now, no thing's possibility can be proved merely because its concept doesn't contradict itself. It can be proved only by backing the concept with an intuition that corresponds to it. Suppose we wanted to use the categories on objects that we don't treat as appearances. Then we'd have to base the categories on some intuition that isn't the sensible kind. That object would count as a noumenon in the positive meaning of the word. But an intuition like that, an intellectual intuition, lies entirely outside our power of cognition. So the categories can't be used on anything beyond the boundary of the objects of experience. Beings of the understanding do, to be sure, correspond to beings of the senses.

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There may even be beings of the understanding that our sensible power of intuition has no relation to at all. Our concepts of the understanding, though, are only forms of thought for our sensible intuition. They don't reach those beings in the slightest. So whatever we call a noumenon has to be understood as one only in the negative sense.

Take an empirical cognition and subtract all the thinking done through categories. No cognition of any object is left, because nothing at all is thought through mere intuition. That my sensibility is affected in this way gives that representation no relation to any object. Now suppose I leave out all intuition instead. What's left then is the form of thinking: the way of settling on an object for whatever manifold a possible intuition offers. In this respect the categories reach further than sensible intuition does. They think objects as such, without yet looking at the particular manner (of sensibility) in which those objects might be given. But that doesn't give them a bigger sphere of objects. We can't suppose such objects could be given unless we also suppose that some intuition other than the sensible kind is possible. And we have no right to suppose that.

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I use the word problematic for a concept that holds no contradiction, hangs together with other cognitions as a way of bounding given concepts, and has an objective reality that can't be cognized in any way. The concept of a noumenon is like that. A noumenon is a thing meant to be thought of as it is in itself, by pure understanding alone, and not as something the senses can take as an object. The concept isn't contradictory at all, since we can't claim that sensibility is the only possible kind of intuition. The concept is also necessary. It keeps sensible intuition from being stretched over things in themselves, and so it keeps the objective validity of sensible cognition limited. (Whatever sensible cognition doesn't reach gets called noumena for just this reason: to show that such cognitions can't extend their territory over everything the understanding thinks.) In the end, though, we can't see how such noumena could be possible. And whatever lies beyond the sphere of appearances is, for us, empty. We have an understanding that reaches further than appearances do, but only problematically. What we lack is any intuition, or even the concept of a possible one, that could give us objects beyond sensibility's field. Without that, we can't use the understanding assertorically outside that field either.

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So the concept of a noumenon is only a boundary concept. Its job is to rein in the presumption of sensibility, and so it has a negative use only. But it isn't made up at random. It is tied to the limiting of sensibility, though it can't set up anything positive outside sensibility's range.

In a positive sense, we can't allow objects to be divided into phaenomena and noumena, or the world to be split into one world for the senses and another for the understanding. Concepts, it's true, can be divided into sensible and intellectual ones. But we can't assign any object to the intellectual ones, so we can't pass them off as objectively valid. Once we leave the senses, how can we make it clear that our categories still mean anything at all? They would be the only concepts left for noumena. For the categories to relate to any object, something more than the mere unity of thinking is needed. A possible intuition must also be given, one they can be applied to. Even so, the concept of a noumenon, taken merely problematically, stays not only admissible but unavoidable, as a concept that puts sensibility within limits. But then it isn't a special intelligible object for our understanding. What it points to is an understanding to which such an object would belong, and that understanding is itself a problem (Problema). Such an understanding would not cognize its object discursively, working through categories.

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It would cognize it intuitively, in a nonsensible intuition. We can't form the slightest representation of how that could be possible. In this way our understanding gets a negative extension. Sensibility doesn't set limits for the understanding. Instead, the understanding sets limits for sensibility, by giving the name noumena to things in themselves (things not viewed as appearances). But it also sets boundaries for itself right away: it won't cognize those things through any categories, and so it can think of them only by the name "unknown something."

In the writings of more recent authors, however, I find that the expressions mundi sensibilis and intelligibilis* (of a sensible and of an intelligible world) are used in a quite different way. It departs completely from the sense the ancients gave them. It involves no difficulty, of course, but nothing is found in it except

empty haggling over words. Some have liked to call the sum of appearances the world of the senses, in so far as it is intuited, though the connection of appearances can also be thought according to general laws of the understanding.

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In that respect they have liked to call it the world of the understanding. Theoretical astronomy, which just reports observation of the starry sky, would present the first. Contemplative astronomy would present the second, an intelligible world. That second kind might be astronomy explained by the Copernican world-system, or even by Newton's laws of gravitation. But twisting words like this is only a sophist's trick for dodging a hard question: you shrink its meaning until it's comfortable to answer. Of course understanding and reason can be applied to appearances. What we're asking is whether they're any use at all when the object isn't an appearance (a noumenon). That is how one takes an object when it is thought of in itself as merely intelligible, that is, as given to the understanding alone and not to the senses at all. So the question is this: besides that empirical use of the understanding (even in Newton's picture of how the world is built), is a transcendental use also possible, one that goes to the noumenon as an object? We have answered that question in the negative.

* We must not use the expression "intellectual world" in its place, as people commonly do in German presentations. Only cognitions are intellectual or sensitive. But what can be an object of only one or the other kind of intuition—that is, objects—must be called intelligible or sensible, however harsh that sounds.

So when we say that the senses show us objects as they appear while the understanding shows them as they are, we must take the second part in an empirical sense, not a transcendental one. It means how objects must be represented as objects of experience, in the thoroughgoing connection of appearances.

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It doesn't mean what they might be apart from any relation to possible experience, and so to the senses in general, that is, as objects of pure understanding. That will always stay unknown to us. We can't even tell whether this kind of

transcendental (extraordinary) cognition could exist at all, at least one that works under our ordinary categories. For us, understanding and sensibility determine objects only when they are combined. Pull them apart and we are left with intuitions lacking concepts, or concepts lacking intuitions. In both cases we have representations that we can't relate to any determinate object.

Suppose someone, even after all this, can't bring themselves to give up the purely transcendental use of the categories. Let them test the categories in some synthetic assertion. For an analytic assertion doesn't take the understanding any further. All it handles is what the concept already holds in thought. So it never settles whether the concept itself is about objects, or whether it just stands for the unity of thinking as such (a unity that ignores entirely how an object might be given). Knowing what its concept contains is all it needs. What the concept itself may be about makes no difference to it.

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So let them take a synthetic principle that is supposed to be transcendental, such as this: everything that is exists as a substance or as a determination attached to a substance; everything contingent exists as the effect of another thing, namely its cause; and so on. Now I ask: where will they get these synthetic propositions from, when the concepts are meant to hold of things in themselves (noumena) and not in relation to possible experience? Every synthetic proposition needs a third element, to connect concepts that aren't logically (analytically) related at all. Where is it here? They will never prove their proposition. More than that: they couldn't even defend the possibility of a pure claim like this without turning to the empirical use of the understanding. That would mean giving up completely on pure judgment free of the senses. So the concept of purely intelligible objects is wholly empty of principles for applying it. We can't think up any way in which such objects could be given. The problematic thought still keeps a place open for them. But all it does, like an empty space, is to put limits on the empirical principles. It contains no other object of cognition outside their sphere, and shows none.

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Appendix The Amphiboly of Concepts of Reflection Through Confusing the Empirical Use of Understanding with the Transcendental

Reflection (reflexio) doesn't deal with the objects themselves in order to get concepts directly from them. It is the frame of mind we get into first, when we get ready to discover the subjective conditions that let us arrive at concepts. It is the consciousness of how given representations relate to our different sources of cognition. Only through this can their relation to one another be determined correctly. Before we do anything else with our representations, the first question is this: in which power of cognition do they belong together? Are they being connected or compared in front of the understanding, or in front of the senses? Many a judgment is accepted out of habit, or tied together by inclination. But no reflection comes before it, or at least follows it critically, and so it passes for a judgment that originated in the understanding. Not every judgment calls for investigation, meaning a look at the grounds of its truth.

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Some judgments are certain at once. Take "Between two points there can lie just one straight line." For a judgment like that, no closer mark of truth can be given than what it states itself. But all judgments, indeed all comparisons, need reflection, that is, a distinction of the power of cognition to which the given concepts belong. There is an act in which I hold the comparison of representations up against the power of cognition where the comparison takes place. In that act I also tell whether the representations are compared as things that belong to pure understanding or to sensible intuition. I call this act transcendental reflection. In a state of mind, concepts can be related to one another in these ways: sameness and difference; agreement and conflict; the inner and the outer; and last, the determinable and its determination (matter and form). Getting this relation right depends on which power of cognition the concepts subjectively belong together in, sensibility or understanding. For the difference between these two powers makes a great difference in how we should think the relations.

Before making any objective judgments, we compare concepts. We look for sameness (of many representations under one concept), which serves general judgments, or for their difference, which serves to produce particular ones.

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We look for agreement, from which affirmative judgments can come, and for conflict, from which negative judgments can come, and so on. On this ground, it seems, we ought to call the concepts just named concepts of comparison (conceptus comparationis). But sometimes the logical form isn't what matters. What matters is what the concepts contain, that is, whether the things themselves are the same or different, in agreement or in conflict, and so on, things can stand in a twofold relation to our power of cognition, namely to sensibility and to understanding. And how they are supposed to belong to one another is settled by the place where each of them belongs. So only transcendental reflection, that is, the relation of given representations to one kind of cognition or the other, can determine how they relate to each other. Whether things are the same or different, in agreement or in conflict, and so on, can't be settled directly from the concepts themselves by mere comparison (comparatio). It can be settled only after we tell apart the kind of cognition they belong to, by means of a transcendental reflection (reflexio). So one could indeed say that logical reflection is a mere comparison. In it we abstract completely from the power of cognition to which the given representations belong. So as far as their seat in the mind goes, we have to treat them as being of one kind.

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Transcendental reflection is different. It goes to the objects themselves, and it holds the ground that makes an objective comparison of representations with one another possible. So it is very different from logical comparison, because the power of cognition the representations belong to is not the same. This transcendental reflection is a duty that no one can get out of who wants to judge anything about things a priori. We'll take it up now, and it will shed no small amount of light on what the understanding's real business is.

1 Sameness and difference. Suppose an object shows up before us on several occasions, and each time its inner determinations are exactly alike (qualitas et quantitas). If pure understanding is what takes it as its object, then it is always the same object. It is not many things but only one thing (numerica identitas). But if it is an appearance, comparing concepts doesn't matter at all. The concepts may match in every respect. Even so, if the appearance is in different places at the same moment, that is reason enough to count the object (of the senses) as numerically different. Take two drops of water. We can set aside every inner difference between them, in quality and in quantity. It's enough that they are intuited in different places at once for us to hold them numerically different.
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Leibniz took appearances to be things in themselves, and so to be intelligibilia, that is, objects of pure understanding. (He did give them the name of phenomena, because the representations of them are confused.) Given that, nobody could really contest his proposition of the indiscernible (principium identitatis indiscernibilium). But appearances are objects of sensibility, and the understanding is used on them not purely but only empirically. Space is the condition of outer appearances, and space by itself already gives us multiplicity and numerical difference. One part of space may be perfectly similar and equal to another. Still, it lies outside that other part, and for exactly that reason it is a different part, one that is added to the first to make a larger space. And that must hold of everything in the various places of space at once, no matter how alike and equal those things are otherwise.

2 Agreement and conflict. When reality is represented by pure understanding alone (realitas noumenon), you can't think of any conflict among realities. By conflict I mean a relation in which realities, joined in one subject, cancel each other's consequences, so that 3-3=0. On the other hand, take what is real in appearance (realitas phaenomenon).
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It can certainly be in conflict with other real things. United in the same subject, one can destroy the consequence of another, wholly or in part. Take two moving forces on one straight line, pulling or pushing a point in opposite directions. Or take a pleasure that balances out a pain.

3 Inner and outer. In an object of pure understanding, a thing is inner only if, as far as its existence goes, it has no relation to anything besides itself. A substantia phaenomenon in space is different. Its inner determinations are nothing but relations, and the whole substance is simply a sum of nothing but relations. The only way we know substance in space is through forces working in it. They either drive other things toward it (attraction) or keep them from entering it (repulsion and impenetrability). We know no other properties that make up the concept of the substance that appears in space, which we call matter. But as an object of pure understanding, a substance has to have inner determinations, and forces that have to do with inner reality. What inner accidents can I think of, though, except the ones my inner sense offers me? That is, something that is either itself a thinking or analogous to thinking.
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That is why Leibniz made simple subjects out of all substances, endowed with powers of representation: in a word, monads. He pictured them as noumena. He did the same even with the components of matter, after he had removed in thought everything that could mean outer relation, and with it composition.

4 Matter and form. These two concepts underlie all other reflection, for they are so inseparably combined with each use of the understanding. The first means the determinable in general. The second means its determination. (Both are meant in the transcendental sense, since we abstract from any difference in what is given and in the way it is determined.) Logicians used to call the general the matter and the specific difference the form. In a judgment, we can call the concepts that are given its logical matter, and call their relation (through the copula) the judgment's form. In any being, the parts it consists of (essentialia) are the matter, and the way they are connected in the thing is the essential form. With regard to things in general, unlimited reality was also regarded as the mat-

ter of all possibility. The limiting of it (negation) was regarded as the form by which, according to transcendental concepts, one thing differs from another. The understanding first demands that something be given.

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That must happen at least in the concept, so that the understanding can then determine it in some way. So in the concept of pure understanding, matter comes before form. That is why Leibniz first assumed things (monads), with an inner power of representation in them. On that he then built their outer relation, and the community among their states, meaning their representations. That made space possible only through how substances relate. It made time possible only through how their determinations connect to one another, as grounds and consequences. It would really have to be that way, if pure understanding could relate straight to objects, and space and time were features of things in themselves. Suppose instead that they are only sensible intuitions, ones in which we determine objects purely as appearances. Then the form of intuition (as a subjective feature of sensibility) comes before all matter (sensations). So space and time precede every appearance and every datum of experience, and they are what make those possible at all. The intellectual philosopher couldn't stand the idea that the form should come before the things themselves and determine their possibility. He was quite right to object, if he thought that we intuit things as they are (even if confusedly).

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But sensible intuition is a very special subjective condition of its own. It underlies every perception a priori. Its form is original. So the form is given on its own. Matter (or the things themselves that appeared) is not the ground, as judging by mere concepts would require. On the contrary, such things are only possible if a formal intuition (time and space) is already given.

Note on the Amphiboly of Concepts of Reflection

Allow me to use the term transcendental place for the position we give a concept, whether in sensibility or in pure understanding. Judging this place, which belongs to each concept according to how it is used, and giving rules for fixing the place of all concepts, would then be the transcendental topic. This doctrine

would thoroughly protect us from the stealthy errors of pure understanding and the delusions that spring from them, because it would always tell us which power of cognition a concept properly belongs to. Any concept, any title under which many cognitions fall, can be called a logical place. Aristotle's logical topic is built on this. Schoolteachers and speakers could use it, going to certain titles of thinking.

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There they could look up whatever best suited the matter at hand. Then, with a show of thoroughness, they could argue cleverly about it or chatter on at length.

The transcendental topic, by contrast, contains nothing more than the four titles of all comparison and distinction that I listed. They differ from the categories in this way. They don't present the object by what makes up its concept (magnitude, reality). They present only the comparison of representations, in all its variety, which comes before the concept of things. This comparison first needs a reflection, that is, a decision about where the representations of the things we are comparing belong: do they belong to what pure understanding thinks, or to what sensibility gives in appearance?

Concepts can be compared logically without worrying about where their objects belong—whether they are noumena for the understanding or phaenomena for sensibility. But if we want to go with these concepts to the objects, we first need a transcendental reflection about which power of cognition they are supposed to be objects for, pure understanding or sensibility. Without this reflection, my use of these concepts is very unsafe.

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Supposed synthetic principles arise that critical reason can't accept, and that rest solely on a transcendental amphiboly, that is, on a confusion of an object of pure understanding with an appearance.

Lacking such a transcendental topic, and so deceived by the amphiboly of the concepts of reflection, the famous Leibniz set up an intellectual system of the world. Or rather, he believed he knew the inner nature of things, by comparing all objects only with the understanding and with the abstracted formal con-

cepts of its thinking. Our table of the concepts of reflection gives us an unexpected advantage. It sets before our eyes what is distinctive in his doctrine in all its parts, and at the same time the guiding ground of this peculiar way of thinking, which rested on nothing but a misunderstanding. He set all things beside one another by means of concepts only. Naturally, he found no differences except the ones by which the understanding tells its pure concepts apart. Sensible intuition has conditions that bring differences of their own. He didn't count these as original. For to him sensibility was nothing more than a muddled way of representing things, not a separate source of representations. Appearance, as he saw it, was just how the thing in itself is represented. It differed from cognition through the understanding in logical form only.
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That is because appearance, as he saw it, usually lacks analysis, and so it draws into the concept of the thing a certain mixture of side-representations, which the understanding knows how to separate out. In short, Leibniz intellectualized appearances, just as Locke, going by a system of noogony, had sensified all the concepts of the understanding (I hope I may use such words). That is, Locke passed them off as nothing but empirical or abstracted concepts of reflection. Instead of seeing understanding and sensibility as two entirely different sources of representations, which give valid judgments about things only when connected, each of these great men clung to just one of them. In his view, that one was directly about things in themselves, and the other only muddled or ordered what the first one supplied.
So Leibniz compared the objects of the senses with one another merely in the understanding, as things in general. First, he compared them insofar as the understanding is to judge them the same or different. All he looked at was their concepts. Their position in intuition, the only place where objects can be given, he ignored. And he left the transcendental place of these concepts (whether the object is to be counted among appearances or among things in themselves) entirely out of account, and so it could not turn out any other way than this.
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He carried his principle of the indiscernible over to the objects of the senses (mundus phaenomenon), although it holds only of concepts of things in general. And he thought he had thereby given our knowledge of nature no small expansion. Of course, suppose a drop of water were a thing in itself, and I knew all its inner determinations. Then I couldn't count it as different from another drop, if the whole concept of it matched the other's. But if the drop is an appearance in space, its place is not just in the understanding (under concepts). It is in the sensible outer intuition (in space). And there the physical places don't matter at all with regard to the inner determinations of things. A place = b can take in a thing perfectly similar and equal to another thing in place = a, just as well as it could if that thing were as different from it inside as could be. The difference of places already makes the multiplicity and distinction of objects, as appearances, not only possible but necessary, without any further conditions. That seeming law, then, is not a law of nature at all. It is merely an analytic rule, a comparison of things through mere concepts.

Second, there is a principle that realities never clash logically, since they are mere affirmations. That is a perfectly true statement about how concepts relate. [B 329]

But it means nothing at all, whether for nature or for any thing in itself (we have no concept of such a thing). For real conflict happens wherever A - B = 0. That is, it happens wherever two realities are joined in one subject and one cancels the other's effect. Nature shows us this constantly in its obstacles and counteractions. Because these rest on forces, they have to be called realitates phaenomena. General mechanics can even state, in an a priori rule, the empirical condition under which this conflict arises. It does so by looking at how directions oppose each other. The transcendental concept of reality knows nothing of that condition. Mr. von Leibniz didn't announce this principle with much fuss, as a new principle. But he did use it for new claims, and his followers wrote it expressly into their Leibniz-Wolfian systems. By this principle, for instance, every evil is just a consequence of creatures' limits, that is, of negations. Negations are the only thing that conflicts with reality. (That's really so when we consider just the concept of a thing in general, but not for things as

appearances.) In the same way, those who follow this view think it is not just possible but natural for all reality to come together in a single being, without any fear of conflict.

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They think so because the only conflict they know is contradiction (which cancels the concept of a thing itself). They don't know the kind where one real ground cancels what another one brings about. And for picturing that kind, we find the conditions only in sensibility.

Third, the only ground of Leibniz's monadology is that this philosopher pictured the difference between inner and outer purely in relation to the understanding. Substances in general must have something inner. So that inner part must be free of all outer relations, composition included. So the simple is what the inner side of things in themselves is founded on. Now the inner side of a substance's state can't consist of place, shape, contact or motion, since all of these are outer relations. So the only inner state we can give to substances is the one by which we ourselves determine our own sense from inside: the state of representations. And so the monads were made. They are meant to be the basic stuff of the whole universe. Their active force consists only in representations, so they are properly active only within themselves.

For the same reason, his principium of how substances can form a community with one another had to be a pre-established harmony.

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It could not be physical influence. Everything is busy only with its inside, that is, with its own representations. So the state of one substance's representations could not be combined in any effective way with that of another. Some third cause had to flow into all of them together and make their states match one another. This could not be done by occasional help, supplied separately in each single case (systema assistentiae). It had to come from the unity of the idea of one cause valid for all. In that cause they all have to get their existence and their continuing, and their correspondence with each other as well, all under general laws.

Fourth, he made a famous doctrine out of time and space, treating these forms of sensibility as intellectual. That doctrine came from the very same deception of transcendental reflection. If I try to represent the outer relations of things through the understanding alone, I can do it only through a concept of how they act on one another. And if I want to connect one state of a thing with another state of that same thing, that can only be done by the order of grounds and consequences. So for Leibniz, space was a certain order among substances in community, and time was the dynamic succession of their states. Both appear to have something peculiar about them.

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That something is independent of things. He blamed it on the confusion in those concepts. Because of the confusion, what is only a form of dynamic relations is taken for an intuition of its own, existing by itself and coming before the things themselves. In that case space and time were the intelligible form in which things (substances and their states) are connected in themselves. And the things were intelligible substances (substantiae noumena). All the same, he wanted these concepts to be valid for appearances, because he would not grant sensibility an intuition of its own kind. He sought every representation in the understanding, even the empirical representation of objects. The senses were left with only the despised job of muddling and distorting the understanding's representations.

Suppose we could say something synthetic about things in themselves through pure understanding (though that is impossible). It still couldn't be stretched to cover appearances, since appearances don't represent things in themselves. In that case, then, in transcendental reflection, I will always have to compare my concepts under the conditions of sensibility alone. Space and time will then be determinations of appearances, not of things in themselves. What things in themselves may be, I don't know, and I have no need to.

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A thing can only ever reach me in appearance.

I treat the other concepts of reflection the same way. Matter is substantia phaenomenon. What belongs to it on the inside I look for in every part of the space it fills and in every effect it has, and these, naturally, can only ever be appearances of the outer senses. So nothing I find is absolutely inner. It is all inner only by comparison, and it in turn is made of outer relations. And the absolutely inner side of matter, as pure understanding would define it, is a mere whim too. For matter is not an object for pure understanding at all. The transcendental object, though, which may be the ground of the appearance we call matter, is nothing but a bare something. If someone could tell us what it is, we still wouldn't understand. We understand only what brings along, in intuition, something matching our words. Suppose people complain, "We can't see the inner side of things at all," and mean by this, "We don't grasp by pure understanding what the things that appear to us may be in themselves." Then the complaint is quite unfair and unreasonable.

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It demands that we cognize things, and so intuit them, without senses, and that our power of cognition be wholly unlike the human one. It would differ not merely in degree, but also in intuition and kind. We would then be not humans but beings that we can't even say are possible, let alone describe. Observation and analysis of appearances do reach into the inside of nature, and nobody can say how far that will go over time. The transcendental questions reach beyond nature. We could never answer them, even if all of nature were uncovered for us. We can't even observe our own mind by any intuition other than inner sense. The secret of where our sensibility comes from lies in the mind. How sensibility relates to an object, and what the transcendental ground of that unity is, surely lie hidden too deeply. Even ourselves we know only by inner sense, and so only as appearance. With a tool so badly suited to inquiry, all we could ever find is more appearances. What we would like to explore is their nonsensible cause.

This critique of inferences drawn from mere acts of reflection is extremely useful because it makes clear that inferences about objects, drawn from merely comparing them in the understanding, are void.

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It also confirms what we mainly stressed: appearances, though they aren't things in themselves and so don't figure among the objects of pure understanding, are still the only place where our cognition can have objective reality, that is, where an intuition matches the concepts.

When we reflect in a purely logical way, we only compare our concepts with each other in the understanding. We ask whether both contain the same thing, whether they contradict each other or not, whether the concept holds something inside itself or has it added on, and which of the two counts as given, and which is only a way of thinking about the given one. Now suppose I use these concepts for an object as such, taken transcendentally, without deciding if it's an object for sensible intuition or for intellectual intuition. Restrictions show up at once (don't go beyond this concept), and they turn every empirical use of the concepts upside down. What they show is that to represent an object merely as a thing in general is worse than inadequate. Take away the sensible determination and every empirical condition, and the representation conflicts with itself. So we must either abstract from every object (that is what logic does) or, if we assume one, think of it under the conditions of sensible intuition. The intelligible would then call for a quite special intuition.

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We lack any such intuition, and without it the intelligible is nothing for us. On the other hand, appearances can't be objects in themselves either. If I think merely of things in general, differences in outer relations can't make for a difference in the things themselves. Such differences presuppose one instead. And if the concept of one thing isn't inwardly different at all from the concept of another, I am only putting a single thing into different relations. Also, when one mere affirmation (reality) is added to another, the positive grows, and nothing is removed or canceled. So what is real in things in general can't conflict with itself, and so on.

* * *

The concepts of reflection, as we have shown, exert a certain misleading influence on how the understanding is used. They managed to lure one of the sharpest of all philosophers into building a supposed system of intellectual cognition. Such a system sets out to determine its objects without the senses taking any part. That is exactly why it is so useful to lay bare the deceptive cause of these concepts' amphiboly, which gave rise to false principles. It lets us fix and secure the understanding's boundaries reliably.

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We must grant that whatever belongs to a concept universally, or conflicts with it, belongs to or conflicts with every particular thing that falls under the concept (dictum de Omni et Nullo). But it would be absurd to turn this logical principle around to read: what is not contained in a general concept is not contained in the particular concepts under it either. Those are particular concepts exactly because they contain more than the general concept thinks. Yet Leibniz's whole intellectual system is actually built on that last principle. It collapses with it, and so does all the ambiguity in the use of the understanding that comes from it.

The principle of the indiscernible really rested on this assumption: if the concept of a thing in general shows no certain distinction, then none is to be found in the things themselves. So all things that don't already differ in their concept (in quality or quantity) are completely one and the same (numero eadem). But the mere concept of a thing leaves out many conditions that an intuition necessarily needs. By a strange hastiness, what was left out is taken for something not to be found anywhere.

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And the thing is allowed nothing except what its concept contains.

Think of a cubic foot of space, wherever and however often you like. The concept is in itself entirely the same each time. Yet two cubic feet in space differ from each other only in where they are (numero diversa). The places are conditions of the intuition that gives us the object of this concept. They aren't part of the concept, but they are part of sensibility as a whole. Likewise, a thing's concept contains no conflict as long as nothing negating has been joined to

something affirming. Concepts that are merely affirmative, when combined, can't cancel anything. But sensible intuition is where reality (motion, for example) is given, and it contains conditions that the concept of motion in general leaves out: opposite directions. These make a conflict possible, though not a logical one, in which pure positives produce a zero = 0. So one couldn't say that all reality agrees with itself just because its concepts show no conflict*. Now think in terms of mere concepts alone.

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In those terms, the inner is the substratum of every relation, that is, of every outer determination. So I can set aside every outer relation, once I leave out all conditions of intuition and hold to the bare concept of a thing in general. Even so, I must still have a concept left of what is no relation at all but only inner determinations. It now seems to follow that every thing (substance) has something in it that is absolutely inner. This inner part comes before all outer determinations, because it first makes them possible. So the substratum would contain no outer relations at all, and would therefore be simple. (Bodily things are always only relations, after all, at least relations of parts outside one another.) And we know no absolutely inner determinations except those of our inner sense. So this substratum would not only be simple. It would also be determined by representations, following the pattern of our inner sense.

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In other words, all things would really be monads: simple beings endowed with representations. All this would be quite right, except for one thing. Only under certain conditions can objects of outer intuition be given to us, and the pure concept leaves those conditions out. Those conditions take in more than just the concept of a thing in general. For we find that something that persists as an appearance in space (impenetrable extension) can hold nothing but relations, nothing absolutely inner, and yet still be the first substratum of all outer perception. By mere concepts, I really can't think of anything outer without something inner. That's because concepts of relation presuppose things that are simply given, and can't exist without them. But intuition holds something that the concept of a thing in general lacks altogether. It supplies the substratum that

mere concepts could never make known: a space which, with everything in it, consists of nothing but formal, or even real, relations. So I can't say: since mere concepts can't represent a thing without an absolutely inner side, there's likewise nothing outer in the things themselves that fall under these concepts, or in their intuition, with no absolutely inner ground beneath it. Suppose we have set aside all conditions of intuition.

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Then the mere concept leaves us only the inner in general and the relations of the inner things among themselves, which alone make the outer possible. But this necessity rests purely on abstraction. It doesn't hold for things when they are given in intuition through determinations that only express relations, with no inner ground beneath them. The reason is that they aren't things in themselves but merely appearances. Everything we know of matter is relations. (What we call matter's inner determinations are inner only by comparison.) Among them, though, are some that stand on their own and persist, and through these a determinate object is given to us. If I set these relations aside, there is nothing left for me to think. That doesn't cancel the concept of a thing as appearance, or the concept of an object in the abstract. What it does cancel is all possibility of an object that mere concepts could determine, that is, a noumenon. It does give one pause to hear that a thing might consist wholly of relations. But a thing like that is a mere appearance, and pure categories can't think it at all. It consists in nothing more than how something in general stands to the senses. Likewise, if we start from mere concepts, we can think the relations of things in the abstract in no other way.

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It has to be this: one thing is the cause of determinations in another. For that is our concept of the understanding for relations itself. But then we are abstracting from all intuition. One whole way in which the manifold can fix one another's place falls away, namely the form of sensibility (space), which comes before all empirical causality.

* Suppose someone used the usual way out here and said that at least noumenal realities (realitates noumena) can't work against one another. Even then one would have to produce an example of such a pure reality, free of the senses. Only that would show whether it stands for anything or for nothing. But an example can come from nowhere except experience, which gives us nothing beyond phaenomena. So the proposition says only that a concept made of affirmations alone has no negation in it. We've never doubted that.

Suppose we mean by merely intelligible objects the things that are thought through pure categories, with no schema of sensibility. Then there can be no such things. Our concepts of the understanding can be used on objects only on one condition: our own kind of sensible intuition, which is what gives us objects. Leave that out, and the concepts refer to no object at all. Even if we assumed some other kind of intuition besides this sensible one of ours, our functions of thinking would mean nothing for it. Now suppose instead that we mean objects of a nonsensible intuition. Our categories don't hold of them, and so we can never have any cognition of them, neither intuition nor concept. In that merely negative sense, noumena must certainly be allowed. They say only that our kind of intuition doesn't reach all things, but only the objects of our senses.

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Its objective validity is therefore bounded, and there is room left for some other kind of intuition, and so for things as its objects. But then the concept of a noumenon is problematic. It represents a thing that we can't call possible or impossible. The only intuition we know is our sensible one, and the only concepts we know are the categories, and neither suits an object beyond the senses. So we can't broaden the field of what our thinking can be about beyond the conditions of our sensibility, in a positive way. We can't add objects of pure thinking, that is, noumena, to appearances. Such objects have no positive meaning that we could specify. About the categories we have to admit that they alone are not enough to cognize things in themselves. Without the data of sensibility they would be only subjective forms of the unity of the understanding, with no object. Thinking, to be sure, doesn't in itself come from the senses, and

to that extent it isn't limited by them either. But that doesn't make it usable on its own, in a pure way, without sensibility joining in, because then it has no object. And one can't call the noumenon an object of that sort either. For a noumenon is exactly the problematic concept of some object.

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That object is for an intuition and an understanding of a kind quite different from ours, and that kind of understanding is itself a problem. So the concept of a noumenon isn't the concept of an object. It is a task that comes inevitably with the limiting of our sensibility: might there be objects entirely free of that intuition? This can be answered only vaguely. Sensible intuition doesn't extend to all things without distinction. So there is room left for more and other objects. They can't be denied outright. But we have no determinate concept of them (no category fits), so they can't be asserted either as objects for our understanding.

So the understanding sets a boundary to sensibility without widening its own field. It warns sensibility not to presume to reach things in themselves, but only appearances. In doing so, it thinks of an object in itself. But it thinks it only as a transcendental object, the cause of the appearance (and so not an appearance itself). We can't think of it as a magnitude, as reality, as substance, and so on (those concepts always need sensible forms in which to determine an object). So it is entirely unknown whether this object is in us or outside us, and whether it would vanish along with sensibility or remain if sensibility were taken away.

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We may call this object a noumenon, since the representation of it isn't sensible. That's up to us. But none of our concepts of the understanding can be applied to it. The representation therefore stays empty for us. Its only use is to show where the boundaries of our sensible cognition lie, and to leave a space open that neither possible experience nor pure understanding can fill.

So the critique of this pure understanding forbids us to invent a new field of objects, other than the ones that can come before it as appearances. It won't let us wander off into intelligible worlds, or even into the concept of one. The mistake that tempts us most plausibly into this, and that is excusable though not

justified, is the following. The understanding is used in a transcendental way, against its purpose. Objects, that is, possible intuitions, are made to follow concepts, when concepts ought to follow possible intuitions (the only thing their objective validity rests on). And the reason for that mistake is that apperception, and thinking with it, comes first, ahead of any possible determinate ordering of representations. We think something in general, and in one respect we determine it sensibly.

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Still, we distinguish the general object, represented in the abstract, from this way of intuiting it. That leaves us a way of determining it by thinking alone. It's a mere logical form with no content. Yet it looks to us like a way for the object to exist in itself (noumenon), when we ignore the intuition that is limited to our senses.

* * *

Before we leave the transcendental analytic, one more thing needs adding. It isn't very important in itself, but it seems necessary to complete the system. The highest concept that a transcendental philosophy usually starts from is the division into possible and impossible. But any division presupposes a concept that gets divided. So a higher one has to be named. It is the concept of an object in general. We take it problematically, leaving open whether it is something or nothing. The categories are the only concepts that relate to objects in general. So we will decide if an object is something or nothing by following the order and guidance of the categories.

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The concepts of all, many and one have an opposite: the concept that cancels everything, that is, none. So the object of a concept with no intuition that could be specified for it is = nothing. That is a concept without an object, like noumena. They can't be counted among the possibilities, but they needn't be declared impossible for that reason (ens rationis). The same goes for certain

new fundamental powers that people imagine. They are thought without contradiction, but also without any example from experience, so they too aren't to be counted among the possibilities.

2 Reality is something. Negation is nothing: it is a concept of an object that is lacking, like shadow or cold (nihil privativum).

3 The mere form of intuition, without substance, isn't an object in itself. It is only the formal condition of an object (as appearance), like pure space and pure time. They are something, as forms of intuiting, but they aren't themselves objects that get intuited (ens imaginarium).

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If a concept contradicts itself, its object is nothing, because the concept is nothing: the impossible. A straight-lined figure with two sides is an example (nihil negativum).
Here is how the table for dividing the concept of nothing would have to be set out (the parallel division of something follows on its own):
Nothing, as

1 An empty concept without an object: ens rationis.

2 An empty object of a concept: nihil privativum.

3 An empty intuition without an object: ens imaginarium.

4 An empty object without a concept: nihil negativum.
We see that a thing of thought (no. 1) differs from a non-thing (no. 4) in that the first must not be counted among the possibilities, because it is a mere invention (though not a contradictory one). The second is the opposite of possibility, since the concept does away with itself.
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Both, however, are empty concepts. By contrast, the nihil privativum (no. 2) and the ens imaginarium (no. 3) are empty data for concepts. Without light given to the senses, we couldn't represent darkness, and without perceived

extended beings, we couldn't represent space. Negation and the mere form of intuition alike are not objects without something real.

Transcendental Dialectic

Transcendental Logic Second Division Transcendental Dialectic

Introduction

I. Transcendental Illusion

Earlier we described dialectic as a whole as a logic of illusion. That doesn't mean it is a theory of probability. For probability is truth known from insufficient grounds. Such knowledge is deficient, but it isn't deceptive. So probability need not be cut off from the analytic part of logic. Even less may appearance and illusion be taken as the same.

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For truth and illusion are not in the object as it is intuited. They are in the judgment about the object as it is thought. It is therefore right to say that the senses never err. That's not because they always judge correctly. It is because they don't judge at all. So truth and error, and with them illusion as the lure toward error, exist only in judgment, that is, only in how the object stands to our understanding. A cognition that fully agrees with the laws of the understanding contains no error. A representation of the senses contains no error either, since it holds no judgment. No force of nature, though, can swerve from its own laws on its own. So neither the understanding alone (with no other cause acting on it) nor the senses alone would err. The understanding wouldn't, because if it acts purely by its own laws, its effect (the judgment) has to agree with those laws. And agreement with the laws of the understanding is the for-

mal side of all truth. In the senses there is no judgment, either true or false. Since we have no sources of cognition besides these two, it follows that error comes about only when sensibility influences the understanding without being noticed. That influence mixes the subjective grounds of judgment into the objective ones.

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It pulls the objective ones away from their purpose*. Compare a moving body. Left to itself it would always keep to a straight line in one direction. But if another force acts on it at the same time in a different direction, its motion bends into a curve. To separate the understanding's own action from the force that gets mixed in, we need to treat the erring judgment as a diagonal between two forces. The two forces pull the judgment in different directions, as if enclosing an angle. That compound effect then has to be split into its two simple parts: the effect of understanding and the effect of sensibility. For pure judgments a priori, transcendental reflection does this. As already noted, it assigns every representation its place in the power of cognition that suits it, and so it also separates the influence of the one power on the other.

* Sensibility, set beneath the understanding as the object that the understanding's activity works on, is the source of real cognitions. The same sensibility is the ground of error, however, when it flows into the understanding's own activity and moves it to judge.

We are not here to deal with empirical illusion (optical illusion, for example).

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It appears when rules of the understanding that are otherwise correct are used empirically, and it misleads the power of judgment through the influence of imagination. Our concern is transcendental illusion alone. It affects principles that aren't even meant to be used on experience; if they were, we would at least have a touchstone for checking them. Instead, in spite of every warning from critique, it carries us entirely past the empirical use of the categories. It keeps stringing us along with the deceptive prospect of widening pure understanding. Principles that are applied wholly inside the limits of possible experience we will call immanent. Principles that are meant to fly over those boundaries

we will call transcendent. By transcendent principles I don't mean the transcendental use or misuse of the categories. That is a plain fault of a power of judgment that critique hasn't properly reined in, and that doesn't take enough care about the boundary of the ground where pure understanding alone is allowed to play. I mean real principles that call on us to pull up all those boundary posts and claim a whole new ground, one that acknowledges no boundary line anywhere. So transcendental and transcendent are different things. The principles of pure understanding that we presented above are meant for empirical use only, and not for transcendental use.

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Transcendental use means a use that goes beyond the boundary of experience. A principle that removes these limits, or even commands us to cross them, is called transcendent. If our critique can uncover the illusion in such presumptuous principles, then the principles of purely empirical use can be called immanent principles of pure understanding, as opposed to the transcendent ones.

Logical illusion is the illusion of fallacies. It consists in simply copying the form of reason, and it comes only from not paying attention to the logical rule. As soon as the rule is brought to bear on the case in front of us, the illusion vanishes completely. Transcendental illusion is different. It doesn't stop even once it has been uncovered, and transcendental critique has shown plainly that it is empty. (Example: the illusion in the statement that, in time, the world must have a beginning.) The reason is this. Our reason (viewed subjectively, as a human power of cognition) contains basic rules and maxims for its own use, and they have the complete look of objective principles. So the subjective necessity of connecting our concepts in a certain way, which suits the understanding, gets taken for an objective necessity: a determination of things in themselves. There's no escaping this illusion.

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We can't help seeing the sea as higher out in the middle than it is at the shore (we see the middle by higher rays of light). Or take something stronger still: even an astronomer can't stop the moon from looking larger when it rises, although this illusion doesn't deceive the astronomer.

So transcendental dialectic will settle for uncovering the illusion in transcendent judgments and preventing it from deceiving us. It can never make that illusion disappear, as logical illusion does, and stop it from being an illusion. For here we face a natural and unavoidable illusion, which rests on subjective principles itself and slips them in as objective ones. Logical dialectic, when it resolves fallacies, faces only a mistake in following principles, or an artificial illusion produced by imitating them. So there is a dialectic of pure reason that is natural and unavoidable. It's not a dialectic that some bungler stumbles into for lack of knowledge, or that some sophist has devised to confuse sensible people. It is stuck to human reason beyond any hope of removal. Even after we have exposed its deceptive show, it won't stop playing tricks on reason.

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It will keep pushing reason again and again into momentary errors, which always have to be corrected.

II. Pure Reason as the Seat of Transcendental Illusion

A. Reason in General

All our cognition starts with the senses, moves on to the understanding, and finishes in reason. Nothing higher in us can work over the material of intuition and bring it under the highest unity of thinking. Now I must explain this highest power of cognition, and I'm somewhat at a loss. Reason, like the understanding, has a merely formal use, a logical one, in which it ignores all content of cognition. It also has a real use, because it holds within itself the source of certain concepts and principles, which it takes neither from the senses nor from the understanding. Logicians explained the first use long ago: it is the power of inferring mediately (as distinct from immediate inferences, consequentiis immediatis). That doesn't yet make the second use clear, the one that produces concepts itself. Here reason is split into a logical power and a transcendental one.

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So we must find a higher concept for this source of cognition, one that takes in both. We can expect, following the model of the understanding's concepts, that the logical concept will also give us the key to the transcendental one, and that

the table of the logical functions will give us the family tree of the concepts of reason.

The first part of our transcendental logic defined the understanding as the power of rules. Here we set reason apart from it by calling reason the power of principles.

The word "principle" is ambiguous. Usually it means just a cognition that can be put to work as a principle, even if in itself and by origin it isn't a principium. Any general proposition can be the major premise of an inference of reason, even one drawn from experience by induction. That doesn't make the proposition a principium. The mathematical axioms are even general cognitions a priori (for example, "only one straight line can lie between two points"). So we rightly call them principles, relative to the cases that can fall under them. Yet that doesn't let me say I know this property of straight lines from principles, in general and in itself.

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I cognize it only in pure intuition.

I would therefore call cognition from principles the cognition in which I know the particular in the general by means of concepts. Every inference of reason is thus a way of deriving a cognition from a principle. The major premise, you see, always supplies a concept, and that concept makes everything that is subsumed under its condition known from the concept, according to a principle. Any general cognition can serve as the major premise of an inference of reason, and the understanding supplies general propositions of this kind a priori. So these, too, can be called principles, in view of how they might be used.

Look at these principles of pure understanding in themselves, though, and at where they come from. They are nothing like cognitions from concepts. For they wouldn't even be possible a priori if we didn't call on pure intuition (in mathematics) or on the conditions of possible experience in general. You can't infer, from the concept of anything at all that happens, that whatever happens has a cause. The principle instead shows how we can first form a determinate empirical concept of what happens.

The understanding therefore can't provide synthetic cognitions from concepts.

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These are what I properly call principles, pure and simple, while all general propositions can be called comparative principles.

People have long wished (and who knows, the wish may come true, however late) that someone would look for the principles behind civil laws, instead of their endless variety. For simplifying legislation, as the saying goes, may lie only there. But laws here are just limits on our freedom, which keep it within conditions where it agrees with itself throughout. They therefore concern something that is entirely our own work, and that we can cause through those very concepts. A different matter is how objects in themselves, the very nature of things, could stand under principles and be determined by concepts alone. To demand that is, if not impossible, at least very absurd. Whatever the truth of that (we still have to investigate it), this much is clear: cognition from principles (in itself) is quite different from mere cognition by the understanding. Cognition of the understanding can also go ahead of other cognitions, in the shape of a principle. Taken in itself, though, as far as it is synthetic, it doesn't rest on mere thinking and holds nothing general according to concepts.

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The understanding may be a power of unifying appearances by rules. Reason is then the power of unifying the rules of the understanding under principles. It therefore never goes first to experience or to some object. It goes to the understanding, to give a priori unity, through concepts, to the understanding's varied cognitions. Call this the unity of reason. It is a completely different sort of unity from anything the understanding can achieve.

That is the general concept of the power of reason, as far as it could be made clear with no examples at all (they can only come later).

B. The Logical Use of Reason

We distinguish between what is known directly and what is only inferred. A figure enclosed by three straight lines has three angles: that is known directly. That these angles add up to two right angles is only inferred. Because we need to

infer all the time, we end up used to it. We stop noticing the difference. Often we treat as directly perceived what we have only inferred, as with the so-called deception of the senses.

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Every inference has a proposition at its base, another that is drawn from it (the conclusion), and the consequence, by which the truth of the second is unfailingly connected with the truth of the first. If the inferred judgment is already so contained in the first that it can be derived without a third representation in between, the inference is called immediate (consequentia immediata). I'd prefer to call it an inference of the understanding. But if another judgment is needed besides the cognition used as the base, to produce the conclusion, then the inference is called an inference of reason. The proposition "All humans are mortal" already holds the propositions "Some humans are mortal," "Some mortals are human," and "Nothing immortal is human." These are immediate conclusions from the first. "All scholars are mortal" is different. It isn't in the underlying judgment, which never mentions the concept of scholars. It can be inferred from that judgment only through a mediating judgment.

In every inference of reason, I start by thinking a rule (major) by means of the understanding. Next, I place a cognition under the condition of that rule (minor), using the power of judgment. Last, I fix my cognition by the rule's predicate (conclusio).

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I do this a priori, then, by means of reason. The major premise is the rule, and it represents a relation between a cognition and its condition. That relation is what sets the different kinds of inference of reason apart. There are exactly three, just like the kinds of judgment in general. Judgments are divided by the way they express a cognition's relation in the understanding. The three are categorical, hypothetical and disjunctive inferences of reason.

In most cases the conclusion is put forward as a judgment to be tested. The question is whether it follows from judgments we already have, through which a wholly different object is thought. So I search the understanding for the assertion made in this conclusion. I want to know whether it turns up there, under

certain conditions, according to a general rule. Suppose I do find such a condition, and the conclusion's object fits under it. Then the conclusion is derived from a rule that also holds for other objects of cognition. This shows that reason, when it infers, tries to reduce the great variety of the understanding's cognitions to the fewest possible principles (general conditions), and so to bring about the highest unity among them.

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C. The Pure Use of Reason

Can reason be isolated? If so, is it still a source of its own, producing concepts and judgments that come from it alone, and through which it relates to objects? Or is it only a subordinate power that gives given cognitions a certain form, called logical? Through it the understanding's cognitions get ranked beneath one another, and lower rules beneath higher ones, as far as comparison can carry this out. (A higher rule's condition takes in the condition of the lower ones within its range.) We are now dealing with this question only for a first look. It is true that variety of rules and unity of principles is something reason demands. Reason wants the understanding to hang together with itself all the way through. The understanding does the same for the manifold of intuition: it brings it under concepts and so connects it. But a principle like that gives objects no law. Nor does it hold the ground that would let us cognize and determine them as such. It is merely a subjective law of thrift, for handling what our understanding has in store. By comparing the concepts, it cuts their general use down to the fewest possible. It doesn't give us the right to demand a certain harmony from the objects themselves.

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Such a harmony would favor the convenience and growth of our understanding. Nor does it let us give that maxim objective validity at the same time. In short, the question is whether reason in itself, that is, pure reason, contains synthetic principles and rules a priori, and what those principles may be.

The formal and logical way reason proceeds in its inferences already gives us enough to go on here. It shows what ground the transcendental principium of reason will have in synthetic cognition from pure reason.

First, an inference of reason isn't aimed at intuitions, to put them under rules the way the understanding does with its categories. It goes to concepts and judgments. Even when pure reason does go to objects, it has no direct relation to them or to their intuition. It relates only to the understanding and its judgments, which turn first to the senses and their intuition to fix an object for them. Reason's unity is therefore not the unity of a possible experience. It is essentially different, since the unity of experience is the understanding's unity. That everything that happens has a cause is not at all a principle that reason knows and lays down. It is what makes the unity of experience possible. It borrows nothing from reason.

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Reason, lacking this relation to possible experience, could never have commanded such a synthetic unity from mere concepts.

Second, in its logical use, reason looks for the general condition of its judgment (the conclusion). The inference of reason is itself just a judgment, reached by subsuming its condition under a general rule (the major premise). That rule faces the same attempt by reason in turn, and so the condition of the condition has to be looked for (by a prosyllogism) as long as that can be done. So we can see what reason's distinctive principle is, in its logical use generally: for the understanding's conditioned cognition, find the unconditioned, which completes its unity.

A logical maxim like this can become a principium of pure reason only if we assume something. If the conditioned is given, then the whole series of conditions that are subordinate to one another is given too, and that series is itself unconditioned (that is, it lies in the object itself and in its connection).

A principle of pure reason of this kind is plainly synthetic. From the conditioned we can analytically reach some condition, but not the unconditioned. Various synthetic propositions must also come from it, and pure understanding knows nothing of them.

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Pure understanding deals only with objects of a possible experience, and the cognition and synthesis of such objects are always conditioned. The unconditioned, though, if it really exists, can be considered on its own, with all the determinations that set it apart from anything conditioned. That must supply the material for many synthetic propositions a priori.

Still, the principles that follow from this highest principle of pure reason will be transcendent toward all appearances. No empirical use that fits it will ever be possible. It will therefore be entirely unlike all the principles of the understanding, which are used wholly immanently, since their only topic is the possibility of experience. Take the principle that the series of conditions extends to the unconditioned, whether in the synthesis of appearances or in thinking of things in general. Is it objectively correct, or not? What follows from it for the empirical use of the understanding? Or is there perhaps no objectively valid proposition of reason like it at all? Perhaps there is only a logical rule: climbing toward ever higher conditions, we should come closer to completing them, and so give our cognition the greatest unity of reason that we can achieve. Has this need of reason been mistaken, through a misunderstanding?

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Has it been counted as a transcendental principle of pure reason? Such a principle would rashly postulate that the objects themselves contain an unlimited, complete series of conditions. And what misreadings and delusions may creep in, even then, to inferences of reason that take their major premise from pure reason (a premise that may be closer to a petition than to a postulate), and that climb from experience up to its conditions? All of this will be our task in transcendental dialectic. We now want to develop that dialectic out of its sources, which lie deep in human reason. We will divide it into two chapters. The first will treat the transcendent concepts of pure reason. The second will treat its transcendent and dialectical inferences of reason.

Transcendental Dialectic First Book The Concepts of Pure Reason

However concepts from pure reason may be possible, they are not merely reflected concepts. They are inferred. The understanding's concepts are likewise thought a priori, prior to experience and serving it.

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But they hold only the unity of reflection on appearances, as far as appearances are supposed to belong necessarily to a possible empirical consciousness. They alone make cognition and determination of an object possible. They therefore supply the first material for inferring, and no earlier concepts a priori of objects exist from which they could be inferred. Their objective reality rests on one thing only. They make up the intellectual form of all experience, and so it must always be possible to show them at work in experience.

The very name "concept of reason" gives a first hint that such a concept won't be confined within experience. It is about a cognition, and every empirical cognition is only one part of it. That cognition might be the whole of possible experience, or its empirical synthesis. No actual experience ever fully reaches that whole, but every one belongs to it. Concepts of reason serve to comprehend, as concepts of the understanding serve to understand (perceptions). Where they contain the unconditioned, they are about something that all experience falls under, though it is itself never an object of experience. Reason is led to it by its inferences from experience. It uses this thing to estimate and measure how far its empirical use extends.

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But it never forms a member of the empirical synthesis. If such concepts have objective validity all the same, we may call them conceptus ratiocinati (concepts correctly inferred). If they have none, they have at least been got by trickery, through an illusion of inference, and can be called conceptus ratiocinantes (sophistical concepts). That can be settled only in the chapter about pure reason's dialectical inferences, so for now we can't take it up. For now, we'll do what we did when we named the pure concepts of the understanding categories. We'll give a new name of its own to the concepts of pure reason, transcendental ideas. We will now explain and justify that name.

First Book of the Transcendental Dialectic First Section Ideas in General

Languages are very rich, yet a thinking person is often stuck for the expression that exactly fits their concept. Without it, they can't make themselves properly understood to others, or even to themselves.

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To forge new words is to presume to make laws for a language, and that rarely works. Before resorting to such a desperate means, it is wise to look around in some dead, learned language. The concept and its fitting expression may already be there. Perhaps the old use of the word has become shaky through its creators' carelessness. Even so, it is better to pin down the meaning that was especially its own (even if we stay unsure that people then had exactly this meaning in mind) than to ruin one's purpose by being unintelligible.

So suppose a certain concept has just one word that fits it exactly, in an established meaning, and it is very important to distinguish that concept from related ones. Then it is wise not to be wasteful with the word. Don't use it for variety's sake as a synonym for others. Keep its own meaning for it, with care. Otherwise it easily happens that the word doesn't draw special attention, and gets lost in the crowd of other words with very different meanings. Then the thought is lost as well, the one thought that the word alone could have kept.

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Plato used the word "idea" in a way that makes clear he meant something that is never borrowed from the senses. It even goes far beyond the concepts of the understanding that Aristotle dealt with, since nothing in experience is ever found to match it. Ideas, for Plato, are archetypes of the things themselves, and not merely keys to possible experiences, as the categories are. In his view they flowed from the highest reason, and human reason received them from there. Human reason is no longer in its original state. It has to call the old ideas back, now much dimmed, by effort and recollection (which is called philosophy). I don't mean to start a literary investigation into the sense this exalted philosopher gave his word. I only point out that it is nothing unusual, in ordinary conversation as in writing, to understand an author better than the author understood themselves. You do this by comparing the thoughts the author gives on the subject. Perhaps the author didn't define the concept well enough, and so now and then spoke, or even thought, against their own intention.

Plato saw clearly that our power of cognition feels a much higher need than just spelling out appearances by synthetic unity so that they can be read as experience.

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He saw that our reason naturally climbs to cognitions that go much further than any object experience can give could ever match. Yet these cognitions are real, and are in no way mere figments of the brain.

Plato found his ideas mainly in everything practical*, that is, everything that rests on freedom, which in turn is among the cognitions that are a special product of reason. Imagine someone trying to get the concepts of virtue out of experience. Suppose they took what can serve at best as an example for imperfect illustration, and made it a model that is a source of cognition (as many have really done). They would turn virtue into an ambiguous non-thing that shifts with time and circumstances and can't be used as a rule.

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Everyone, on the other hand, becomes aware of this. When someone is held up to them as a model of virtue, they still carry the true original only in their own head. They compare the supposed model against it, and judge it only by that. That original is the idea of virtue. For this idea, all possible objects of experience are useful as examples (proof that what the concept of reason demands can be done to some degree), but not as archetypes. That no human will ever act fully as the pure idea of virtue requires does not show that the thought is somehow chimerical. For all judgment of moral worth or worthlessness is possible only by means of this idea. So the idea has to lie beneath every approach to moral perfection, even if obstacles in human nature, which can't be measured by degree, hold us far from it.

* Of course he stretched his concept to speculative cognitions as well, as long as they were given purely and wholly a priori. He even stretched it to mathematics, though mathematics finds its object only in possible experience. I can't follow him there. I can't follow his mystical deduction of these ideas either, or the

exaggerations that made them, so to speak, into things in their own right. Still, the elevated way he spoke on this subject can easily be read more gently, in a way that suits how things really are.

Plato's Republic has become a proverb. People take it for a striking example of dreamed-up perfection, the kind that could live only in the head of an idle thinker. Brucker finds it ridiculous that the philosopher said that no prince would ever rule well without a share in the ideas. But we would do better to follow this thought further. Where the excellent man leaves us without help, we should bring it to light by fresh effort, and not push it aside as useless on the excuse that it can't be done.

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That excuse is very wretched and harmful. Consider a constitution that gives people the greatest freedom possible, under laws that let each person's freedom stand together with everyone else's. (I don't mean the greatest happiness, because happiness will follow of itself.) At the very least that is a necessary idea. We have to put it at the base of every law, and not only of the first draft of a state constitution. And at the start we have to look past the obstacles in our way today. Those obstacles may not spring unavoidably from human nature so much as from neglect of the true ideas when laws were made. For nothing is more harmful, or less worthy of a philosopher, than the crude appeal to an experience that objects to the idea to no purpose. That experience wouldn't even exist if the right arrangements had been made in good time, following the ideas. It exists because crude concepts took their place, and these concepts, just because they were drawn from experience, have wrecked every good intention. Suppose lawmaking and government were set up to fit this idea ever more closely. Punishments would certainly become rarer. So Plato is quite reasonable when he says that a perfect arrangement of lawmaking and government would need no punishments of that kind at all. This last point may never come about.

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Even so, the idea is entirely right when it sets up this maximum as the archetype, so that we can bring the lawful constitution of human beings closer and closer to the greatest perfection possible. For no one can say, and no one should

try to say, what the highest degree is at which humanity has to stop. No one can say how wide the gap must be that always remains between the idea and its carrying out. That is just because it is freedom, and freedom can go beyond any boundary anyone names.

Plato is right to see clear proofs that things originate in ideas. He sees them in morals, where human reason shows real causality and ideas become effective causes (of actions and of their objects). But he also sees them in nature itself. A plant, an animal, the orderly layout of the cosmos, and presumably the whole order of nature along with it, make it plain that they could exist only by following ideas. No single creature, under the particular conditions of its existence, matches the idea of the most perfect of its kind. In the same way a human being doesn't match the idea of humanity, which each of us carries in our own soul as the archetype of our actions. Yet in the highest understanding those ideas are individual, unchangeable and thoroughly determined, and they are the original causes of things.

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Only the whole that they form together in the universe fits that idea completely. Strip away the exaggeration in how he puts it. Then the philosopher's soaring leap deserves respect and imitation. He rises from a copy-like way of looking at the physical side of the world's order up to its architectonic connection by purposes, that is, by ideas. In the area of the principles of morality, lawmaking and religion, though, it is a quite special merit. Here the ideas are what make experience (of the good) possible at all, even though experience can never express them completely. People fail to see this merit only because they judge it by the same empirical rules whose validity as principles the ideas were meant to abolish. For where nature is concerned, experience gives us the rule and is where truth comes from. Where moral laws are concerned, experience is (sadly!) the mother of illusion. It is utterly objectionable to take the laws for my conduct from what people actually do, or to hem them in by it.

Working out all these reflections properly would, in fact, give philosophy its own special dignity. But instead of them we are busy now with a job that is less splendid, though not without merit.

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We must level the ground for those majestic moral buildings and make it firm enough to build on. That ground is full of mole tunnels, dug by a reason that goes on digging for treasure, in vain but with good confidence, and these tunnels make the building unsafe. So what we now have to know exactly is the transcendental use of pure reason, with its principles and ideas. Only then can we properly determine and assess the influence and value of pure reason. Before I put this preliminary introduction aside, though, I have a request. It is for those who really care about philosophy (which is more than you commonly find). If this and what follows convinces them, I ask them to take the word "idea" under their protection in its original meaning. It shouldn't slip any further in among the other words that people use for all sorts of representations, in careless disorder, with science the loser. We aren't short of names that fit each kind of representation properly, and we don't need to trespass on what belongs to another. Here is a ladder of them. The genus is representation in general (repraesentatio). Below it comes representation with consciousness (perceptio). A perception that refers only to the subject, as a change in its state, is sensation (sensatio). An objective perception is cognition (cognitio).
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Cognition comes in two kinds, intuition and concept (intuitus vel conceptus); an intuition refers directly to the object and is singular, while a concept refers to it indirectly, by means of a mark that several things can share. A concept is either empirical or pure. If a pure concept comes only from the understanding (and not from the pure image of sensibility), it is named a notio. A concept built from notions that goes beyond the possibility of experience is the idea, or concept of reason. Anyone who has got used to this distinction will find it unbearable that the representation of the color red should be called an idea. It doesn't even deserve the name notion (a concept of the understanding).
First Book of the Transcendental Dialectic Second Section The Transcendental Ideas

The analytic showed us by example that the bare logical form of our cognition can be where pure concepts a priori come from. These concepts represent objects before all experience. Or rather, they indicate a synthetic unity.
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That unity alone makes an empirical cognition of objects possible. The form of judgments, once changed into a concept of how intuitions are synthesized, gave rise to the categories, which guide every use of the understanding in experience. In the same way we can expect the form of inferences of reason to hold the source of special concepts a priori. This will happen when we apply that form to the synthetic unity of intuitions, as the categories direct. We can call these concepts pure concepts of reason, or transcendental ideas. They will determine, by principles, how the understanding is used in all of experience.
In its inferences, the function of reason was to give cognition universality through concepts. An inference of reason is itself a judgment that is settled a priori across the whole range of its condition. I could take the proposition "Caius is mortal" from experience, through the understanding alone. But I look for a concept that contains the condition under which the predicate of this judgment (assertion in general) is given. Here that is the concept of a human being. Once I have subsumed my object under that condition, taken in its full range (all human beings are mortal), I determine my cognition of it accordingly (Caius is mortal).
In the conclusion of an inference of reason, then, we narrow a predicate down.
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We narrow it to one particular object, after first thinking the predicate in the major premise, in its whole extent, under some condition. When the extent is complete with respect to such a condition, we call its size universality (Universalitas). In the synthesis of intuitions, what matches it is allness (Universitas), the totality of conditions. So the transcendental concept of reason is just the concept of a totality of conditions for any conditioned thing that is given. Only the unconditioned can make a totality of conditions possible. And the other way around, a totality of conditions is itself always unconditioned. That lets us

explain a pure concept of reason, in general, through the concept of the unconditioned, to the extent that it holds a ground for the synthesis of what is conditioned.

The categories give the understanding a certain number of kinds of relation. So there will be that many different pure concepts of reason. So we shall have to look for three things. First, an unconditioned for the categorical synthesis in a subject. Second, one for the hypothetical synthesis that links the members of a series. Third, one for the disjunctive synthesis that joins the parts in a system.

For there are just as many kinds of inferences of reason. Each kind climbs through prosyllogisms toward the unconditioned. One climbs to a subject that is itself no longer a predicate. Another climbs to a presupposition.

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That presupposition presupposes nothing further. The third climbs to a collection made up of the members of a division, and nothing more is needed to complete the division of a concept. Pure concepts of reason about totality in the synthesis of conditions are therefore necessary, and they are rooted in the nature of human reason. They are so at least as tasks: the task of carrying the unity of the understanding on, if possible, all the way to the unconditioned. This stays true even if these transcendental concepts have no fitting use in concrete cases. They would then serve no purpose beyond steering the understanding in a direction where its use is stretched as far as it will go and, at the same time, brought into complete agreement with itself.

Now we are speaking of the totality of conditions and of the unconditioned, as the common title of all concepts of reason. Here again we meet an expression that we can't do without, yet can't use safely either, because long misuse has left it ambiguous. "Absolute" is among the few words that began life fitted to one concept, a concept for which no other word of the same language fits exactly afterwards. Suppose the word is lost. Or suppose, and it comes to the same thing, that its use keeps wavering.

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Then the concept itself must be lost with it, and this concept occupies reason a great deal, so that all transcendental judging would suffer badly without it. These days "absolute" is often used merely to say that something is true of a thing as it is in itself, and so inwardly. Then "absolutely possible" would mean possible in itself (interne). That is really the least we can say about an object. At other times the word is used to say that something is valid in every relation, without restriction (absolute rule, for example). Then "absolutely possible" would mean possible in every respect and in every relation. That, in turn, is as much as I can say about whether a thing is possible. These two meanings do sometimes coincide. Whatever is inwardly impossible, for example, is also impossible in every relation, and so absolutely impossible. But in most cases they lie infinitely far apart. Because something is possible in itself, I can't conclude that it is possible in every relation, and so absolutely possible. Indeed, I'll show later that absolute necessity by no means depends on inner necessity in every case. The two must not be treated as having the same meaning. Take something whose opposite is inwardly impossible.

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Its opposite is of course also impossible in every respect, and so the thing itself is absolutely necessary. But I can't turn this around. I can't say that if something is absolutely necessary, its opposite is inwardly impossible. That would mean that, for things, absolute necessity and inner necessity are the same. For in certain cases inner necessity is a completely empty expression, and we can't connect the slightest concept with it. By contrast, the concept of a thing's necessity in every relation (to everything possible) brings quite particular determinations with it. A philosopher can never be indifferent to losing a concept that serves speculative philosophy so widely. So I hope they won't be indifferent to fixing the expression the concept hangs on, and to keeping it with care.

I will use the word "absolute" in this wider meaning, then. I will set it against what is valid only comparatively, or in some particular respect. The latter is restricted to conditions. The former holds without restriction.

The transcendental concept of reason always aims at one thing only: absolute totality in the synthesis of conditions. It never comes to rest until it reaches what is unconditioned without qualification, that is, unconditioned in every respect. For pure reason leaves everything to the understanding.

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The understanding is the faculty that first deals with objects of intuition, or rather with their synthesis in the imagination. Reason reserves for itself alone the absolute totality that comes up when concepts of the understanding are used. It tries to push the synthetic unity that a category thinks all the way to what is unconditioned without qualification. So we may call this kind of unity reason's unity of appearances, and call the unity that a category expresses the understanding's unity. Reason, then, is concerned only with how the understanding is used. It is not concerned with the understanding as the ground of possible experience. (The absolute totality of conditions can't be used as a concept in any experience, because no experience is unconditioned.) What reason does is prescribe a direction for the understanding, toward a certain unity of which the understanding itself has no concept. This unity aims to gather all the understanding's acts, for each object, into one absolute whole. That is why pure concepts of reason, when used on objects, are always transcendent. Pure concepts of the understanding are different. By their nature they must always be used immanently, because they are confined to possible experience.

By an idea I mean a necessary concept of reason for which no matching object can ever be given to the senses. The pure concepts of reason we have been weighing are therefore transcendental ideas. They are concepts of pure reason, because they treat all cognition from experience as settled by an absolute totality of conditions.

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Nobody invented them at will. The nature of reason itself sets them as a task, so they necessarily bear on the whole use of the understanding. Finally, they are transcendent. They go beyond the boundary of all experience, and so no object can ever turn up in experience that would be adequate to a transcendental idea. To call something an idea says a great deal about the object, if we think of it as

an object of the pure understanding. It says very little about the subject, meaning its actuality under empirical conditions. The reason is this: as the concept of a maximum, an idea can never be given in concreto as a perfect match. In the merely speculative use of reason, though, that match is really the whole point. And getting close to a concept that is never reached in practice is no better than missing it altogether. So people say of such a concept: it is only an idea. They could say, for instance, of the absolute whole made up of all appearances that it is only an idea, because we can never draw up anything of the kind as an image, so it stays a problem with no solution. The practical use of the understanding is different. There all that matters is acting by rules.

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So the idea of practical reason can always be actually given in concreto, though only in part. It is even indispensable: no practical use of reason works without it. Acting on it is always bounded and falls short, but within boundaries that can't be fixed. So the concept of absolute completeness always has some influence on it. For that reason the practical idea is always highly fruitful, and for real actions it can't be done without. In it pure reason actually has causality: it brings about in fact what its concept contains. So we can't say of wisdom, as if brushing it off: it is only an idea. Wisdom is the idea of one necessary unity among all possible purposes, and for exactly that reason it has to serve as the rule for everything practical, as the original condition, or at least a restricting one.

We have to say that the transcendental concepts of reason are only ideas. That doesn't make them superfluous or empty. For even though they can't determine any object, deep down and without our noticing, they can serve the understanding as a canon for using itself widely and consistently. They don't let the understanding cognize more objects than it would by its own concepts. But they do guide it better and further in that cognition.

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Not to mention that they may perhaps open a way over from concepts of nature to practical ones. In that way they could give the moral ideas themselves a hold, and a connection with the speculative cognitions of reason. We will have

to wait for light on all this in what follows.

Our aim lets us set the practical ideas aside here. We consider reason in its speculative use alone, and within that, more narrowly still, in its transcendental use alone. The path to take is the one we took earlier in deducing the categories. We weigh the logical form of the cognition of reason, and we ask whether that form might also make reason a source of concepts. Such concepts would let us regard objects in themselves as determined synthetically a priori, in connection with one or another function of reason.

Reason, taken as the power behind one particular logical form of cognition, is the power of inferring, which means judging indirectly: the condition of one possible judgment is brought under the condition of a given one. The given judgment is the general rule (major premise, Major). Next comes a second possible judgment. Its condition is brought under the rule's condition, and that gives the minor premise (Minor). The actual judgment states the rule's assertion in the case brought under it.

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That judgment is the conclusion (Conclusio). The rule, after all, says something in general under a certain condition. In the case at hand that condition is met. So what held in general under that condition is also taken to hold in this case, which carries the condition with it. It is easy to see that reason gets to a cognition by acts of the understanding that make up a series of conditions. Say I reach the proposition "All bodies are changeable" only like this. I begin with a more remote cognition, in which the concept of body does not yet occur but which holds the condition for it: "Everything composite is changeable." From there I move to a nearer one that stands under the first one's condition: "Bodies are composite." Only then do I move to a third cognition. This one now connects the remote cognition (changeable) with the one in front of me: "So bodies are changeable." Through a series of conditions (premises) I have reached a cognition (conclusion). Now take any series whose exponent is given (whether of a categorical or of a hypothetical judgment). Such a series can always be con-

tinued. The very same act of reason therefore leads to the ratiocinatio polysyllogistica, a chain of inferences that can be run on to any length. It can run toward the conditions (per prosyllogismos).

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Or it can go the other way, toward what is conditioned (per episyllogismos).

Soon, though, we notice something. The chain, or series, of prosyllogisms has to stand differently toward the faculty of reason than the downward series does. By prosyllogisms I mean the inferred cognitions on the side of the grounds, or conditions, of a given cognition, so, in other words, the upward series of inferences of reason. The downward series is how reason moves forward toward what is conditioned, through episyllogisms. For in the first case the cognition (conclusio) is given only as something conditioned. Reason can reach it only by assuming, at the very least, that every member of the series on the side of the conditions is given (a totality in the series of premises). Only if that is assumed can the judgment in front of us be made a priori. On the side of the conditioned, the consequences, we think only of a series that is still becoming. It isn't already fully presupposed or given, so what we think is merely a potential advance. So when a cognition is viewed as conditioned, reason is forced to treat the upward series of conditions as complete and as given in its totality. Now suppose the same cognition is also viewed as the condition of other cognitions.

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These form a series of consequences running downward. Then reason doesn't care how far this progression reaches a parte posteriori, or whether this series can ever be a totality at all. It has no need of such a series for the conclusion lying before it, since its grounds a parte priori already determine and secure that conclusion well enough. On the side of the conditions, the series of premises may or may not have a first member, a highest condition, and so may or may not be unbounded a parte priori. Either way it has to hold a totality of the condition, even if we could never succeed in grasping it. And the series as a whole must be true without condition, if what is conditioned, which counts as a consequence flowing from it, is to be accepted as true. This is a demand of reason.

Reason announces its cognition as determined a priori and as necessary. That cognition is necessary either in itself, and then it needs no grounds, or, if it is derived, as one link in a chain of grounds that is itself true without condition.
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First Book of the Transcendental Dialectic Third Section System of the Transcendental Ideas
This is not a logical dialectic that sets aside all the content of cognition and does nothing but expose the false illusion in the form of inferences of reason. We are dealing with a transcendental dialectic. It has to hold, wholly a priori, the source of certain cognitions out of pure reason, and of inferred concepts. Their object can't be given empirically at all, so they lie entirely beyond the power of the pure understanding. Our use of cognition in the transcendental way must relate naturally to the logical way, in inferences and in judgments alike. From that relation we concluded two things. First, there can be only three kinds of dialectical inference, matching the three kinds of inference by which reason moves from principles to cognitions. Second, all their work is to climb from the conditioned synthesis, to which the understanding stays bound, up to the unconditioned one, which the understanding can never reach.
Now what is common to every kind of relation that our representations can have is: 1.
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the relation to the subject, 2. the relation to objects, taken as appearances or else as objects of thought generally. Combine this subdivision with the one above. Every relation among representations that we can turn into a concept or an idea is then threefold: 1. the relation to the subject, 2. the relation to what is manifold in the object as it appears, 3. the relation to all things in general.
All pure concepts, in general, deal with the synthetic unity of representations. Concepts of pure reason (transcendental ideas) deal with the unconditioned synthetic unity of all conditions, whatever they may be. So we can sort all transcendental ideas into three classes. The first class holds one thing: the thinking

subject's absolute (unconditioned) unity. The second holds the series of conditions of appearance, in its absolute unity. The third holds the condition of all objects of thought, in its absolute unity.

Psychology has the thinking subject as its object. Cosmology has the sum of all appearances, the world. Theology has the thing that holds the highest condition for the possibility of everything thinkable, the being of all beings. From this, pure reason hands us the idea of a transcendental teaching about the soul (psychologia rationalis).

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It hands us another idea for a transcendental world-science (cosmologia rationalis). And it hands us a last one for a transcendental knowledge of God (Theologia transzendentalis). The understanding is not where even a bare outline of one of these sciences comes from. That holds even if the understanding were joined with reason's highest logical use, meaning every inference one can think of, to move on from one of its objects (appearance) to all the others, out to the farthest links of the empirical synthesis. The outline is simply a pure, authentic product of pure reason, or a problem it poses.

Which modi of the pure concepts of reason fall under these three headings of transcendental ideas will be set out in full in the next chapter. They follow the thread of the categories. For pure reason never relates straight to objects. It relates to the concepts of the understanding about them. Likewise only a full working-out can make clear how reason, simply by using in a synthetic way the same function it uses in the categorical inference of reason, has to reach the concept of the thinking subject's absolute unity. It will also show how the logical procedure in the hypothetical kind has to lead to the idea of the absolutely unconditioned within a series of given conditions.

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And it will show how the bare form of the disjunctive inference of reason has to bring with it the highest concept of reason: the concept of a being of all beings. At first glance this thought seems very paradoxical.

An objective deduction of these transcendental ideas, like the one we could give for the categories, isn't really possible. For in fact there is no object for them to relate to that could be given as a match, simply because they are only ideas. A subjective account of where they come from in the nature of our reason was something we could attempt, and the present chapter has done that.

It's plain that pure reason has one aim: the absolute totality of the synthesis, on the side of the conditions (whether of inherence, of dependence, or of concurrence). Reason has no business with absolute completeness on the conditioned side. It needs only the former, in order to presuppose the whole series of conditions and so to give it to the understanding a priori. Once a condition has been given completely (and unconditionally), no concept of reason is needed any more for carrying on the series. The understanding takes every step downward by itself. It goes from the condition to the conditioned.

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In this way the transcendental ideas serve only for climbing up the series of conditions, as far as the unconditioned, that is, as far as the principles. Going down to the conditioned is another matter. Our reason does make wide logical use of the laws of the understanding there, but no transcendental use at all. Say we try to form an idea of such a synthesis (of the progressus) in its absolute totality, for example the whole series of every future change in the world. That is a thing of thought (ens rationis), which we think up at will and which reason does not necessarily presuppose. The possibility of something conditioned does presuppose the totality of its conditions, but not the totality of its consequences. So such a concept is not a transcendental idea, and transcendental ideas are all we are dealing with here.

Last of all, we also notice that a certain connection and unity shows among the transcendental ideas themselves. Through them pure reason puts all its cognitions into a system. Going from the cognition of oneself (the soul) to the cognition of the world, and by way of that to the original being, is such a natural step that it seems to resemble the logical progress of reason.

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That progress runs from the premises to the conclusion*. Whether a hidden kinship really lies underneath here, like the one between the logical and the transcendental procedure, is another question. We can expect its answer only later, as these investigations go on. For now we have already reached our aim.
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That is because we were able to pull the transcendental concepts of reason out of an ambiguous position, in which they usually get mixed in with other concepts in philosophers' theories, and philosophers don't even properly tell them apart from concepts of the understanding. We have been able to give their origin and, with it, their definite number, beyond which there can be none. We have also been able to present them in a systematic connection. This marks off and limits a special field for pure reason.
* Metaphysics has only three ideas as the real purpose of its inquiry: God, freedom and immortality. The second, together with the first, is meant to bring us to the third, as a conclusion that has to follow. Everything else this science deals with serves it only as a means of reaching these ideas and their reality. It doesn't need them for the sake of natural science. It needs them to get beyond nature. Insight into them would make theology, morals and, through the two together, religion, and so the highest purposes of our existence, depend only on the speculative power of reason and on nothing else. In a systematic presentation of those ideas, the order just given, as the synthetic one, would be the most fitting. But in the work that has to come before it, the analytic order, which turns this order around, will suit the purpose better. We start with what experience hands us directly, the doctrine of the soul. We go on to the doctrine of the world, and then to the cognition of God, and so carry out our great plan.
Transcendental Dialectic Second Book The Dialectical Inferences of Pure Reason
One might put it this way: for a mere transcendental idea there is an object of which we have no concept at all, even though reason produces the idea quite necessarily by its original laws. Indeed, for an object that is to meet the demand

of reason, no concept of the understanding can exist. By that I mean a concept that can be shown, and made intuitive, in a possible experience. It would still be better, and less risky for misunderstanding, to put it another way.

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We should say that we can know nothing of the object that answers to an idea, though we can form a problematic concept of it.

Now the transcendental (subjective) reality of the pure concepts of reason rests, at least, on this: that a necessary inference of reason leads us to such ideas. So there will be inferences of reason that contain no empirical premises. Using them, we reason from something known to something else, of which we have no concept, and to which we nonetheless give objective reality through an unavoidable illusion. Judged by their result, such inferences should be called sophistical rather than inferences of reason. Because of what prompts them, though, they can still carry the latter name, since they aren't made up and didn't arise by chance. They sprang from the nature of reason. These are tricks of argument that come not from people but from pure reason itself. Not even the wisest person can break free of them. After much effort, they may perhaps avoid the error. But they can never get rid of the illusion that keeps nagging and mocking them.

These dialectical inferences of reason come in only three kinds, one for each of the ideas in which their conclusions end. Take the first class.

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I start with the subject's transcendental concept, which holds nothing manifold, and conclude to the absolute unity of that very subject. In that way I have no concept at all of the subject. This dialectical inference I will name the transcendental paralogism. The second class of sophistical inferences starts from the transcendental concept of an absolute totality: the series of conditions for any given appearance. From the fact that my concept of the series' unconditioned synthetic unity is always self-contradictory on one side, I conclude that the opposite unity is the correct one. Yet of this one too I have no concept. The condition reason is in during these dialectical inferences I will call the antinomy of pure reason. Finally, in the third kind of sophistical inference I start from the

totality of conditions needed to think objects in general, as far as they can be given to me. From that I conclude to an absolute synthetic unity that covers every condition of the possibility of things in general. That is, from things I don't know through their bare transcendental concept, I infer to a being of all beings. I know this being through a transcendent concept even less, and I can form no concept of its unconditioned necessity. This dialectical inference of reason I will name the Ideal of pure reason.

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Second Book of the Transcendental Dialectic First Chapter The Paralogisms of Pure Reason

A logical paralogism is an inference of reason that is false in form, whatever its content may be. A transcendental paralogism, though, has a transcendental ground for reasoning falsely in form. Such a fallacy, then, is rooted in the nature of human reason. It carries with it an illusion that can't be avoided, though it can be resolved.

Now we come to a concept that didn't appear in the general list of transcendental concepts earlier. It still has to be counted among them, yet that doesn't change the table in the slightest, nor does it show the table to be defective. This is the concept, or, if you prefer, the judgment: I think. But one can see right away that it serves as the vehicle for every concept, the transcendental ones included. It is always counted in among them, and so it is transcendental as well. But it can have no special heading of its own.

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That is because it serves only to bring in all thinking as belonging to consciousness. Even so, though it is free of anything empirical (the impression of the senses), it serves to tell apart, by how our power of representation works, two kinds of objects. As thinking, I am an object of inner sense, and I am called soul. What is an object of the outer senses is called body. So the word "I," said of a thinking being, already points to the object of psychology. We may call that psychology the rational doctrine of the soul, as long as all I ask to know about

the soul is what can be concluded from the concept "I" as it occurs in all thinking, apart from any experience (which would determine me more closely and in concreto).

The rational doctrine of the soul really is an undertaking of that sort. For if even the slightest empirical element of my thinking, some particular perception of my inner state, got mixed into what this science rests its knowledge on, it would no longer be a rational doctrine of the soul. It would be an empirical one. So we have a science already, or so it is claimed, resting on the single proposition "I think." We can quite fittingly examine whether it has a ground or not, as the nature of a transcendental philosophy requires. We needn't be bothered that I do have an inner experience in this proposition, the one that states my perception of myself.

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Nor should it bother us that, as a result, the rational doctrine of the soul built on this proposition is never pure but rests partly on an empirical principium. For this inner perception is nothing more than the bare apperception "I think." It is this that makes all transcendental concepts possible, the ones in which we say: I think substance, cause, and so on. Inner experience in general and how it is possible, or perception in general and how it relates to other perception, can't be counted as empirical cognition so long as no particular difference or determination of it is given empirically. Instead it has to be taken as cognition of the empirical in general. It belongs in the study of how any experience is possible, and that study is certainly transcendental. The slightest object of perception (pleasure or displeasure, say) added to the general representation of self-consciousness would at once turn rational psychology into an empirical one.

So the only text rational psychology has is "I think." From it, this science is supposed to unfold all its wisdom. One can see at once that this thought, once it is applied to an object (myself), can hold only transcendental predicates of that object. The slightest empirical predicate would spoil the rational purity of the science and its independence from all experience.

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Here we will only have to follow the guiding thread of the categories. But a thing, I, as a thinking being, is given here first. So we will not alter the order the table gives the categories among themselves. We will, however, begin here with substance, since that category represents a thing in itself, and then work back through the others in order. The topics of rational psychology, from which all its other content has to be derived, are therefore these:

1 The soul is substance.

2 Simple in its quality.

3 Numerically identical across the different times in which it exists, that is, unity (not plurality).

4 In relation to possible objects in space*.

* A reader may not easily guess from these expressions, in their transcendental abstractness, what they mean psychologically, or why the last attribute of the soul belongs to the category of existence. That reader will find them explained and justified well enough in what follows. As for the Latin expressions that have crept in where equivalent German ones should stand, against the taste of good style, I have this excuse to offer, for this section and for the whole work: I preferred to give up some elegance of language rather than make school use harder by the slightest obscurity.

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The pure doctrine of the soul gets all its concepts from these elements, simply by putting them together, without recognizing any other principium at all. Substance considered only as an object of inner sense yields the concept of immateriality. As simple substance, it yields incorruptibility. Its identity, as intellectual substance, gives personality. All three of these together give spirituality. Being related to objects in space gives rise to commerce with bodies. The result is thinking substance presented as the principium of life in matter: soul (anima), and the ground of animality. Animality, restricted by spirituality, gives immortality.

Four paralogisms connect with this. They belong to a transcendental doctrine of the soul, which people wrongly take for a science of pure reason about the nature of our thinking being.

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The only thing we can lay at its base is the simple representation "I," which is completely empty of content in itself. One can't even say it is a concept. It is a bare consciousness that accompanies all concepts. All that is represented through this I, or this he or it (the thing that thinks), is a transcendental subject of thoughts = x and nothing more. We know this subject solely by the thoughts that serve as its predicates. Taken apart from them, we can have no concept of it, not even the slightest. So we keep turning around it in a constant circle, because we always have to use its representation already in order to judge anything about it. This inconvenience can't be separated from it, because consciousness by itself isn't so much a representation that picks out some particular object as the form that any representation has, so far as it deserves to be called cognition. For only of cognition can I say that by it I think something.

It has to seem strange right from the start that the condition under which I think at all, which is therefore only a feature of my own subject, should hold at the same time for everything that thinks. It also seems strange that we can presume to build an apodictic and universal judgment on a proposition that looks empirical. The judgment is this: that everything that thinks is constituted as the declaration of self-consciousness says it is in me.

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The reason for this lies in the fact that we necessarily have to attribute to things a priori all the properties that make up the conditions under which we can think them at all. Now no outer experience can give me even the faintest representation of a thinking being. Only self-consciousness can. So such objects are simply this consciousness of mine, carried over to other things. Only by that transfer are they represented as thinking beings at all. The proposition "I think" is taken here only problematically. I do not take it as holding the percep-

tion of any existence (the Cartesian cogito, ergo sum). I take it in its bare possibility. My only aim is to see which properties might follow, for the subject of this very simple proposition, whether or not such a subject exists.

Suppose our pure cognition by reason of thinking beings in general had more than the cogito underneath it. Suppose we also drew on observations of how our thoughts play out, and on the laws of nature governing the thinking self that could be gathered from them. The result would be an empirical psychology, a sort of physiology of inner sense. It could perhaps explain the appearances of inner sense. But it could never serve to uncover properties that lie outside possible experience altogether (such as simplicity).

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It also couldn't teach anything apodictically about thinking beings in general, about their nature. So it would not be a rational psychology.

Taken problematically, the proposition "I think" holds the form of every judgment of the understanding. It also accompanies all the categories as their vehicle. So it is clear that the inferences drawn from it can involve only a transcendental use of the understanding. This use turns away every admixture of experience. From what we showed above, we can already tell in advance that we can form no favorable idea of how it will turn out. Let us trace it with a critical eye through every predicament of the pure doctrine of the soul. To keep it short, though, we will let the examination run on in one continuous line.

First, a general remark can make us more watchful about this kind of inference. Merely thinking never gives me cognition of an object. I cognize an object only when I determine a given intuition in light of the unity of consciousness, which is what all thinking consists of. So I don't cognize myself just by being aware that I think. I cognize myself when I am aware of my own intuition as determined in light of the function of thinking.

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None of the modi of self-consciousness in thinking, taken by itself, is yet a concept of the understanding for objects (a category); they are mere functions, and from them thinking gets no object to cognize, so it doesn't get me myself as an object either. What counts as the object is not the consciousness of what deter-

mines. It is only the consciousness of the self that can be determined, meaning my inner intuition, so far as its manifold can be combined in keeping with the general requirement of apperception's unity in thinking.

1) In every judgment, it is always I who am the subject that determines the relation making up the judgment. That I, who think, can always be taken in thinking as a subject, as something that doesn't merely attach to thinking like a predicate, and must count as one, is an apodictic and even identical proposition. But it doesn't mean that I, as an object, am a being that subsists on its own, or a substance. That claim goes very far. It therefore requires data that are not found in thinking at all, and perhaps, if I regard the thinker purely as a thinker, more than I will ever meet in it.

2) In every act of thinking, the I of apperception is a singular, and it can't be dissolved into a plurality of subjects. So it stands for a logically simple subject. That much is already contained in the concept of thinking, so this is an analytic proposition.

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But that doesn't mean the thinking I is a simple substance. That would be a synthetic proposition. The concept of substance always refers to intuitions, and in my case these can only be sensible. These lie entirely outside the field of the understanding and its thinking. Yet when we call the I simple in thinking, the only thing we are really talking about is thinking. It would also be a wonder if something that otherwise takes so much effort were handed to me here so directly, in the poorest representation of all, as if by a revelation. I mean the effort of working out which part of what an intuition lays out is substance, and, still harder, whether that substance might be simple too (the way the parts of matter are).

3) The proposition of my identity amid whatever manifold I am conscious of is likewise one that lies in the concepts themselves, and so it is an analytic proposition. But this identity of the subject, which I can become aware of in each of its representations, has nothing to do with the intuition by which it is given as an

object. So it also can't mean personal identity, which is the consciousness that one's own substance, as a thinking being, stays the same through every change of state. Merely analyzing the proposition "I think" could not prove that.

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We would need various synthetic judgments, which rest on the given intuition.

4) I set apart the existence that is mine, that of a thinking being, from the things outside me (my body is one of them). That too is an analytic proposition. After all, other things are simply what I think of as different from me. But I learn nothing from this about whether I could be conscious of myself at all without things outside me, the things that supply my representations. So I learn nothing about whether I could exist as a mere thinking being (without being a human being).

So analyzing my consciousness of myself in thinking in general gains not the slightest thing toward cognizing myself as an object. A logical account of thinking in general is wrongly taken to be a metaphysical determination of the object.

Our whole Critique would face a great stumbling block, in fact its only one, if some way existed to prove a priori that thinking beings, one and all, are simple substances in themselves. As such they would inseparably carry personality with them (which follows from the same ground of proof), and they would be conscious of their existence as separate from all matter. For in that way we would have taken a step beyond the sensible world. We would have entered the field of noumena.

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Now let no one dispute our right to spread out further in that field, to cultivate it and, if each person's lucky star favors them, to take possession of it. The reason is that the claim "A thinking being is, just as such, a simple substance" is a synthetic proposition a priori. For one thing, it goes beyond the concept at its base and adds a kind of existence to thinking in general. For another, it attaches to that concept a predicate (simplicity) that no experience can supply. So synthetic propositions a priori would be workable and admissible not merely, as we have claimed, in relation to objects of possible experience, and as principles of

the possibility of that experience itself. They could also apply to things in general and in themselves. That consequence would put an end to this whole Critique and would order us to leave everything as it was. But the danger is not so great here, once one looks at the matter more closely.

In the procedure of rational psychology a paralogism is at work. It is set out in the following inference of reason:

What can't be thought other than as a subject also doesn't exist other than as a subject, and so is substance.

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Now, if we regard a thinking being just as such, it cannot be thought except as a subject.

Therefore it exists only as a subject too, that is, as a substance.

The major premise talks about a being that can be thought of in any respect at all, and so also in whatever way intuition may give it. The minor premise, though, talks about that being only as it considers itself, as subject, purely in connection with thinking and the unity of consciousness, and not also in connection with the intuition by which it is given as an object for thinking. So the conclusion is drawn per sophisma figurae dictionis, that is, by a fallacy*.

* Thinking is taken in two quite different meanings in the two premises. In the major premise it means thinking as it goes to an object in general (and so as the object may be given in intuition). In the minor premise it means thinking only as it consists in the relation to self-consciousness. There no object at all is thought. What gets represented is only one's relation to oneself as subject, which is the form of thinking. The first premise speaks of things that can only be thought as subjects. The second does not speak of things at all. It speaks of thinking (leaving every object out of account), in which the I is always what serves as consciousness's subject. So the conclusion cannot be: I can't exist other than as a subject. It can only be: in thinking my existence I can use myself only as the subject of the judgment. That is an identical proposition, and it reveals absolutely nothing about the kind of existence I have.

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That this resolution of the famous argument into a paralogism is quite correct is plainly shown if one turns to the general remark attached to the systematic presentation of the principles, and to the section on noumena. That discussion proved that the concept of a thing able to exist for itself as subject, and not as a mere predicate, has no objective reality of its own. That is, one can't know whether any object can correspond to it, because we can't see how such a way of existing could be possible. So it yields no cognition whatsoever. Suppose the concept is to point, under the name of substance, to an object that can be given, and to become a cognition. Then a persistent intuition has to be laid at its base. Such an intuition is the one condition a concept cannot do without for objective reality: it is what alone gives the object.

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Now inner intuition gives us nothing persistent whatsoever, because the I is nothing but the awareness of my thinking. So long as we stay with thinking alone, the necessary condition is missing for applying the concept of substance (a subject subsisting for itself) to ourselves as thinking beings. The simplicity of substance connected with that concept then drops away entirely along with the concept's objective reality. What remains is only a logical unity of self-consciousness in thinking generally, a unity of quality, whether or not the subject is composite.

Refutation of Mendelssohn's Proof of the Soul's Persistence

This sharp-minded philosopher soon noticed a shortcoming in the usual argument meant to prove that the soul (if one grants that it is a simple being) cannot cease to be by being divided. The argument isn't sufficient for the aim of securing its necessary continuation, because one could still assume that its existence ends by vanishing. In his Phaedo he then tried to keep this perishing, which would be a true annihilation, away from the soul. He dared to prove that a simple being cannot stop existing at all. His reason was this. A simple being can't be diminished. So it can't lose something of its existence little by little.

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And so it can't be turned gradually into nothing (it has no parts, and so no plurality in itself). Then no time at all would lie between the moment when it is and the next moment when it is no longer, and that is impossible.—But he didn't consider this. Grant the soul this simple nature, in that it contains no manifold outside one another and so no extensive magnitude. Even so, nobody can deny it intensive magnitude, any more than they can deny it to anything else that exists. Intensive magnitude is a degree of reality with regard to all its faculties, indeed to everything that makes up its existence. That degree can sink through all the infinitely many lesser degrees. And so the supposed substance (the thing whose persistence isn't already established otherwise) can be turned into nothing. It does not happen by division, but by a gradual slackening (remissio) of its forces (that is, by elanguescence, if I may use this expression). For consciousness too always has some degree, and that degree can always be lowered further*.

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So can the faculty of self-awareness, and so can all the other faculties.—The soul's persistence, then, as the mere object of inner sense, stays unproved and even unprovable. That it persists during life is obvious by itself, since the thinker, as a human being, is also an object of the outer senses. That doesn't satisfy a rational psychologist, who sets out to prove, from bare concepts alone, that the soul persists absolutely, even beyond life**.

* Clarity is not, as the logicians say, the consciousness of a representation. For a certain degree of consciousness, one that is not enough for recollection, must be found even in some obscure representations, because with no consciousness whatever we could tell nothing apart when obscure representations are combined. Yet we can do just that with the marks of some concepts (for instance those of right and fairness, or of a musician who plays many notes at once while improvising). Rather, a representation is clear when the consciousness in it is enough for consciousness of its difference from others. If it is enough for telling them apart, but not enough for being conscious of the difference, we would still have to call the representation obscure. Consciousness therefore has infinitely many degrees, all the way down to vanishing.

** People who think they've done enough to bring a new possibility forward, simply by insisting that no one can show them a contradiction in their assumptions, can be thrown into great embarrassment by other possibilities that are no bolder at all. (All who believe they can see the possibility of thinking continuing after life has ended, though they have an example of thinking only in empirical intuitions within human life, are in this position.) One of these is that a simple substance might be divided into several substances. The reverse is the possibility of several substances flowing together (coalition) into one simple one. For divisibility presupposes something composite. But it doesn't necessarily require something composite of substances. It requires only a composite of degrees (of the soul's various faculties) belonging to one and the same substance. We can think of all the forces and faculties of the soul, even that of consciousness, as dwindled by half, so that substance would still remain. In the same way we can picture this extinguished half, without contradiction, as preserved, not in the soul but outside it. Everything in the soul that is real has a degree, and so the soul's whole existence, with nothing lacking, would have been halved here. Outside it, a substance of its own would then come into being. For the plurality that was divided was there beforehand. It was not a plurality of substances, though. It was a plurality of every reality, each being a quantum of existence in the soul. The unity of the substance was only one way of existing, and this division alone would turn it into a plurality of subsistence. In the same way, several simple substances could flow together again into one. The only loss would be the plurality of subsistence, because the single substance would hold within itself the degree of reality that all the earlier ones had between them. Perhaps the simple substances that appear to us as matter could produce child-souls by a dynamic division of parent-souls, understood as intensive magnitudes. (They would do so not by a mechanical or chemical action on one another, but by some action unknown to us, of which those would be only the appearance.) The parent-souls would make good their loss in turn, by coalition with fresh matter of the same sort. I am far from granting such figments of the brain the slightest value or validity. The principles of the Analytic above have also impressed on us enough that we should use the categories (the cate-

gory of substance, for instance) only in experience. But suppose the rationalist is bold enough to turn the mere power of thinking into a self-subsisting being, with no persistent intuition by which an object would be given. The only reason is that the unity of apperception in thinking allows no explanation from something composite. It would be wiser for the rationalist to confess that they can't explain how a thinking nature is possible. If they do it anyway, why shouldn't the materialist be entitled to the same boldness, even though the materialist can no more cite experience for their own possibilities? Why shouldn't the materialist use their own principle for the opposite purpose, while keeping the rationalist's formal unity?

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Let us now put our propositions above into synthetic connection, as rational psychology has to when it treats them as one system that holds good for every thinking being. Start from the category of relation.

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The proposition is: all thinking beings, as such, are substances; then work backward through the series of categories until the circle closes. In the end we meet the existence of these beings. In this system they are conscious of this existence independently of outer things.

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And they can determine it from themselves, as regards the persistence that necessarily goes with being a substance. It follows from this that idealism is unavoidable in this same rationalist system, at least problematic idealism. And suppose determining one's own existence in time doesn't require outer things to exist at all. Then their existence is assumed for nothing, and no proof of it can ever be given.

Suppose instead we follow the analytic procedure. Then "I think" lies at the base as given. It is a proposition that already includes an existence, and so modality. We take it apart to learn what it contains: whether this I settles its existence in space or in time, and how, simply by thinking. In that case the propositions of the rational doctrine of the soul would begin with an actuality.

They would not begin with the concept of a thinking being at large. They would work from the way this actuality is thought, once everything empirical in it has been set aside.

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From that they would infer whatever belongs to any thinking being, as the following table shows.

1 I think,

2 as subject,

3 as simple subject,

4 as identical subject, whatever state my thinking is in.

The second proposition doesn't settle whether I can exist and be thought of solely as a subject, or also as the predicate of something else. So the concept of a subject is taken here as merely logical. Nothing is settled about whether substance is meant by it. In the third proposition, though, the simple I, apperception's absolute unity, becomes important in its own right. It is the I in the representation to which every combination or separation that makes up thinking relates. This holds even though I haven't yet settled anything about the constitution or subsistence of the subject. Apperception is something real, and its simplicity lies already in its possibility. Now nothing real in space is simple, since points (the only simple things in space) are merely boundaries. They are not themselves something that serves to make up space as a part.

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So it follows from this that it is impossible to explain my constitution, as a merely thinking subject, from the grounds of materialism. In the first proposition, however, my existence is regarded as given. It doesn't say that every thinking being exists (which would say absolute necessity of them, and so too much). It says only: I exist thinking. So that proposition is empirical. It contains the determinability of my existence only with regard to my representations in time. But for this I again need something persistent first, and as far as I think myself, nothing of the kind is given to me in inner intuition. So the way

in which I exist, whether as substance or as accident, can't possibly be determined by this simple self-consciousness. If materialism is unfit to explain my existence, then spiritualism is just as inadequate for it. The conclusion is that we cannot cognize anything at all, in any way whatever, about the make-up of our soul as it bears on whether it could exist separately at all.

How could we possibly get beyond experience (our existence in life) by means of the unity of consciousness? The only reason we know that unity is that we cannot do without it for experience to be possible. And how could we widen our cognition to cover the nature of every thinking being whatever?

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We would have to do it by the proposition "I think," which is empirical but undetermined with regard to every kind of intuition.

So rational psychology doesn't exist as a doctrine that would add anything to our self-knowledge. It exists only as a discipline. It sets uncrossable boundaries for speculative reason in this field. One purpose is to keep reason from throwing itself into the lap of soulless materialism. The other is to keep it from losing itself, wandering aimlessly in a spiritualism that, for us in this life, has no ground. Instead the discipline reminds us to see our reason's refusal to give a satisfying answer to curious questions that reach beyond this life as a hint. The hint is to turn our self-knowledge away from fruitless, excessive speculation and toward fruitful practical use. This practical use is always directed at objects of experience. Even so, it takes its principles from higher up, and it determines conduct as if what we are meant for reached infinitely far beyond experience, and so beyond this life.

All of this shows that rational psychology originates in a mere misunderstanding. The unity of consciousness that lies at the base of the categories is taken here for an intuition of the subject as an object.

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Then substance, the category, is applied to it; but that unity is only the unity in thinking, and by it alone no object is given. So substance, a category that always presupposes a given intuition, can't be applied to it. And so this subject can't be cognized at all. The subject of the categories, then, cannot gain a concept of

itself as something the categories apply to just by thinking them. For to think them it has to lay its pure self-consciousness at the base, and that is exactly what was supposed to be explained. In the same way, the subject that is the original ground of the representation of time can't determine its own existence in time by this means. And if that can't happen, then the other can't happen either: the subject's determining itself, as a thinking being at large, through categories*.

* "I think" is, as already said, an empirical proposition, and it contains the proposition "I exist." But I can't say: everything that thinks exists. For if I could, the property of thinking would turn every being that has it into a necessary being. So my existence can't be treated as something inferred from "I think," which is what Descartes believed (otherwise the major premise would have to come first: everything that thinks exists). Instead, my existence is identical with it. It expresses an undetermined empirical intuition, that is, a perception. (So it does prove that sensation, which therefore belongs to sensibility, lies at the base of this existential proposition.) But it comes before the experience that is meant to determine the object of perception, by means of the category, in respect of time. And existence here is not yet a category. A category refers not to an object given undetermined, but only to one of which one has a concept and about which one wants to learn whether or not it is also posited outside that concept. Here an undetermined perception means just something real that was given, given only to thinking in general. So it is not given as an appearance, and not as a thing in itself (noumenon) either. It is given as something that actually exists, and the proposition "I think" marks it as such. For note this: I called "I think" an empirical proposition. By that I didn't mean that the I in it is an empirical representation. It is rather purely intellectual, since it belongs to thinking as such. But without some empirical representation that supplies thinking with its matter, the act "I think" could not occur. The empirical is merely what has to be present for the pure intellectual faculty to be applied or used.

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So a cognition that was attempted beyond the boundaries of possible experience, and that yet belongs to the highest interest of humanity, disappears, as far as it is supposed to be owed to speculative philosophy.

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It ends in disappointed expectation. Even so, the strictness of the Critique does reason a service in this interest of its own, and not an unimportant one. It proves at the same time the impossibility of settling anything dogmatically, beyond the boundary of experience, about an object of experience. That also secures reason against all possible assertions of the opposite. This can happen in no other way than this: either one proves one's proposition apodictically or, if that fails, one looks for the sources of this inability. If they are rooted in our reason's own necessary limits, they must hold every opponent to the identical rule: give up every claim to dogmatic assertion.

Even so, nothing at all is lost here as regards the right, indeed even the necessity, of assuming a future life, on the principles of the practical use of reason that is joined with the speculative. For the merely speculative proof could never have affected ordinary human reason anyway. It is balanced on the point of a hair. Even the schools can keep it balanced there only by making it spin like a top, without pause. By their own lights, then, it offers no lasting footing to build anything on. The proofs that are usable for the world all keep their undiminished worth here.

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Rather, they gain in clarity and unforced conviction when those dogmatic presumptions are removed. They move reason into its own proper territory, namely the order of purposes, which is at the same time an order of nature. There reason is entitled, as a practical faculty in itself, to stretch the former order, and our own existence along with it, past the boundaries of experience and of life. It is not limited to the conditions of the latter. Consider by analogy the living creatures of this world. In them reason must assume, as a principle, that you will find no organ, no faculty, no drive that could be spared, or that is out of proportion to its use, and so unsuited to its purpose. Everything is exactly fitted to what it is meant for in life. Judging by that analogy, the human

being would have to be the one creature exempted from it. Yet the human being alone can hold within themselves the final end of all this. For their natural predispositions, not merely the talents and impulses as far as making use of them goes, but above all the moral law within them, go so far beyond any benefit or advantage that this life could bring them that the moral law even teaches them to esteem above everything the bare consciousness of an upright disposition, when all advantages are lacking.

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That holds even when the mere shadow of fame after death is lacking too. They also feel an inner call to qualify themselves, by how they behave in this world and at the cost of many advantages, as citizens of a better world, one they hold in the idea. This powerful ground of proof, which can never be refuted, remains in place. It is accompanied by a steadily growing cognition of purposiveness in all we see around us, and by a view into the immensity of creation. It is accompanied too by the sense that our knowledge could grow without any fixed end, along with a drive to match. All of this remains even though we must give up seeing, from merely theoretical cognition of ourselves, that our existence necessarily continues.

Conclusion of the Resolution of the Psychological Paralogism

The dialectical illusion in rational psychology comes from a mix-up. An idea of reason (a pure intelligence) gets confused with the concept of a thinking being in general, a concept that is undetermined in every respect. I think of myself for the sake of a possible experience, abstracting from all actual experience while I do. From this I conclude that I could become aware of my existence even outside experience, apart from its empirical conditions.

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In doing so I mistake two things for each other. The first is the possibility of abstracting from my existence as experience determines it. The second is an alleged awareness that my thinking self could exist on its own, set apart from all that. And I take myself to cognize the substantial in me, the transcendental subject, when all I have in thought is the unity of consciousness, which underlies all determining as the mere form of cognition.

Explaining how the soul and the body are in community isn't really a job for the psychology we're discussing here. That psychology means to prove that the soul stays a person even without this community (after death). In the strict sense, then, it is transcendent. It does deal with something from experience, but only as that thing ceases to be something we can experience. Still, our own doctrine can answer this question adequately too. The difficulty, as is well known, comes from an assumed difference in kind. The soul is what inner sense takes as its object, and the things the outer senses take as theirs are supposed to be of another sort. For the soul, only time is the formal condition of its intuition. For the others, space is one too. But the two sorts of things don't differ from one another inwardly in this; they differ only in that one appears outside the other.

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So the thing in itself that lies at the basis of matter's appearance may well not be so different in kind. Then the difficulty vanishes. What is left is only the question how a community of substances is possible at all. Solving that lies completely outside the field of psychology. And, as the reader will readily see from the Analytic's remarks on fundamental powers and faculties, it surely lies outside the field of all human cognition, too.

General remark on the move from rational psychology to cosmology

Take the sentence "I think," or "I exist thinking." It is an empirical sentence. Such a sentence rests on empirical intuition, and so the object thought in it counts as an appearance. That makes it seem as if our theory turned the soul completely into appearance, even in its thinking. In that case our own consciousness would be mere illusion, and it would really be of nothing.

Thinking, taken by itself, is only the logical function. It is pure spontaneity in combining the manifold of a merely possible intuition. It does not present the subject of consciousness as an appearance.

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The reason is simply that thinking pays no attention to what kind of intuition there is, whether sensible or intellectual. Through thinking, then, what I represent is not myself as I am, and not myself as I appear either. I only think of myself as I would think of any object whatever, with its kind of intuition left

aside. When I take myself here to be a subject of thoughts, or even the ground of thinking, these ways of representing do not stand for the categories of substance or of cause. Those categories are the functions of thinking (of judging) once they are applied to our sensible intuition, and they would be needed if I wanted to cognize myself. But all I want is to become aware of myself as thinking. In what way my own self is given to intuition, I leave aside. On that question I, the one who thinks, could be mere appearance to myself, though not insofar as I think. In my consciousness of myself while merely thinking, I am the being itself. But of course nothing about this being is thereby given to me to think.

But the statement "I think," insofar as it says the same as "I exist thinking," is not just a logical function. It determines the subject (which is an object as well) in respect of existence. And it can't occur without inner sense, whose intuition always supplies its object as appearance only, never as a thing in itself.

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So this statement already holds more than the bare spontaneity of thinking; it also holds the receptivity of intuition, that is, my thinking about myself brought to bear on the empirical intuition of this very same subject. In that empirical intuition the thinking self would then have to look for the conditions under which its logical functions can be put to work as the categories substance, cause, and the rest. Only then could it do more than mark itself with the word "I" as an object in itself. Only then could it also determine how it exists, which means cognizing itself as a noumenon. That can't be done, since inner empirical intuition is sensible and supplies only data of appearance. These data give the object of pure consciousness nothing toward knowing its separate existence. They are good only for serving experience.

Suppose, though, that we later found grounds, not in experience but in certain laws of the pure use of reason that concern our existence and stand fixed a priori (laws, and not merely logical rules), for assuming, completely a priori, that we legislate for our own being and also determine that existence ourselves. Then we would discover a spontaneity by which our reality could be determined without any need for the conditions of empirical intuition. And we

would notice that something a priori is already contained in our consciousness of being here. This something would serve to fix our existence, which is determinable all the way through only by way of the senses.

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It would do so with regard to a certain inner faculty, with a view to an intelligible world, though to be sure one we can only think.

Even so, this would not move any attempt of rational psychology forward in the least. That admirable faculty, which first discloses to me the consciousness of the moral law, would indeed give me a principle for determining my existence, and a purely intellectual one. But through which predicates? Only those that have to be given to me in sensible intuition. So I would end up back where I stood in rational psychology. Once more I would need sensible intuitions, in order to give meaning to the concepts of the understanding I use (substance, cause and so on), the only concepts through which I can have cognition of myself. And those intuitions can never help me out beyond the field of experience. In practical use, though, which always aims at objects of experience, I would still have the right to bring these concepts to bear on freedom and on the subject that has it. The meaning would be analogous to the one they have in theoretical use. For all I mean by them is the logical functions of subject and predicate, of ground and consequence.

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In line with these functions, actions or effects are determined, according to those laws, in such a way that they can at the same time always be explained in agreement with the laws of nature, that is, with the categories of substance and cause, even though they come from a wholly different principle. All this has been said only to prevent a misunderstanding, to which the teaching about our intuition of ourselves as appearance is easily exposed. We will have a chance to put it to use later.

The Transcendental Dialectic Book Two

Chapter Two The Antinomy of Pure Reason

We showed, in the introduction to this division of the book, that the transcendental illusion of pure reason, all of it, is founded on dialectical inferences. Logic provides their pattern in the three formal kinds of inference by reason, just as the categories find their logical pattern in the four functions of all judgments. The first kind of these sophistical inferences went after unconditioned unity among subjective conditions, those of every representation whatever (that is, those of the subject or soul). It corresponds to categorical inferences, whose major premise, as a principle, asserts that a predicate relates to a subject.
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By analogy with hypothetical inferences, then, the second kind of dialectical argument is going to deal with an unconditioned unity again, but among objective conditions, in appearance. The third kind, which comes in the next chapter, deals with unconditioned unity among the objective conditions that make objects as such possible.
It is remarkable, though, that the transcendental paralogism produced only a one-sided illusion, when it comes to the idea we have of our thinking subject. For the opposite claim, not the slightest illusion from concepts of reason can be found. The advantage lies wholly with pneumatism. Yet pneumatism can't deny its inherited flaw. For all the illusion that favors it, it dissolves into pure vapor in the fire test of critique.
Things turn out very differently once reason is applied to the objective synthesis of appearances. There reason thinks it can make its principle of unconditioned unity count, and with a great deal of illusion. But it soon gets tangled in such contradictions that, for cosmological purposes, it has to give up its demand.
Here a new phenomenon of human reason shows itself: a completely natural antithetic. No one has to rack their brains over it or lay artful traps to find it.
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Reason runs into it on its own, and unavoidably. That keeps reason safe from the slumber of an imagined conviction, which a merely one-sided illusion produces. But it also tempts reason either to hand itself over to skeptical hopelessness, or to take up a dogmatic defiance and stubbornly dig in on certain claims,

without giving the grounds of the opposite side a hearing or a fair judgment. Either one is the death of a healthy philosophy, though the former might at most be called pure reason's euthanasia.

Before we display the scenes of discord and confusion that this conflict of laws (antinomy) brings on pure reason, we want to give some explanations. They are meant to clarify and justify the method we use in handling our subject. I call a transcendental idea a world concept when it has to do with absolute totality in how appearances are synthesized. There are two reasons for the name. One is this very unconditioned totality. The concept of the world as a whole also rests on it, and that concept is itself only an idea. The other is that these ideas go only to the synthesis of appearances, and so only to the empirical. Absolute totality is a different matter when it is found in synthesizing the conditions of all possible things whatever.

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That will lead to an ideal of pure reason, which is wholly distinct from the world concept, although it refers back to it. The paralogisms of pure reason laid the groundwork for a dialectical psychology. In the same way, the antinomy will put before our eyes the transcendental principles of a so-called pure (rational) cosmology. It will not do this to find them valid and appropriate them. As the very name for a conflict of reason already indicates, it will do it to show them for what they are: an idea that can't be reconciled with appearances, shining with a dazzling but false illusion.

Pure Reason's Antinomy First Section The Cosmological Ideas as a System

To list these ideas systematically, by one principle and with precision, we first have to note a few things. Pure, transcendental concepts can only spring from the understanding. Reason doesn't really produce any concept. At most it takes a concept of the understanding and frees it from the unavoidable restrictions of possible experience, so that it reaches past the boundaries of the empirical while still staying connected with the empirical.

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Reason does this as follows. For any conditioned thing that is given, it asks that the conditions be gathered up in an absolute totality. (The understanding brings all appearances under synthetic unity by way of these conditions.) That turns the category into a transcendental idea. Reason wants to make the empirical synthesis absolutely complete by continuing it until it reaches the unconditioned, and the unconditioned is met with only in the idea, never in experience. Its principle is this: if a conditioned thing is given, the entire sum of its conditions is given as well, and so is the absolutely unconditioned, which alone made that thing possible. First, then, the transcendental ideas will turn out to be nothing other than categories stretched out to the unconditioned, and they can be put in a table arranged under the headings of the categories. Second, not every category will suit this. Only those will do in which the synthesis forms a series, a series of conditions for a conditioned thing that are subordinate to one another (not coordinate). Reason asks for absolute totality only on the way up: the rising series of conditions that leads to a conditioned thing already given. It does not ask for it where the talk is of the line of consequences running down, or of the aggregate of coordinate conditions for those consequences.

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For conditions, in relation to the conditioned thing that is given, are already presupposed, and so are to be regarded as given along with it. Consequences do not make their conditions possible; they presuppose them. So as we go forward to consequences (or down from a given condition to what it conditions), we can be unconcerned whether the series ends. Whether that series is a totality is nothing reason has to assume.

In the same way we necessarily think of the time that has fully run its course up to the present moment as given, too (though we can't determine it). As for future time, it is not the condition of our reaching the present. So, for grasping the present, it makes no difference how we choose to handle the future, whether to end it somewhere or to let it run on without end. Suppose a series m, n, o. In it n is given as conditioned by m and at the same time as the condition for o. The series goes upward, from n as the conditioned one back to m (l, k, i, and so on), and also downward, from n as condition to o as the condi-

tioned (p, q, r, and so on). To regard n as given, I have to presuppose the first series. Reason's standard, the totality of conditions, lets n be possible only by means of that first series. But its possibility does not depend on the later series, o, p, q, r.

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That series therefore can't count as given either, only as dabilis (something that can be given).

I'll use the name regressive synthesis for the synthesis of a series on the conditions' side. It begins with the condition closest to the appearance we're given and goes on to conditions farther away. I'll use progressive synthesis for the one on the side of the conditioned: it runs from the nearest consequence out to those farther along. The regressive one heads in antecedentia (toward what comes before), the progressive one in consequentia (toward what follows). The cosmological ideas, then, are about the regressive synthesis taken as a whole, and they head in antecedentia, never in consequentia. Heading the other way would be a problem reason might take up if it liked, but doesn't have to. For a complete grasp of what appearance gives us, we need grounds. We have no need of consequences.

To build the table of ideas on the pattern of the table of categories, we start with the two original quanta in all of our intuition: time and space. Time is a series by its own nature, and it is the formal condition for every series. So once a present moment is given, we can tell a priori the antecedentia, which serve as conditions (the past), from the consequentibus (the future). The transcendental idea asks for a series of conditions to be complete.

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Where a conditioned thing is given, that idea reaches only as far as the whole of past time. The idea of reason requires us to think of all the time that has gone by as given, because it is what conditions the moment we are in. Space is different. Space has no built-in difference between progressus and regressus, since it is an aggregate and not a series: all its parts exist together. I could treat the present instant, relative to the past, only as conditioned and never as a condition of it, because the instant arises only out of the time that has passed (or

rather out of the passing of earlier time). The parts of space, though, are not ranked under one another. They stand side by side. So no part conditions the possibility of another, and space is not a series the way time is. Even so, we take in the manifold parts of space by a synthesis that goes step by step. That happens in time, and it contains a series. Look at a series of spaces added together (the feet in a rod, say). From any given one on, each further space we think of adding is always the condition for the boundary of the one before it. Measuring a space is therefore also a synthesis of a series of conditions, leading to something conditioned that is given. The only difference is that nothing in space itself separates the conditions' side from the side where the conditioned thing lies.

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For that reason, regressus and progressus look like one and the same thing in space. But one part of space is not handed to us by another part; the other part only bounds it. So we have to regard any bounded space as conditioned in this way too, since it assumes a second space to condition its boundary, and that one a third, and so on. Where bounding is concerned, then, moving on in space is also a regressus. The transcendental idea of absolute totality in the synthesis of a series of conditions therefore reaches space too. I may ask for a complete totality of appearance in space, just as I may for the time that has passed. Whether there can be an answer at all will be decided later.

Second, matter, which is reality in space, has conditions too. Its parts are its inner conditions, and the parts of those parts are conditions farther out. So we find a regressive synthesis here, and reason wants it carried to absolute totality. The only way to do that is complete division, which makes the reality of matter disappear: either into nothing, or into something that is no longer matter, the simple. So this too gives us a series of conditions and a way forward to the unconditioned.

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Third, consider the categories of real relation among appearances. The category of substance, along with its accidents, doesn't fit a transcendental idea. In other words, reason has no ground for going back to conditions where substance is

concerned. Accidents that belong to one and the same substance are on the same level as each other, and they don't form a series. With respect to the substance, they aren't strictly subordinated to it either; they are simply its way of existing. One thing that might still seem an idea of transcendental reason is the concept of the substantial. But this concept means just the concept of an object that subsists, when all that is thought in it is the transcendental subject with no predicates. Here the topic is only the unconditioned in the series of appearances. So the substantial clearly can't be one of the links in that series. The same goes for substances in community. They are mere aggregates, and there is no exponent of a series in them. They aren't ranked under one another as conditions that make each other possible. One could well say that of spaces, since the boundary of a space was never fixed by the space itself, only by another space. So only the category of causality remains. It supplies a series of causes behind a given effect.

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In that series one can climb from the effect, which is the conditioned thing, to the causes, which are its conditions, and so answer the question reason puts.

As for the fourth heading, the possible, the actual and the necessary give us a series in only one way: contingent existence always has to be seen as conditioned. The rule of the understanding sends it back to a condition, and under that condition it is necessary to refer this condition in turn to a still higher one. That goes on until reason meets unconditioned necessity, which it meets only in the totality of the series.

That gives us only four cosmological ideas, matching the four headings of the categories, once we select the categories that bring a series along with them in the synthesis of the manifold.

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1 Absolute completeness in putting together the given whole made up of all appearances

2 Absolute completeness in dividing up a given whole within appearance

3 Absolute completeness in how an appearance comes to be

4 Absolute completeness in the dependence of existence, for whatever changes in appearance

A first point to note: the idea of absolute totality has to do with the setting out of appearances and nothing else. It is not about the pure concept of the understanding for a whole of things in general. So appearances are being treated as given, and what reason demands is that the conditions for their being possible be complete, as far as they form a series. That means a synthesis complete without qualification (that is, in every respect), through which an appearance could be set out according to laws of the understanding.

Second, what reason is really after is just the unconditioned.

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It looks for it in this synthesis of conditions, which it carries on in a series, step by step, backward. The unconditioned is, so to speak, completeness in the line of premises, where all the premises together call for no further one. Now the unconditioned is always included in the absolute totality of such a series, if we form a picture of that totality in the imagination. Yet a synthesis finished in this complete sense is itself only an idea. At least ahead of time, we can't know whether a synthesis like that can exist for appearances at all. Suppose we picture everything by means of bare pure concepts of the understanding, without the conditions of sensible intuition. Then we could simply say that when something conditioned is given, the full series of conditions ranked under one another is given with it, since only through the conditions is the conditioned thing given. With appearances, however, there is a particular restriction on how conditions are given. They are given by a synthesis of the manifold of intuition that proceeds in succession, and that synthesis is meant to be complete as it goes backward. Whether such completeness is possible for the senses remains a problem. All the same, the idea of that completeness is there in reason, whether or not empirical concepts that match it can be connected with it. Take the syn-

thesis of the manifold in appearance, carried out as a regress, and view it as an absolute totality, following the lead of the categories, which present it as a series of conditions behind a given conditioned thing.

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That totality necessarily contains the unconditioned. We can leave open whether, and how, that totality could ever be achieved. So reason goes about it by setting out from the idea of totality, even though what it ultimately aims at is the unconditioned, either of the entire series or of some part of it.

There are two ways to think of this unconditioned. In one, it exists only in the series as a whole: every member of the series is conditioned, without exception, and only the series taken together is unconditioned. In that case the regressus is called infinite. In the other, the absolutely unconditioned is a part of the series, which the remaining members are subordinate to, while it is not itself under any other condition.* On the first view, the series has no boundary a parte priori (looking backward), and so no beginning. That makes it infinite, and yet the whole of it is given. The regressus through it never gets finished, though, and can be called infinite only potentialiter (potentially).

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On the second view, the series has a first member. Reckoned in elapsed time, this first member is called the beginning of the world. Reckoned in space, it is the world's boundary. Reckoned among the parts of a whole that is given inside its boundaries, it is the simple. Among causes it is absolute self-activity (freedom), and in the existence of things that change, it is absolute natural necessity.

* A series of conditions for a given conditioned thing, taken as an absolute whole, is unconditioned every time, since there are no conditions outside it that could condition it. This absolute whole of such a series, however, is only an idea, or really a problematic concept. We need to investigate whether it is possible, specifically in regard to how the unconditioned, the true transcendental idea we are concerned with, might be contained in it.

Two terms, "world" and "nature," sometimes get run together. "World" means the mathematical whole formed by all appearances, with the totality of their synthesis, whether large or small, that is, whether the synthesis advances by

composing or by dividing. The very same world is called "nature"* once it is viewed as a dynamical whole. Then the thing we look at is not an aggregate in space or time, put together to make a quantity.

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It is the unity in the existence of appearances. In this view, whatever conditions an event is called its cause. The cause's unconditioned causality in appearance is called freedom; its conditioned causality, in the narrower sense, is called natural cause. In existence generally, the conditioned is called contingent and the unconditioned necessary. The unconditioned necessity found in appearances may be named natural necessity.

* "Nature" taken adjectivally (formaliter) means how the determinations of a thing hang together by an inner principle of causality. Taken as a noun (substantively, materialiter), it means the sum of appearances insofar as they are linked all the way through by an inner principle of causality. In the first meaning we talk about the nature of liquid matter, of fire, and so on, and use the word as an adjective. But when we talk about things of nature, we have in mind an existing whole.

The ideas we're dealing with now are the ones I called cosmological ideas earlier. I had two reasons. First, "world" is understood as the sum of all appearances, and our ideas aim only at what is unconditioned among appearances. Second, in the transcendental sense, "world" means the absolute totality of all existing things taken together, and we are directing our attention only to the completeness of the synthesis (though strictly only in going back to the conditions). Besides, all these ideas are transcendent. They don't overstep their object, appearances, as to its kind, since they concern the world of sense alone (not noumena). They still drive the synthesis to a degree beyond all possible experience. For these reasons I think they can all quite fittingly be called world concepts.

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In view of the difference between the mathematically unconditioned and the dynamically unconditioned, at which the regressus aims, I would use "world concepts" in the narrower meaning for the first two (they deal with the world

on the large scale and the small), and I would call the other two transcendent concepts of nature. For now this distinction is not especially important, but it may become more so as we go further.

Pure Reason's Antinomy Second Section The Antithetic of Pure Reason

If a thetic is any collection of dogmatic teachings, then by antithetic I mean something else: not assertions of the opposite that are themselves dogmatic, but the clash among cognitions that seem to be dogmatic (thesin cum antithesi, a thesis against an antithesis), with neither side granted a better claim to our assent. The antithetic is never about one-sided assertions. It looks at general cognitions of reason solely for how they clash with each other and why. The transcendental antithetic is an inquiry into the antinomy of pure reason, covering its causes and its result. Suppose we do more than use reason, along with the principles of the understanding, on objects of experience.

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Suppose we venture to stretch it beyond the boundary of experience. Out come sophistical doctrines. These can't expect experience to confirm them, and they needn't fear that it will refute them. Each is free of contradiction within itself, and it even meets the conditions of its necessity in the very nature of reason. The only trouble, and an unlucky one, is that its opposite has just as valid and necessary grounds for its own claim.

The questions that present themselves naturally with a dialectic like this one are the following. 1. Which propositions, exactly, is pure reason bound to fall into an antinomy over? 2. What causes lie behind the antinomy? 3. Does a way to certainty remain open to reason, despite this contradiction? If so, in what manner?

So a dialectical proposition of pure reason has to carry the following mark, which separates it from every sophistical proposition. First, it does not concern an arbitrary question, one raised only for some purpose or other. It concerns a question that any human reason, as it advances, is bound to meet. Second, it comes with its opposite, and together they carry not a contrived illusion that vanishes the moment someone sees through it, but a natural and unavoidable illusion.

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Even when you are no longer led astray by it, this illusion still deceives, though it does not trick you. So it can be made harmless, but never wiped out.

A dialectical doctrine like this will not deal with the understanding's unity in empirical concepts. It will deal with reason's unity in mere ideas. The conditions of that unity have to fit two things at once. As a synthesis that follows rules, they have to fit the understanding, and yet as the absolute unity of that synthesis, they have to fit reason. If they match the unity of reason, they will be too big for the understanding. If they suit the understanding, they will be too small for reason. A conflict has to come out of this, and no one can avoid it, however they go about it.

These sophistical claims therefore open up a dialectical battlefield. There the side that is allowed to attack keeps the upper hand, and the side that is forced to merely defend is bound to lose. So sturdy knights, whether they stand surety for the good cause or the bad one, are sure to carry off the victor's wreath, provided they make sure they have the privilege of the last attack and needn't withstand a fresh assault from the other side. You can easily picture how often this field has been trodden since long ago, and how many victories each side has won.

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But as for the last victory, the one that settled the question, it was always arranged that the defender of the good cause held the field alone. That was done by forbidding the opponent to take up arms any longer. As impartial referees, we have to set aside entirely whether the cause they are fighting over is the good one or the bad one. We should let them settle it first between themselves. Perhaps, after they have tired each other out more than they have hurt each other, they will see for themselves how worthless their quarrel is and part as good friends.

This method of watching a quarrel between assertions, or rather of starting one ourselves, is not meant to decide in the end for one side or the other. Its aim is to investigate whether what they are fighting over is perhaps a mere mirage, one that each side grabs at in vain and could gain nothing from even if no one stood

in its way. This procedure, I say, can be called the skeptical method. It is completely different from skepticism, which is a principle of ignorance practiced as an art and a science. Skepticism undermines the foundations of all cognition, so that, if possible, no reliability or certainty is left anywhere. The skeptical method aims at certainty. The dispute it looks at is one that both sides mean honestly and carry on with intelligence.

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In it, the method tries to find the point of misunderstanding. Wise lawgivers do the same: they draw a lesson for themselves, about what is defective or imprecise in their laws, from the judges' perplexity in lawsuits. The antinomy that shows itself when laws are applied is, given our limited wisdom, the best way to test the lawmaking. It makes reason, which doesn't easily notice its own missteps in abstract speculation, aware of the moments that matter in fixing its principles.

This skeptical method belongs essentially to transcendental philosophy alone. In any other field of inquiry it could be done without, though not in this one. In mathematics, using it would be absurd. No false claims can hide there or make themselves invisible, because proofs there always have to follow the guiding thread of pure intuition, one evident synthesis after another. In experimental philosophy, a doubt that holds back judgment can be useful. But at least no misunderstanding is possible that couldn't easily be removed, and the last means for settling the dispute must lie in experience, whether they are found sooner or later.

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Morality can show every one of its principles in concreto too, together with what follows from them in practice, at least within possible experiences, and so it can avoid the misunderstanding that comes from abstraction. Transcendental claims are different. They presume to insights that reach beyond the field of all possible experience. Their abstract synthesis can't be given in any intuition a priori, and they aren't the kind of claim whose misunderstanding could be found out through some experience. Transcendental reason therefore allows no

other touchstone than the attempt to unite its claims with one another. For that, it needs first of all a free and unhindered contest among them. This is what we now want to stage.*

* The antinomies come one after another in the sequence of the transcendental ideas given earlier.

Pure Reason's Antinomy

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First Conflict among the Transcendental Ideas

Thesis

In time, the world has a beginning. In space, it is also enclosed within boundaries.

Proof

Take it that the world has no start in time. Then by any moment you pick, an eternity has run out, and an unending series of states of the world's things, each following the last, has gone by. But what makes a series unending is exactly this: successive synthesis can never finish it. An unending series of world-states that has already elapsed is therefore impossible. So a beginning of the world is a condition its existence necessarily requires. That is what had to be proved first.

For the second claim, again assume the opposite. The world would then be an infinite, given whole of things that exist at the same time. Now, the magnitude of a quantum that isn't given within certain boundaries of any intuition* can be thought in only one way.

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That way is the synthesis of its parts. And the totality of such a quantum can be thought only through the completed synthesis, or through adding the unit to itself over and over.** Now think of the world, which fills every space, as a single whole. For that, we would have to treat the step-by-step synthesis of an infinite world's parts as finished. That means an infinite time would have to count as run out while we go through all the things that exist side by side. This can't be. So an infinite aggregate of actual things can't be regarded as a given whole, and so not as given all at once either. Therefore a world is not infinite in its extent in space. It is enclosed within boundaries. That was the second claim.

* An indeterminate quantum that is enclosed within boundaries can be intuited as a whole. We don't have to build up its totality by measuring, that is, by the step-by-step synthesis of its parts. The boundaries already fix its completeness, because they cut off whatever more there might be.

** Here the concept of totality simply stands for the finished synthesis of the parts. We can't get the concept out of an intuition of the whole, since that is impossible in this case. The only way to reach it is by synthesizing the parts, all the way to the end of the infinite, in the idea at least.

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Antithesis

There is no beginning to the world and no boundary to it in space. It is infinite in respect of time, and equally so in respect of space.

Proof

Suppose, for the sake of argument, that it does have a beginning. A beginning is a kind of existence. It is preceded by a time when the thing was not there. So a time must have gone before in which the world was not, that is, an empty time. But nothing can come to be in an empty time. No part of such a time has, over another part, any distinguishing condition for existing rather than not existing (whether we assume the thing arises of itself or through some other cause). So within the world many a series of things can begin, but the world itself can't have a beginning. In regard to past time it is therefore infinite.

As for the second claim, first assume the opposite: the world is finite in space and has boundaries. It would then lie in an empty space with no boundary. So we would find not only a relation of things within space, but also a relation of things to space. Now the world is an absolute whole.

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Outside it there is no object of intuition at all, and so no correlate of the world for it to be related to. If the world stood in a relation to empty space, it would stand in a relation to no object whatever. But a relation like that is nothing, and so is any bounding of the world by empty space. So the world is not bounded in space at all. That is, it is infinite in extent.*

* Space is nothing but the form of outer intuition (formal intuition); it is not a real object that outer intuition could take in. Before any things that determine it (by filling or bounding it), or rather that supply an empirical intuition fitting its form, space is what people call absolute space. Under that name it is merely the possibility of outer appearances, whether they exist in themselves or could still be added to appearances already given. Empirical intuition is not, then, put together out of appearances and space (that is, out of perception and empty intuition). Neither one is the other's correlate in a synthesis. They are united only inside a single empirical intuition, as its matter and its form. Someone who wants to set one of the two apart from the other (space apart from all appearances) ends up with all kinds of empty determinations of outer intuition, none of which could be perceived. For example, take the world's moving or resting in infinite empty space. That determines how the two stand to each other, and it can never be perceived. It is therefore also just the predicate of a thing of thought.

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Remark on the First Antinomy I. On the Thesis

In these conflicting arguments I haven't looked for deceptive tricks, to put on what's called a lawyer's proof. A lawyer's proof takes advantage of the opponent's carelessness, and gladly lets the opponent lean on a law that has been misunderstood, so that it can then base its own unjust claims on refuting that law. All of these proofs came out of the nature of the case itself. I have set aside the advantage that the fallacies of the dogmatists on both sides could have given us.

I could also have "proved" the thesis, so it would seem, by first laying down, as dogmatists tend to, a mistaken notion of what it is for a given magnitude to be infinite. A magnitude is infinite if none larger than it is possible, larger, that is, than the amount of a given unit it holds. But no amount is the largest, since a unit or more can always be added to any. So no given magnitude can be infinite, and neither can a world that is infinite, whether in its elapsed series or in its extent. It follows that the world is bounded on both sides. That is how I could

have conducted my proof. But the concept doesn't match what is meant by an infinite whole. It doesn't tell us how big the whole is, so its concept isn't the concept of a maximum either.

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What is thought through it is only the whole's relation to a unit we may take as we please, and relative to that unit the whole exceeds every number. If the unit is taken bigger or smaller, the infinite would be bigger or smaller too. Yet the infinity, because it consists only in the relation to this given unit, would remain the same. Of course the absolute size of the whole would not be known from this at all, and that isn't the point here.

The true (transcendental) concept of the infinite is as follows: when a quantum is measured through, the successive synthesis of the unit can never reach its end.* It follows with complete certainty that no eternity of actual successive states can have run out by a given moment (the present one), so the world must have a beginning.

* In this way it holds a multitude (of a given unit) larger than any number. That is the mathematical concept of the infinite.

The second part of the thesis is free of the difficulty about a series that is infinite and yet already run through. The manifold of a world infinite in extent is given all at once. Even so, there is a problem in thinking the totality of such a multitude. We can't point to boundaries that would form this totality by themselves in intuition. So we have to account for our concept. In a case like this the concept can't start from the whole and move to a definite number of parts. It has to establish the possibility of a whole by synthesizing the parts one after another. That synthesis would have to form a series that can never be finished. So one cannot think a totality ahead of the synthesis, and therefore cannot think one by means of it. The concept of totality is itself, here, the thought of a synthesis of the parts brought to completion. Such completion, and with it the concept of it, is impossible.

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II. Remark on the Antithesis

The proof that the world's given series, and the world as a sum, are infinite rests on this: if they were not, an empty time and an empty space would have to be what bounds the world. I know that people look for ways out of this consequence. They claim that the world can very well have a boundary in time and in space without our needing to assume an absolute time before the world began, or an absolute space spread out beyond the real world, which is impossible. I am quite satisfied with the second half of this view, held by philosophers of the Leibnizian school. Space is only the form of outer intuition. It is no actual object to be intuited outwardly, and it is not a correlate of appearances. It is the very form of appearances. So space cannot, taken absolutely and by itself, figure as something that determines the existence of things. It is no object, just the form of possible objects. Things, as appearances, do determine space. Among all of its possible predicates (size and relation), they decide which belong to what is real. But space, as something that exists by itself, cannot determine the reality of things as to their size or shape, since in itself it is nothing real. So it is quite possible for a space (full or empty)* to be bounded by appearances.

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But no empty space outside them can bound appearances. The same is true of time. Once all this is granted, it remains beyond dispute that anyone who assumes a boundary of the world, in space or in time, has to assume these two non-things as well: the empty space beyond the world and the empty time that precedes it.

* It's easy to see what this is meant to say. Empty space that appearances bound, that is, empty space inside the world, at least doesn't contradict the transcendental principles. As far as those principles go, then, it can be granted (though that doesn't mean its possibility is straightaway asserted).

People try to get around the consequence we draw. We say that a world with boundaries in time and space would have the infinite void fixing the size of the real things that exist. The way they do it, though they don't say so, is this. They put some intelligible world, who knows which, where a world of sense should be. Where the first beginning should be (an existence with a time of non-being before it), they put an existence of some sort that needs no other condition in

the world. Where a boundary of extent should be, they put limits of the whole world. This lets them step around time and space. Our topic here, though, is only the mundus phaenomenon (the world as appearance), and how big it is. You can't set aside the conditions of sensibility that we think into it without doing away with what it is. A world of sense that is bounded lies, necessarily, within the infinite void. Drop that void and, with it, space in general as the a priori condition that makes appearances possible, and the whole world of sense is gone. In our problem it is the only world we are given. The mundus intelligibilis (the intelligible world) is just the general concept of a world, in which we abstract from all the conditions of its intuition. So no synthetic proposition about it is possible, either to affirm or to deny.

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Pure Reason's Antinomy Second Conflict among the Transcendental Ideas

Thesis

Each composite substance in the world is made of simple parts. Nothing exists anywhere except the simple and whatever is put together out of it.

Proof

Let's suppose that composite substances are not built from simple parts. Imagine all composition being removed in thought. No composite part would be left. There would be no simple part left either, since by assumption there are none, so nothing at all would be left, and that means no substance would have been given. So either it can't be done at all, to remove all composition in thought, or something that exists without any composition has to remain after it is removed. That something is the simple. If the first is the case, then the composite again would not be made up of substances. (In substances, composition is just a contingent relation among them, and without that relation they have to continue to exist as beings that persist on their own.)

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But that contradicts the assumption. So only the second option is left: whatever is composite in the world, and substantial, is built from simple parts.

It follows directly that the things of the world are all simple beings, that composition is only an external state of them, and that reason has to think of the elementary substances as the subjects that come first in every composition, and so as simple beings before any composing. This holds even if we can never take those substances entirely out of this state of combination and isolate them.

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Antithesis

Nothing composite in the world is made of simple parts. And nothing simple exists anywhere in the world.

Proof

Suppose a composite thing (as a substance) is made up of simple parts. All outer relation, and so all composition out of substances, is possible only in space. That means the space a composite occupies must have as many parts as the composite does. Now space is not made of simple parts, but of spaces. So every portion of what is composite takes up some space. But the very first parts of anything composite are simple. So the simple occupies a space. Whatever is real and occupies a space includes a manifold whose members are outside one another. So it is composite, and since it is a real composite, it is composed not of accidents (they can't be outside one another without a substance) but of substances. That would make the simple a substantial composite, and that is a contradiction.

In the antithesis, the second proposition is that nothing simple exists at all in the world.

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It means only the following. No experience or perception, outer or inner, can establish that the absolutely simple exists. That makes the absolutely simple nothing but an idea. Its objective reality can't be established in any possible experience, so in setting out appearances it has no use and no object. Consider this. Say that experience did offer an object matching this transcendental idea. We would then have to recognize, in the empirical intuition of some object, one that contains no manifold at all in which the members are outside one another and joined into a unity. But we can't infer from not being aware of such a man-

ifold that it is wholly impossible in any intuition of an object. And that impossibility is exactly what absolute simplicity requires. So absolute simplicity can't be concluded from any perception whatsoever. Something absolutely simple can never be given as an object in any possible experience. The world of sense, though, has to be taken as the sum of all possible experiences. So nothing simple is given anywhere in it.

The second proposition of the antithesis reaches far beyond the first. The first only keeps the simple out of the intuition of the composite. The second wipes it out of nature as a whole. For that reason its proof couldn't start from the concept of a composite, an object given in outer intuition. It had to come from how such an object relates to possible experience in general.

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Note on the Second Antinomy I. Concerning the Thesis

By a whole that must consist of simple parts, I mean a substantial whole only: the true compositum. A compositum is a contingent unity of a manifold. The manifold is given as separate (in thought, at least), is put in mutual combination, and so makes one thing. Space, strictly speaking, shouldn't be called a compositum at all. It should be called a totum, because its parts are possible only inside the whole, and the whole isn't possible through the parts. You might call it a compositum ideale, but never a reale. That, however, is mere hairsplitting. Space is not composed of substances (nor even of real accidents). So when I remove all composition from it, nothing remains, not even a point. A point is only possible as a space's boundary, and a space is something composite.

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Space and time, then, are not made of simple parts. Something that only belongs to the state of a substance, though it has a magnitude (change, for instance), is not made of the simple either. A given degree of change does not arise by many simple changes piling up. Our inference from composite to simple is valid only for things that exist on their own. Accidents of a state don't exist on their own. It is easy, then, to spoil the proof that the simple is necessary as the component of everything substantially composite, and with it one's

whole position. One does this by overextending the proof and trying to make it count for every composite without distinction, which has in fact been done more than once.

Note also that I am speaking of the simple here only insofar as it is necessarily given within the composite, which can be broken down into it as its components.

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The word monas (Leibniz's usage) should properly apply only to what is simple and given directly as a simple substance (in self-consciousness, for example), not as an element of a composite. For that second kind, atomus would be the better name. I only want to prove simple substances as elements of the composite. So I might give the name transcendental atomism to the second antinomy's antithesis. Yet this word was long ago taken up to name a special way of explaining bodily appearances (molecularum), which presupposes empirical concepts. So it may instead be called the dialectical principle of monadology.

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II. Remark on the Antithesis

The monadists object to this proposition of infinite divisibility of matter, whose ground of proof is purely mathematical. Their objections are suspect right from the start. The clearest mathematical proofs they won't let count as insights into how space is made, although space truly is the formal condition for the possibility of any matter. They see them merely as conclusions drawn from concepts that are abstract but arbitrary, and so can't be applied to real things. As though anyone could even dream up an intuition of a different kind from the one that space gives us originally. As though the determinations of space a priori did not also cover everything that is possible only by filling this space. If we listened to them, we would have to think of physical points besides the mathematical point. The mathematical point is simple, but it is no part of space, only a boundary of a space. Physical points are simple too, and they have the privilege of being parts of space and filling it up just by being aggregated.

There are many common, clear refutations of this absurdity. I won't repeat them here, since it is entirely pointless to try to argue away the evidence of mathematics with nothing but discursive concepts. I'll only remark this.

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When philosophy quibbles with mathematics here, the reason is that it forgets the question concerns only appearances and their condition. And here it isn't enough to find a concept of the simple to match the pure concept of the composite in the understanding. We need to find an intuition of the simple to match the intuition of the composite (matter). By the laws of sensibility, and so for objects of the senses too, that is completely impossible. Now take a whole of substances that is thought through the pure understanding alone. For it, it may always be valid that we must have the simple before any composition of it. But that is not valid for the totum substantiale phaenomenon. As an empirical intuition in space, it necessarily carries this property: none of its parts is simple, since no part of space is simple. The monadists were still sharp enough to want to evade this difficulty. They don't take space to be what makes outer objects of intuition (bodies) possible. They take the reverse to be true: bodies, and substances in their dynamical relation in general, make space possible. But the only concept we have of bodies is as appearances. As such, they necessarily presuppose space as the condition that makes every outer appearance possible. So the evasion is in vain, and it was cut off sufficiently in the Transcendental Aesthetic above. If bodies were things in themselves, the monadists' proof would hold.

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The second dialectical claim has one special feature. The dogmatic claim set against it is the only one, among all the sophistical claims, that sets out to prove clearly, on an object of experience, the reality of something we earlier ranked as a mere transcendental idea: the absolute simplicity of substance. The claim is that the object of inner sense, the thinking I, is a substance that is simple without qualification. I won't get into this now, since it was weighed at greater length earlier. I only note this. Suppose something is thought only as an object, and no synthetic determination of how it is intuited is added to it (as happens with the completely bare representation "I"). Then of course no manifold and

no composition can be noticed in the representation. Besides, the predicates by which I think this object are only intuitions of inner sense. Nothing in them can show a manifold with members outside one another, and so real composition. It is only self-consciousness, then, that makes it so: because the thinking subject is at the same time its own object, it cannot divide itself (though it can divide the determinations that inhere in it). With respect to itself, after all, every object is absolute unity. Even so, if this subject is considered from outside, as an object of intuition, it would surely show composition in appearance. And it has to be considered that way whenever the question is whether it contains a manifold with members outside one another, or not.

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Pure Reason's Antinomy Third Conflict among the Transcendental Ideas

Thesis

Causality that follows natural laws is not the only causality that can account for all the appearances of the world. We also have to assume a causality through freedom in order to explain them.

Proof

Suppose there is no causality other than the kind that follows laws of nature. Then every event presupposes an earlier state, and the event follows that state inevitably, by a rule. But the earlier state must itself be something that happened, something that came to be in time since it wasn't there before. For if it had always been there, its consequence too would have always been there, and not just now come about. So the causality of the cause by which something happens is itself something that happened. By the law of nature it, in turn, presupposes an earlier state with its causality, and that presupposes a still older one, and so on. If everything happens by laws of nature alone, then, there is only ever a subordinate beginning.

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There is never a first beginning, and so the series on the side of causes that stem from one another is never complete. Yet the law of nature is just this: nothing happens without a cause that is adequately determined a priori. So the claim

that all causality is possible only by laws of nature contradicts itself when it is stated with no restriction on its generality. That claim can't, then, be accepted as the only kind of causality.

We therefore have to assume a causality through which something happens although its cause is not determined, in turn, by an earlier cause according to necessary laws. In other words: an absolute spontaneity on the part of causes, which starts a series of appearances running by natural laws entirely on its own. That is transcendental freedom. Without it, even in nature's own course, the causal side of the sequence of appearances can never be completed.

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Antithesis

Freedom does not exist. All that happens in the world takes place by the laws of nature and by nothing else.

Proof

Suppose there is such a thing as freedom in the transcendental sense. It would be a special kind of causality by which the events of the world could come about, namely a power to begin a state absolutely, and with it a series of its consequences. Then not only would a series begin through this spontaneity. The very determination of this spontaneity to produce the series, that is, the causality itself, would begin absolutely, so that nothing goes before it by which this action that takes place would be determined according to permanent laws. But every beginning to act presupposes a state of the cause that is not yet acting. And a dynamically first beginning of the action presupposes a state that has no causal link at all with the earlier state of that same cause, that is, a state that does not follow from it in any way. So transcendental freedom runs against the law of causality.

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It is also a kind of combination of the successive states of acting causes under which no unity of experience is possible. Nothing like it is ever found in any experience, and so it is an empty thing of thought.

All we have, then, is nature, and in it we have to look for the coherence and order of the events of the world. Freedom (independence) from the laws of nature frees us from compulsion, true. It also cuts us loose from every rule that could serve us as a guide. For we can't say that laws of freedom step in to take the place of the laws of nature in the causality of the world's course. If that causality were determined by laws, it would not be freedom. It would be nothing other than nature. So nature and transcendental freedom differ as lawfulness and lawlessness. Nature burdens the understanding with a difficulty: it has to keep looking higher and higher up the series of causes for where events come from, because the causality in them is always conditioned. But to make up for that, nature promises a thoroughgoing, law-governed unity of experience. The mirage of freedom does the opposite. To the understanding as it investigates the chain of causes, it promises rest, because it leads the understanding to an unconditioned causality that starts to act on its own. But that causality is itself blind, and so it tears away the guiding thread of rules, which is the only thing that makes a thoroughly connected experience possible.

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Note on the Third Antinomy I. Concerning the Thesis

The transcendental idea of freedom comes nowhere near covering all that the psychological concept of the same name contains, and that concept is mostly empirical. The transcendental idea is just the absolute spontaneity of an action, taken as what really grounds our holding the agent responsible for it. Still, this idea is the true stumbling block for philosophy, because philosophy finds it impossibly hard to allow an unconditioned causality of this kind. So whatever it was in the question of free will that has always left speculative reason so embarrassed is, strictly, a transcendental matter. The only question is whether we have to assume a power of starting a series of successive things or states from itself. We are not equally obliged to explain how such a power could be possible. After all, in the case of causality by natural laws we also have to settle for knowing a priori that such causality must be assumed. We don't grasp at all how the existence of one thing sets up the existence of another, and we simply have to go by experience. Now, what we have shown is this necessity of a first

beginning, from freedom, for a series of appearances. We have shown it only to the extent needed to make an origin of the world understandable; every later state can be treated as following by natural laws alone.

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But once the power to start a series in time wholly from itself has been proved (though not seen into), we may also let several series begin on their own, as far as causality goes, at points along the world's course, and credit the substances in them with a power to act out of freedom. A misunderstanding shouldn't hold us up here. A successive series in the world, it is said, can have only a relatively first beginning, because one state or another of the world's things always lies before it. So perhaps no absolutely first beginning of series can occur while the world runs its course. But we aren't talking about an absolutely first beginning in time. We mean one in causality. Say I get up from my chair right now, entirely freely, with no necessarily determining pressure from natural causes. Then a new series begins outright, and this event is its start. Its natural consequences stretch on without end. In time, the event is just the continuation of an earlier series. But this decision and deed isn't part of the sequence of mere natural effects, and doesn't merely continue it. The determining natural causes cease altogether above it, so far as this event is concerned. It follows them, but it doesn't result from them. So in terms of causality, though not in terms of time, this must be called the absolutely first beginning of a run of appearances.

The need of reason, when it deals with the series of natural causes, to fall back on a first beginning from freedom, shows up very plainly in the following. Apart from the Epicurean school, all the thinkers of antiquity saw themselves forced to posit a first mover to account for the motions of the world. In other words, they posited a freely acting cause that began this series of states first, and by itself. They did not dare to rely on nature alone to make a first beginning intelligible.

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II. Remark on the Antithesis

The defender of nature's omnipotence (transcendental physiocracy), the opponent of the doctrine of freedom, would defend the position against the latter's sophistical inferences like this. "If you don't posit anything first in the world in the mathematical sense, as to time, you needn't hunt for something first in the dynamical sense, as to causality. Who ordered you to make up a first state of the world, absolute and unqualified, and so an absolute starting point for the series of appearances unrolling bit by bit, and then, to give your imagination a resting place, to put boundaries on nature, which has none? Substances in the world have always existed. At the very least, the unity of experience makes that assumption necessary. So there is no problem in assuming that the alternation of their states, that is, the run of their changes, has also always been going on. Then no first beginning, mathematical or dynamical, should be sought at all. That such an infinite descent, with no first member to which all the rest merely succeed, is possible can't be made comprehensible. But if you want to throw these riddles of nature away because of that, you will be compelled to discard many basic synthetic properties (fundamental powers) that you can no more comprehend.

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"Even the possibility of change in general will have to look objectionable to you. Unless experience showed you it is real, you could never think up a priori how such a constant succession of being and not-being could be possible."

Now suppose a transcendental power of freedom is granted, at a pinch, for beginning the world's changes. Even then, it would have to lie, at the least, outside the world. (Even so, it would remain a bold presumption to assume, beyond the sum of all possible intuitions, yet another object that can't be given in any possible perception.) But it can never be permitted to credit substances within the world itself with such a power. If it were, the coherence of appearances that necessarily determine one another by universal laws, which is what we call nature, would largely vanish. So would the mark of empirical truth that separates experience from a dream. Next to a lawless power of freedom like that, hardly any nature can be thought at all. The influences of freedom would

constantly change nature's laws, and the play of appearances, which under nature alone would be regular and uniform, would turn confused and disconnected.

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Pure Reason's Antinomy Fourth Conflict among the Transcendental Ideas

Thesis

Something that belongs to the world, whether as a part of it or as its cause, is a being that is necessary without any qualification.

Proof

The world of sense, being the whole of all appearances, includes a series of changes. Without them we wouldn't even have the representation of the time series, which is a condition that makes the world of sense possible.* Each change falls under a condition that comes earlier in time, and given that condition the change is necessary. Now whenever a conditioned thing is given, then as far as its existence goes, a complete series of conditions is presupposed, extending to what is unconditioned without qualification, and that alone is absolutely necessary. Something absolutely necessary must therefore exist if there is a change that exists as its consequence. This necessary thing, however, belongs to the world of sense itself, for suppose it were outside that world, so that the series of world changes drew its start from it.

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Yet this necessary cause would not itself belong to the world of sense. But that is impossible. A time series can have its beginning fixed only by what precedes it in time. So the supreme condition for the beginning of a series of changes has to exist in time, at a point when that series was not yet there. (A beginning is an existence with a time before it in which the thing that begins was not yet there.) The causality of the necessary cause of the changes, and so the cause itself, therefore belongs to time and so to appearance (time is possible only as appearance's form). It follows that it can't be thought of as separated from the world of sense, the sum of all appearances. So the world itself contains something absolutely necessary (whether it be the entire world series or only a part of it).

* As the formal condition for changes to be possible, time does come before them objectively. But subjectively, and in the reality of consciousness, the representation of time is given only on occasion of perceptions, just as any other representation is.

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Antithesis

An absolutely necessary being does not exist anywhere, neither within the world nor outside it as its cause.

Proof

Suppose the world itself, or something within it, is a necessary being. In the series of its changes there would then be one of two things. One is a beginning that is unconditionally necessary and therefore has no cause. That clashes with the dynamical law governing how all appearances in time are determined. The other is that the series has no beginning whatsoever. Every part of it would be contingent and conditioned, and yet the whole would be absolutely necessary and unconditioned. This is self-contradictory, since a multitude can't exist necessarily if no single part of it has existence that is necessary in itself.

Suppose, on the other hand, that an absolutely necessary cause of the world existed outside the world.

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As the supreme member in the series of causes of the world's changes, it would be the one that first started those changes and their series.* But then it would also have to start acting, and its causality would fall in time, and for that very reason within the sum of appearances, that is, in the world. That makes the cause itself no longer external to the world, which goes against the assumption. So there is no absolutely necessary being, either in the world or outside it (though causally combined with it).

* "Begin" is used in two ways. In the active sense, the cause sets going a series of states that are its effect (infit.). In the passive sense, the causality begins in the cause itself (fit.). I am inferring here from the former to the latter.

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Note on the Fourth Antinomy I. Concerning the Thesis

My task here, in proving that a necessary being exists, is to use nothing but a cosmological argument. Such an argument climbs from what is conditioned in appearance to what is unconditioned in concept, by seeing the unconditioned as the condition that the series' absolute totality necessarily needs. An attempt at a proof from the bare idea of a supreme being among all beings falls under a different principle of reason, so that kind of proof will have to be taken up on its own.

The pure cosmological proof can establish that a necessary being exists only if it also leaves open whether the necessary being is the very world, or a thing that differs from it. To find out which, we would need principles that are no longer cosmological and don't go along the series of appearances. They would be concepts of contingent beings as such (considered only as objects of the understanding), along with a principle that lets us connect them with a necessary being by concepts alone. All this belongs to transcendent philosophy, which has no place here yet.

But once the proof begins cosmologically, with the series of appearances, and the regressus that runs through it by empirical laws of causality, as its basis, it can't later leap away from that to something that isn't a member of the series at all.

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After all, whatever counts as a condition has to count in the same sense in which the conditioned stood to its condition when the series was set up, a series that was to lead us by continuous steps to the highest condition. Now suppose this relation is sensible and falls within the possible empirical use of the understanding. Then the supreme condition or cause can only end the regressus by laws of sensibility, that is, only as part of the time series, and the necessary being has to be seen as the highest link of the world series.

All the same, people have allowed themselves the freedom to make a jump of this kind (metabasis eis allo genos, a shift into another kind). They reasoned from the changes in the world to their empirical contingency, that is, to the fact that they depend on empirically determining causes. This gave them a series of empirical conditions rising upward, and that was perfectly correct. But they

could find no first beginning or highest member in that series. So all at once they dropped the empirical concept of contingency and adopted the pure category. This gave rise to a series that is merely intelligible. That series was complete only if an absolutely necessary cause existed. And because this cause was tied to no sensible conditions, it was released from the condition of time as well, the condition that its causality has to begin itself. This procedure is entirely unjustified, as the following shows.

A thing is contingent, taking the category in its pure sense, if the opposite that contradicts it is possible. But empirical contingency gives us no basis for inferring that intelligible kind.

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If something changes, its opposite state is actual at some other time, and so also possible. But that doesn't make it the contradictory opposite of the earlier state. For that we would need to know that, at the very time the earlier state was there, its opposite could have taken its place. Change can't tell us this. Take a body at first in motion (= A) that then comes to rest (= non A). That a state opposed to A comes after A doesn't allow us to infer that A's contradictory opposite is possible, and therefore that A is contingent. We would need rest to have been possible during the time of the motion, as its replacement. But what we know is only that rest was actual later, and therefore possible. Being in motion at one time and being at rest at another are not set against each other as contradictories. So the succession of opposed determinations, that is, change, doesn't show contingency in the sense of the pure concepts of the understanding. Nor can it take us, through pure concepts of the understanding, to the existence of a necessary being. What change shows is only empirical contingency. By the law of causality, the new state couldn't have arisen by itself, without a cause that belongs to the earlier time. This cause, even if it is assumed to be absolutely necessary, has to turn up in time on this account, and belong to the series of appearances.

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II. Remark on the Antithesis

Suppose someone thinks they find, in climbing up the series of appearances, difficulties that tell against a supreme cause which is necessary without qualification. Such difficulties can't be grounded on bare concepts of a thing's necessary existence as such. They would not be ontological then. They have to emerge from the causal combination of a cause with a series of appearances, that is, from positing, for that series, a condition that is unconditioned in itself. They have to be cosmological and drawn according to empirical laws. What has to be shown is that the climb along the series of causes (in the world of sense) can never stop at a condition that is empirically unconditioned. And it has to be shown that the cosmological argument, which starts from how contingent the world's states are as their changes show, comes out against assuming a first cause that starts the series absolutely.

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This antinomy shows a strange contrast, though. The thesis and the antithesis both use one and the same ground of proof, and they use it with equal sharpness. The thesis concludes from it that an original being exists. The antithesis concludes from it that no such being exists. First the argument was: a necessary being exists, because all of past time contains the whole series of conditions, and with it the unconditioned (the necessary). Now it is: no necessary being exists, for the very reason that all elapsed time contains the whole series of conditions (and these are all conditioned in turn). The cause of this is the following. The first argument looks only at the series of conditions as an absolute totality, where one condition determines another in time, and so it ends up with something unconditioned and necessary. The second argument takes into account the contingency of everything determined in the time series. (Each of them is preceded by a time, and in that time the condition itself has to be determined, in its turn, as conditioned.)

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That makes everything unconditioned, and all absolute necessity, vanish altogether. Still, the way of inferring in both suits even common human reason, which often ends up divided against itself when it weighs its object from two different standpoints. Mr. von Mairan took the dispute between two famous

astronomers, which came from a similar difficulty over the choice of standpoint, to be a phenomenon remarkable enough to deserve a special treatise. One of them argued: the moon turns on its axis, because it always turns the same side toward the earth. The other: the moon doesn't turn on its axis, precisely because it always turns the same side toward the earth. Each inference was right, according to which standpoint a person took for observing how the moon moves.

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Pure Reason's Antinomy Third Section On Reason's Interest in This Conflict with Itself

There we have it: the whole dialectical play of the cosmological ideas. No object matching them can be given in any possible experience. Reason can't even think them in harmony with the general laws of experience. Yet these ideas aren't dreamed up at will. When reason, advancing steadily through empirical synthesis, tries to free from every condition what the rules of experience can only ever determine conditionally, and to take it in as an unconditioned totality, it is led to them of necessity. These sophistical claims are each an attempt to solve one of four natural, unavoidable problems of reason. There can be just that many, neither more nor fewer, since there are only so many series of synthetic presuppositions bounding empirical synthesis a priori.

The dazzling pretensions of a reason that widens its territory beyond all boundaries of experience have been shown here only in dry formulas.

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These contain just the basis for its legitimate claims. And, as befits a transcendental philosophy, we stripped them of everything empirical, though the whole glory of reason's assertions can shine out only together with the empirical. When philosophy is applied this way, though, and reason's use keeps widening, starting in the field of experience and gradually rising to these exalted ideas, philosophy shows a dignity. If it could only make good on its pretensions, this dignity would leave the worth of every other human science far behind. For philosophy promises a foundation for our greatest hopes and prospects, concerning the final ends in which all the efforts of reason must finally come together.

Consider these questions. Does the world have a beginning, and some boundary to its extent in space? Is there anywhere, maybe in my own thinking self, a unity that can't be divided or destroyed, or is there only what can be divided and what passes away? Am I free in what I do, or, like other beings, led along by the thread of nature and fate? Is there, in the end, a supreme cause of the world, or do natural things and their order form the last object, where we must stop in all our thinking? A mathematician would gladly give up the whole of mathematics to get these questions resolved. For mathematics can bring no satisfaction when it comes to the highest and most urgent purposes of humanity.

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Even the true dignity of mathematics (the pride of human reason) rests on this. Mathematics guides reason in seeing how orderly and regular nature is, from the largest things to the smallest, and in seeing the wonderful unity of the forces that move it. This goes far beyond anything a philosophy built on ordinary experience could expect. In this way mathematics gives reason itself an occasion and encouragement to use itself beyond all experience. It also supplies the philosophy dealing with these matters with excellent materials, so that its inquiry can be backed up, as far as its nature permits, with fitting intuitions.

Unfortunately for speculation (though perhaps happily for humanity's practical vocation), reason finds itself, in the very midst of its greatest hopes, so caught in a throng of arguments and counterarguments that it is stuck. Retreating isn't possible, either for its honor or for its safety, and neither is looking on indifferently at the quarrel as if it were a mere skirmish for show. Ordering outright peace is even less possible, since the object of the dispute holds great interest. Nothing is left but to ponder where this division of reason against itself comes from, and whether a mere misunderstanding might be at fault.

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Clearing that up may well make the proud claims on both sides drop away, but in return a lasting, quiet government of reason over understanding and senses would get its start.

For now we will put this thorough inquiry off a little. First let us consider which side we would most like to take if we were somehow forced to take sides. In this case we consult only our interest, not the logical touchstone of truth. So an inquiry like this settles nothing about the disputed rights of the two parties. Still, it will be useful. It will make clear why the participants in this dispute have taken one side rather than the other, though no superior insight into the matter was the reason. It will also explain some side issues, for example the zealous heat of one party and the cold assertion of the other, and why people gladly cheer one party with joyful applause and are implacably prejudiced against the other beforehand.

There is one thing that settles the viewpoint for this preliminary assessment, the only viewpoint from which it can be done with real thoroughness. That is the comparison of the principles the two parties start out from. In the claims of the antithesis one notices perfect uniformity in the way of thinking, and complete unity of maxim.

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That maxim is the principle of pure empiricism, applied not just in explaining appearances in the world but in solving the transcendental ideas about the cosmos itself. The claims of the thesis, on the other hand, base themselves on intellectual beginnings in addition to the empirical way of explaining things within the series of appearances, and for this reason their maxim isn't simple. From what chiefly marks it out, I would name it pure reason's dogmatism.

On the side of dogmatism, then, in settling the cosmological ideas of reason, that is, on the side of the thesis, we find:

First of all there is a practical interest, one that every well-disposed person, if they understand their own true advantage, shares warmly. That the world has a beginning, that my thinking self has a simple, and therefore indestructible, nature, that this self is at the same time free in its deliberate actions and lifted above natural compulsion, and finally that the entire order of the things that make up the world has an original being as its source, and from that being

everything borrows its unity and its purposeful connection: these are so many cornerstones of morality and religion. The antithesis takes all these supports away from us, or seems to.

Second, reason has a speculative interest on this side too. Accept the transcendental ideas and use them in this way.

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Then one can take in the entire chain of conditions entirely a priori, and see how the conditioned is derived, by beginning with the unconditioned. The antithesis can't do that, and this makes it a poor recommendation. Ask it about the conditions for its synthesis, and any answer it gives leaves us asking further, endlessly. It says we must rise from a given beginning to a higher one, that each part leads on to a smaller part, that each event has yet another event above it as its cause, and that the conditions of existence as such lean on further conditions again and again, never finding unconditioned hold and support in a self-standing thing, an original being.

Third, this side has the advantage of being popular, and that is certainly a major part of its appeal. Ordinary understanding finds no difficulty at all in the ideas of an unconditioned beginning for all synthesis. It is in any case more used to moving down toward consequences than up toward grounds. Concepts of the absolutely first give it ease, and a fixed point where it can fasten the line that guides its steps. It doesn't brood over whether that first is even possible. Rising ceaselessly from conditioned to condition, always with one foot in midair, can't please it at all.

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On the side of empiricism, in settling the cosmological ideas (the antithesis), there is, first, no practical interest of the kind morality and religion bring with them out of pure principles of reason. If anything, plain empiricism seems to strip both of all their force and influence. Suppose no original being exists apart from the world, and the world has no beginning and so no creator. Suppose we have no free will, and the soul can be split up and can decay just as matter can. Then the moral ideas and principles lose all validity too, and they collapse along with the transcendental ideas that were their theoretical support.

Empiricism, though, does hold out advantages for reason's speculative interest. They are enticing, and they exceed by far those that the dogmatic teacher of the ideas of reason might promise. In empiricism the understanding is always standing on ground of its own, the field of nothing but possible experiences. It can trace their laws, and through them it can enlarge its cognition without limit, a cognition that is secure and easy to grasp. The understanding can, and should, show the object to intuition, both as it is and in how it stands to other things, or else in concepts whose picture can be shown clearly and distinctly in similar given intuitions. The understanding has no need to step out of this chain of the natural order.

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If it did, it would be attaching itself to ideas whose objects it doesn't know, since as things of thought they can never be given. Beyond that, the understanding is not even allowed to quit its work. It can't say the job is now done and move on into the territory of idealizing reason and transcendent concepts. In that territory it would no longer have to observe and to investigate by the laws of nature. It would only have to think and make things up. It would be sure that facts about nature could never refute it, since it isn't bound by what they testify. It may simply ignore them, or even place them beneath a higher authority, that of pure reason.

So the empiricist will never allow anyone to take some epoch of nature as the absolutely first one. The empiricist will never treat any boundary of the view into nature's extent as the outermost one. Nor will the empiricist move on from the objects of nature, which can be broken down by observation and mathematics and determined synthetically in intuition (the extended), to objects that neither the senses nor the imagination can ever present in a concrete case (the simple). The empiricist also won't agree to lay down, even inside nature itself, a power to act independently of the laws of nature (freedom). That would cut into the job of the understanding, which is to trace how appearances arise with necessary rules as its guide.

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And in the end the empiricist will not grant that anyone should look for the cause of anything outside nature (an original being). We know nothing except nature, because it alone presents objects to us and can teach us its laws.

Granted, the empirical philosopher may mean the antithesis to do just one job: to put down the nosy presumption of a reason that misjudges its true vocation. That kind of reason puts on a big show of insight and knowledge at the very point where insight and knowledge stop. It wants to sell what we allow for practical purposes as a boost to the speculative interest. And whenever it suits its comfort, it snaps the thread of physical inquiry, then ties it to transcendental ideas while claiming to widen our cognition. All those ideas really teach us is that we know nothing. Now suppose the empiricist stopped there. Then the empiricist's principle would be a rule of restraint in what we claim and modesty in what we assert. It would also be a rule for stretching our understanding as far as it can go, under the teacher we were actually given, which is experience. We would not lose our intellectual assumptions or our faith, which serve our practical affairs. We just couldn't put them forward under the grand title and show of science.

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Nor could we call them rational insight. Real speculative knowledge can only ever reach objects of experience. Step across the boundary of experience, and the synthesis that tries for new cognitions, independent of experience, has no intuition underneath it to work on.

But empiricism often turns dogmatic itself when it comes to ideas. When it does, and flatly denies whatever goes beyond the cognitions it gets through intuition, it falls into the very same fault of immodesty. Here the fault is worse, because it does irreplaceable damage to reason's practical interest.

That is the conflict between Epicureanism* and Platonism.

* It is still unsettled whether Epicurus ever offered these principles as claims about objects. If they were only rules for how reason should work in speculation, he showed a truer philosophical spirit than any thinker of the ancient world. The rules are these. Explain appearances as if no boundary or beginning of the world shut off the field of inquiry. Take the world's matter to be what-

ever it must be if experience is to teach us about it. Allow events to come about only through unchanging laws of nature. And bring in no cause that is different from the world. These rules are still very sound, though few follow them, for widening speculative philosophy. They are just as sound for finding the principles of morals without outside help. And someone who asks us to leave those dogmatic claims aside while we are busy with pure speculation can't fairly be accused, for that, of wanting to deny them.

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Each side says more than it knows. But they differ. The first encourages and advances knowledge, even though it harms the practical side. The second does offer excellent principles for practical matters. Yet by that very fact, in everything where only speculative knowledge is open to us, it lets reason chase idealizing explanations of natural appearances and neglect physical research.

The third point to weigh in choosing provisionally between the two sides is popular appeal. Here something is very strange. Empiricism has no popular appeal at all. You would expect common understanding to jump at a scheme that promises to satisfy it with nothing but knowledge from experience and the reasoned links between such items. Transcendental dogmatism, on the other hand, makes common understanding climb up to concepts that are far beyond the insight and reasoning power of the best-trained thinkers. But that is just what attracts it.

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For then common understanding finds itself in a position where even the most learned person can claim no advantage over it. If it understands little or nothing here, nobody else can boast of understanding much more. It may not be able to talk about these matters in proper school style, but it can reason about them endlessly. It is wandering among ideas, and people are most eloquent about ideas precisely because they know nothing about them. When it comes to studying nature, though, it would have to keep quiet and admit that it doesn't know. So comfort and vanity are already a strong recommendation for these principles. There is more. A philosopher has a hard time taking anything as a principle without being able to give an account of it, or bringing in con-

cepts whose objective reality can't be seen. Common understanding finds nothing more ordinary. It wants something to start from with confidence. It isn't bothered by the difficulty of grasping such an assumption, since it doesn't know what grasping means and the difficulty never crosses its mind. What frequent use has made familiar, it counts as known. In the end, though, speculative interest gives way entirely to the practical, and common understanding fancies that it sees and knows whatever it feels pushed to assume or believe.

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What pushes it is worry or hope. So the empiricism of transcendentally idealizing reason has no popular appeal whatever. It may hold a good deal that is harmful to the highest practical principles. Still, there is nothing to fear: it will never get out of the schools, or win any real standing or favor with the crowd.

Human reason is by nature architectonic. That is, it looks at all cognitions as parts of a possible system. So it allows only principles that at the least don't stop a planned piece of cognition from fitting alongside others in some system. The propositions of the antithesis, though, make it entirely impossible to complete a building of cognitions. On them, every state of the world has an older one behind it. Every part has other parts in it, and those can be divided again. Every event has an earlier one before it, which was itself produced by something else. Everything in existence is conditioned only, and no unconditioned, first existence is ever recognized. So the antithesis nowhere grants anything first, no beginning that could be the base of the structure. A complete building of cognition is therefore wholly impossible on these assumptions.

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That is why reason's architectonic interest (which asks for pure unity of reason, a priori, and not for empirical unity) carries a natural recommendation for the claims of the thesis.

Suppose someone could drop every interest and judge the assertions of reason only by the weight of their grounds, whatever the consequences. Suppose too that the only way out of the squeeze was to side with one of the two disputed doctrines. That person would waver without end. Today it would seem convincing that the human will is free. Tomorrow, looking at the unbreakable

chain of nature, they would decide that freedom is only self-deception and that everything is nature. Yet once they had to act, this game played by purely speculative reason would vanish like the figures in a dream, and they would choose their principles by practical interest alone. Still, a being that thinks and inquires should set aside certain times for testing its own reason, drop all partiality while doing it, and share its observations in public for others to judge. So nobody can be blamed for this, let alone stopped, if they let the claims and counterclaims have their say.

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Let them defend themselves as well as they can, frightened by no threat, before a jury of their own kind: weak human beings.

Pure Reason's Antinomy Section Four Problems of Transcendental Philosophy That Reason Absolutely Must Be Able to Solve

Trying to solve every problem and answer every question would be shameless bragging. It would be such wild conceit that you would lose everyone's trust at once. Yet some sciences are built so that any question arising inside them must have an answer drawn from what is already known. That is because the answer has to spring from the same sources as the question. In those sciences you can't plead unavoidable ignorance. A solution can be demanded. We must be able to know, as a rule, what is right and what is wrong in every possible case, because that is a matter of our duty, and we have no duty regarding what we can't know.

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When it comes to explaining the appearances of nature, by contrast, a lot has to stay uncertain and many questions have to stay unsolved, because what we know of nature falls far short, in many cases, of everything we are asked to explain. So here is the question. Does transcendental philosophy contain any question, about an object put before reason, that this same pure reason can't answer? And may we rightly get out of giving a decisive answer by filing the matter as absolutely uncertain, given everything we can cognize? That is, may we put it among the things for which we have just enough of a concept to ask a question, but have no means or power to answer it?

I claim that transcendental philosophy has this special feature among all speculative knowledge: no question about an object given to pure reason is unsolvable for that same human reason. Nobody can plead unavoidable ignorance, or a problem too deep to fathom, to get free of the duty to answer it fully and thoroughly. The very concept that lets us ask the question must also make us able to answer it, since the object is nowhere to be found outside the concept.
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Right and wrong are like that.
In transcendental philosophy the cosmological questions are the only ones where we may rightly demand a satisfying answer about the nature of the object. The philosopher isn't allowed to dodge them by pleading impenetrable obscurity. These questions can only be about cosmological ideas. The reason is that the object has to be given empirically, and the only issue is whether it matches an idea. Things differ when the object is transcendental, and so itself unknown. Examples are these: whether the something that appears (in us) as thinking, the soul, is a simple being in itself; whether there is a cause of all things together that is absolutely necessary; and so on. Here we have to look for an object to go with our idea, one that we can admit is unknown to us, though not for that reason impossible*.
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Only the cosmological ideas have this distinctive feature: they can take their object, and the empirical synthesis its concept requires, as already given. The question they raise concerns just how that synthesis goes on, as far as it is supposed to reach absolute totality. Such totality is no longer anything empirical, because no experience can give it. Now, here we are dealing with a thing only as an object that experience could give us, never as something that exists on its own. So the transcendent cosmological question can be answered only from within the idea, since it isn't about any object in itself. And as for possible experience, we aren't asking what might be given in some concrete experience. We are asking what the idea contains, the idea that empirical synthesis is only

meant to approach. So the question has to be solvable from the idea alone. The idea is just a creation of reason. Reason therefore can't disown responsibility for it, or push that responsibility onto the unknown object.

* Asked what a transcendental object is like, that is, what it is, we can give no answer. What we can say is that the question itself amounts to nothing, since no object for it has been given. For that reason all the questions of transcendental psychology can be answered, and in fact have been. They concern the transcendental subject that underlies all inner appearances. That subject is not itself an appearance, so it is not given as an object, and none of the categories (which are what the question is really aimed at) finds any conditions for being applied to it. This is a case where the common saying holds that no answer is also an answer. Suppose we ask about the nature of a something that no determinate predicate can express, since it is set entirely outside the range of objects that could ever be given to us. Such a question is completely void and empty.

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It is not as odd as it first seems that a science could demand certain answers to all the questions inside its own territory (quaestiones domesticae, "home questions"), and expect to get them, even if some haven't been found yet. Transcendental philosophy isn't the only science of pure reason. There are two more: pure mathematics, purely speculative in content, and pure morals, practical in content. Who has ever been told that the exact ratio of a circle's diameter to the circle is uncertain, in rational or in irrational numbers, as if we were bound to be ignorant of the conditions? Rational numbers can't give that ratio exactly, and irrational ones haven't yielded it yet. So people concluded that we could at least know for certain that no such solution is possible, and Lambert gave a proof. In the general principles of morals nothing can be uncertain. Either the propositions are wholly empty and meaningless, or they must follow simply from our concepts of reason. In the study of nature it is different. There are endless conjectures there that can never be certain. The appearances of nature are objects that reach us apart from our concepts. So the key to them lies outside us, not within us or our pure thinking. For that reason it often can't be found.

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So no certain answer can be expected. I'm not counting here the questions of the transcendental analytic that concern the deduction of our pure cognition. We are concerned now only with how certain our judgments about objects are, not with where our concepts themselves come from.

So we can't wriggle out of the duty to give at least a critical answer to the questions put to reason. We can't do it by complaining about the narrow limits of our reason and, with the illusion of humble self-knowledge, admitting that it is beyond us to settle these matters: whether the world has always existed or had a beginning; whether space is filled with beings forever or is closed in by certain boundaries; whether anything in the world is a simple unit, or all of it divides forever; whether things are generated and produced by freedom, or all of them hang from the chain of natural order; and finally whether some being is wholly unconditioned and necessary in itself, or everything exists conditionally, depends on something outside, and is contingent in itself. All of these questions are about an object found only in our thinking: the wholly unconditioned totality of the synthesis of appearances.

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Suppose that from our own concepts we can't state or settle anything sure about it. Then we mustn't put the blame on the thing for hiding from us. No such thing can be given to us at all, because it is found nowhere outside our idea. The cause has to be sought in our idea itself. That idea is a problem with no solution, and yet we stubbornly assume that a real object matches it. If we laid out clearly the dialectic that lies in our concept itself, we would soon be completely certain what we ought to judge about such a question.

Your excuse is that these problems are uncertain. To that we can first reply with a question that you at least must answer clearly. Where do the ideas come from, whose solution tangles you in such difficulty? Are they perhaps appearances that you need explained, so that these ideas only send you looking for principles, or for the rule for setting those appearances out? Imagine nature laid wide open to you. Nothing is hidden from your senses or from your awareness of all

that is set before your intuition. Still, no experience at all would let you know the object of your ideas in a concrete case. (Besides the complete intuition, a finished synthesis would be needed.

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And you would need to be conscious of its absolute totality, which no empirical cognition can provide.) So your question can't be needed to explain any appearance that comes up. The object itself doesn't set it for you, so to speak. The object can never come up for you, because no possible experience can give it. All your possible perceptions leave you stuck inside conditions, in space or in time. You never reach anything unconditioned that would let you decide whether the unconditioned lies in an absolute first beginning of the synthesis, or in an absolute totality of a series with no beginning. But "all" in the empirical sense is only ever relative. The absolute all of size (the universe), of division, of descent, of the condition of existence in general, with every question whether it could be reached by a finite synthesis or by one that goes on forever, is none of experience's business. Take a body. You couldn't explain its appearances any better, or even differently, whether you assume it consists of simple parts or of parts that are made up of further parts all the way down. No simple appearance, and no infinite composition either, can ever come up for you. Appearances need explaining only as far as the conditions for explaining them are given in perception.

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Everything that might ever be given in them, gathered into one absolute whole, would itself have to be a perception. And it is exactly this all that the transcendental problems of reason ask us to explain.

Experience can never contain even the solution of these problems. So you can't claim it is uncertain what to ascribe to the object here. Your object is just in your head. It can't be given anywhere outside it. All you have to do is make sure you are in agreement with yourselves, and avoid the amphiboly that makes your idea look like the representation of something given empirically, an object to be known by the laws of experience. So a dogmatic solution isn't uncertain; it is

impossible. A critical solution, which can be perfectly certain, doesn't treat the question objectively at all. It looks to the ground of cognition on which the question is built.

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Pure Reason's Antinomy Section Five A Skeptical Presentation of the Cosmological Questions Across All Four Transcendental Ideas

We would gladly drop our demand for dogmatic answers if we could see in advance that any answer would only increase our ignorance. It would throw us from one thing we can't grasp to another, from darkness into deeper darkness, and perhaps even into contradictions. If our question asks only for a yes or a no, it is smart to put the likely grounds for an answer aside for the moment. First weigh what we would gain if the answer went one way, and what we would gain if it went the other. Suppose both turn out to be pure nonsense (Nonsens). Then we have good reason to examine the question itself critically, and to see whether it rests on a groundless assumption and toys with an idea whose falseness shows up better when the idea is applied, and in its consequences, than when it is taken by itself. That is the great advantage of the skeptical way.

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It lies in how it treats the questions that pure reason puts to pure reason, and at little cost it can spare us a huge pile of dogmatic clutter and put a sober critique in its place. Like a true purge (Katarktikon), that critique will happily clear out the delusion, together with its companion, the habit of knowing many things.

Suppose I could see ahead of time that a cosmological idea would come out either too big or too small for any concept of the understanding. It would do so in the regressive synthesis of appearances, on whichever side of the unconditioned it came down. Then I would understand the following. The idea is only about an object of experience, and experience has to fit some possible concept of the understanding. So the idea must be wholly empty and meaningless, because no object fits it however I bend the object to suit. And that is exactly

the case with every concept of the world. This is why these concepts tangle reason in an unavoidable antinomy for as long as it holds on to them. For consider the following.

First, suppose the world has no beginning. Then it is too big for your concept. Your concept is a successive regress, and that can never get back through all the eternity that has passed. Now suppose the world has a beginning. Then it is too small again, this time for your concept of the understanding in the necessary empirical regress.

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A beginning still presupposes an earlier time, so it is not yet unconditioned. And the law that governs the understanding's empirical use makes you ask for a time-condition still further back. So plainly the world is too small for this law.

The same goes for the two possible answers about the size of the world in space. If the world is infinite and unbounded, it is too big for any possible empirical concept. If it is finite and bounded, you can fairly go on to ask what fixes the boundary. Empty space isn't something that stands on its own as a correlate of things. It can't be a condition where you could stop, and it is even less an empirical condition that could be part of a possible experience. (Who can have an experience of the completely empty?) But for the absolute totality of the empirical synthesis, the unconditioned must always be a concept taken from experience. A bounded world, then, turns out too small for your concept.

Second, suppose every appearance in space (matter) is made of infinitely many parts. Then the regress of division is always too big for your concept. Suppose instead the division of space is to end at some member (the simple). Then the regress turns out too small to match the idea of the unconditioned.

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That member still leaves room for a regress to further parts inside it.

Third, suppose you assume that everything that happens in the world is nothing but a result following laws of nature. Then the causality of the cause is itself again something that happens. That forces you to regress to a still higher cause,

and so to extend the series of conditions a parte priori (backward) without end. Mere working nature is therefore too big for any concept you have, in the synthesis of world events.

Now suppose you pick, here and there, events that bring themselves about, and so production from freedom. Even then the question "why" chases you back to a law of nature you can't avoid. It forces you to go past this point, following the causal law of experience. And you find that a totality of connection like this proves too small for the empirical concept you cannot do without.

Fourth. You might assume a being that is absolutely necessary. It may be the world itself, or a part of the world, or the world's cause. Then you have to place it in a time infinitely far from any given moment. Otherwise it would depend on an older existence. But then this existence is out of reach for your empirical concept. It is too big for you ever to get to it by any continuing regress.

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Suppose instead you hold that everything belonging to the world, as conditioned or as condition, is contingent. Then any existence you are given is too small for your concept, because it forces you always to look around for another existence on which it depends.

In all these cases we said that the idea of the world is too big for the empirical regress, or else too small, and so for every possible concept of the understanding. Why didn't we say it the other way around? We might have said that in the first case our empirical concept always turns out too small beside the idea, and in the second too large, so that the fault lies, in a way, with the empirical regress. Instead we blamed the cosmological idea for missing its goal, which is possible experience, by going too far or not far enough. Here is why. Possible experience is the one thing that can give our concepts reality. Without it, any concept is only an idea, with no truth and no relation to an object. So the possible empirical concept had to be the measuring stick for judging the idea: is it a mere idea, a thing of thought, or does it find its object in the world? We only call something too big or too small relative to something else when it was taken on because of that other thing, and has to be shaped to suit it.

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The old schools of dialectic had a puzzle like this to play with. A ball won't fit through a hole. Should we say the ball is too big, or the hole too small? In that case it doesn't matter how you put it, since you don't know which of the two exists for the other's sake. But no one will say a man is too long for his coat. They'll say that it is the coat that is too short.

So at least we have a well-founded suspicion. The cosmological ideas, and with them all the sophistical assertions that are set against one another, may rest on a concept that is empty and only imagined, a notion of the way their object is given to us. This suspicion alone can set us on the right track to uncovering the mirage that has led us astray for so long.

Pure Reason's Antinomy Section Six Transcendental Idealism: The Key to Resolving the Cosmological Dialectic

In the transcendental aesthetic we proved well enough that whatever is intuited in space or time, and so every object of any experience we can have, is only appearance. That is, it is mere representation.

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As such, whether it is shown as extended beings or as series of changes, it has no existence of its own outside our thoughts. I call this theory transcendental idealism.* The transcendental realist makes these modifications of our sensibility into things that stand on their own. In that way the realist turns mere representations into things in themselves.

* I have at times also called it formal idealism, to set it apart from the material kind, the ordinary idealism that questions or denies the very existence of outer things. In some cases it seems wiser to use this name rather than the one above, so as to prevent any misunderstanding.

It would be unjust to pin on us the empirical idealism that has been shouted down for so long. This idealism grants that space is real in its own right. But it denies that extended beings exist in space, or at least calls their existence doubtful. On this point it allows no difference between dream and truth that could be proved well enough. Inner sense is another matter. This idealism has no

trouble with the appearances of inner sense in time, which it treats as actual things. It even claims that inner experience, by itself, fully proves that its object actually exists (in itself), along with all this determination in time.

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Our transcendental idealism, on the other hand, lets the objects of outer intuition be real as well, exactly as we intuit them in space. The same goes for every change in time, as inner sense presents it. Space is already a form of what we call outer intuition. With no objects in space, we would have no empirical representation whatever. So we can and must treat extended beings in space as actual. Time works the same way. But space itself, together with time, and with both of them all appearances, are not things in themselves. They are nothing but representations and can't exist anywhere outside our mind. Now take the inner, sensible intuition we have of our own mind (the mind as an object of consciousness), in which its determination is represented as a succession of different states in time. This is not the true self as it exists in itself, and not the transcendental subject. It is only an appearance, handed to the sensibility of a being we know nothing about. We can't concede that this inner appearance exists as a thing existing in itself in that way, because its condition is time, and time can't describe any thing in itself. Inside space and time, though, appearances have all the empirical truth they need to count as secure, and they are kept clearly apart from the kinship with a dream.

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That holds whenever both hang together correctly and without a gap, by empirical laws, in a single experience.

So objects of experience never come to us as they are in themselves. They come only within experience, and outside it they don't exist at all. We do have to allow that the moon might have inhabitants, even though nobody has ever perceived them. But all that means is that we might meet them as experience moves forward. Anything is actual if it stands in one context with some perception, by the laws of the empirical advance. So those inhabitants are actual if they are linked, empirically, to my actual consciousness. That doesn't make them actual in themselves, apart from this forward movement of experience.

Nothing is actually given to us except perception, and the empirical move from it to other possible perceptions. Appearances in themselves are mere representations, and they are actual only in perception. Perception just is the reality of an empirical representation, which means an appearance. To call an appearance a real thing before any perception can mean only that, as experience goes on, we will have to run into such a perception. Otherwise it means nothing at all. Of course one could say that an appearance exists in itself, with no relation to our senses or possible experience.

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But that would be right only if we were talking about a thing in itself. Here we are talking about an appearance in space and time. Neither is a determination of things in themselves; both belong only to our sensibility. So whatever is in space and time, namely appearances, is nothing in itself. It is representation only, and if it isn't given in us (in perception), it is found nowhere at all.

Our sensible power of intuition is really just a receptivity: it can be affected by representations in a certain way. Their relation to one another amounts to a pure intuition of space and time (nothing but forms of our sensibility). Insofar as laws that unify experience connect them and make them determinable in this relation (space and time), they are called objects. The cause of these representations isn't sensible, and we know nothing of it. So we can't intuit it as an object. An object like that would have to be represented in neither space nor time, which are only conditions of sensible representation, and without those conditions we can't think of any intuition at all. Still, we may call the cause of appearances in general, a cause that exists only for the intellect, the "transcendental object," purely so that something answers to sensibility as a receptivity. To this transcendental object we can assign the entire reach and connection of our possible perceptions.

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We can then say that it is given in itself before all experience. Appearances, according to it, are given not in themselves but only within this experience. They are mere representations. As perceptions they mean an actual object only if that perception connects with all the others by the rules of the unity of expe-

rience. So the real things of past time can be called given in the transcendental object of experience. For me, though, they are objects, and real in past time, only to the extent that I picture a backward series of possible perceptions. The series follows empirical laws, whether the thread of history or the traces of causes and effects; in short, the way the world runs. It leads back to an earlier stretch of time as the condition of the present time. And even that earlier time is represented as actual only in the setting of a possible experience, and never as it is in itself. So all the events that happened in times beyond remembering, before I existed, mean nothing other than this: it is possible to extend the chain of experience upward, starting from my present perception, to the conditions that fix it in time.

So when I picture all the existing objects of the senses together, in all time and all spaces, I am not placing them into time and space before experience.

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What I am picturing is just the thought of a possible experience, complete in every respect. Only in that experience are those objects given. (They are nothing but representations.) To say they exist before all my experience means only that they will be found in the part of experience that I have yet to reach, starting from perception. What causes the empirical conditions of that advance, which members I will meet in the regress, or how far I will run into them, is transcendental, and so necessarily unknown to me. But that isn't the concern anyway. The concern is the rule for how experience advances, the experience in which objects (appearances) are given to me. It also comes to the same thing in the end whether I say that, advancing empirically through space, I might meet stars a hundred times farther off than the most distant ones I can see; or whether I say that there may be such stars out in space, even though no human has ever perceived them or ever will. For suppose they were given as things in themselves, with no relation to possible experience. They would still be nothing to me, and so not objects, except to the degree that they are contained in the series of the empirical regress. Only in a different connection does it matter

how one understands the reality of objects of the senses that are merely thought: namely, when these same appearances are put to work for the cosmological idea of a whole that is absolute.

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Then the question reaches past the boundaries of any possible experience, and the distinction matters, in order to head off a deceptive delusion. That delusion is bound to arise, unavoidably, from our misreading of our own concepts of experience.

Pure Reason's Antinomy Section Seven Settling Reason's Cosmological Quarrel with Itself, Critically

The whole antinomy of pure reason rests on one dialectical argument: if the conditioned is given, then the entire series of its conditions is given too. What our senses give us as objects is conditioned. Therefore, and so on. The major premise of this syllogism looks so natural and obvious. Through it, cosmological ideas come in, one for each kind of condition (in the synthesis of appearances), to the extent that the conditions form a series. These ideas demand the absolute totality of such series. By that very demand they throw reason, unavoidably, into conflict with itself. Before we can expose what is misleading in this sophistical argument, we have to prepare ourselves.

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We do it by correcting and pinning down certain concepts that appear in the argument.

First, here is a proposition that is clear and certain beyond doubt. Whenever the conditioned is given, a regress through the series of all its conditions is thereby set before us as a task. The concept of the conditioned already carries this with it: something is tied to a condition, then, if that condition is itself conditioned, to a more distant condition, and so on through every member of the series. This proposition is therefore analytic, and it has nothing to fear from a transcendental critique. It is a logical demand of reason: to follow, by means of the understanding, the connection that a concept already has with its conditions, and to carry it as far as possible.

Next, suppose the conditioned and its condition are both things in themselves. Then once the first is given, the regress to the second isn't only set as a task. The second is actually already given along with the first. And since that holds for every member of the series, the whole series of conditions, and the unconditioned with it, is given at the same time. Or better, it is presupposed in the very fact that the conditioned, which was possible only by way of that series, is given. In this case the joining of the conditioned to its condition is the work of the bare understanding. The understanding represents things as they are.

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It doesn't ask whether, or how, we could come to know them. But take the case where I am dealing with appearances. As mere representations they aren't given at all unless I arrive at some knowledge of them (that is, at the appearances themselves, for they are nothing but empirical knowledge). Then it isn't open to me to say, in that same sense: the conditioned is given, so its conditions are given too, as appearances. So I can't conclude to the absolute totality of their series. In apprehension, appearances are themselves nothing but an empirical synthesis carried out in space and time, and they are given only in that synthesis. It doesn't follow that giving the conditioned (in appearance) also gives and presupposes the synthesis that makes up its empirical condition. That synthesis happens first in the regress, and never without it. In a case like this, though, we can say something: a regress to the conditions, meaning an empirical synthesis that keeps going on this side, is ordered or set as a task. And there can be no shortage of conditions, since the regress supplies them.

From this it is clear what happens. The major premise of the cosmological syllogism uses "conditioned" in the transcendental meaning of a pure category. The minor premise uses it in the empirical meaning, as an understanding-concept applied to nothing more than appearances.

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So the dialectical trick in it is the one called a sophisma figurae dictionis (a fallacy resting on a figure of speech). The trick isn't contrived. It is a quite natural deception of common reason. We presuppose the conditions and their series in the major premise almost unseen, any time something is given as conditioned.

That's because this is only the logical demand to take complete premises for a given conclusion. In the connection of a conditioned thing with its condition there is no time order at all. They are presupposed in themselves as given together. And in the minor premise it is just as natural to treat appearances as things in themselves, and also as objects that the bare understanding is handed, as we did in the major premise when we set aside all the conditions of intuition, though only under those conditions can objects be given at all. But here we overlooked a striking difference between the concepts. In the major premise, joining a conditioned thing to its condition, and the whole series of conditions, carried no restriction by time and no idea of succession. In the minor premise, empirical synthesis, and the line of conditions inside appearance (which is what gets placed under that premise), are necessarily successive. They are given one after another, in time only. So here I couldn't presuppose the absolute totality of the synthesis, and of the series it stands for, the way I could there.
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There, each link in the series is given in itself, with no time condition. Here they are possible only through the successive regress, and the regress is given only by really carrying it out.
Once the common argument behind the cosmological assertions has been shown to contain such a slip, both parties to the dispute can rightly be thrown out of court. Neither has a sound title for its claim. Yet that doesn't settle their quarrel, if settling it means proving that they, or one of them, is wrong about the matter itself, the conclusion, even if it couldn't base its claim on solid proofs. Nothing seems clearer than this. If one says the world has a beginning and the other says it has none but has existed from eternity, one of them has to be right. If so, then since both sides are equally clear, nobody can ever work out which side is right. The quarrel carries on just as it did, though the court of reason has told both parties to keep quiet. So the one remedy left, for ending the quarrel for good and to both sides' satisfaction, is this. They refute each other so well that they must finally be shown they are fighting over nothing.
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They must also see that a certain transcendental illusion has painted before them something actual, where nothing of the kind is to be found.
This is the way we will now take to settle a dispute that cannot be decided.
* * *
Zeno of Elea, a clever dialectician, was already scolded by Plato as a reckless sophist. To show off his art, he would try to prove one statement with arguments that looked sound, and soon afterward overthrow it with others just as strong. He claimed that God (for him, probably nothing but the world) was neither finite nor infinite, neither moving nor at rest, and neither like nor unlike anything else. To the people who passed judgment on him here, it seemed he wanted to deny flat out two statements that contradict each other, which is absurd. I don't think that charge is fair. I will look at the first of those statements closely in a moment. Take the others. Suppose by "God" he meant the universe. Then he had to say it neither stays put in its place (rest) nor changes that place (motion), since all places exist only inside the universe, so the universe itself is in no place. And if the universe takes in everything that exists, then it also resembles no other thing, and is unlike none.
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That is because there is no other thing outside it to compare it with. When two opposed judgments presuppose a condition that can't stand, both drop out, despite their conflict (which is not a true contradiction), since the condition on which alone each of the statements was meant to hold falls away.
Suppose someone says: every body either smells good or doesn't smell good. Then a third case exists, namely that it doesn't smell at all (it gives off no scent whatever), and so both of the conflicting statements can be false. Now say instead that it is sweet-scented or it is not sweet-scented (vel suaveolens vel non suaveolens). These two judgments are contradictory opposites, and only the first is false. Its contradictory opposite, "some bodies are not sweet-scented," also covers the bodies that have no smell at all. In the earlier opposition (per disparata, between unlike things) the accidental condition of the concept of body (smell) stayed in the opposing judgment too, so that judgment didn't cancel it. That is why the second judgment wasn't the contradictory opposite of the first.

Now take the statement: in space the world is either infinite or not infinite (non est infinitus). If the first is false, its contradictory opposite, "the world is not infinite," has to be true. All I would be doing is canceling an infinite world, without putting any other world, the finite one, in its place.

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But suppose the statement were: the world is either infinite or finite (non-infinite). Then both could be false. For now I would be treating the world as something whose size is fixed in itself. In the opposition I would not merely be canceling infinity, and with it perhaps the world's whole separate existence. I would be adding to the world a determination, as if it were a thing actual in itself. That addition can just as easily be false, namely if the world is not a thing in itself in any way, and so has no size of its own, neither infinite nor finite. Let me call this kind of opposition dialectical, and the opposition of contradiction analytic. Then two judgments opposed dialectically can both be false. The reason is that one doesn't merely contradict the other. It says something more than a contradiction needs.

Now treat these two claims as contradictory opposites: the world is infinite in size, and the world is finite in size. Then we are taking the world (the entire run of appearances) to be a thing in itself. The world stays put whether I cancel the infinite regress or the finite one in the series of its appearances. But take that assumption away, the transcendental illusion, and say the world is not a thing in itself.

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Then the contradictory conflict between the two claims turns into a merely dialectical one. The world doesn't exist in itself at all, independent of the backward series of my representations. So it exists neither as a whole that is infinite in itself nor as a whole that is finite in itself. It can be found only in the empirical regress through the series of appearances, and by itself not at all. A series that is conditioned at every step is never given complete. The world is therefore not an unconditioned whole, and it doesn't exist as one either, neither with infinite size nor with finite size.

What I have just said about the first cosmological idea, the absolute totality of size in appearance, is true of all the rest. The series of conditions can be met with only in the regressive synthesis itself. It isn't found in the appearance on its own account, as a separate thing given ahead of any regress. So I will also have to say that the multitude of parts a given appearance has is neither finite nor infinite in itself. An appearance isn't anything that exists in itself, and its parts are given first of all through the regress of dividing it up (the decomposing synthesis), and only within that regress. That regress is never given as absolutely complete, as finite or as infinite. The same goes for a series of causes stacked one above the other, or of conditioned things leading up to unconditionally necessary existence.

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Such a series can never be regarded, in itself and in its totality, as either finite or infinite. As a series of subordinate representations it exists only in the dynamic regress. Before that regress, as a series of things standing on its own, it can't exist in itself at all.

In this way the antinomy of pure reason is lifted for its cosmological ideas. It is shown to be merely dialectical: a conflict produced by an illusion. The illusion arises from using the idea of absolute totality, which is valid solely as a condition of things in themselves, on appearances. Appearances exist only in representation and, when they form a series, only in the successive regress, and otherwise not at all. But we can also turn this around and draw a real benefit from the antinomy. It isn't a dogmatic benefit; it is critical and doctrinal. We can use it to prove, indirectly, the transcendental ideality of appearances, if someone isn't convinced by the direct proof given in the transcendental aesthetic. The proof would be this dilemma. Suppose the world is a whole that exists in itself. Then it is either finite or infinite. But the first is false, and so is the second, according to the proofs given earlier for the antithesis and the thesis respectively.

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So the world, the sum of all appearances, can't be a whole that exists in itself either. It follows that appearances, taken generally, are nothing apart from our representations. That is exactly what we meant by their transcendental ideality.

This remark is important. It shows that the proofs of the fourfold antinomy given above were not deceptive tricks, but sound, on the assumption that appearances, or a world of sense that contains them all, are things in themselves. But the conflict of the propositions drawn from that assumption reveals that the assumption holds a falsehood, and so brings us to a discovery of the true nature of things as objects of the senses. The transcendental dialectic therefore does nothing to help skepticism. It does help the skeptical method, which can point to it as an example of its great usefulness. That happens when the arguments of reason are let loose against each other in their fullest freedom. Even if they don't in the end deliver what was sought, they will always deliver something useful for correcting our judgments.

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Pure Reason's Antinomy Section Eight Pure Reason's Regulative Principle, as It Bears on the Cosmological Ideas

The cosmological principle of totality gives us no maximum for the series of conditions in a world of sense that is treated as a thing in itself. That maximum can only be set as a task within the regress of the series. So this principle of pure reason, once corrected in this way, still keeps its good validity. It is not an axiom telling us to think of the totality as actually there in the object. It is a problem for the understanding, and so for the subject: to start and continue the regress through the conditions of a given conditioned, as the idea's completeness requires. In sensibility, meaning in space and time, any condition we can reach when we set out given appearances is conditioned in turn. These appearances aren't objects in themselves, where the absolutely unconditioned could perhaps turn up. They are just empirical representations, and each must find in intuition its condition, which fixes it in space or in time. So the principle of reason is really only a rule, a rule that commands a regress in the series of the conditions of given appearances.

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That regress is never allowed to stop at anything absolutely unconditioned. The principle is therefore not a principle of the possibility of experience or of empirical cognition of the objects of the senses, and so it is not a principle of the understanding. Every experience stays within the boundaries set by the intuition it is given. It is also not a constitutive principle, one that would stretch the concept of the world of sense beyond all possible experience. It is a principle for carrying experience on and widening it as far as possible. By it, no empirical boundary may count as an absolute boundary. So reason's principle here works as a rule: it lays down what we are to do in the regress. It doesn't anticipate what is given in the object itself before any regress. That is why I name it a regulative principle for reason. A principle that treated the series of conditions as an absolute totality given in the object (the appearances) itself would, on the other hand, be a constitutive cosmological principle. I wanted to show by this distinction that such a principle is void. I also wanted to prevent what would otherwise happen unavoidably (through transcendental subreption): giving objective reality to an idea that serves only as a rule.

To pin down the sense of this rule of pure reason correctly, we must first note one thing.

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The rule cannot say what the object is. It says how the empirical regress is to proceed, so as to reach the object's complete concept. If it did say what the object is, it would be a constitutive principle, and pure reason can never yield one of those. So the rule can't possibly be saying that a given conditioned's series of conditions is finite in itself, or infinite. If it did, a mere idea of absolute totality, which is created only in itself, would be thinking an object that no experience can give. It would lend a series of appearances an objective reality that doesn't depend on empirical synthesis. What the idea of reason will do is prescribe a rule to the backward synthesis in the series of conditions. By that rule the synthesis goes from the conditioned through all the conditions subordinate to one another toward the unconditioned, though it never gets there. The absolutely unconditioned is simply not met with in experience.

For this purpose we first have to define precisely what the synthesis of a series is when it can never be completed. People usually use two expressions here that are meant to differ somehow, though no one really knows how to state the ground of the difference. Mathematicians talk only of a progressus in infinitum (a progress to infinity).

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The investigators of concepts (philosophers) will accept only the expression progressus in indefinitum (a progress with no fixed end). I won't stop to examine the scruple that led them to recommend this distinction, or whether it has been put to good use or none. I will try to fix these concepts exactly for my own purpose.

About a straight line one may rightly say that it can be extended to infinity. Here the distinction between the infinite and an advance of unspecified length (progressus in indefinitum) would be a hollow quibble. Granted, if you say "draw a line further," it is more accurate to add in indefinitum than in infinitum. The first means only "make it as long as you like"; the second means "never stop making it longer," which is not what is meant here. But when the question is only what is possible, the first phrase is quite correct, because you can always make the line longer without limit. It is the same in every case where we speak only of the progress, that is, the step from condition to conditioned. In the series of appearances this possible progress goes on to infinity. Starting from a pair of parents, you can go down the line of generation without end, and you can quite well imagine that the line really does go on like this in the world.

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For here reason never needs the absolute totality of the series. It doesn't presuppose that totality as a condition, as something given (datum). It presupposes only something conditioned, something merely able to be given (dabile), and added on without end.

The task is quite different when the question is how far the regress reaches, the regress that rises from the given conditioned up to the conditions in a series. Can I say that it goes back without end, or only that it reaches back indefinitely

far (in indefinitum)? Can I climb to infinity from people now living up through their ancestors? Or can I only say that no matter how far back I have gone, I never meet an empirical reason to think the series stops anywhere? If so, I am entitled, and also bound, to look for a forebear of each ancestor, though I am not really to presuppose one.

Here is my claim. Suppose the whole is given to us in empirical intuition. Then the regress through the series of its inner conditions goes on to infinity. But suppose only a single member of the series is given, and the regress to absolute totality is only now to start from it; then the backward move is merely indefinite (in indefinitum).

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Take the division of a piece of matter (a body) that is given within its boundaries. We have to say it goes on to infinity. That piece of matter is given whole in empirical intuition, and so with all its possible parts. Its whole has the part as its condition, that part has its own part as a condition, and so on. In this regress of decomposition we never meet an unconditioned (indivisible) member of the series. So we have no empirical reason anywhere to stop dividing. What is more, the further members of the division yet to be carried out are themselves empirically given before that further division. In other words, the division goes on to infinity. Compare the line of ancestors leading back from a given person. No possible experience gives it in its absolute totality. The regress still goes from each member of the line to a higher one, and no empirical boundary turns up that would show some member to be absolutely unconditioned. Yet before the regress begins, the members that could supply that condition are not yet part of what we empirically intuit of the whole. So the regress does not go to infinity, as the division of what is given does. It goes on indefinitely far, as we look for further members beyond those given, and those are again always given only as conditioned.

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In neither case, the regressus in infinitum or the one in indefinitum, is the series of conditions treated as given in the object as infinite. They aren't things in themselves. They are appearances, which as conditions of one another are given

only within the regress. So the question stops being how big this series of conditions is in itself, finite or infinite, since in itself it is nothing. The question becomes how we should carry out the empirical regress and how far we should push it. And here the rule for moving forward differs in a way that matters. If the whole has been given empirically, we can go back without end through the series of its inner conditions. If instead the whole isn't given, and is only to be given by empirical regress, all I can say is this: it is possible to go on without end to ever higher conditions of the series. In the former case, more members always exist, and are empirically given, than my regress (of decomposition) reaches. In the latter I can say that I can always go further in the regress. No member is given empirically as absolutely unconditioned. So a higher member is still possible, and asking after it is still necessary. In the one case it was necessary to find more members of the series. In the other it is always necessary to ask for more.

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The reason is that no experience is absolutely bounded. Either no perception of yours sets an outright boundary to your empirical regress, and then you mustn't regard your regress as finished. Or you do have a perception that bounds your series. Then that perception can't belong to the stretch of the series you have already covered (what bounds must differ from what it bounds). So you have to carry the regress on to this condition too, and so on.

The next section will show these remarks in their proper light, by applying them.

Pure Reason's Antinomy Section Nine The Empirical Use of Reason's Regulative Principle, as It Bears on All the Cosmological Ideas

We have shown more than once that pure concepts, whether of the understanding or of reason, have no transcendental use. A series of conditions in the world of sense can be absolutely total only on the basis of a transcendental use of reason. Reason demands this unconditioned completeness from whatever it takes to be a thing in itself.

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The world of sense contains nothing like that. So we can no longer talk about the absolute size of the series in the world of sense, about whether they are bounded or unbounded in themselves. The only matter left is how far back we should go in the empirical regress when we trace experience to its conditions. According to the rule of reason, we are to stop at no answer to its questions except one that fits the object.

All that remains is the validity of the principle of reason as a rule for continuing experience and enlarging a possible experience, now that we have shown clearly enough that it is invalid as a constitutive principle about appearances in themselves. If we can put that validity beyond doubt, reason's quarrel with itself comes to a complete end. Critical resolution doesn't just remove the illusion that split reason against itself. It also opens up the sense in which reason agrees with itself, a sense whose misreading was the only cause of the quarrel. A principle that would otherwise be dialectical becomes doctrinal. Suppose this principle can be confirmed in its subjective meaning, as a way of fixing how far the understanding may be used in experience at most, so that this use fits the objects of experience. Then the result is exactly the same.

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It would be as if this principle were an axiom (impossible from pure reason) fixing the objects in themselves a priori. Even an axiom, with respect to objects of experience, could have no greater effect on enlarging and correcting our cognition than showing itself at work in the widest empirical use of our understanding.

I. Solving the Cosmological Idea of Totality in the Composition of Appearances Making Up a World-Whole

In this question, as in the other cosmological ones, reason's regulative principle rests on one proposition: as we regress empirically, we can never experience an absolute boundary, and so never a condition that is empirically absolutely unconditioned. That in turn is because such an experience would have to include a boundary of appearances set by nothing, by the void. The regress, driven forward by a perception, would have to run into that void. And this is impossible.

This proposition amounts to the following. In the empirical regress I never arrive at more than a condition.

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That condition itself has to be seen, once more, as empirically conditioned. So in terminis (in plain words) it contains the rule: no matter how far up the series I have got, I must always ask about a higher member, whether or not experience ever tells me about it.

Now, to settle the first cosmological problem, only one thing is left to decide. When the regress climbs to the unconditioned size of the world-whole (in time and in space), is this climb that never meets a boundary a regress to infinity, or just a regress continued indefinitely (in indefinitum)?

The bare general idea of all the world's past states in a series, together with the things that exist side by side in space, is just a possible empirical regress. I think of that regress, though so far undetermined. Through it alone does the concept arise of a series of conditions reaching up from the perception we are given*.

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Now, the world-whole is always only in my concept, and never (as a whole) in intuition. So I can't infer from the world's size to the size of the regress, or fix the regress by it. I first have to make myself a concept of the size of the world, by way of the size of the empirical regress. About that regress I never know more than this: from whatever member of the series of conditions happens to be given, I have to go on empirically to a higher (more remote) member. So the size of the whole of appearances isn't fixed absolutely by it. That is also why it can't be said that this regress goes to infinity. To say so would anticipate the members that the regress hasn't reached yet, and would picture their number as so large that no empirical synthesis could get to them. It would then determine the world's size before the regress (though only negatively), and that is impossible. No intuition gives me the world in its totality, so no intuition gives me its size before the regress. We therefore can say nothing at all about the size of the world in itself. We can't even say that a regressus in infinitum happens in it. All we can do is look for the concept of its size by following the rule that governs

the empirical regress in it. That rule says only this: however far we have got in the series of empirical conditions, we are not to assume an absolute boundary anywhere.

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Instead, we have to put every appearance, as conditioned, under another as its condition, and go on further to that one. That is the regressus in indefinitum. It fixes no size in the object, and so it is clearly different from the one in infinitum.

* So this series of the world can be neither bigger nor smaller than the possible empirical regress, the only thing its concept rests on. This regress can give neither a determinate infinite nor, just as little, a determinately finite thing (one that is absolutely bounded). It is clear from this that we can't take the world's size as finite, or as infinite, since the regress, by which it is pictured, allows neither.

So I can't say that the world is infinite, whether in past time or in space. A concept of size like that, as a given infinity, is empirical. It is therefore completely impossible for the world, which is an object of the senses. I also won't say that the regress from a given perception, through everything that bounds it in a series, in space as well as in past time, goes on to infinity. That would presuppose an infinite size for the world. I won't claim it is finite either, because an absolute boundary is empirically impossible too. So about the whole object of experience (the world of sense) I will be able to say nothing. I can speak only of the rule by which experience, fitted to its object, is to be carried out and continued.

The first answer to the cosmological question about the size of the world is a negative one. In time the world has no first beginning, and in space it has no outermost boundary.

If it were otherwise, the world would be bounded by empty time on one side and by empty space on the other.

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As an appearance, though, it can't be either of those in itself, because an appearance is not a thing in itself. So it would have to be possible to perceive such a limit, set by wholly empty time or empty space, and by that perception the world's ends would be there for a possible experience to meet. But an experience like that, with no content whatever, is impossible. An absolute boundary of the world is thus impossible empirically, and so impossible outright*.

* You will notice that the proof here is built in a quite different way from the dogmatic proof given earlier, in the antithesis of the first antinomy. There we accepted the common, dogmatic way of picturing the world of sense: as a thing already given, in itself and as a complete whole, before any regress. And we denied it any definite place in time and space at all, if it didn't fill all of time and every space. So the inference was different from the one here. There we inferred that the world is actually infinite.

This also gives the affirmative answer. The regress through the series of world appearances, as a way of fixing the world's size, goes on in indefinitum. That is to say, the world of sense has no absolute size. The empirical regress does have its rule, and only through that regress can the world be given as far as its conditions go. The rule says: from each member of the series, as something conditioned, always go on to one still more remote.

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That can happen through one's own experience, or by the thread of history, or along the chain of effects and their causes. And never excuse oneself from widening the possible empirical use of the understanding. That is also the real and only business of reason in its principles.

This doesn't prescribe a particular empirical regress that goes on forever within one kind of appearance. For example, it doesn't say that from a living person you must always climb a line of ancestors without expecting a first pair. Nor does it say that in the line of heavenly bodies you must never allow an outermost sun. All it commands is the move from appearance to appearance, even if these gave no actual perception (when a perception is too weak in degree for our awareness to make it experience), because they belong to possible experience all the same.

A beginning is always in time, and the boundary of anything extended is always in space. But time and space exist only in the world of sense. So appearances are conditioned within the world, but the world itself is neither conditioned nor bounded in an unconditioned way.

For that reason, and since the world can never come to us whole, nor can even the conditions of a given conditioned be given whole as a world-series, we get the concept of how big the world is through the regress only.

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It isn't given in advance, in an all-at-once intuition. The regress, though, consists only in fixing a size. So it gives no determinate concept, and no concept of a size that would be infinite relative to a given measure. It doesn't go on to the infinite, as if that were given. It goes on indefinitely far, to supply a size (of experience) that becomes actual only through this regress.

II. Solving the Cosmological Idea of Totality in the Division of a Whole That Is Given in Intuition

Say I divide a whole that is given in intuition. I am then going from something conditioned back to the conditions that make it possible. Dividing the parts further (subdivisio or decompositio) is a step back through the series of those conditions. That series would be given as an absolute totality only if the regress could end at simple parts. But if decomposing never stops, and every part can always be divided again, then the division goes on in infinitum. This division is the regress from the conditioned to its conditions. It has no end, because the conditions (the parts) lie inside the conditioned itself.

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The conditioned is given whole in an intuition. That intuition is shut in between its boundaries, and so all the conditions are given with it too. This means we can't just call the regress a going back in indefinitum. That was the most the earlier cosmological idea allowed. There the conditions lay outside the thing I started from, so they were not given along with it, and I had to move on to them. They were added only as the empirical regress went forward. Still, we may not say that a whole divisible to infinity is made up of infinitely many parts. Each part is included in the intuition of the whole, but the complete divi-

sion is not. The division consists only in the continuing decomposition, the regress itself, and the regress is what first turns the series into something actual. Because the regress is endless, each member (each part) that it reaches is held in the given whole as an aggregate. The entire series of division is not. It is endless by succession and is never complete. So it can't present an infinite multitude, and it can't present a gathering of that multitude into one whole.

This general reminder is easiest to apply first to space. Any space that is intuited within its boundaries is a whole of this kind. Its parts, however far it is decomposed, are always spaces again. So it can be divided to infinity.

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The second application follows from this quite naturally. It concerns an outer appearance that is shut in by its boundaries: a body. Whether a body can be divided depends on whether space can, since space is what makes a body possible as an extended whole. So a body can be divided to infinity, and yet it does not consist of infinitely many parts.

It does seem that a body must differ from space in the law of divisibility, because a body has to be represented in space as a substance. We might grant that however far decomposition goes in space, it can never take away all composition. For then even space as a whole would cease to exist, space which otherwise has nothing self-standing about it (and that cannot happen). But it seems that the concept of substance can't be reconciled with the claim that nothing at all would remain once all composition of matter is removed in thought. Substance is supposed to be the subject of all composition. Its elements would have to stay behind, even if the connection that makes them a body in space were lifted. But the substance we speak of in appearance is not like this. It isn't what we would think a thing in itself to be, through a pure concept of the understanding. It is no absolute subject.

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It is a lasting image in sensibility, nothing but intuition, and no unconditioned is met with anywhere in intuition.

The rule of going on to infinity certainly holds when an appearance is subdivided, as long as the appearance is a mere filling of space. But it fails once we try to carry it over to the multitude of parts that are already marked off in some way inside the given whole. Parts marked off like this make a quantum discretum. Suppose every articulated (organized) whole had parts that are themselves articulated, so that when we break the parts down to infinity we keep finding new, artfully made parts. In short, suppose the whole were articulated to infinity. That can't be thought at all. What can be thought is that the parts of matter might become articulated as they are decomposed to infinity. Here is why. A given appearance in space can be divided without end for one reason only. The appearance supplies divisibility and nothing more, that is, a multitude of parts that is, taken by itself, completely undetermined. The parts themselves get given and determined only by the act of subdividing. The whole, in other words, isn't already divided in itself. So division can fix a multitude in it, and that multitude reaches exactly as far as we choose to carry the regress of division. An organic body articulated to infinity is another matter.

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Its concept already presents the whole as divided. Before any regress of division, it would hold a multitude of parts that is fixed in itself and yet infinite. That is a contradiction. The endless unfolding would have to count as a series with no possible end (infinite), and in the same breath as a series that is finished once its members are taken together. Infinite division marks an appearance only as a quantum continuum. It can't be pulled apart from the filling of space, since the ground of endless divisibility lies right there. As soon as something is taken to be a quantum discretum, however, the multitude of units in it is fixed, and it therefore always equals a number. Only experience can decide how far organization runs in an articulated body. Even if experience certainly never reached a part that isn't organized, such parts must still lie at least within possible experience. But how far an appearance in general can be divided transcendentally is not a question for experience at all. What decides it is a principle of reason: given what this appearance is like, never treat the empirical regress, when the extended is decomposed, as absolutely finished.

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Closing Note on Solving the Mathematical-Transcendental Ideas, and an Introductory Note on Solving the Dynamical-Transcendental Ideas

Earlier we set out the antinomy of pure reason in one table, covering all the transcendental ideas. We named the source of the conflict and the one way of ending it, which was to declare both of the opposed assertions false. In every case we pictured the conditions as belonging to what they condition by relations of space and time. Common human understanding usually assumes this, and the whole conflict depended on it. So, looked at this way, every dialectical picture of totality was alike. Each concerned the series of conditions behind some given conditioned thing. In each, the condition and the conditioned were connected as members of one series, and so were alike in kind. Then the regress can never be thought of as complete. If it is to be complete, some member that is itself conditioned has to be wrongly taken as the first, and so as unconditioned. The object, the conditioned, may not have been weighed everywhere.

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But the series of conditions behind it was, and only by its magnitude. No compromise could remove the difficulty there. Only cutting the knot altogether could. It was this: reason stretched the series out too long for the understanding, or cut it too short, and either way the understanding could never come up to reason's idea.

But in all this we overlooked an important difference among the objects. By objects I mean the concepts of the understanding that reason tries to lift up into ideas. Look at the table of categories given earlier. Two of them stand for a mathematical synthesis of appearances, and the other two for a dynamical one. Up to this point the oversight could easily occur. In the general presentation of all the transcendental ideas we stayed among conditions within appearance. In just the same way the two mathematical-transcendental ideas had for us no object but one within appearance. Now we turn to the dynamical concepts of the understanding, as far as they are meant to fit reason's idea. At this point the

distinction matters. It opens a wholly new view of the dispute in which reason is tangled. We threw that dispute out earlier, since each side rested on a false assumption.

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The dynamical antinomy, though, may contain an assumption that can live alongside reason's claim. Then the dispute could be looked at from this angle. The judge would fill in the missing grounds in law that both sides had failed to see, and the parties could be reconciled to the satisfaction of both. In the mathematical antinomy this could not be done.

It is true that the series of conditions are all alike, if we look only at how far each extends, that is, whether it matches the idea or the idea turns out too large or too small for it. The concept of the understanding that lies under these ideas, however, can contain two different things. It can contain only a synthesis of things of the same kind. Every magnitude is assumed to have this, both when it is put together and when it is divided. Or it can contain a synthesis of things of different kinds too. At least dynamical synthesis can allow this, when a cause is combined with its effect, and also when the necessary is combined with the contingent.

So when series of appearances are connected mathematically, the only condition that can enter is a sensible one, which means one that is itself a part of the series. A dynamical series of sensible conditions can take a further condition of a different kind. That condition is no part of the series. It is merely intelligible, and so it lies outside the series.

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This satisfies reason. The unconditioned is placed before the appearances, and the series of appearances, which is always conditioned, is neither muddled by it nor, against the principles of the understanding, cut off.

The dynamical ideas allow a condition of the appearances outside their series. Such a condition is not an appearance itself. This leads to a result quite unlike that of the antinomy. The antinomy made us declare both dialectical counter-assertions false. Now the thoroughly conditioned character of the dynamical series, inseparable from them as appearances, can be connected with a condi-

tion that is non-sensible and, empirically, unconditioned. It then does justice to the understanding on one side and to reason on the other*. The dialectical arguments, which in some way or other sought unconditioned totality in mere appearances, fall away.

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The propositions of reason, with their sense set right in this manner, can then both be true. This can never happen with the cosmological ideas that deal only with mathematically unconditioned unity. With these, the only condition to be found for the series of appearances is one that is an appearance as well, and so a member of the series itself.

* For the understanding permits no condition among appearances that could itself be empirically unconditioned. Now imagine that we could conceive, for something conditioned (in appearance), an intelligible condition that doesn't belong to the series of appearances as one of its members, and that doesn't break into the series of empirical conditions in the least. Such a condition could then be allowed as empirically unconditioned, and the continuous empirical regress would suffer no interruption anywhere.

III. Solving the Cosmological Ideas of Totality in Deriving World Events from Their Causes

We can think of only two kinds of causality for what happens: one working by nature, the other from freedom. Causality by nature connects a state in the world of sense with an earlier state, and the state follows that earlier one by a rule. But the causality of appearances depends on conditions of time. If the earlier state had always been there, it could not have brought about an effect that begins only in time. So the cause of whatever happens or comes to be has a causality that itself came to be, and under the principle of the understanding it needs a further cause.

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By freedom, in the cosmological sense, I mean the power to start a state on its own. The causality of such a power is not itself placed, under natural law, beneath another cause that fixes it in time. Taken this way, freedom is a pure transcendental idea. For one thing, it holds nothing borrowed from experience.

For another, no experience can give its object in a determinate form. The reason is a universal law, which holds even for the possibility of any experience at all: whatever happens must have a cause, and that includes the causality of a cause that has itself happened or come to be. So the entire field of experience, however far it extends, gets changed into a mere sum of nature. But by this route we never get an absolute totality of conditions for causal relations. Reason therefore produces its own idea of a spontaneity, one that could start acting on its own. No other cause need be sent ahead to set it acting under the law of causal connection.

It is highly striking that the practical concept of freedom rests on this transcendental idea. In the practical concept, the transcendental idea is the real core of the difficulties that have always hung over the question of how freedom is possible.

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Freedom in the practical sense means that the power of choice is independent of compulsion by the impulses of sensibility. For a power of choice counts as sensible when it is affected pathologically, that is, by motives that come from sensibility. It is called animal choice (arbitrium brutum) when it can be compelled pathologically. The human power of choice is an arbitrium sensitivum, true, but it is not brutum. It is liberum, since sensibility does not make its action necessary. Human beings have within them a capacity to determine themselves, independent of compulsion by sensible impulses.

One can see easily that if all causality in the world of sense were mere nature, each event would be fixed by another event in time, by necessary laws. Appearances, in so far as they fix the power of choice, would have to make each action necessary, as its natural outcome. Doing away with transcendental freedom would therefore destroy all practical freedom as well. For practical freedom assumes that something that did not happen still ought to have happened. Its cause in appearance was therefore not so decisive as to rule out a causality in our power of choice. That causality works independently of the natural causes,

and even against their power and influence it can bring about something that the empirical laws fix in the order of time. It can thus start a series of events entirely by itself.

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This is what happens in any conflict of a reason that dares to go beyond the boundaries of possible experience: the task turns out to be transcendental, not physiological. The question how freedom is possible does bother psychology. Because it depends on dialectical arguments from pure reason alone, though, both the question and its answer fall to transcendental philosophy, and to nothing else. That philosophy can't turn down a satisfying answer here. To equip it for giving one, I first have to explain more closely, in a remark, how it should proceed on this task.

Suppose appearances were things in themselves, and space and time were the forms in which things in themselves exist. Then conditions and conditioned would always be links in one and the same series. Here, as with every transcendental idea, an antinomy would follow: the series would inevitably come out too long for the understanding, or too short. The dynamical concepts of reason, which occupy us in this number and the next, are special in one way. They concern an object's existence, not the object as a magnitude. So we may leave aside how long the series of conditions is. In them, only one thing matters.

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It is the dynamical relation between condition and conditioned. The difficulty then shows up already in the question of nature and freedom. Is freedom possible in the first place? If so, can it live alongside the universal natural law of causality? Put differently, is it a sound either/or to say that every effect in the world has to come from nature or else from freedom? Or might both hold at once for a single event, taken in different relations? The principle that all events of the world of sense are thoroughly connected under unchangeable laws of nature is already settled as a principle of the Transcendental Analytic. It stays unharmed. What remains to ask, then, is this. Could freedom still apply to the very same effect that nature determines? Or does that unbreakable rule shut freedom out completely? Here the common but deceptive assumption that

appearances are absolutely real quickly does its damage, by confusing reason. For if appearances are things in themselves, there is no rescuing freedom. Nature would then be the complete cause of every event, fully sufficient by itself to determine it. The condition of the event would lie only in the series of appearances, and these are necessary under every law of nature, along with their effect.

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If instead appearances count for only what they truly are, namely representations tied together by empirical laws and not things in themselves, then they must have grounds of their own that are not appearances. Such an intelligible cause is not determined by appearances as to its causality. Its effects, however, do appear, and so other appearances can determine them. The cause and its causality therefore lie outside the series, whereas the effects are met with in the series of empirical conditions. So the effect may be viewed as free with respect to its intelligible cause, while with respect to the appearances it may at the same moment be viewed as following from them by the necessity of nature. When stated in general and in the abstract, this distinction is bound to seem extremely subtle and obscure. Applying it will make it clear. All I wanted to point out here is the following. The thorough connection of all appearances in one context of nature is a law that allows no exception. If someone held on stubbornly to the reality of appearances, that law would have to wipe out all freedom. That is why people who hold the common view on this point have never managed to unite nature with freedom.

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The Possibility of Causality through Freedom, Joined With the General Law of Natural Necessity

I call intelligible whatever in an object of the senses is not itself an appearance. Now suppose that something we must regard as an appearance in the world of sense also has a power in itself. This power is no object of sensible intuition, yet through it the thing can be a cause of appearances. Then the causality of such a being can be looked at in two ways. Its action, as the action of a thing in itself, is intelligible. Its effects, as an appearance in the world of sense, are sensible. So

for what such a subject can do, we would form two concepts of its causality, an empirical one and an intellectual one, and both apply to one and the same effect. To think of an object of the senses as having a power with two sides like this conflicts with no concept that we need to have of appearances or of possible experience. For appearances are not things in themselves, so a transcendental object has to underlie them, one that determines them as mere representations. Nothing stops us, then, from attributing a causality to this transcendental object.

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That causality would not be appearance. It would come in addition to the property by which the object appears. And its effect is nevertheless met with in appearance. Each cause that acts has to have a character. By that I mean a law of its causality, and without it the cause wouldn't be a cause at all. In a subject of the world of sense we would therefore have, first, an empirical character. Through it, the subject's actions, being appearances, would hang together with other appearances by steady laws of nature. They could be derived from those appearances as their conditions, and in combination with them they would be members of one single series of the natural order. Second, we would have to grant the subject an intelligible character too. Through it the subject causes those actions in their form as appearances, but this character is bound by no condition of sensibility, and is no appearance either. The first could be called the character of the thing in appearance, the second its character as a thing in itself.

According to its intelligible character, this acting subject would be under no conditions of time. Time is a condition only of appearances, not of things in themselves. No action would arise or pass away in it.

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It would therefore not be subject to the law governing every determination in time and everything that changes, the law that whatever happens has its cause in the appearances (in the previous state). To put it briefly, its causality, to the extent that it is intellectual, would have no place in the series of empirical conditions that make events in the world of sense necessary. We could never know

this intelligible character directly, since we can perceive only what appears. Yet we would have to think of it in agreement with the empirical character. We do the same when we place a transcendental object beneath appearances in our thinking, even though we have no knowledge of what that object is in itself.

As for its empirical character, then, this subject would be an appearance, subject to every law that fixes things by causal combination. In that respect it would be only a part of the world of sense. Its effects would pour out of nature with no exception, as with any other appearance. To the extent that outer appearances act upon it, and its empirical character (meaning the rule by which it acts as a cause) is known from experience, all its actions would have to be explainable by laws of nature. Whatever is required to determine them completely and necessarily would be found in a possible experience.

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By its intelligible character, though, the same subject would have to be released from all influence of sensibility and from all determination by appearances. (All we can have of this character is its general concept.) In the subject, as noumenon, nothing happens. No change takes place there that would demand a dynamical determination in time. Hence no connection with appearances as causes turns up in it. So this acting being would be independent and free, in its actions, of all natural necessity, which is found only in the world of sense. It would be entirely right to say that it starts its effects in the world of sense by itself, although the action does not start in the being itself. This remains true even though the effects in the world of sense need not for that reason start by themselves. In the world of sense, those effects are always fixed in advance by empirical conditions of the preceding time, and only by way of the empirical character, which is just the appearance of the intelligible one. They are possible only as the continuation of the series of natural causes. So freedom and nature, each in its full sense, would exist together in the same actions, without any conflict, according to whether we compare the actions with their intelligible cause or their sensible one.

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An Explanation of the Cosmological Idea of Freedom as Joined to Universal Natural Necessity

I decided to draw a rough sketch of how our transcendental problem is solved before anything else. It lets us survey more easily the path reason takes in solving it. Next we'll set out the decisive points, the ones that really matter, and take up each of them by itself.

There is a law of nature that everything that happens has a cause. The causality of this cause, its action, comes earlier in time. Since an effect has come into being, the action can't have gone on forever. It must itself have happened, and so it has its own cause among the appearances, which determines it. All events are therefore empirically determined within an order of nature. This law alone lets appearances form a nature at all and become objects of experience. It is a law of the understanding, and on no pretext may we depart from it or exempt any appearance from it. To do so would put that appearance outside possible experience altogether.

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It would be set apart from every object of possible experience, and become a mere thought-thing, a creature of the brain.

True, all this looks like nothing but a chain of causes that allows no absolute totality in the regress toward its conditions. But this worry doesn't hold us up at all, because it was already removed in the general assessment of the antinomy of reason, when reason aims at the unconditioned in the series of appearances. If we give in to the deception of transcendental realism, neither nature nor freedom is left. Here the only question is this. Grant that we recognize nothing but natural necessity in the whole series of all events. Is it still possible to regard one and the same event, which on one side is a mere effect of nature, as on the other side an effect from freedom? Or is a flat contradiction found between these two kinds of causality?

Nothing among the causes in appearance can start a series absolutely, from itself. Any action, as appearance, that brings about an event is itself an event, a happening. Such an event presupposes a prior state where its cause is found. In

this way everything that happens only continues the series. No beginning that comes about by itself is possible within it.

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All the actions of natural causes, in their order in time, are in turn effects, and they equally presuppose their causes in the series of time. From the causal connection of appearances, we cannot expect an original action, by which something happens that wasn't there before.

Is it truly necessary, though, that the causality of a cause must be merely empirical, if the effects are appearances and the cause is itself an appearance? Isn't it possible after all that each effect in appearance does require a connection with its cause under laws of empirical causality, and yet this empirical causality is itself the effect of a causality that isn't empirical but intelligible? It could be so without in the least interrupting its tie to the natural causes. That would be an action of a cause that is original in regard to appearances. To that extent the cause is not appearance, but intelligible by its power, though in all other respects it must be counted as a link in the chain of nature, and so as belonging to the world of sense.

To look for natural conditions of natural events, and to name them, we need the principle that appearances cause one another. These conditions are causes within appearance. If this principle is granted and no exception weakens it, the understanding gets all that it can demand.

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In its empirical use it sees only nature in every event, and it is entitled to do so. Physical explanations then proceed without any obstacle. Now take the following supposition: some of the causes in nature have a power that is only intelligible. What moves such a power to act never depends on empirical conditions. It depends only on grounds of the understanding. (Grant, for the rest, that this may be a mere invention.) Even so, the action this cause produces among the appearances must conform to every law of empirical causality. The supposition does the understanding no harm at all. In that case the acting subject, called causa phaenomenon, would be tied into nature through all its actions, with no break in its dependence. Only this subject's phaenomenon would hold certain

conditions (together with everything the subject causes in appearance). These conditions would have to count as merely intelligible for anyone who wants to climb up from the empirical object toward the transcendental one. For as long as we follow nature's rule in whichever thing among the appearances serves as the cause, we can stay unconcerned about whatever ground of these appearances, and of how they hang together, may be thought to lie in the transcendental subject. That subject is unknown to us empirically. This intelligible ground leaves the empirical questions untouched. It may concern only thinking in the pure understanding.
[B 574]
Pure understanding thinks and acts, and the effects of that do turn up among the appearances. Still, they must be completely explainable from their cause in appearance, through laws of nature. The way to do that is to keep to the merely empirical character as the highest ground of explanation, and to pass over the intelligible character entirely as unknown. The intelligible character is the transcendental cause of the empirical one. We mention it only to the extent that the empirical character points to it as its sensible sign. Let us apply this to experience. Human beings are among the appearances of the world of sense. To that extent they are among the natural causes, and their causality has to follow empirical laws. As natural causes they must also have an empirical character, as every other natural thing does. We notice the character through the forces and powers a thing shows in its effects. With lifeless nature, or with nature that is alive only in the way animals are, we have no ground to think of any power as anything but conditioned by the senses. A human being is different. Humans know the whole rest of nature only through their senses, but they know themselves too, through mere apperception. They do this in actions and inner determinations that they can't possibly count as impressions of the senses. To themselves, humans are phenomena on one side. On the other side, namely for certain powers, they are purely intelligible objects.
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That is because the action of those powers can't be counted as part of sensibility's receptivity. We call these powers understanding and reason. Reason especially is properly and sharply set apart from every force that depends on empirical conditions. It considers its objects solely in terms of ideas, and it determines the understanding by them. The understanding then uses its concepts empirically, though they too are pure.

The imperatives we set up as rules for the active powers, throughout the practical realm, make it clear that reason has some causality, or that we at least picture it so. "Ought" expresses a kind of necessity, and a connection with grounds, found nowhere else in nature. Where nature is concerned, the understanding can know only what is, what has been, or what will be. Nothing in nature can possibly be other than it is in all these time-relations. When our eyes are only on the course of nature, "ought" simply means nothing. It makes no sense to ask what should happen in nature, just as it makes none to ask what properties a circle should have. The question is what does happen there, or what properties the circle does have.

"Ought" points to a possible action, and the ground of that action is nothing more than a concept. Take a mere action of nature instead.

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Its ground has to be an appearance every time. It's true that an action which the "ought" is aimed at must be possible under natural conditions. But those conditions do not bear on how the power of choice is determined. They bear only on what it brings about, and how, in appearance. Natural grounds may push me to will something, and there may be any number of sensible attractions. They still cannot produce the "ought." They can produce only a willing that is anything but necessary and is always conditioned. Against that willing the "ought" spoken by reason sets a measure and an aim, and even a prohibition and an authority. It makes no difference whether the object belongs to mere sensibility (the pleasant) or to pure reason (the good). Either way, reason won't give way to a ground that is given empirically. It doesn't follow the order of things as they show themselves in appearance. In complete spontaneity, reason sets up its own order for itself, shaped by ideas. It makes the empirical con-

ditions fit into that order. By that order it even declares actions necessary that haven't happened, and perhaps never will. Of all of them, though, it presupposes that reason could have causality over them. Otherwise it wouldn't expect its ideas to have any effects in experience.

Let's stay with this point. Suppose, at least as a possibility, that reason really has causality over appearances.

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Then reason, for all that it is reason, has to display an empirical character. Every cause presupposes a rule, by which certain appearances follow as its effects. Every rule needs the effects to be uniform. That uniformity is what grounds the concept of a cause (as a power). Because this concept has to be made clear from appearances alone, we can call it the empirical character. It stays constant, whereas the effects show up in shifting forms, depending on the conditions that accompany them and partly restrict them.

This means every person has an empirical character of choice. That character is nothing but a certain causality of their reason, to the extent that reason shows a rule in its effects among the appearances. By this rule we can infer the grounds of reason and its actions, their kind and degree, and form a judgment on the subjective principles of the person's power of choice. That empirical character has to be taken from the appearances themselves, as their effect, and from their rule, which experience hands us. So everything a person does in appearance is determined, in the order of nature, by their empirical character together with the other causes that help produce it. Suppose we could investigate all the appearances of their power of choice.

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Suppose we could follow them right down to the ground. Then there would be not one human action that we couldn't predict for certain and see as necessary from its earlier conditions. Regarding this empirical character, then, there's no freedom. It is the only character through which we can consider a human being, when we simply observe and try to investigate the driving causes of their actions physiologically, as anthropology does.

Now consider the very same actions in relation to reason. I don't mean speculative reason, in order to explain where they come from. I mean reason alone, as the cause that produces them. In a word, we compare the actions with reason for a practical purpose. Then we find a rule and an order that are entirely different from the order of nature. For in that order, perhaps, none of what has happened by the course of nature should have happened, though by its empirical grounds it could not fail to happen. At times, however, we find (or think we find, at least) that the ideas of reason have actually shown causality in human actions as appearances. Those actions happened, we find, not because empirical causes determined them but because grounds of reason did.

[B 579]

Suppose we can say that reason has causality over appearance. Could its action be called free, then, when it is fixed precisely and necessarily in its empirical character, its way of sensing? That character is in turn fixed in the intelligible character, its way of thinking. We don't know this second one. We mark it by appearances, and these, strictly speaking, reveal directly only the way of sensing, the empirical character*. Now take the action insofar as it is to be put down to the way of thinking, which is its cause. Even then it doesn't follow from that cause by empirical laws. That is, it is not that the conditions of pure reason come first. Only the effects of pure reason, in the appearance of inner sense, come first. As a purely intelligible power, pure reason isn't subject to the form of time, and so not to the conditions of temporal succession. The causality of reason in the intelligible character doesn't come into being, and doesn't start at some moment to produce an effect.

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For if it did, it would itself be bound by the natural law of appearances, to the extent that this law sets causal series in time. Its causality would then be nature and not freedom. So we may say: if reason can have causality over appearances, it is a power through which the sensible condition for an empirical series of effects begins for the first time. The condition in reason isn't sensible, so it does not itself start. Then we get what was missing in every empirical series. The condition for a series of events following one another can itself be uncondi-

tioned empirically. For here the condition stands apart from the series of appearances, in the realm of the intelligible, and so it is subject to no sensible condition and to no time-determination by a cause that comes before it.

* So the real morality of actions (merit and guilt) stays entirely hidden from us, even in the case of our own conduct. What we hold ourselves or others accountable for can be referred only to the empirical character. How much of it is the pure effect of freedom, though, and how much belongs to mere nature and to faults of temperament that aren't anyone's fault, or to a fortunate makeup of temperament (merito fortunae), nobody can work out. For that reason nobody can pass judgment with full justice either.

Still, in another respect this same cause also belongs to the series of appearances. People are themselves appearances. Their power of choice has an empirical character, and this is the (empirical) cause of everything they do. Every condition that determines a person according to this character belongs to the series of natural effects and obeys the law of that series. By that law, no empirically unconditioned causality is found in anything that happens in time. So no given action can begin absolutely by itself.

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After all, it can be perceived only as appearance. But of reason we can't say that another state precedes the one in which it determines the power of choice, a state in which the first state is itself determined. For reason is no appearance and is not subject to any conditions of sensibility. So no succession in time occurs in it, even regarding its causality. The dynamical law of nature, which sets succession in time by rules, can't therefore be applied to reason.

Reason is therefore the lasting condition of all the voluntary actions in which a human being appears. Each of them is fixed beforehand in the person's empirical character, before it happens. In the intelligible character, of which the empirical one is only the sensible schema, there is no earlier or later. Whatever the time relations that an action has to other appearances, it flows directly from the intelligible character of pure reason. Pure reason, then, acts freely. Within the chain of natural causes, no ground that comes earlier in time, outer or

inner, determines it dynamically. This freedom shouldn't be viewed only negatively, as independence from empirical conditions (that would stop reason from being a cause of appearances).

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It can also be described positively, as a power to start a series of events by itself. Nothing starts in reason itself. Being the unconditioned condition of each voluntary action, it allows no earlier condition above it in time. Its effect, though, does start in the series of appearances. It can never make an absolutely first beginning there.

An example from the empirical use of reason can illustrate its regulative principle. It is meant only to illustrate, not to confirm, since this kind of proof is no good for transcendental claims. Take a voluntary action, say a malicious lie by which someone has thrown society into some confusion. First we look into the motives out of which the lie came about. Then we judge how the lie, with its consequences, can be blamed on that person. For the first purpose, finding out the motives, we trace the person's empirical character back to its sources. We look for them in a poor upbringing, in bad company, and partly in the wickedness of a temperament that feels no shame. Part of it we put down to frivolity and thoughtlessness. In doing so, we don't lose sight of the chance occasions that set the lie off. In all of this we go about it as we do in any investigation of the chain of determining causes behind a given effect in nature.

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We may believe that all this determines the action. Even so, we blame the person who did it. We don't blame them for an unlucky temperament, or for the circumstances that acted on them, or even for the way they lived before. For we assume that we can set aside entirely how that life went. We assume we can treat the earlier series of conditions as if it had never happened, and treat this deed as wholly unconditioned by the earlier state, as though the person began a series of consequences entirely on their own. The ground of this blame is a law of reason. In it we look on reason as a cause that could have determined the person's conduct differently, and should have, whatever the empirical conditions named above. And we see the causality of reason not merely as one contributor among

others. We see it as complete in itself, even if the sensible drives were not for the action at all and were, in fact, against it. The action is charged to the liar's intelligible character. At the moment of the lie, the guilt is wholly theirs. So reason was fully free, whatever the empirical conditions of the deed, and the deed is to be put wholly down to reason's failure to act.

It is easy to see what this judgment of blame has in mind. It has in mind that sensibility doesn't affect reason at all. Reason doesn't change.

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Its appearances do change, in other words, how it appears in what it does, but reason itself does not. No state in it comes before the next and determines it. So it doesn't belong in the series of sensible conditions that make appearances necessary by laws of nature. Reason is present in all the actions of a human being, in all circumstances of time, and is the same in all of them. But it is not itself in time, and it doesn't fall into some new state it wasn't in before. In relation to that state it is determining but not determinable. So the question can't be why reason failed to determine itself otherwise. The only question can be why its causality did not determine the appearances in some other way. And to that no answer is possible. For with another intelligible character we would have been given another empirical one. When we say that the liar could still have refrained from the lie, in spite of their whole earlier way of life, we mean only this. The act stands directly under the power of reason. Reason's causality is not tied to any condition that belongs to appearance or to the passing of time. Time does mark a main difference when appearances are compared with each other. Yet it cannot change anything about how the action stands to reason, because appearances are not things, and so are not causes in themselves.

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In judging free actions, then, as to their causality, we can get as far as the intelligible cause but no further. We can recognize that it may be free, meaning that sensibility does not decide it, and that in this way it may be the condition of appearances which has no sensible condition behind it. But why the intelligible character gives just these appearances and this empirical character in the circumstances at hand goes beyond anything our reason can answer. It even goes

beyond reason's right to ask. It is like asking why the transcendental object behind our outer, sensible intuition yields intuition in space only, and none of any other kind. But the task we had to solve doesn't oblige us to do this at all, for it was only this: can freedom and natural necessity clash within a single action? We have answered that well enough. We showed that freedom can refer to a quite different kind of conditions than natural necessity does, so the law of natural necessity doesn't touch freedom. The two can therefore both be present, independent of each other and undisturbed by each other.

* * *

We must note that we have not tried to show that freedom is real.

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We did not try to show it as one of the powers that contain the cause of the appearances of our world of sense. For one thing, that would not have been a transcendental inquiry, which handles concepts alone. For another, it couldn't have succeeded in any case, since from experience we can never infer to something that need not be thought by the laws of experience at all. Nor have we tried even to prove that freedom is possible. That too would have failed, because from concepts a priori alone we can't know how any real ground or causality is possible. Here freedom is treated only as a transcendental idea. By means of it, reason thinks it can open the series of conditions among appearances with an absolute beginning, using something that has no sensible conditions. In doing so, reason gets itself tangled in an antinomy with its own laws, which it prescribes for the empirical use of the understanding. We could do just one thing, and it was the only thing we cared about: to show that this antinomy rests on mere illusion, and that nature at any rate does not clash with causality from freedom.

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IV. Solving the Cosmological Idea of Totality in the Dependence of Appearances as to Their Existence in General

In the previous number we looked at the changes of the world of sense in their dynamical series, where each change stands under another as its cause. Now this series of states serves us only as a guide, to arrive at an existence that might

be the supreme condition of all that changes, namely the necessary being. Here the issue is not an unconditioned causality. It is the unconditioned existence of substance itself. So the series before us is really only a series of concepts and not of intuitions, to the extent that one is the condition of the other.

It is easy to see, though, the following. All that is contained in the sum of appearances can change, and so is conditioned as to its existence. That means the series of dependent existence can have no unconditioned member, none whose existence would be necessary without qualification. Suppose, then, that appearances were things in themselves. For that very reason a condition would always belong to the same series of intuitions as what it conditions.

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In that case a necessary being could never exist as the condition of the existence of the appearances of the world of sense.

The dynamical regress, though, has something peculiar to it that sets it apart from the mathematical one. The mathematical regress deals only with putting parts together into a whole, or breaking a whole down into its parts. So the conditions in its series must always count as parts of the series, hence as of the same kind, and so as appearances. In the dynamical regress it is otherwise. There, the question is not whether an unconditioned whole could be made from given parts, or an unconditioned part found for a given whole. The question is how a state comes from its cause, or how the contingent existence of substance itself comes from a necessary one. There the condition need not form an empirical series with the conditioned.

So in the apparent antinomy before us, one way out is still open. Both of the conflicting propositions can be true at once, in different respects. All things of the world of sense are altogether contingent, and so always have only empirically conditioned existence. Yet there can still be a non-empirical condition for the whole series, that is, an unconditionally necessary being. For such a being, as an intelligible condition, would not belong to the series as one of its members. It would not belong even as the highest member.

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Nor would it turn any member of the series into an empirically unconditioned one. The entire world of sense would stay as it is, empirically conditioned in its existence through every member. This way of placing an unconditioned existence beneath the appearances therefore differs from the empirically unconditioned causality (freedom) of the previous article. In the case of freedom, the thing itself, as a cause (Substantia phaenomenon), still had its place among the conditions of the series; only its causality was conceived as intelligible. Here, the necessary being has to be conceived as lying wholly outside the series of the world of sense (as ens extramundanum), and as merely intelligible. This is the only way to prevent it from falling itself under the law of contingency and dependence that governs all appearances.

For our present task, then, the regulative principle of reason is this. Everything in the world of sense has empirically conditioned existence. Nowhere in it is there an unconditioned necessity as to any property. For every member of the series of conditions we should always expect an empirical condition in a possible experience, and search for it as far as we can. Nothing gives us the right to trace any existence back to a condition that lies beyond the empirical series, nor to treat an existence inside the series as wholly independent and self-sufficient. [B 590]

Yet this in no way denies that the whole series may be grounded in some intelligible being. That being is free of all empirical conditions, and instead holds the ground that makes all these appearances possible.

The aim here is not to prove that some being exists with unconditional necessity. Nor is it meant to base on this the mere possibility of a merely intelligible condition for the existence of the appearances of the world of sense. The point is only this. We restrict reason so that it won't drop the thread of empirical conditions and wander off into transcendent grounds of explanation, which could never be shown in a concrete case (in concreto). So, from the other side, we must hold the law of the understanding's purely empirical use within bounds as well. It may not rule on whether things in general are possible, and it may not declare the intelligible impossible just because we can't use it to explain appearances. What this shows, then, is only that all natural things, along with

every one of their (empirical) conditions, can be contingent through and through, and that this fits perfectly well with the optional assumption of a necessary condition, though only an intelligible one. So no true contradiction is to be found between these claims, and both can be true. It may be that a being like this, absolutely necessary and of the understanding only, is impossible in itself.
[B 591]
Even so, that cannot be concluded from the general contingency and dependence of everything that belongs to the world of sense, or from the principle of never stopping at any single member of the world, so far as it is contingent, to appeal to a cause outside the world. Reason goes its own way in its empirical use and its own special way in its transcendental use.
The world of sense contains nothing but appearances. These are mere representations, which are in turn always conditioned by the senses. Here we never have things in themselves as our objects. So we should not be surprised that we have no right ever to jump, from any member of the empirical series at all, out of the connection of sensibility. We can't act as if the members were things in themselves that existed apart from their transcendental ground, and that we could leave behind in order to look for the cause of their existence outside them. With contingent things this would indeed eventually have to happen. It need not happen with mere representations of things, though, because their contingency is itself only a phenomenon. That contingency can lead to no other regress than the one that determines the phenomena, that is, the empirical one. But to think of an intelligible ground of the appearances, that is, of the world of sense, and to think of it as freed from the contingency of the world of sense, is not opposed to the unlimited empirical regress in the series of appearances.
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It is not opposed to their thoroughgoing contingency either. This was all we had to do to clear up the seeming antinomy, and there was no other way to do it. For suppose the condition of each conditioned thing, in respect of existence, is sensible. Then it belongs to the series for that reason, and is itself conditioned again. The antithesis of the fourth antinomy shows this. Two outcomes were possible. Reason demands the unconditioned, so either the clash with reason

had to stay, or the unconditioned had to be set outside the series, in the intelligible. The necessity of the intelligible requires no empirical condition and permits none, and so it is unconditionally necessary in relation to appearances.

To allow a merely intelligible being leaves the empirical use of reason untouched, that use being concerned with conditions of existence in the world of sense. It keeps going on the principle of complete contingency, moving from empirical conditions to higher conditions, and these are empirical too. Equally, though, this regulative principle does not rule out accepting an intelligible cause that is not in the series, when it is a matter of the pure use of reason (in regard to ends). For there that cause means only the ground that makes the sensible series possible at all, a ground that for us is only transcendental and unknown. This ground exists independently of all the conditions of that series, and is unconditionally necessary in relation to them.

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So it is not at all opposed to the unlimited contingency of the series, or to the regress that never ends in the series of empirical conditions.

Closing Note on the Whole Antinomy of Pure Reason

For as long as our concepts of reason deal only with the totality of conditions inside the world of sense, and with what can be done there to serve reason, our ideas are transcendental yet still cosmological. The situation changes when we locate the unconditioned, which is what we are really after, in something wholly beyond the world of sense, and therefore beyond all possible experience. The ideas then turn transcendent. Their job is no longer only to round off reason's use on experience. (That use remains an idea we can never carry out in full, though we must keep following it.) The ideas cut loose from that use altogether. They create objects of their own, whose stuff isn't taken from experience, and whose objective reality doesn't rest on completing the empirical series. It rests on concepts that are pure and a priori. Such transcendent ideas have an object that is merely intelligible. We are, to be sure, permitted to accept that object as a transcendental object, one about which nothing else is known. But to think of it as a thing that can be fixed by its own distinguishing, inner predicates, we have no grounds of possibility on our side.

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Such grounds would need to be independent of every concept drawn from experience. We also lack even the faintest warrant for accepting an object like that. It is therefore just a thing of thought. Even so, one cosmological idea above the rest drives us to venture this step: the one that gave rise to the fourth antinomy. For the existence of appearances has no ground in itself, and is always conditioned. This calls on us to look about for something that differs from every appearance, an intelligible object, where this contingency comes to an end. Now, suppose we have once allowed ourselves to assume a reality standing on its own outside the whole field of sensibility. Suppose we have also allowed ourselves to regard appearances only as chance ways in which beings who are themselves intelligences represent intelligible objects. Then we have nothing left but analogy. We use it to apply concepts from experience, and so form some sort of concept of intelligible things, though we know nothing at all of them in themselves. Contingent things are known to us only through experience. But the things in question here are not supposed to be objects of experience at all. So what we know of them has to be drawn out of whatever is necessary in itself, out of the pure concepts that apply to things as such. That is why our first step outside the world of sense puts us under a constraint.

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Our new knowledge has to begin with an inquiry into the absolutely necessary being, and the concept of that being must give us the concepts of every other thing, to the extent that those things are merely intelligible. We'll make this attempt in the next chapter.

Transcendental Dialectic, Second Book Third Chapter The Ideal of Pure Reason

Section One On the Ideal in General

We saw above that pure concepts of the understanding can't represent any objects when every condition of sensibility is taken away. What makes them objectively real is then missing, and all that can be found in them is the bare form of thinking. Yet they can be presented in concreto, in a real case, once they are applied to appearances. For appearances give them what they lack: the mate-

rial for a concept of experience. And a concept of experience is nothing other than an understanding concept in concreto. Ideas reach even less far toward objective reality than the categories do. For no appearance exists in which an idea could be pictured in concreto.

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Ideas carry a kind of completeness that no empirical cognition we could ever have would reach. Reason, in dealing with them, has only systematic unity in view. It tries to bring the unity that experience makes possible closer to that systematic unity, and never fully reaches it.

The ideal, as I use the word, seems to stand even further from objective reality than the idea does. I take the idea there not just in concreto but in individuo, meaning as one individual thing that the idea alone can determine, or has determined.

Take humanity in all its perfection. It includes the full extension of all the essential properties that belong to human nature and make up our concept of it, carried to complete agreement with the ends of that nature. This would be our idea of perfect humanity. But it includes something more besides. It includes everything that, apart from this concept, belongs to the complete determination of the idea. For only one out of each set of opposed predicates can fit the idea of the most perfect human. What for us is an ideal was for Plato an idea in the divine understanding, an individual object of that understanding's pure intuition. It was the most perfect specimen of each kind of possible being, and the first ground of all the copies found in appearance.

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Let's not go so far, though. We have to grant that human reason holds ideals as well as ideas. Plato's were creative, and these are not, but they do have practical force (as regulative principles), and they underlie the possibility that certain actions can be perfect. Moral concepts aren't completely pure products of reason, since beneath them lies something empirical, namely pleasure or displeasure. Still, they make good examples of pure rational concepts in respect of the principle by which reason sets limits to freedom, which is lawless in itself, that is, when we attend only to their form. Virtue is an idea, and so is human wis-

dom in complete purity. The Stoic's sage, though, is an ideal: a human being who exists only in thought but who fits the idea of wisdom completely. The idea gives the rule. In this case, the ideal is the original pattern for fully determining the copy. We have no yardstick for our actions other than how this godlike human being within us behaves. We compare ourselves with that figure, judge ourselves by it, and improve in that way, though we can never get there. One may be unwilling to grant these ideals objective reality (existence). Still, they are not to be dismissed as fantasies spun in the head. They provide reason with a measure it can't do without.

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Reason needs the concept of whatever is wholly complete of its kind, so that it can gauge the degree and the shortcomings of what is incomplete. To realize the ideal in some example, meaning in appearance, the way a novelist might portray the sage, is not feasible. It also has something absurd about it, and is not very uplifting. The natural limits keep cutting into the completeness in the idea, which makes any illusion impossible in such an attempt. And that makes even the good in the idea look suspicious, and like a mere invention.

That is how things stand with reason's ideal. It always has to rest on determinate concepts, and it has to work as the rule and original pattern, whether we use it to guide our conduct or to judge. Things are very different with the creations of the imagination. No one can explain them or give an intelligible concept of them. They resemble monograms: single lines that follow no rule anyone could state. Put together, they form less a definite image than a sketch that floats, as it were, in the midst of different experiences. Painters and physiognomists say they have such things in their heads. They are supposed to be a shadowy picture, impossible to hand on, of what these people produce or judge. People could name them ideals of sensibility, though the name fits only loosely. The reason is that they are meant to serve as the model, out of reach, for possible empirical intuitions.

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And yet they give no rule that could be explained and tested.

What reason wants from its ideal, in contrast, is complete determination by rules a priori. For this reason it conceives an object that is to be completely determinable by principles. Experience, though, lacks the conditions sufficient for that, so the concept itself is transcendent.

Third Chapter Second Section On the Transcendental Ideal (Prototypon transzendentale)

A concept is undetermined in regard to anything that isn't contained in it. It falls under the principle of determinability, which says that of any two contradictory predicates, opposed to each other, only one can belong to the concept. This principle rests on the law of contradiction. That makes it a purely logical principle. It leaves out all the content of cognition and looks at nothing but its logical form.

Every thing, however, is also subject, as regards its possibility, to the principle of complete determination.

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According to this principle, of all the possible predicates of things, when these are set against their opposites, one must belong to it. The law of contradiction alone doesn't ground this. For the principle looks beyond the relation between two conflicting predicates. It also views each thing in relation to the whole of possibility, which is the whole collection of predicates for things as such. By assuming that sum as an a priori condition, the principle represents every thing as getting its own possibility from the part it has in that whole.* So the principle of complete determination is about content, not only logical form. It is the principle of synthesis for all the predicates that are supposed to make up the complete concept of a thing. It isn't just the principle of analytic representation through one of two opposed predicates. And it carries a transcendental presupposition.

[B 601]

That presupposition is the matter for all possibility, and this matter is supposed to supply, a priori, the data for the special possibility of every thing.

* This principle thus relates every thing to a shared correlate, the whole of possibility. Suppose that whole (that is, the stuff for all possible predicates) turned up in the idea of a single thing. It would then demonstrate an affinity among everything possible, because the ground of its complete determination would be identical. The determinability of any concept falls under the universality (Universalitas) of the principle that excludes a middle between two opposed predicates. The determination of a thing falls under the allness (Universitas), the sum total of all possible predicates.

"Everything that exists is completely determined." This statement does not only mean that for each pair of given opposed predicates, one belongs to the thing. It also means that one of all possible predicates always belongs to it. The statement doesn't compare predicates only with each other, logically. It sets the thing itself beside the whole collection of possible predicates, and does so transcendentally. In effect it says that knowing a thing completely requires knowing everything possible, and determining the thing by that, one way or the other, affirmatively or negatively. Complete determination is therefore a concept that we can never display in concreto, in its totality. It is based on an idea that has its seat in reason alone. This idea prescribes to the understanding the rule for using itself completely.

Take the sum total of all possibility, as it underlies the complete determination of every thing. This idea is itself still undetermined as to the predicates that might make it up. All we think by means of it is the collected whole of possible predicates in general. A closer look shows, however, that as a primitive concept the idea excludes many predicates. Some are already given, as derived from others.

[B 602]

Some can't stand together. The idea refines itself until it is a concept completely determined a priori. In this way it becomes the concept of an individual object, completely determined by the mere idea, and so it has to be called an ideal of pure reason.

Now weigh all possible predicates, not merely in a logical way but in a transcendental one, meaning by the content that each of them lets us think a priori. We then find that some represent a being and others a mere not-being. Logical negation is indicated only by the small word "not." It never really attaches to a concept itself, but only to the relation between that concept and another within a judgment. So it falls far short of marking a concept with respect to its content. The expression "not-mortal" can't show that a mere not-being in the object is meant. It leaves the content wholly untouched. Transcendental negation means not-being in itself. Its opposite is transcendental affirmation, a something whose concept already expresses a being. For this reason it is called reality (thinghood). Only through it, and only as far as it reaches, are objects something (things). The negation opposed to it means a mere lack.
[B 603]

Where negation alone is thought, the cancellation of all thinghood is represented.

Nobody can think a negation determinately unless the opposed affirmation underlies it. A person born blind can have no idea at all of darkness, since they have none of light. A savage can have none of poverty, since they know nothing of prosperity.* Someone ignorant has no concept of their ignorance, since they have none of science, and so on. So concepts of negations are also all derived. The realities supply the data and, so to speak, the matter, or the transcendental content, for the possibility and complete determination of all things.

* The observations and calculations of astronomers taught us much to admire. Probably the most important thing, though, is that they exposed to us the abyss of ignorance. Without this knowledge, human reason could never have imagined that abyss to be so great. Reflecting on it must make a large difference to how we fix the final aims of our use of reason.

Now suppose reason takes a transcendental substratum as the basis of complete determination. This substratum is, as it were, the entire supply of stuff, and every predicate that things can possibly have is taken from it. Nothing but the idea of reality as an All (omnitudo realitatis) is this substratum.
[B 604]

Every true negation, then, is simply a limit. That word wouldn't fit if the unlimited (the All) did not lie underneath.

To possess all of reality in this way is also to represent the concept of a thing in itself as completely determined. An ens realissimum, a most real being, is conceived as one single being. The reason is that, of all the possible opposed predicates, one turns up in its determination: the one that belongs to being without qualification. So it is a transcendental ideal. It underlies the complete determination that is necessarily found in everything that exists, and it is the highest and complete material condition of that thing's possibility. All thinking of objects in general, as far as its content goes, has to be traced back to this condition. It is also the only true ideal that human reason is capable of. For only in this one case is a concept that is general in itself determined completely through itself, and recognized as the representation of an individual.

Reason determines a concept logically by means of a disjunctive syllogism. The major premise contains a logical division, a splitting-up of the sphere of a general concept. The minor premise cuts that sphere down to a single part.

[B 605]

The conclusion then settles the concept by that part. A general concept of reality as such can't be split up a priori. The reason is that without experience we know of no particular kinds of reality that could fall under that genus. Thus the transcendental major premise behind the complete determination of all things is simply the representation of the totality of all reality. It is not merely a concept that has all predicates under it, as to their transcendental content. It is a concept that includes them within itself. The complete determination of each thing rests on narrowing down this All of reality. Some of it is assigned to the thing, and the rest is excluded. That fits the "either ... or" found in the disjunctive major premise, and fits the minor premise too, which fixes the object by one member of the division. So the use reason makes of the transcendental ideal, as the basis on which it determines all possible things, is analogous to its way of proceeding in disjunctive syllogisms. This was the proposition on which I earlier built the systematic division of all transcendental ideas. They arise in step with the three kinds of syllogisms, each matching one.

It goes without saying that reason has an aim here: merely to represent the necessary complete determination of things.

[B 606]

For this aim it takes for granted not that a being exists that matches the ideal, but only the idea of such a being. It wants to derive the conditioned kind of complete determination, the kind found in limited things, from a totality of complete determination that is unconditioned. So reason sees the ideal as the original model (Prototypon) for all things. Those things, as defective copies (ectypa), take the material for their possibility from it. They come more or less close to it, yet they always fall infinitely short of reaching it.

In this way the possibility of all things (the synthesis of the manifold, as to its content) counts as derived. Only the possibility of that which holds all reality inside it counts as original. The reason: every negation is a mere limitation of some larger reality, and in the end of the highest reality. (Negations are the only predicates that set everything else apart from the most real being.) So they presuppose that reality, and as to content they are only derived from it. The many different things amount to nothing but just as many different ways of restricting the concept of highest reality, which is the substratum they share. Figures work the same way: each is possible only as one of the different ways of restricting infinite space. So the object of reason's ideal, which exists only in reason, is called the original being (ens originarium). Insofar as it has none above it, it is called the highest being (ens summum). Everything stands under it as conditioned.

[B 607]

In that respect it is called the being of all beings (ens entium). None of this describes how an actual object relates to other things. It describes how an idea is related to concepts. And it leaves us wholly ignorant whether a being of such outstanding rank exists.

Also, an original being cannot be said to be made up of many derived beings, because every one of those presupposes it and so can't constitute it. This means the ideal of the original being must be thought of as simple as well.

Strictly speaking, then, deriving all other possibility from this original being cannot be seen as a limiting of its highest reality, or as a kind of division of it. For then the original being would be seen as a mere aggregate of derived beings. By what was said just now, that is impossible, although in the first rough outline we did picture it that way. Instead, all things would owe their possibility to the highest reality as a ground, and not as a sum total. On that view the variety of those possibilities depends not on any restriction of the original being itself but on everything that follows from it. All of our sensibility belongs among those consequences, together with all the reality in appearance. Such reality cannot be a component of the idea of the highest being.

[B 608]

Suppose we follow our idea further in this way, by hypostasizing it. We will then be in a position to determine the original being, from the bare concept of the highest reality, as single, simple, all-sufficient, everlasting, and so forth. In a word, we can determine it in its unconditioned completeness through all the predicaments. The concept of such a being is the concept of God, thought in the transcendental sense. That makes the ideal of pure reason the subject matter of a transcendental theology, just as I said earlier.

This use of the transcendental idea, however, would already go beyond the boundaries of its purpose and of what is allowed. For reason put the idea, as the concept of all reality, only at the base of the complete determination of things in general. It did not require that all this reality be given objectively and itself make up a thing. That second thing is a mere fiction. In it we gather the manifold of our idea together into an ideal, as a particular being, and make it real. We have no authority for this. We have no authority even to accept the possibility of such a hypothesis outright. Besides, whatever follows from such an ideal does not touch the complete determination of things in general at all. The idea was needed for that purpose alone, and the consequences have not the slightest effect on it.

[B 609]

It's not enough to describe how our reason proceeds and its dialectic. We must also try to find its sources, so that we can account for this illusion itself, the way we would for a phenomenon of the understanding. For the ideal we're talking about is founded on a natural idea, not a merely arbitrary one. So I ask how reason comes to treat the possibility of all things as derived from a single basic one, that of the highest reality. And how does it then go on to presuppose this reality as contained in a particular original being?

The answer comes of its own accord out of the Transcendental Analytic. Objects of the senses are possible by standing in a relation to our thinking. In that relation one thing, the empirical form, can be thought a priori. The matter is another thing: reality in appearance, which corresponds to sensation. It has to be given. Without it nothing could be thought, and the object's possibility couldn't be represented. An object of the senses is completely determined only when we compare it with every predicate of appearance and represent it through these, by affirming or denying them. Yet what constitutes the thing itself in appearance, the real, must be given in the comparison, or the thing could not be thought.

[B 610]

And the real of all appearances is given in one all-embracing experience. So for objects of the senses to be possible at all, their matter must be presupposed as given in one totality. Only by restricting this totality can empirical objects be possible, differ from each other, and be completely determined. Now only objects of the senses can actually be given to us, and only in the context of a possible experience. So nothing counts as an object for us unless, as the condition of its being possible, it presupposes all empirical reality taken together. A natural illusion leads us to count this as a principle valid for all things whatsoever, though it holds only for things given as objects of our senses. We drop the restriction, and so we take the empirical principle behind our concepts of how things are possible, as appearances, to be a transcendental principle of how things in general are possible.

We then go on to hypostasize this idea of the totality of all reality. It happens like this. When the understanding is used on experience, its unity is distributive. We dialectically change this into the collective unity of an experiential whole. In this whole of appearance we think of a single thing that holds all empirical reality in itself.

[B 611]

Then the transcendental subreption mentioned above does its work. By it, that thing is confused with the concept of a thing at the head of the possibility of all things, which supplies the real conditions for their complete determination.*

* This ideal of the most real being is only a representation. Even so, it is first made real, that is, turned into an object. Then it is hypostasized. Finally, as reason naturally moves on toward completing the unity, it is even personified, as we will soon show. This happens because the unity that regulates experience does not depend on the appearances themselves (on sensibility alone). It depends on the understanding connecting their manifold (in one apperception). Hence it seems that all things are completely determinable (possible) in a highest understanding, and that the highest reality has its unity there too. In other words, both seem to lie in an intelligence.

Third Chapter Third Section On the Proofs That Speculative Reason Offers for Concluding That a Highest Being Exists

Reason is under strong pressure to presuppose something that might lie fully at the base of the understanding's complete determination of all the concepts it uses. Yet reason notices much too easily how ideal such a presupposition is, how much it is only a fiction, something merely invented.

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That alone could not talk it into accepting a mere creature of its own thinking, straight away, as an actual being. It would do so only if something else drove it to look somewhere for a place to rest, in the regress from the conditioned that is given to the unconditioned. In itself, and by its bare concept, the unconditioned is not given as actual. Still, only the unconditioned can bring the series of conditions, followed back to their grounds, to completion. This is the natural course that every human reason takes, even the most ordinary, although

not every one holds out in it. Reason does not start from concepts but from common experience, and so lays something existing at its base. This ground sinks, though, if it is not resting on the unshakeable rock of what is absolutely necessary. The rock itself, in turn, floats unsupported if empty space remains outside it and below it, and if the rock does not fill everything itself and so leave no further room for a "Why?", in other words, if it is not infinite in reality.

If anything at all exists, whatever it may be, we must also grant that something exists necessarily. For the contingent exists only on the condition of another thing, as its cause. The same inference applies to that cause, and so on, until we reach a cause that is not contingent, and for that very reason is there, necessarily and without condition. This is the argument on which reason bases its advance to the original being.

[B 613]

Now reason looks around for the concept of a being that would suit so great a privilege of existence as unconditioned necessity. Its aim is not to infer from that concept, a priori, the being's existence. (If reason dared to do that, it could research among mere concepts and would not need to put a given existence at its base.) Its aim is only to find, among all the concepts of possible things, the one that has nothing in it which conflicts with absolute necessity. For that something must exist with absolute necessity it regards as already settled, by the first inference. If, then, reason can remove everything that does not fit with this necessity, except for one thing, that one thing is the absolutely necessary being. That is so regardless of whether we are able to grasp its necessity, in the sense of deriving it from its concept alone.

Now take what contains in its concept the "Because" for every "Why," what is defective in no part and in no respect, and what suffices everywhere as a condition. That is exactly why it looks like the being fit for absolute necessity. Since it possesses all the conditions for everything possible, it needs no condition itself, and is not even capable of one. So at least in one respect it satisfies the concept of unconditioned necessity.

[B 614]

No other concept can match it in this respect. Every other concept is lacking and needs something added, so none shows this sign of independence from further conditions. We cannot, it's true, conclude for certain from this that something which does not contain the highest, fully complete condition must for that reason be conditioned in its own existence. But it does lack the one mark of unconditioned existence that reason has at its command for cognizing, through a concept a priori, any being as unconditioned.

Among everything we can conceive as possible, the concept of a being with the highest reality would fit best with the concept of a being that is unconditionally necessary. Even if it falls short of satisfying that concept completely, there is no alternative. We have to stay with it, since we can't just ignore the existence of a necessary being. And if we grant that existence, we can find nothing in the whole field of possibility that could lay a better-founded claim to such a privilege in existence.

This, then, is how the natural course of human reason is made. First reason convinces itself that some necessary being exists. In that being it recognizes an unconditioned existence. Then it looks for the concept of something independent of every condition.

[B 615]

It finds that concept in what is itself the sufficient condition for everything else, that is, in what contains all reality. An All without any limits is absolute unity, and that brings with it the concept of a single being, the highest being. Reason therefore concludes that the highest being, being the primal ground of all things, exists absolutely and of necessity.

You can't deny that this concept has a certain solidity when the question is one of making a decision. Suppose we've admitted that some necessary being exists, and we agree that we have to pick a side on what to identify it with. Then we couldn't choose anything more fitting. In fact we'd have no choice at all. We'd be obliged to give our vote to the absolute unity of complete reality, since all possibility comes from it in the first place. But suppose nothing pushes us to decide. Suppose we'd rather leave the whole matter open until the full weight of the evidence compels our agreement. That is, suppose we only want to judge

how much we know about this problem, and how much we merely flatter ourselves that we know. Then the argument above looks nothing like so favorable. It needs some indulgence to make up for having no rightful claim of its own. Let's allow everything to stand as it is put here.

[B 616]

First, from some given existence (perhaps only my own) we can validly infer the existence of an unconditionally necessary being. Second, I have to treat a being that contains all reality, and so every condition too, as absolutely unconditioned. So the concept of the thing that suits absolute necessity has been found. Even so, we can't conclude from this that the concept of a limited being, one without the highest reality, therefore conflicts with absolute necessity. I may not find in its concept the unconditioned, which already carries the whole of the conditions with it. But I can't infer from that that its existence must be conditioned. It's the same in a hypothetical syllogism. I can't say: where a certain condition is missing (here, completeness according to concepts), the conditioned thing is missing as well. We remain free to treat all other limited beings as just as unconditionally necessary, even though the general concept we have of them gives us no way to conclude that they are necessary. But then this argument would not have given us the faintest concept of what a necessary being is like. It would have achieved nothing at all.

Even so, this argument keeps some weight and standing, which its objective inadequacy can't remove at once.

[B 617]

Suppose there are obligations that are perfectly sound in the idea of reason, but that would have no reality when applied to ourselves, that is, no motives to act on, unless a highest being were presupposed to give the practical laws effect and force. Then we would also be obliged to follow those concepts which may not be objectively sufficient but which, by the measure of our reason, carry more weight. We know nothing better or more convincing to compare with them. Here the duty to choose would tip the scales of speculation, which can't settle the matter, by adding a practical weight. Reason couldn't even justify itself

before itself, though it is the most forgiving judge, if, under pressing motives, it had not followed these grounds of judgment, even though its insight was imperfect. And we know no better grounds.

This argument is transcendental in fact, because it rests on the inner inadequacy of whatever is contingent. Yet it is so simple and natural that ordinary common sense takes to it, as soon as it is pointed that way. We see things change, come to be, and pass away. So they, or at least their state, must have a cause. But the same question can be asked again of every cause that might ever be given in experience.

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Where would it be fairer to place the supreme causality than at the place where the highest causality already is? That place is the being that has within itself, from the start, all it takes to bring about the possible effect. Its concept is also very easy to form, by the one feature of an all-embracing perfection. We then hold this highest cause to be necessary without qualification, because we find it absolutely necessary to climb up to it, and see no reason to go further past it. That's why we see sparks of monotheism shining through the blindest polytheism of every people. It wasn't reflection or deep speculation that led them there. It was only the natural course of common understanding, which gradually became clear to them.

Speculative reason can offer just three kinds of proof that God exists.

Every route that might be taken to this end starts in one of three ways. It might start from determinate experience, and from the particular character of our world of the senses that this experience reveals. From there it climbs, following the laws of cause and effect, up to a highest cause beyond the world. Or it might use only indeterminate experience, some existence or other, as its empirical basis. Or finally it might put aside all experience and argue entirely a priori, from mere concepts, that a highest cause exists.

[B 619]

The first is the physicotheological proof, the second the cosmological proof, the third the ontological proof. There are no others, and there can't be any more.

I'll show that reason gets nowhere on the one path (the empirical) any more than on the other (the transcendental). It spreads its wings in vain, trying to rise above the world of the senses by the mere power of speculation. As for the order in which these proofs have to be examined, it will be exactly the reverse of the one reason follows as it gradually widens its reach. That is also the order in which we first listed them. For it will turn out that experience gives the first occasion, but only the transcendental concept guides reason in this effort and sets the goal it has in mind in every such attempt. So I'll begin by examining the transcendental proof. After that I'll look at how much the empirical element can add to its force when it's brought in.

[B 620]

Third Chapter Fourth Section Why There Can Be No Ontological Proof of God's Existence

From what we've said so far, you can easily see that the idea of a being that is absolutely necessary is a pure concept of reason, which is to say a mere idea. The fact that reason needs it is nowhere near enough to prove that it has objective reality. It only points toward a certain completeness, which can't be reached. And it really serves to set a boundary for the understanding more than to extend it to new objects. Here we run into something strange and absurd. Reasoning from any given existence at all to some existence that is absolutely necessary seems urgent and correct. And yet we have every condition of the understanding against us when we try to form a concept of such necessity.

People have always talked about the absolutely necessary being. They've worked less at understanding whether and how one could even think a thing of this kind than at proving that it exists. Giving a verbal definition of this concept is certainly easy: it is something whose nonexistence is impossible.

[B 621]

But that doesn't make us any wiser about the conditions that would make it impossible to regard the nonexistence of a thing as completely unthinkable. And those conditions are exactly what we want to know. We want to know whether we are thinking anything at all through this concept, or not. If I throw out, with the word "unconditioned," every condition the understanding always

needs in order to see something as necessary, I'm still far from understanding whether I then think something through the concept of the unconditionally necessary, or perhaps nothing at all.

There's more. People have ventured this concept at random, and in time it has become quite familiar. On top of that, they've believed they could explain it with a whole series of examples, so that any further question about whether it is understandable seemed pointless. Every proposition of geometry is absolutely necessary, for instance that a triangle has three angles. So people spoke about an object that lies completely beyond the reach of our understanding, as though they knew very well what they were saying when they used its concept.

Every example they give, with no exceptions, comes from judgments. None comes from things and whether they exist. Yet a judgment's unconditional necessity is not the same as absolute necessity in the things themselves. For the absolute necessity of a judgment amounts to just a conditional necessity for the thing, or for the judgment's predicate.

[B 622]

The proposition just given didn't say that three angles are absolutely necessary. It said that if a triangle is there (is given), then three angles are necessarily there too (in it). Still, this logical necessity has shown so great a power of illusion that it has led people astray in the following way. They would form an a priori concept of a thing, and set it up so that, as they saw it, existence was included within its scope. From this they thought they could draw a safe conclusion. Existence belongs necessarily to the object of this concept. That is, if I posit the thing as given (existing), then its existence is also posited necessarily (by the rule of identity). So, they said, this being itself is absolutely necessary, because its existence gets thought along with it in a concept that people simply chose to adopt, provided I posit that concept's object.

Suppose I remove the predicate in an identical judgment but keep the subject. Then a contradiction arises, and so I say that the predicate belongs to the subject necessarily. But suppose I remove the subject together with the predicate. Then no contradiction arises, because nothing is left that could be contradict-

ed. To posit a triangle and yet remove its three angles is contradictory. But taking away the triangle along with its three angles is no contradiction. The concept of an absolutely necessary being is in exactly the same position.

[B 623]

If you remove its existence, you remove the thing itself with all its predicates. So where would the contradiction come from? Outside the thing there is nothing to be contradicted, because the thing isn't supposed to be necessary from outside. And inside there is nothing either, since by removing the thing itself you've removed everything inside it at the same time. "God is almighty" is a necessary judgment. Almightiness can't be removed once you posit a deity, an infinite being, whose concept is identical with it. But if you say "God is not," then neither almightiness nor any other of his predicates is given. They're all removed together with the subject, and the thought doesn't show the slightest contradiction.

So you've seen it now: take away a judgment's predicate and its subject together, and no inner contradiction can ever come up, whatever the predicate happens to be. You have no way out left except to say this: there are subjects that can't be removed at all, so they have to remain. But that would mean there are absolutely necessary subjects. That is the very assumption whose correctness I doubted, and whose possibility you set out to show me. I have no idea at all of a thing such that removing it, predicates and all, would leave a contradiction behind.

[B 624]

And without a contradiction, I have no mark of impossibility from mere pure concepts a priori.

You challenge me, against all these general conclusions (which no one can refuse), with a case that you put forward as a proof by deed. You say there is one concept, and only this one, for which the nonexistence or removal of its object contradicts itself. This is the concept of the most real being. It has all reality, you say, and you're entitled to assume that such a being is possible. (I'll agree to

that for now, although a concept that doesn't contradict itself is far from proving that its object is possible.)* Now existence is also included in all reality. So the concept of something possible has existence in it.

[B 625]

If this thing is removed, the thing's inner possibility is removed, and that is a contradiction.

* A concept is always possible if it doesn't contradict itself. That is the logical mark of possibility, and it is what sets its object apart from the nihil negativum. But the concept can still be empty. That happens if the objective reality of the synthesis that produces the concept is not specifically shown. As we showed above, this always depends on principles of possible experience, and not on the basic rule of analysis, the law of contradiction. This is a warning not to infer straight away from the possibility of concepts (logical possibility) to the possibility of things (real possibility).

I answer: you've already contradicted yourself. You wanted to think of a thing only as to its possibility, and yet you slipped the concept of its existence into the concept of that thing, under some disguised name or other. If we let you have that, you seem to have won the game, but in fact you've said nothing. All you've done is state a tautology. Let me ask you something. Take any thing you like (I grant you that it is possible, whatever it may be). Is the proposition "it exists" an analytic or a synthetic proposition? If it is analytic, then saying the thing exists adds nothing to what you were already thinking of. But then one of two things must be true. Either the thought in your head is the thing itself, or you took existence to belong to possibility and then pretended to infer it from inner possibility. That is nothing but a wretched tautology. The word "reality" in the concept of the thing sounds different from the word "existence" in the predicate's concept, but that settles nothing. Suppose you call every act of positing "reality," whatever it is that you posit. Even then you have already set down the thing, with every one of its predicates, inside the subject's concept, and treated it as actual. In the predicate you only repeat it.

[B 626]

On the other hand, you may admit, as every reasonable person fairly has to, that every existential proposition is synthetic. Then how can you maintain that the predicate of existence can't be removed without contradiction? This privilege belongs only to analytic propositions, whose very character rests on it.

I would have hoped to wipe out this brooding, hair-splitting argument at once, just by defining the concept of existence precisely. But I've found that the illusion comes from mistaking a logical predicate for a real one (that is, for a determination of a thing). That illusion almost shuts out any correction. Anything you like can serve as a logical predicate. The subject itself can even be stated as its own predicate, since logic ignores all content. A determination is different. It is a predicate that goes beyond the subject's concept and makes that concept bigger. So it must not already be contained in that concept.

Being is obviously not a real predicate. In other words, it is not the concept of any extra item that could join the concept of a thing. All it does is posit a thing, or certain determinations, as they are in themselves. In logic it is only the copula of a judgment. Take "God is almighty." It contains two concepts, each with its own object: God and almightiness. The little word "is" isn't a further predicate on top of those two.

[B 627]

It only puts the predicate into its relation to the subject. Now suppose I take the subject (God) together with all his predicates (almightiness is one of them) and say "God is," or "A God exists." Then I'm adding no new predicate to the concept of God. I posit only the subject itself with all its predicates, that is, the object in relation to my concept. Both must contain exactly the same thing. So the concept, which expresses mere possibility, gains nothing more when I think of its object as given outright (by saying "it is"). The actual, then, contains nothing more than the merely possible. A hundred real thalers hold nothing at all more than a hundred possible thalers do. The possible ones stand for the concept. The actual ones stand for the object and its positing in itself. Suppose the object had more in it than the concept. Then my concept would fail to express the whole object, and so wouldn't be the right concept of it. But I am better off, in my financial position, with a hundred actual thalers than with the

mere concept of them (that is, their possibility). With an actual thing, the object isn't just analytically contained in my concept. It joins my concept synthetically, and my concept is itself a determination of my state. Yet those hundred thalers I've thought of aren't increased in the least by this being outside my concept.

[B 628]

Suppose, then, that I think of a thing through whatever predicates I like, and as many as I like (even in its complete determination). By adding "this thing is," I add nothing at all to the thing. If I did, then what exists would not be exactly the same thing. There would be more of it than I had in mind when I formed the concept, and I couldn't say that the very object of my concept exists. Say I even think of a thing as having all reality except one. By saying that such a defective thing exists, I don't supply the missing reality. It exists with exactly the same defect that I thought it with. If not, something different from what I thought of would be there. Now I think of a being as the highest reality (with no defect). We can still ask whether it exists or not. My concept may be missing none of the real content a thing could have, in general. Still, something is lacking in its relation to my whole state of thinking: namely, that cognition of that object should also be possible a posteriori. And here we can see why this is so hard. Were it an object of the senses we were talking about, I couldn't confuse the thing's existence with the mere concept of the thing. By way of the concept, we think of the object merely as fitting the general conditions of any possible empirical cognition. By way of existence, we think of it as lying within the whole context of experience.

[B 629]

Connecting it with the content of all experience doesn't enlarge the concept of the object in the least. Our thinking, however, gains one more possible perception through it. But suppose we try to think existence by means of the pure category and nothing else. Then it's no wonder we can't name any mark that tells it apart from mere possibility.

So whatever our concept of an object may contain, and however much, we still have to go outside it in order to give the object existence. With objects of the senses, this happens through their link with one of my perceptions, by empirical laws. For objects of pure thought, though, there is no means at all of cognizing their existence, since it would have to be known purely a priori. But all our consciousness of any existence (whether we get it straight from perception or through inferences linking something to perception) is part of the unity of experience, without remainder. An existence outside this field can't be declared flatly impossible. But it is an assumption that nothing can justify.

The concept of a highest being is, in some respects, a very useful idea. But it is only an idea, and for that very reason it is quite unable, by itself, to extend our cognition of what exists.

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It can't even teach us anything about the possibility of anything more. Nobody can deny it the analytic mark of possibility, which is that mere positings (realities) produce no contradiction. Yet when all real properties are connected in one thing, that is a synthesis. We can't judge its possibility a priori, and for two reasons. The realities aren't given to us specifically. And even if they were, no judgment would be made at all, because the mark of possibility for synthetic cognitions has to be sought in experience alone, and the object of an idea can't belong to experience. So the famous Leibniz was far from achieving what he flattered himself he could do: to see a priori the possibility of so lofty an ideal being.

All the effort and labor spent on the famous ontological (Cartesian) proof of a highest being's existence, from concepts, is therefore wasted. A person could grow richer in insight from mere ideas about as little as a merchant could grow richer in wealth by tacking a few zeros onto the cash on hand, hoping to improve their position.

[B 631]

Third Chapter Fifth Section Why There Can Be No Cosmological Proof of God's Existence

It was thoroughly unnatural, and a mere novelty of school cleverness, to try to dig out the existence of the matching object itself from an idea sketched quite arbitrarily. In fact, nobody would ever have tried it this way, if something hadn't come first. Our reason has a need: it wants to accept, for existence in general, something necessary (a point where the climb upward can come to rest). This necessity has to be unconditioned and certain a priori. So reason was forced to look for a concept that would, if possible, meet such a demand and give us cognition of an existence entirely a priori. People believed the idea of a most real being was where to find it. So this idea was used only to know more definitely something that people were already convinced of, or persuaded of, on other grounds: that it must exist. That something is the necessary being. But people hid this natural course of reason. Instead of ending with this concept, they tried to begin with it, hoping to get the necessity of existence out of it, when it was only meant to fill that in.

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This is how the failed ontological proof arose. It offers nothing satisfying to natural, healthy understanding, and nothing satisfying to examination by the rules of the schools.

The cosmological proof, which we're about to examine, keeps the connection between absolute necessity and highest reality. But the previous proof inferred necessity of existence from highest reality, and this one doesn't. It infers the unlimited reality of some being from that being's unconditioned necessity, which is given in advance. In this way it brings everything at least onto the track of a natural kind of inference. I can't say whether it is sound reasoning or only sophistry. Either way, it persuades most, and not just ordinary understanding but speculative understanding too. It also visibly lays down the first outlines for all the proofs of natural theology. People have always followed those outlines and always will, however much foliage and flourish they use to decorate and hide them. Leibniz also called this proof the one a contingentia mundi (from the contingency of the world). We'll now set it out and put it to the test.

It runs like this. When something exists, there must also be an absolutely necessary being. Now at least I myself exist. So an absolutely necessary being exists. The minor premise contains an experience.

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The major premise holds the step from any experience at all to the existence of something necessary.* So the proof really begins from experience. It is therefore not carried out wholly a priori, or ontologically. And since the object of all possible experience goes by the name "world," the proof is named the cosmological one. It also sets aside every particular property of the objects of experience that might distinguish this world from any other possible world. So even its name tells it apart from the physicotheological proof. That proof takes its grounds of proof from observing the particular character of this world of ours, the world of the senses.

* This inference is too well known to need a long statement here. It depends on the so-called transcendental law of nature about causality, that everything contingent has its cause. If that cause is contingent in turn, it must have a cause too. This goes on until the series of causes, each below the next, has to stop at a cause that is absolutely necessary. Without it the series would not be complete.

The proof goes on as follows. There is only one way to determine the necessary being. That is, of all the possible opposite predicates, it can be determined by only one of each pair. So it must be completely determined by its concept. Now there is just one possible concept of a thing that can determine it completely a priori. That is the concept of the entis realissimi (the most real being). So the most real being's concept is the only one there is for this.

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Through it alone can a necessary being be thought. That is, a highest being exists necessarily.

This cosmological argument brings together so many sophistical principles that speculative reason seems to have called up all its dialectical skill here to produce the greatest possible transcendental illusion. For now, though, we'll set the examination of it aside for a while. We only want to expose one trick it plays. It dresses an old argument up as a new one, and calls on two witnesses who are

supposed to agree. One is a witness of pure reason, the other a witness with empirical credentials. But there is only the first, alone. It has merely changed its clothes and its voice to pass for a second. To lay its foundation securely, this proof stands on experience. That makes it look different from the ontological proof, the one that trusts nothing but pure concepts a priori. Still, the cosmological proof needs this experience for one single step, the step to the existence of some necessary being, any at all. What properties this being has, the empirical ground of proof can't teach. There reason takes leave of it entirely and investigates among nothing but concepts. The question it asks is which properties any absolutely necessary being would have to have.

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Put differently: of all possible things, which one holds within itself the conditions (requisita) that absolute necessity requires? Reason thinks these requirements are found in one place only: the concept of a most real being. It then concludes: that is the absolutely necessary being. But it's clear that this assumes something. It assumes that a being of the highest reality, taken as a concept, completely meets what the concept of absolute necessity in existence demands. In other words, it assumes that you can go from the first to the second by inference. That is the claim the ontological argument made. So the cosmological proof accepts it and builds on it, though it had meant to avoid it. For absolute necessity is existence from mere concepts. Suppose I say that the entis realissimi gives us just such a concept, and the only one that suits necessary existence and matches it. Then I must also grant that necessary existence follows from it by inference. So really it is only the ontological proof, from nothing but concepts, that holds all the proving force in the so-called cosmological one. The supposed experience is quite idle. At best it may bring us to the concept of absolute necessity. It can't demonstrate that necessity in any particular thing. As soon as we have that aim, we have to leave all experience at once and search among pure concepts.

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We have to ask which one of them contains the conditions needed for the possibility of an absolutely necessary being. But once the possibility of such a being has been seen in this way, its existence has been shown too. For that amounts to saying: of all possible things, one carries absolute necessity with it. That is, this being exists absolutely necessarily.

Deceptive tricks in reasoning are easiest to uncover when they're laid out in proper school form. Here is such a layout.

Suppose this proposition is correct: every absolutely necessary being is at the same time the most real being. (That is the sinew of the cosmological proof, its nervus probandi.) If so, then it must be possible to turn it around, as with all affirmative judgments, at least per accidens. So: some most real beings are at the same time absolutely necessary beings. Now one ens realissimum doesn't differ from another in any respect. So whatever holds of some of the beings contained under this concept holds of all of them. So here I can turn it around without limiting it: any most real being at all is a necessary being. And this proposition is determined a priori from its concepts alone. So the plain concept of the most real being has to bring its absolute necessity along with it. That is exactly what the ontological proof claimed.

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The cosmological proof refused to acknowledge it, and yet it slipped it in under its conclusions, in a hidden way.

So the second route that speculative reason takes, in order to prove that the highest being exists, misleads just as the first does. It has one more fault besides: it commits an ignoratio elenchi (an argument that misses the point at issue). It promises to lead us along a new footpath. But after a small detour it brings us back to the old one, which we had left on its account.

A moment ago I said that this cosmological argument hides a whole nest of dialectical presumptions, and that transcendental critique can easily find and destroy it. Now I'll only list them. I'll leave it to the practiced reader to look further into the deceptive principles and take them apart.

Here we find, for example: 1. The transcendental principle that lets us conclude from the contingent to a cause. It has meaning only in the world of the senses. Outside that world it doesn't even make sense. The merely intellectual concept of the contingent can't produce any synthetic proposition, such as the one about causality. The principle of causality has no meaning and no mark of its use except in the world of the senses. Yet here it was supposed to do the job of getting us beyond that world. 2.

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The conclusion that, because a never-ending series of causes stacked one on another is impossible in the world of the senses, there must be a first cause. The principles by which reason is used don't entitle us to this even within experience. Much less can they let us stretch the principle beyond experience (where the chain can't be extended at all). 3. Reason's false self-satisfaction about completing this series. In the end it gets rid of every condition, without which no concept of a necessity can exist. Then, since nothing more can be grasped, it takes this for the completion of its concept. 4. Mixing up two kinds of possibility. One is the logical possibility of a concept that unites all reality (it has no inner contradiction). The other is transcendental possibility. That needs a principle saying such a synthesis can be done, and that principle in turn can only extend as far as possible experience, and so on.

The clever trick of the cosmological proof aims at one thing only: to dodge the a priori proof, through mere concepts, that a necessary being exists. That proof would have to be carried out ontologically, and we feel wholly unable to do that. So we take an actual existence as our basis (an experience in general) and infer from it, as well as we can manage, some absolutely necessary condition of that existence. We then don't need to explain how that condition is possible.

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Once it's proved that the condition exists, the question of its possibility is entirely unnecessary. Now suppose we want to say more exactly what this necessary being is like. We aren't looking for what would be enough to grasp the necessity of its existence from its concept. If we could do that, we'd need no empirical premise. No: all we look for is the condition in the negative sense

(conditio sine qua non), the one a being cannot be absolutely necessary without. With any other kind of inference, one that goes from a given consequence back to its ground, this would work well enough. Here, unluckily, it turns out that the condition one demands for absolute necessity is to be found in one single being only. That being would have to hold, within its concept, everything absolute necessity calls for, and so it makes an inference a priori to that necessity possible. That is, I would have to be able to infer in reverse as well: whatever thing this concept (of highest reality) belongs to is absolutely necessary. And if I can't infer that way (as I must admit if I want to avoid the ontological proof), then I've come to grief on my new road too, and I'm back where I started. The concept of the highest being does answer, a priori, every question that can be raised about a thing's inner determinations, and so it is also an ideal without equal.

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That's because the general concept marks it out, at the same time, as an individual among all possible things. But it doesn't answer the question about its own existence at all, and that was what the whole matter was really about. Someone accepted that a necessary being exists and only wanted to know which of all things should be taken for it. You couldn't answer that person by saying: This here is the necessary being.

It may well be permitted to assume that a being of the highest sufficiency exists, as the cause of all possible effects, so as to make it easier for reason to find the unity of explanatory grounds that it seeks. But it takes far too much on oneself to go further and say, "Such a being exists necessarily." That is no longer the modest statement of a permitted hypothesis. It is the bold presumption of apodictic certainty. After all, if you claim to cognize something as absolutely necessary, your cognition of it must carry absolute necessity with it.

The whole task of the transcendental ideal comes down to this: either to find a concept for absolute necessity, or to find, for the concept of some thing, that thing's absolute necessity. If you can do the one, you must be able to do the other. Reason recognizes something as absolutely necessary only when it is necessary just from its concept.

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But both lie wholly beyond our utmost efforts to satisfy our understanding on this point. They also lie beyond every attempt to calm it about its inability to do so.

We can't do without unconditioned necessity as the last thing that bears all other things. Yet it is the real abyss for human reason. Even eternity, however shudderingly sublime a Haller may paint it, is far from making so dizzying an impression on the mind. Eternity only measures the duration of things. It doesn't bear them up. We can't keep the thought away, but we can't bear it either: that a being we picture as the highest of all possible beings might say to itself, as it were: "I am from eternity to eternity. Apart from me there is nothing at all, except what exists only through my will. But then where do I come from?" Here everything sinks beneath us. The greatest perfection, like the smallest, hovers without support before speculative reason. It costs speculative reason nothing to let the one vanish as readily as the other, without the slightest obstacle.

Many forces of nature show that they exist through certain effects, and yet remain beyond our investigation, because we can't trace them far enough by observation. The transcendental object underlying appearances is one of these, along with the reason why our sensibility has these highest conditions and not others.

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They are and remain beyond our investigation, although the thing itself is given, only not understood. An ideal of pure reason, though, can't be called beyond investigation. It has no credentials for its reality except reason's need to complete all synthetic unity by means of it. Since it isn't even given as a thinkable object, it isn't beyond investigation as one either. As a mere idea, it must instead have its seat, and its resolution, in the nature of reason, and so it must be possible to investigate it. For this is exactly what reason is: the ability to give reasons for each of our concepts, opinions and assertions. If they rest on objective grounds, we can give those. If they are mere illusion, we can give the subjective grounds.

Uncovering and Explaining the Dialectical Illusion in All Transcendental Proofs That a Necessary Being Exists.

Both proofs so far were transcendental. That is, they were attempted independently of empirical principles. The cosmological proof does rest on an experience in general. But it isn't drawn from any particular character of that experience. It comes from pure principles of reason, applied to an existence that empirical consciousness gives us in general.

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It even leaves that guidance behind, to rest on pure concepts alone. Now what is the cause, in these transcendental proofs, of the dialectical but natural illusion that connects the concept of necessity with that of highest reality, and that realizes and hypostasizes what can only be an idea? What is the cause of this unavoidable need to assume something among existing things that is necessary in itself, and yet at the same time to shrink back from the existence of such a being as from an abyss? And how can one bring reason to understand itself on this matter, and to pass from a wavering state of timid approval, always taken back again, to calm insight?

It is something very remarkable that once we suppose something exists, we can't avoid the conclusion that something also exists necessarily. The cosmological argument rested on this thoroughly natural inference (though that doesn't make it certain). But whatever concept of a thing I may take up, I find that I can never picture its existence as absolutely necessary. Nothing stops me from thinking its nonexistence, whatever may exist. So I do have to assume something necessary for existing things in general, but I can't think any single thing as necessary in itself.

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That is, I can't ever finish going back through the conditions of existence unless I assume a necessary being. But I can't ever start out from one.

For existing things in general I have to think of something as necessary. But I have no right to think any one thing as necessary in itself. From this it follows unavoidably that necessity and contingency can't concern and affect the things themselves. Otherwise there would be a contradiction. So neither of these two

principles is objective. At most they can be subjective principles of reason. One tells reason to look, for everything given as existing, for something that is necessary. That is, never to stop anywhere except at an explanation completed a priori. The other tells reason never to hope for that completion. That is, to accept nothing empirical as unconditioned, and so to spare itself any further derivation. In this sense both principles can stand side by side quite well, as merely heuristic and regulative principles that look after nothing but the formal interest of reason. For the one says: you should philosophize about nature as if there were a necessary first ground for everything that belongs to existence, only so that your cognition gets systematic unity, by following up an idea of that kind, namely an imagined supreme ground.

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The other, though, warns you against accepting any single determination that concerns the existence of things as such a supreme ground, that is, as absolutely necessary. It tells you to keep the way open for further derivation, and so always to treat such determinations as still conditioned. But if we must treat everything perceived in things as necessary only on a condition, then no thing (anything that may be empirically given) can count as absolutely necessary either.

What follows from this is that the absolutely necessary has to be assumed outside the world. Its only job is to be a principle for the greatest unity appearances can have, their supreme ground. Within the world you can never reach it, because the second rule orders you always to treat every empirical cause of unity as derived.

The philosophers of antiquity regarded every form in nature as contingent, but matter, by the judgment of common reason, as original and necessary. If they had looked at matter not merely in relation to appearances, as their substratum, but as it exists in itself, then the idea of absolute necessity would have disappeared immediately. For nothing binds reason to this existence outright. Reason can always, and without conflict, remove it in thought. And in thought alone lay the absolute necessity. So some regulative principle must have lain at the bottom of this conviction.

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In fact, extension and impenetrability (which together make up the concept of matter) are the supreme empirical principle of the unity of appearances. Insofar as it is empirically unconditioned, this principle has a property of a regulative principle. Still, every determination of matter that makes up its reality, impenetrability included, is an effect (an action) that must have its cause, and so it is always still derived. For that reason matter can't serve as the idea of a necessary being, a principle behind all derived unity. Each of its real properties, being derived, is only conditionally necessary, and so can be removed in itself. But removing it would remove the whole existence of matter. And if that did not happen, we would have reached the supreme ground of unity empirically, which the second regulative principle forbids. It follows that matter, and in general whatever belongs to the world, does not fit the idea of a necessary original being, when that being is meant only as a principle of the highest degree of empirical unity. Such a being must be placed outside the world. Then we can calmly keep deriving the world's appearances and their existence from other things, as if there were no necessary being. And we can still strive without end for completeness of the derivation.

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And we can do so while behaving as though we had assumed such a being, a supreme ground.

After all this, the ideal of the highest being turns out to be only a regulative principle of reason. It tells reason to look at every combination in the world as though it came from a necessary cause that is enough for everything. On that, reason can build its rule of systematic unity, necessary by general laws, for explaining that combination. It does not assert any existence that is necessary in itself. But it is at the same time unavoidable that, by a transcendental subreption, we picture this formal principle as constitutive, and think of this unity hypostatically. Take space. It makes all figures originally possible, and these figures are merely different restrictions of it. It is only a principle of sensibility, and yet for that very reason it is taken for something absolutely necessary that exists on its own, and for an object given a priori in itself. In just the same way, it happens quite naturally that the systematic unity of nature can be set up as a

principle for the empirical use of our reason only if the supreme cause, the idea of a most real being, is put at the base. So this idea is pictured as an actual object, and that object, being the supreme condition, as necessary. A regulative principle is thereby turned into a constitutive one.

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The substitution shows itself like this. Take this supreme being, which was unconditionally necessary relative to the world, as a thing for itself. Its necessity can't be grasped through any concept. So the only place it can have turned up in my reason is as a condition of thinking that is merely formal. It cannot be a material and hypostatic condition of existence.

Third Chapter Sixth Section Why There Can Be No Physicotheological Proof

What is demanded can't be delivered by the concept of things as such, and it can't be delivered by experience of some existence or other either. One means is left to try. We can see whether a determinate experience might supply a ground of proof that could safely help us reach the conviction that a highest being exists. That would be the experience of the things in the present world, with their nature and arrangement. We would call such a proof the physicotheological one. If this proof turned out to be impossible too, then speculative reason alone has no way at all to give a satisfying proof that a being exists which would match our transcendental idea.

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After all the remarks above, you'll soon see that the answer to this inquiry can be expected to come easily and briefly. For how could an experience ever be given that would be adequate to an idea? That is just what is peculiar to an idea: no experience can ever fit it. The transcendental idea of an original being, necessary and sufficient for everything, is so excessively large, so far above anything empirical (and the empirical is always conditioned) that two things happen. On one hand, we can never scrape together enough material in experience to fill out such a concept. On the other, we keep groping around among the conditioned, and we will always search in vain for the unconditioned. Not one law of empirical synthesis shows us a case of it, or gives us the slightest guide.

Suppose the highest being had its place in this chain of conditions. Then it would itself be a member of the series. Just like the lower members it is placed above, it would call for further inquiry into a still higher ground. Suppose instead that we cut it off from the chain, and treat it, as a merely intelligible being, as not included in the series of natural causes. What bridge can reason then build to reach it? For all the laws by which we pass from effects to causes, and in fact every synthesis and every widening of our cognition, rest on nothing but possible experience.

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That is, they rest only on objects of the world of the senses, and they mean something only when applied to those objects.

The present world opens before us such an immeasurable stage of variety, order, purposiveness and beauty, whether we trace them out into the endlessness of space or down through its unlimited divisibility, that even given what our weak understanding has managed to learn of it, all language loses its force in the face of so many wonders of such unforeseeable size. All numbers lose their power to measure them, and even our thoughts find no boundary. So our judgment of the whole has to dissolve into a speechless but all the more eloquent amazement. On every side we find a chain of effects and causes, of purposes and the means to them, and regularity in how things arise and pass away. Nothing has come by itself into the state it is in. Each state sends us on to some other thing as its cause, and that cause calls for exactly the same further question. On those terms the whole universe would have to fall into the abyss of nothing, if we did not assume something outside all this endless contingency. It would have to exist originally and independently by itself, hold the contingent up, and, as the cause of its origin, secure its continuing existence as well.

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How great should we think this highest cause is (with respect to all the things of the world)? We don't know everything the world contains. Still less can we estimate its size by comparing it with all that is possible. Since we do need an ultimate, supreme being for causality, what stops us from also placing it higher than anything else possible in how perfect it is? We can do that easily, although

admittedly only by the delicate outline of an abstract concept, if we picture all possible perfection united in it, as one single substance. This concept suits reason's wish to economize on principles. It is not subject to any contradictions in itself. It even helps widen how reason is used inside experience, because an idea like this points the way toward order and purposiveness. And nowhere does it clearly conflict with any experience.

This proof deserves to be spoken of with respect every time. It is the oldest, the clearest, and the one best suited to ordinary human reason. It gives life to the study of nature, just as it gets its own existence from that study and so keeps gaining new strength. It brings ends and purposes in where our observation would not have found them by itself. And it widens what we know of nature, with a special unity to guide it, a unity whose principle lies outside nature. But this knowledge has an effect on its own cause in turn. That cause is the idea that gave the occasion for it.

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And so it increases belief in a highest author until the belief becomes an irresistible conviction.

So it would be not only dismal but also quite pointless to try to take anything away from the standing of this proof. Reason is lifted up without pause by grounds of proof that are so powerful and keep growing under its hands, even though they are only empirical. No doubts of subtle, abstract speculation can weigh it down so much that one look at nature's wonders and the grandeur of the world's structure wouldn't pull it out of every brooding indecision, as if out of a dream. That look lifts it from one greatness to the next until the very highest, from the conditioned to its condition, until it reaches the supreme author who is unconditioned.

We have no objection to the rationality and usefulness of this way of proceeding. We would rather recommend and encourage it. Still, we can't approve the claims this kind of proof would like to make to apodictic certainty, or to an assent that needs no favor or outside support. And it can do the good cause no

harm to tone down the dogmatic language of a scoffing reasoner to a note of moderation and modesty. That is the note of a faith that is enough to bring calm, though it doesn't demand unconditional submission.

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So I maintain that the physicotheological proof can never establish the existence of a highest being on its own. It must always count on the ontological proof, of which it is only the introduction, to fill this gap. So the ontological proof is still the one that holds the only ground of proof there can be, if a speculative proof is possible at all, and no human reason can pass it by.

The main points of the physicotheological proof are these. 1. Everywhere in the world there are clear signs of an arrangement made for a definite aim and executed with great wisdom, within a whole that is beyond description in the variety of what it contains and boundless in its extent. 2. The things of the world have nothing of this purposive arrangement in themselves. It clings to them only by contingency. That is, the natures of different things could not have come together on their own, through so many different means working together, toward definite final aims. They could do so only if they had been chosen and set up for exactly that purpose by an arranging, rational principle, according to ideas lying at the base. 3. So there is a sublime and wise cause (perhaps more than one). It has to be the world's cause, and not just as a blindly working, all-powerful nature acting through fertility, but as an intelligence acting through freedom. 4. We can conclude that this cause is one, from the unity in how the parts of the world are related to each other, as members of an artfully made structure.

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As far as our observation reaches, the inference is certain. Beyond that, by all the principles of analogy, it is probable.

I won't quarrel here with natural reason about its inference. Natural reason reasons from the analogy between some natural products and what human art makes when it forces nature, compelling it not to follow its own purposes but to bend to ours (the likeness of such products to houses, ships, clocks). It concludes that the same kind of causality, namely understanding and will, must lie

at the base of nature. It does this when it derives the inner possibility of nature working freely (nature, which is what first makes all art possible, and perhaps even reason itself) from another art, though a superhuman one. Perhaps the sharpest transcendental critique could not withstand that kind of inference. Still, we have to admit that if we're to name a cause at all, we can't proceed more safely here than by analogy with such purposive productions. They are the only ones whose causes and manner of working are fully known to us. Reason could not answer to itself if it wanted to pass from the causality it knows to dark and unprovable grounds of explanation that it doesn't know.

On this line of reasoning, the fit and purposiveness of so many arrangements in nature would show only that their form is contingent.

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They could not show that the matter is contingent, meaning the substance in the world. For proving that, we would also need to show that the things of the world could not by themselves have fit together in such order and agreement, by general laws, unless they were, even in their substance, the product of a highest wisdom. For that we'd need grounds of proof of a very different kind from the analogy with human art. So the proof could at most establish a world-builder, always very much limited by how suitable the material is that it works on, but not a world-creator, to whose idea everything is subject. That is far from enough for the great aim we have in view, which is to prove an all-sufficient original being. Should we want to show that matter itself is contingent, we'd have to fall back on a transcendental argument. And that is exactly what we were trying to avoid here.

So the inference starts from the order and purposiveness we observe throughout the world, which it treats as an entirely contingent set-up, and concludes that a cause proportioned to it exists. The concept of this cause, however, must let us know something quite definite about it. So it can be no other than the concept of a being that has all power, wisdom and the like, in short every perfection, being sufficient for everything.

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For predicates such as very great, astonishing, immeasurable power and excellence give no definite concept at all. They don't really say what the thing is in itself. They are only representations of relation, of the size of the object, which the observer (of the world) measures against their own self and their own power to take it in. They come out equally high-sounding whether you make the object bigger or make the observing subject smaller in relation to it. Where it matters how great (in perfection) a thing is, there is no definite concept except the one that takes in all possible perfection. Only the All (omnitudo) of reality is completely determined in the concept.

Now I don't expect anyone to presume to claim insight into how the size of the world they have observed (in both extent and content) relates to almighty power, how the order of the world relates to supreme wisdom, how the unity of the world relates to the absolute unity of its author, and so on. So physicotheology can't hand us a definite concept of what the world's supreme cause is. That means it falls short of being a principle for theology, and theology in turn is meant to be the foundation of religion.

The step to absolute totality is entirely impossible by the empirical path. Yet people do take it in the physicotheological proof.

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What means do they use, then, to get across so wide a gap?

People get as far as marveling at how great the wisdom, the power and so forth of the world's author are, and can't go any further. Then they suddenly drop this argument, which was led by empirical grounds of proof, and move to the world's contingency, which they had inferred at the very start from the order and purposiveness of the world. From that contingency alone they move on, using only transcendental concepts, to something absolutely necessary that exists. Then they go from the first cause's absolute necessity, as a concept, to the concept that is completely determined, or determining, for it: a concept of all-embracing reality. So the physicotheological proof got stuck in its undertaking. In this predicament it jumped suddenly to the cosmological proof. And since

that is only a hidden ontological proof, it really carried out its aim by pure reason alone, although at first it had denied any kinship with pure reason and had staked everything on evident proofs from experience.

So the physicotheologians have no reason at all to act so standoffish toward the transcendental kind of proof, or to look down on it, as clear-sighted students of nature full of self-regard, the way one looks down on the cobweb of gloomy brooders. A little self-examination would show them this: they have covered a good stretch of the way.

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They covered it on the soil of nature and experience, and yet they find themselves still as far away as ever from the object their reason sees ahead. Then they suddenly leave this ground and cross into the realm of mere possibilities, where they hope, on the wings of ideas, to come close to what had escaped all their empirical searching. At last they think they have gained a firm footing through so mighty a leap. They then spread the concept, now definite, over all of creation. (They came to possess it without knowing how.) And they illustrate the ideal, which was only a product of pure reason, through experience, though poorly enough and far below the dignity of its object. All the while they refuse to admit that they reached this knowledge, or this assumption, by any other footpath than that of experience.

So the cosmological proof lies at the base of the physicotheological one, and under the cosmological proof lies the ontological proof, that one original being exists as the highest being. Speculative reason has no way open to it besides these three. So the only proof still possible is the ontological one, built from pure concepts of reason alone, if a proof is possible at all for a proposition raised so far above every empirical use of the understanding.

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Third Chapter Seventh Section Critique of All Theology Drawn from Speculative Principles of Reason

By theology I mean cognition of the original being. It is either theology from mere reason (theologia rationalis) or theology from revelation (revelata). The first thinks of its object in one of two ways. One way is through pure reason

alone, by means of purely transcendental concepts (ens originarium, realissimum, ens entium). This is called transcendental theology. The other way is by using a concept taken over from nature (our soul): the concept of the highest intelligence. This would have to be called natural theology. A person who allows only transcendental theology is called a deist. A person who accepts natural theology as well is called a theist. The deist concedes that mere reason might, at the most, let us cognize that an original being exists, but says our concept of it is merely transcendental. That is, it is the concept of a being that has all reality, which can't be determined any more closely. The theist claims that reason, reasoning by analogy with nature, can pin the object down more closely. It can determine it as a being that contains within itself, through understanding and freedom, the original ground of all other things. So the deist pictures under it merely a cause of the world.

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Whether that cause acts by the necessity of its nature or by freedom is left undecided. The theist pictures an author of the world.

Transcendental theology is of two kinds. One kind intends to get the original being's existence out of experience taken in general, without settling anything more specific about the world to which that experience belongs. It is called cosmotheology. The other kind believes it can cognize the being's existence through mere concepts, without the help of the slightest experience. It is called ontotheology.

Natural theology reasons to the properties of an author of the world, and to its existence, starting from the character, order and unity met with in this world. This world calls for us to assume two kinds of causality and the rule for each: nature and freedom. That is why it climbs out of this world up to the highest intelligence, which it takes either as the principle behind all natural order and perfection, or as the principle behind all moral order and perfection. In the first case it is called physicotheology, in the second moral theology.*

* Not theological morality. That contains moral laws that presuppose the existence of a supreme ruler of the world. Moral theology, by contrast, is a conviction that a highest being exists, a conviction grounded on moral laws.

By the concept of God we are used to understanding not just a blind, eternally working nature that things grow from, but a highest being who is supposed to bring things about, as their author, by means of understanding and freedom.
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Only this concept interests us. So, strictly speaking, one could deny the deist any belief in God, and leave the deist only the claim of an original being, or supreme cause. Still, nobody may be accused of wanting to deny something outright just because they don't dare to assert it. So a milder and fairer way to put it is that the deist believes in a God, while the theist believes in a living God (summam intelligentiam). Next we want to look for where all these attempts of reason could come from.
Here I'll be content to explain theoretical cognition as the kind by which I cognize what is, and practical cognition as the kind by which I represent to myself what ought to be. By this, the theoretical use of reason is the use through which I come to know a priori, as something necessary, that a thing is. The practical use is the one by which it is cognized a priori what ought to happen. Now suppose that either that something is, or that something ought to happen, is beyond doubt certain but only conditioned. Then there are two possibilities. A certain determinate condition for it may be absolutely necessary. Or it may be presupposed merely as something optional and contingent. When the first holds, the condition gets postulated (per thesin). When the second holds, it gets supposed (per hypothesin). Some practical laws are absolutely necessary, namely the moral ones.
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So suppose these laws must presuppose some existence, as the condition that makes their binding force possible. Then that existence has to be postulated. The reason is that the conditioned thing, the one the inference starts from on its way to this determinate condition, is itself known a priori to be absolutely necessary. Later we will show that moral laws do more than presuppose a highest being's existence. Since they are absolutely necessary in another respect, they also rightly postulate it, though of course only practically. For now we leave this kind of inference aside.

When we speak only of what is (not of what ought to be), the conditioned that is given to us in experience is always thought of as contingent too. So the condition that belongs to it can't be cognized from this as absolutely necessary. It serves only as a presupposition that is relatively necessary, or rather needed, but arbitrary in itself and a priori, for the rational cognition of the conditioned. So suppose we want to cognize a thing's absolute necessity in theoretical cognition. That could happen only from concepts a priori. It could never happen by treating the thing as a cause, in relation to an existence that is given through experience.

A theoretical cognition counts as speculative when it deals with an object, or with concepts of one, that no experience can reach.

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It is the opposite of cognition of nature, which deals only with objects, and their predicates, that a possible experience can give.

Inferring a cause from whatever happens, treating it (the empirically contingent) as an effect, is a principle for cognizing nature. It is not a principle of speculative cognition. For suppose we set aside this principle as one that contains the condition of possible experience in general. Suppose we drop everything empirical and want to say it of the contingent as such. Then not the slightest justification remains for such a synthetic proposition. Nothing would let us see how I get from something that exists to something quite different from it (called a cause). In fact, once it is used this way, in pure speculation, the concept of a cause loses all meaning, just as the concept of the contingent does, any meaning whose objective reality we could make understandable in a concrete case.

Now suppose we infer from the existence of the things in the world to their cause. This belongs to the speculative use of reason, not to the natural use. The reason is that the natural use does not relate the things themselves (substances) to a cause. It relates to a cause only what happens, which means the states of things, seen as empirically contingent. To know that substance itself (matter) is contingent in being there would have to be a purely speculative cognition of reason.

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And suppose we were speaking only of the form of the world, the way its parts are combined and how they change, but wanted to infer from this a cause that is wholly different from the world. That too would be a judgment of purely speculative reason, since in this case the object is not an object of any possible experience. But then the principle of causality, which holds only inside the field of experiences and is of no use, indeed has no meaning, outside it, would be taken wholly away from its purpose.

My claim now is this: all attempts to use reason in a purely speculative way on theology are fruitless from start to finish and, by their inner nature, null and void. I also maintain that the principles of reason's use in nature lead to no theology at all. So unless we lay moral laws as the foundation or use them as a guide, there can be no theology of reason anywhere. For all synthetic principles of the understanding are of immanent use. Cognizing a highest being, however, calls for a transcendent use of them, and our understanding is not equipped for that at all. Suppose the law of causality, which is valid for experience, is to lead us to the original being. Then that being would need to be part of the chain of objects of experience. But then it would itself be conditioned in turn, like all appearances.

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Suppose, though, that we permitted a leap across the boundary of experience, using the dynamical law that relates effects to their causes. What concept can this procedure give us? Nowhere near a concept of the highest being. Experience, after all, never hands us the greatest effect that is possible (the one that is meant to bear witness to its cause). Suppose we are permitted, merely so that nothing is left empty in our reason, to fill this lack of complete determination with a mere idea of highest perfection and original necessity. That can be granted as a favor, but it can't be demanded by the right of an irresistible proof. So the physicotheological proof might perhaps add weight to other proofs (if there are any), by connecting speculation with intuition. On its own, though, it prepares the understanding for theological cognition rather than finishing the work, and gives the understanding a straight, natural heading toward it.

You can see from this that transcendental questions permit only transcendental answers, that is, answers built wholly from concepts a priori, with not the least empirical mixed in. But the question here is plainly synthetic. It calls for us to extend our cognition past every boundary of experience, namely to the existence of a being that is supposed to correspond to our mere idea.

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No experience can ever equal that idea. Now, as our earlier proofs showed, all synthetic cognition a priori is possible just because it states the formal conditions of a possible experience. So all principles have only immanent validity. That is, they relate only to objects of empirical cognition, or appearances. So a merely speculative reason accomplishes nothing for theology even by a transcendental procedure.

Suppose, though, that people would rather doubt all the proofs of the Analytic above than let themselves be robbed of their persuasion about the weight of the grounds of proof used for so long. Even so, they can't refuse to meet this demand of mine: they should at least justify themselves on how, and thanks to what illumination, they dare to soar above all possible experience on the strength of mere ideas. I'd ask to be spared new proofs, or touched-up versions of old ones. It's true that there isn't much to choose from here, since all merely speculative proofs finally boil down to one only, the ontological. So I needn't fear being troubled much by the productivity of the dogmatic champions of that reason which claims to be free of the senses. Without thinking myself very combative on that account, I am also not willing to turn down the challenge.

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It is the challenge to uncover the fallacy in each attempt of this kind, and so to defeat its presumption. Even so, the hope of better luck is never wholly abandoned among those who are used to dogmatic persuasions. That is why I hold to the one fair demand: that people justify themselves in general terms, starting from the nature of human understanding and every other source of cognition, on how they mean to go about extending their cognition wholly a priori. They must say how they mean to carry it to where no possible experience, and so no means at all, is enough to assure any concept we have thought up ourselves of

its objective reality. However the understanding may have arrived at such a concept, the existence of its object can't be found analytically in it. For the cognition of an object's existence consists precisely in this: that the object is posited outside the thought, in itself. But it is wholly impossible to go out beyond a concept by itself and, without following empirical connection (which only ever gives appearances), to reach the discovery of new objects and excessive beings.

Reason in its merely speculative use is far from adequate to this great aim, which is to arrive at the existence of a supreme being. Even so, it is very useful.

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It can correct the cognition of that being, in case it could be drawn from somewhere else. It can bring that cognition into agreement with itself and with every intelligible aim. And it can clear it of whatever might clash with the concept of an original being, as well as of every trace of empirical restriction.

Transcendental theology therefore remains, for all its inadequacy, of important negative use. It acts as a permanent censor of our reason whenever reason deals with pure ideas alone. Pure ideas allow no standard of measure but a transcendental one. For suppose that, in some other relation, perhaps a practical one, the assumption of a supreme intelligence, a highest being sufficient for everything, turned out to be valid beyond dispute. Then it would matter enormously to fix this concept exactly on its transcendental side: a being that is necessary and most real. It would matter just as much to strip away whatever clashes with highest reality, whatever belongs to mere appearance (anthropomorphism, taken broadly). And it would matter, at the same time, to clear out of the way all opposing claims, whether atheistic, deistic or anthropomorphistic. That is very easy in a critical treatment like this. Grounds are at hand that bring to light the inability of human reason to assert that such a being exists.

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Those very same grounds must also be enough to prove the unfitness of every counter-assertion. After all, how could anyone, by reason's pure speculation, reach the insight that no highest being exists to serve as the original ground of all things? Or that it has none of the properties that we picture, judging by their consequences, as comparable with the dynamical realities of a thinking

being? Or that, in the latter case, those properties would also have to carry every restriction that sensibility inevitably places on the intelligences we know from experience?

So where reason is used in a purely speculative way, the highest being stays a mere ideal, though a faultless one: a concept that closes and crowns all human cognition. On this path its objective reality can't be proved, but it can't be refuted either. And suppose there should be a moral theology that can make up this lack. Then transcendental theology, which until then was only problematic, proves itself indispensable, by determining its concept and constantly censoring a reason that is often enough deceived by sensibility and doesn't always agree with its own ideas. Necessity, infinity, unity, existence apart from the world (not as a world soul) and eternity free of conditions of time are purely transcendental predicates.

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So are omnipresence without conditions of space, almightiness and so on. That is why the purified concept of them, which every theology needs so badly, can be drawn only from transcendental theology.

Appendix to the Transcendental Dialectic Using the Ideas of Pure Reason in a Regulative Way

How all the dialectical attempts of pure reason turn out confirms what we already proved in the Transcendental Analytic: every inference that tries to lead us beyond the field of possible experience is deceptive and has no ground. But the outcome also teaches us something more particular. Here human reason has a natural tendency to overstep that boundary. Transcendental ideas are as natural to reason as the categories are to the understanding. There is one difference. The categories lead to truth, that is, to our concepts agreeing with their object. The ideas produce a mere illusion, but an irresistible one, and even the sharpest critique can hardly stop its deception from working on us.

Whatever is rooted in the nature of our forces must be suited to its purpose and agree with the proper use of those forces.

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This holds as long as we can prevent a certain misunderstanding and find out which way those forces really point. So, in all likelihood, the transcendental ideas have a good use, and therefore an immanent one. If their meaning is mistaken, though, and they are taken for concepts of real things, then their application can be transcendent, and for that very reason deceptive. That is because it is not the idea in itself but only its use that can fly beyond the whole of possible experience (transcendent) or stay at home within it (immanent). Which it is depends on where we aim the idea. We can aim it straight at an object we imagine corresponds to it, or only at the use of the understanding in general, in relation to the objects the understanding deals with. And every fault of subreption must always be blamed on a defect of the power of judgment, never on the understanding or on reason.

Reason never relates straight to an object. It relates only to the understanding, and by way of the understanding to its own empirical use. So it creates no concepts (of objects). It only puts them in order, and gives them the unity they can have at their widest extent, that is, unity in relation to the totality of the series. The understanding doesn't look at that totality at all. It looks only at the connection through which series of conditions come about everywhere according to concepts.

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What reason really has as its object, then, is only the understanding and its purposeful employment. The understanding binds the manifold in an object together through concepts. Reason does the same for the manifold of concepts, using ideas. It puts a certain collective unity before the understanding's acts as their target, whereas left to themselves those acts are busy only with distributive unity.

So here is my claim: transcendental ideas are never constitutive, in the sense of giving us concepts of certain objects. If we understand them that way, they are merely sophistical (dialectical) concepts. They do have an excellent and absolutely necessary regulative use, though. Their job is to aim the understanding at a certain goal. Looking toward that goal, the lines of direction of all the understanding's rules meet in a single point. That point is just an idea, a focus imagi-

narius. No concept of the understanding really starts out from it, because it lies wholly outside the boundaries of possible experience. Even so, it serves to give those concepts the greatest unity along with the greatest breadth. Now this does give rise to a deception. It looks as if these lines of direction shot out from an object situated outside the field in which empirical cognition is possible (like the objects we see behind the face of a mirror). But this illusion (which we can keep from actually deceiving us) is still absolutely indispensable.

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We need it if we want to see not only the objects right before our eyes but also those lying far off behind our backs. In our case that means we want to train the understanding to reach beyond every given experience (which is only a part of all possible experience), and so to its greatest and utmost expansion.

Look over our cognitions of the understanding across their whole range. We find that reason contributes something of its own to them and works to achieve it: the systematic side of cognition, meaning how it hangs together from one principle. Behind this unity of reason there is always an idea, namely the idea of the form of a whole body of cognition. That whole comes before the determinate cognition of the parts, and it contains the conditions for fixing a priori each part's place and its relation to the others. So this idea postulates complete unity in the understanding's cognition. That unity turns the cognition from an accidental collection into a system connected by necessary laws. Strictly speaking, we can't say the idea is a concept of an object. What it is a concept of is the unity that runs through all those concepts, to the extent that this unity works as a rule for the understanding. Concepts of reason like this aren't drawn from nature. Rather, we question nature in the light of these ideas, and we count our cognition as deficient. It stays deficient as long as it doesn't match them.

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People concede that you will hardly find pure earth, or pure water, or pure air, or anything of the kind. Still, we need the concepts of them (so, as far as complete purity goes, these concepts originate only in reason) in order to settle properly how much each of these natural causes contributes to the appearance. So all materials are reduced to the earths (the mere weight, so to speak), then

salts and combustible substances (the force), and last of all water and air, which serve as vehicles (machines, so to speak, through which the others work). The aim is to explain the chemical effects of materials on one another by the idea of a mechanism. For although nobody actually puts it in these words, the influence of reason on the classifications of natural scientists is very easy to spot.

If reason is a power of deriving the particular from the universal, there are two cases. In the first, the universal is certain on its own account and already given. Then all that's needed is the power of judgment to subsume under it, and through it the particular is determined by necessity. I'll call this the apodictic use of reason. In the second, the universal is only assumed problematically and is a mere idea. The particular is certain, but whether the rule is universal for this consequence is still a problem. So a number of particular cases, every one of them certain, are run past the rule, to check whether they flow from it.

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If it looks as if every particular case we can name follows from it, we infer that the rule is universal, and from that we infer to all cases, even those not given in themselves. I'll call this the hypothetical use of reason.

The hypothetical use of reason works from ideas laid down as problematic concepts. Strictly speaking, it isn't constitutive. That is, if we judge with full rigor, it doesn't make the truth of the universal rule, which was adopted as a hypothesis, follow from it. After all, how could anyone know all the possible consequences that would prove the rule's universality by following from the same adopted principle? The hypothetical use is only regulative. Its job is to bring unity into the particular cognitions as far as possible, and so to bring the rule closer to universality.

So the hypothetical use of reason is aimed at systematic unity among the understanding's cognitions, and that unity is how we test whether rules are true. Turn it around, and systematic unity (taken as a mere idea) is nothing but a unity we have projected. We shouldn't treat it as something given. It is only a problem. Still, it helps us find a principle for the varied, particular uses of the understanding, and with that principle it leads the understanding into cases that haven't been given, and ties its work together.

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But all this lets us see is that systematic unity, the unity that reason brings to the many cognitions of the understanding, is a logical principle. Where the understanding can't get to rules by itself, ideas help it along. At the same time they bring its different rules into harmony under one principle (systematically), and so into connection, as far as that can be done. A separate question is whether the objects are by their own constitution, or the understanding that cognizes them as objects is by its nature, destined for systematic unity. A further question is whether we may, to a certain extent, postulate that unity a priori, even without regard to this interest of reason, and so say: all possible cognitions of the understanding (the empirical ones included) have unity of reason and stand under common principles from which they can be derived, however different they are. That would be a transcendental principle of reason. It would make systematic unity not merely subjective and logical, as a method, but objectively necessary.

Let's illustrate this with a case where reason is used. One kind of unity according to the understanding's concepts is the unity of the causality of a substance, which we call a force. The different appearances of one and the same substance look so unlike at first glance that we have to begin by assuming almost as many forces in it as there are effects showing up.

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In the human mind, for example, there are sensation, consciousness, imagination, memory, wit, discernment, pleasure, desire, and so on. At the outset, a logical maxim commands us to reduce this apparent variety as far as possible. We do so by comparing, to discover the hidden identity, and by checking whether imagination combined with consciousness might not be memory, wit, discernment, or perhaps even understanding and reason. The idea of a fundamental power is at minimum a problem: how to represent the many forces systematically. Logic can't find out at all whether there is any such power. Reason's logical principle requires us to achieve as much of this unity as we can. The more identical the appearances of the various forces prove to be, the

likelier it gets that they are only different outward expressions of a single force, which we may call (in a comparative sense) their fundamental power. We proceed the same way with the rest.

Next we have to compare the comparative fundamental powers with one another. If we find that they agree, we can draw them closer to a single root, an absolute fundamental power. This unity of reason is merely hypothetical, though. We don't claim that such a power must actually be found. We claim only that, for the sake of reason, we must look for one, in order to set up certain principles for the many rules.

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Experience may supply those rules. And wherever possible, we must work systematic unity into our cognition by that route.

But watch the transcendental use of the understanding, and it turns out that the general idea of a fundamental power is not meant merely as a problem for hypothetical use. It lays claim to objective reality, and through that the systematic unity of the many forces of one substance is postulated and an apodictic principle of reason is set up. For even before we have tried to find the agreement of the many forces—and even if every attempt to find it fails—we still presuppose that such agreement will be found. We do this not only because of the unity of the substance, as in the case just given. Even where very many forces turn up that are alike only to some degree, as in matter in general, reason presupposes systematic unity among the many forces. That is because particular laws of nature stand under more general ones, and so the saving of principles becomes not just an economizing rule for reason but an inner law of nature.

Indeed, it's hard to see how a logical principle of unity of reason among rules could hold unless a transcendental one were presupposed. That transcendental principle assumes, a priori and as necessary, that such systematic unity belongs to the objects themselves.

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What entitles reason, in its logical use, to demand that we treat the manifold of forces which nature lets us know as a merely hidden unity, and derive it from some fundamental power, to the extent that it can? Reason could not demand

this if it were free to admit that all forces might just as well be unlike, and that the systematic unity of their derivation might not fit nature. In that case reason would be acting against its own vocation, since it would set itself an idea as its goal that flatly contradicts how nature is arranged. Nor can we say that reason first took this unity from the contingent constitution of nature, following principles of reason. That is because the law of reason that tells us to seek this unity is necessary: if it were removed, there would be no reason left at all. Without reason we would have no coherent use of the understanding, and without that, no sufficient mark of empirical truth. So, as far as this last is concerned, we must presuppose the systematic unity of nature as altogether objectively valid and necessary.

This transcendental presupposition turns up, hidden in a remarkable way, in the principles of philosophers too, although they haven't always noticed it there or owned up to it. The school rule, or logical principle, is this. The variety of single things doesn't rule out sameness of species.

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The many species must be treated only as various determinations of a handful of genera, and those genera as determinations of higher ones still, and so on. So we have to look for a certain systematic unity among all possible empirical concepts, to the degree that they can be traced back to higher, more general concepts. No use of reason would take place without this rule. We can reason from the universal down to the particular only when general properties of things are laid down as a basis, with the particular ones falling under them.

Philosophers also take it for granted that this same agreement is found in nature. They do so in the well-known school rule that we shouldn't multiply the beginnings (principles) without need (entia praeter necessitatem non esse multiplicanda). What this says is that the nature of things itself supplies material for unity of reason. The endless variety we seem to see must not stop us from suspecting a unity of basic properties behind it, from which the variety can be derived only by further determination. People have chased this unity in every age, even though it is a mere idea, and so eagerly that there has been more

cause to hold back the appetite for it than to encourage it. It was already a great deal when chemists managed to trace all salts back to two main kinds, acid and alkaline. They even try to treat this difference as only a variety.

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In other words, they take it as one and the same basic substance expressing itself in different ways. The many kinds of earth (the stuff of stones and even of metals) people have tried, step by step, to bring down to three kinds and finally to two. Still not satisfied, chemists can't shake the thought that behind these varieties there is a single kind. They even suspect a common principle for these earths and the salts together. One might think this is only an economical trick of reason, a way to spare itself as much trouble as it can, and a hypothetical experiment that, if it works, lends probability to the proposed explanation just through this unity. But a self-serving aim like that is very easy to tell apart from the idea. Everyone presupposes, in line with the idea, that this unity of reason fits nature itself, and that here reason isn't begging but commanding, even though it can't fix the boundaries of this unity.

Suppose the appearances offered to us differed so greatly that even the sharpest human understanding, by comparing one with another, could not find the slightest similarity. I don't mean a difference of form (in that they may resemble each other). I mean a difference in content, in the variety of beings that exist. We can certainly imagine such a case. Then the logical law of genera would have no place at all.

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There would not even be a concept of a genus or any general concept, and there would be no understanding either, because the understanding works with nothing but such concepts. So when the logical principle of genera is applied to nature (and here by nature I mean only the objects that are given to us), a transcendental principle has to stand behind it. That principle requires us to presuppose sameness of kind in whatever variety a possible experience contains, though we can't settle its degree a priori. Without such sameness there would be no empirical concepts, and so no experience.

Opposed to the logical principle of genera, which demands sameness, there is a second, the principle of species. It needs variety and differences among things, even though they agree in falling under the same genus, and it tells the understanding to give these as much attention as it gives the likeness. This principle (of acuteness, or the power to discriminate) puts a firm check on the lightmindedness of the first (the principle of wit). So reason shows a double interest here, and the two interests pull against each other. One is the interest in extent (generality), with regard to genera. The other is the interest in content (determinateness), with regard to the variety of species. In the first case a great deal is thought under the concepts. In the second, even more is thought within them.

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This also shows in the sharply different mindsets of natural scientists. Some of them (the mainly speculative ones) are almost enemies of unlikeness, and always aim at unity of genus. The others (the mainly empirical minds) keep trying to split nature into so much variety that one would almost have to give up hope of judging its appearances by general principles.

The latter way of thinking plainly rests on a logical principle too, one that aims at the systematic completeness of all cognitions. I start from the genus and go down to whatever variety it may hold, and in this way I try to give the system breadth. In the first case, when I climb up to the genus, I try to give it simplicity. The sphere of a concept that marks a genus doesn't show how far its division can go, any more than the space matter can fill shows how far matter can be divided. So every genus needs different species, and these need different subspecies. And there is no subspecies that wouldn't again have a sphere (an extent, as conceptus communis). So reason, at its fullest reach, demands that no species be regarded as the lowest in itself. That is because a species is always a concept that contains only what is common to different things. So it isn't thoroughly determined.

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Nor can it be related directly to an individual. It must therefore always contain other concepts under itself, that is, subspecies. This law of specification could be put this way: entium varietates non temere esse minuendas.

It's easy to see, though, that this logical law too would have no sense and no use unless a transcendental law of specification lay beneath it. That transcendental law does not, of course, require the things that can become our objects to be actually infinite in their differences. The logical principle gives no occasion for that, since all it asserts is that the logical sphere is indeterminate with regard to possible division. What the transcendental law does is require the understanding to look for subspecies under every species it meets, and for smaller differences within every difference. Without lower concepts there could be no higher ones either. The understanding cognizes by means of concepts alone. So, as far as it carries its division, it never cognizes by mere intuition, but always again through lower concepts. Cognition of appearances, if it is to be fully determined (and only the understanding can do that), requires us to keep specifying its concepts without end. It also requires us to advance to differences that always remain, differences that the concept of the species, and even more the concept of the genus, has abstracted from.

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This law of specification can't have been taken from experience either, since experience can't disclose anything so far-reaching. Empirical specification soon stops short in telling the manifold apart, unless a transcendental law of specification is already in place, as a principle of reason, to guide it. That law leads it to look for such differences, and to keep suspecting them even when they don't reveal themselves to the senses. It took a rule of reason running ahead of experience to discover that absorbent earths come in different kinds (lime earths and muriatic earths). That rule set the understanding the task of looking for the difference, because it presupposed nature to be rich enough to make us suspect it. We have understanding only if nature contains differences. Equally, we have it only if nature's objects are alike in kind. After all, the very manifoldness of what can be gathered under one concept is what makes up the use of that concept and the business of the understanding.

Reason thus prepares the understanding's field 1. through a principle of sameness of kind in the manifold under higher genera, and 2. through a principle of variety among things of the same kind under lower species. To complete the

systematic unity, it also adds 3. a law of affinity among all concepts.

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This law demands a continuous passage from each species to every other, by a stepwise growth of difference. They can be named the principles of homogeneity, of specification, and of the continuity of forms. The last arises when we unite the first two. First we complete the systematic connection in the idea, both by going up to higher genera and by going down to lower species. After that, all the manifold things are related to one another, because they all descend, through every degree of further determination, from a single highest genus.

We can picture the systematic unity among the three logical principles in the following way. Take every concept as a point. As the standpoint of a spectator, the point has its horizon, that is, a number of things that can be pictured from it and, as it were, looked over. Within this horizon it must be possible to name a multitude of points without end, and each of them again has its own narrower field of view. By the principle of specification, every species has subspecies in it. A logical horizon is made up of smaller horizons (subspecies), never of points without extent (individuals). Now take several horizons, meaning genera each fixed by its own concept. We can think of a common horizon drawn around them, from which we survey them all as from one center.

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That common horizon is the higher genus, and so on, until at last the top genus gives the universal and true horizon. It is fixed from the viewpoint of the supreme concept, and it takes in under itself all manifoldness, as genera, species and subspecies.

Homogeneity brings me up to this highest standpoint. Specification brings me down to all the low ones and to their greatest variety. In this way nothing in the whole extent of all possible concepts is empty, and nothing can be found outside it. So when we assume that all-embracing field of view, divided through and through, a principle follows: non datur vacuum formarum. That is, there are not several different original and first genera, cut off from each other, so to speak, with an empty gap between them. All the manifold genera are only divi-

sions of a single highest, universal genus. And from this principle comes its immediate consequence, datur continuum formarum. That is, all the differences among species border on one another. There is no jumping from one to another. One gets there only by way of all the smaller steps of difference. Put briefly, no species or subspecies is the very nearest to another (in the concept of reason). Intermediate species always remain possible.

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Their difference from the first and from the second is smaller than the difference between those two.

So the first law guards against running wild into a variety of different original genera, and it recommends sameness of kind. The second law sets a check on this leaning toward agreement. It commands us to tell the subspecies apart before we turn with our general concept to the individuals. The third law unites the first two. Even in the greatest variety, it prescribes sameness of kind through the stepwise passage from one species to another. This shows a sort of kinship between the branches, in that they all grew from one trunk.

This logical law of the continuity of species, continui specierum (formarum logicarum), rests on a transcendental one (lex continui in natura). Without that, the prescription would only lead the understanding astray in its use, because it might take a road exactly opposite to nature's. So this law has to rest on pure transcendental grounds, not empirical ones. If it were empirical, it would come later than the systems. In fact it first brought forth what is systematic in our cognition of nature. Nor are there, hidden behind these laws, any designs for running a test with them as mere trials.

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It is true that this connection, where it fits, gives a strong reason to hold the unity we thought up hypothetically to be well founded, and so the laws are useful in that respect too. But one can plainly see that the laws judge the thrift of fundamental causes, the manifoldness of effects, and the resulting kinship among the members of nature to be reasonable in themselves and fitting to nature. So these principles recommend themselves directly, and not merely as devices of method.

It is easy to see, though, that continuity of forms is nothing but an idea. No matching object can be shown for it in experience. One reason is that the species in nature really are divided off from one another, and so must in themselves make up a quantum discretum. If the stepwise progress in their kinship were continuous, they would have to hold a real infinity of links in between any two given species, and that is impossible. The other reason is that this law can't be put to any definite use in empirical work. It doesn't give even a faint sign of affinity that would tell us by what, or how far, to look for the series of degrees in their differences. It gives nothing but a general indication that we have to look for them.

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Suppose we rearrange the principles just listed, putting them in the order that suits their use in experience. The principles of systematic unity would then stand roughly like this: manifoldness, kinship and unity. Each of these is to be taken as an idea, at the top degree of its completeness. Reason takes for granted the cognitions of the understanding, which are applied first of all to experience, and it looks for their unity according to ideas that reach much further than experience can. Kinship among the manifold, with its variety left intact, under one principle of unity, concerns not only things but even more their bare properties and forces. Say experience (not yet fully corrected) gives us the course of the planets as circular, and then we find differences. We suspect those differences in whatever can change the circle, by a constant law, through all the endless intermediate degrees into one of the deviating orbits. In other words, the motions of planets that aren't circles will come more or less close to the properties of a circle, and they land on the ellipse. Comets show orbits that vary still more. As far as we can observe, they don't even come back around in a circle. But we guess at a parabolic course, which is related to the ellipse. When the long axis of the ellipse is stretched very far, a parabola can't be told apart from it in any of our observations.

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So, led by those principles, we arrive at a unity of kind among the shapes of these orbits. Through that we go on to the unity of the cause behind every law of their movement, which is gravitation. From there we push our conquests further. We try to explain all the varieties and seeming departures from those rules by the same principle. In the end we even add more than experience could ever confirm. By the rules of kinship, we think up hyperbolic comet orbits, paths on which these bodies would depart from our solar system entirely. Traveling from sun to sun, they join in their course the more distant parts of a world system that has no bounds for us, and that is held together by one and the same moving force.

What is remarkable about these principles, and what alone concerns us here, is this. They seem to be transcendental. They contain mere ideas that the empirical use of reason is to follow, and that use can follow them only, so to speak, asymptotically, that is, by merely approaching them without ever reaching them. Even so, as synthetic propositions a priori they have objective but indeterminate validity. They serve as a rule of possible experience, and in working on experience they are indeed used successfully, as heuristic principles.

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Yet no one can produce a transcendental deduction of them. As we proved above, that is always impossible for ideas.

In the Transcendental Analytic we sorted the principles of the understanding into two groups. The dynamical ones are merely regulative principles of intuition. The mathematical ones are constitutive with respect to intuition. Even so, those dynamical laws are certainly constitutive for experience, because through them the concepts without which there would be no experience become possible a priori. Principles of pure reason, by contrast, can't be constitutive even with respect to empirical concepts. Sensibility can supply no matching schema for them, so they can't have an object in the concrete. Now suppose I give up that empirical use of them as constitutive principles. How can I still guarantee them a regulative use, and with it a measure of objective validity? And what meaning can that use have?

For reason, the understanding is an object just as sensibility is for the understanding. It falls to reason to organize into a system the unity of every possible empirical act of the understanding, just as the understanding ties together the manifold of appearances by concepts and brings it under empirical laws. But acts of the understanding without schemata of sensibility are indeterminate.
[B 693]
In the same way, the unity of reason is indeterminate in itself: it doesn't settle under what conditions, or how far, the understanding is to link its concepts into a system. No schema in intuition can be found for the thoroughgoing systematic unity of all the understanding's concepts. Still, an analogue of such a schema can be given, and it must be. It is the idea of a maximum: the greatest division and the greatest union of the understanding's cognition under a single principle. For the greatest, the absolutely complete, can be thought determinately, because all restricting conditions, which give an indeterminate manifold, are left out. So the idea of reason is an analogue of a schema of sensibility. There is this difference, though. Applying concepts of the understanding to the schema of reason is not a cognition of the object itself (as it is when the categories are applied to their sensory schemata). It is a rule, a principle for making all use of the understanding hang together as a system. Now every principle that fixes a priori the thoroughgoing unity of the understanding's use also holds, though only indirectly, of the object of experience. So the principles of pure reason will have objective reality with regard to that object too. But that is not in order to determine anything in it. It is only to indicate the procedure.
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By that procedure, the understanding's use in experience, empirical and determinate as it is, can come to agree with itself all the way through. It does so by being connected, as far as possible, with the principle of thoroughgoing unity, and derived from it.
I call all those subjective principles that come not from how the object is made but from the interest of reason, in view of a certain possible perfection in our cognition of that object, maxims of reason. So there are maxims of speculative

reason that rest solely on its speculative interest, even though they may look like objective principles.

Treat purely regulative principles as constitutive, and as objective principles they may clash. Regard them only as maxims, and there is no true clash. There is only a different interest of reason, and that is what splits the ways of thinking apart. In fact reason has just one interest, and the quarrel between its maxims is only a difference between methods and a mutual limiting of them, each trying to satisfy that interest.

So for one would-be reasoner variety counts for more (that is the principle of specification), and for another unity counts for more (the principle of aggregation).

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Each of them believes his judgment comes from insight into the object, yet he rests it on nothing but how strongly he is attached to one of the two principles. Neither rests on objective grounds. They rest only on the interest of reason, so they would be better called maxims than principles. I see discerning men quarreling over the characteristics of people, animals or plants, even of bodies in the mineral kingdom. Some, for example, suppose there are distinct national characters rooted in ancestry, or else definite, hereditary differences between families, races and so on. Others set their minds on the view that nature made all dispositions in this respect exactly the same, and that all difference rests on outward chance. When I see this, I only have to consider the nature of the object to grasp that it lies buried far too deep for either side to speak from insight into the nature of the object. It is nothing but the double interest of reason. One party takes one interest to heart, or merely affects to, and the other party takes the other. So it is the difference between maxims of nature's manifoldness and maxims of nature's unity. These can very well be reconciled. But so long as people mistake them for objective insights, they create not only dispute but also obstacles that hold up the truth for a long while, until some means is found.

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It will be a means of uniting the conflicting interests and satisfying reason on the point.

The same goes for asserting or challenging the famous law of the continuous ladder of creatures, which Leibniz brought into circulation and Bonnet splendidly polished up. This law is nothing but a following of the principle of affinity, which rests on the interest of reason. Observation and insight into how nature is arranged could not have offered it as an objective claim. Experience can show us the rungs of such a ladder, but they stand much too far apart. What we imagine to be small differences are usually such wide gaps in nature itself that such observations count for nothing as designs of nature. This is especially so where there is a great variety of things, since it is always easy to come up with some resemblances and near-matches. By contrast, the method of hunting for order in nature under a principle like that is quite legitimate and excellent as a regulative principle of reason. So is the maxim of taking such order to have its basis somewhere in nature as a whole, though without settling where or how far. As such a principle, it goes much further than experience or observation could ever equal. Yet it determines nothing. It only marks out the way to systematic unity.

[B 697]

The Ultimate Aim of the Natural Dialectic in Human Reason

No idea of pure reason is ever dialectical in itself. Only their misuse can make a deceptive illusion arise from them. Our reason's own nature sets them as tasks for us. Reason is the supreme tribunal for all rights and claims of our speculation, and it can't possibly contain original deceptions and delusions. So we can presume they have a good and purposeful vocation in the natural makeup of our reason. The mob of would-be reasoners, though, shouts as always about nonsense and contradictions. They slander the government whose innermost plans they can't penetrate, and to whose beneficial influence they should themselves owe their survival, and even the culture that puts them in a position to criticize and condemn it.

We can't use an a priori concept with any certainty until we have carried out its transcendental deduction. The ideas of pure reason don't allow a deduction of the kind the categories do. But suppose they are to have at least some objective

validity, even an indeterminate one, and not stand for merely empty thought-things (entia rationis ratiocinantis).

[B 698]

Then a deduction of them has to be possible, even if it departs widely from the one we can carry out for the categories. That completes the critical work of pure reason, and we'll now take it on.

It makes a big difference whether something is given to my reason as an object outright, or only as an object in the idea. In the first case my concepts aim at determining the object. In the second, what I have is really just a schema. No object is granted to it directly, not even hypothetically. All it does is help us represent other objects indirectly, by relating them to this idea, according to their systematic unity. Take the concept of a highest intelligence. It is a mere idea. That is, its objective reality is not supposed to consist in its relating straight to an object (taken that way, its objective validity couldn't be justified). What it gives us is a schema for the concept of a thing in general, built to meet the demands of the largest possible unity of reason. Its only purpose is to secure the greatest systematic unity in the empirical use of our reason. We do this by deriving the object of experience as if from its ground or cause, namely the imagined object of the idea. Then, for example, the rule says this.

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Regard the things in the world as though they had their existence from a supreme intelligence; in this way the idea is really only a heuristic concept, not an ostensive one. It doesn't tell us what an object is like. It tells us how, with its guidance, we should look for the constitution and connection of the objects of experience in general. Now suppose we can show the following. There are three kinds of transcendental ideas: psychological, cosmological and theological. None of them relates directly to any object corresponding to it, or to its determination. Yet every rule for the empirical use of reason, on the assumption of such an object in the idea, leads toward systematic unity, always extends our cognition of experience, and can never run against it. If we can show that, then it is a necessary maxim of reason to proceed by such ideas. And this is the transcendental deduction of all the ideas of speculative reason. They are not consti-

tutive principles that would stretch our cognition to cover more objects than experience can supply. They are regulative principles, serving to bring the manifold of empirical cognition in general into systematic unity. Within its own boundaries, that cognition is developed and put right further than the bare use of the principles of the understanding could manage without such ideas.

[B 700]

Let me make this clearer. Let us take the ideas just named as principles. First, in psychology: we should connect the mind's appearances, actions and receptivity, following the thread of inner experience, as though the mind were one simple substance. It would last (at least through life) with a personal identity, while its states keep changing, and the states of the body would count only as outer conditions of those. Second, in cosmology: we have to trace the conditions of natural appearances, both inner and outer, in an inquiry that can never be finished, and we should proceed as though the series went on forever in itself and had no first or topmost member. This doesn't mean denying that there are first grounds of appearances outside all appearances, grounds that are purely intelligible. But we may never bring them into explanations of nature, since we don't know them at all. Third and last, in theology: whatever can belong to the context of possible experience, we have to regard as though it formed an absolute unity, one that is thoroughly dependent and still conditioned within the world of sense. And at the same time we have to regard the sum of all appearances (the world of sense itself) as though it had a single supreme, all-sufficient ground outside its own range. That ground is a reason that is, so to speak, independent, original and creative.

[B 701]

With this reason in view, we steer every empirical use of our reason toward its widest reach, as though the objects themselves had come from that original model for all reason. What this means is as follows. We are not to trace the soul's inner appearances back to a simple thinking substance. We are to derive them from one another, in line with the idea of a simple being. We are not to trace the order of the world and its systematic unity back to a highest intelli-

gence. Instead the idea of a supremely wise cause supplies us with the rule that tells reason how to satisfy itself best when it connects causes and effects in the world.

Only the cosmological idea gives us any trouble. When reason tries to treat that one as objective, it runs into an antinomy. Nothing at all stops us from taking the other ideas as objective and hypostatic. (The psychological and theological ideas contain no such antinomy.) No contradiction lies in them, so how could anyone challenge their objective reality? He knows no more about their possibility, to deny it, than we do to affirm it. Still, it isn't enough, for assuming something, that nothing positive stands against it. We are not allowed, on the mere credit of a speculative reason that likes to wrap up its business, to take thought-beings that go beyond all our concepts (though they contradict none) and introduce them as real and determinate objects.

[B 702]

So they must not be accepted in themselves. Their reality should count only as the schema for the regulative principle of systematic unity in all our cognition of nature. They should be laid down only as analogues of real things, and not as such things in themselves. From the object of the idea we remove the conditions that confine our concept of the understanding. But those same conditions are the only thing that makes it possible for us to have a definite concept of any thing at all. And now we think of a something. We have no concept whatever of what it is in itself. But we do think of it as standing in a relation to the sum of appearances, and that relation is analogous to the one the appearances have to each other.

So assuming such ideal beings doesn't actually stretch our cognition past the objects of possible experience. What it stretches is only the empirical unity of those objects. It does that by way of the systematic unity, for which the idea furnishes the schema. For that reason the idea counts as a regulative principle and not as a constitutive one. We may posit a thing that corresponds to the idea —a something, a real being. That doesn't amount to saying we want to widen

our cognition of things by means of transcendent concepts. The being is put at the base only in the idea, and not in itself, so it is there merely to express the systematic unity.

[B 703]

That unity is meant to be a guide for the empirical use of reason. In doing so we settle nothing about what grounds that unity, or about the inner nature of the being on which, as its cause, the unity depends.

The transcendental concept of God, the single definite concept that bare speculative reason provides, is deistic in the strictest sense. In other words, reason doesn't even vouch for such a concept being objectively valid. It supplies only the idea of a something. All empirical reality rests its highest and necessary unity on that something. We can't think of it except by analogy with a real substance that is the cause of everything according to the laws of reason. That holds on one condition: that we do try to think of it as a particular object at all. The alternative is to be content with the bare idea of reason's regulative principle and put aside, as excessive for the human understanding, the completion of all the conditions of thought. But that cannot be reconciled with the goal of perfect systematic unity in our cognition, a goal on which reason at least imposes no limits.

So suppose I assume a divine being. I then have not the faintest concept of how its highest perfection could be possible in itself, or why its existence is necessary.

[B 704]

Yet then I can do justice to all other questions about the contingent, and I can give reason the fullest satisfaction regarding the greatest unity it is to look for in its empirical use. I cannot give it any satisfaction regarding the assumption itself. This proves that reason's speculative interest, and not any insight of its own, gives it the right to set out from a point so far beyond its sphere, to look at its objects from there as a complete whole.

Here we find a difference in the way of thinking, with one and the same assumption. It's quite subtle, but it matters a lot in transcendental philosophy. I may have enough ground to assume something in a relative way (suppositio relativa) and still lack the right to assume it outright (suppositio absoluta). The

distinction fits when we are dealing only with a regulative principle. We see that such a principle is necessary in itself, but we don't see its source. We assume a highest ground for it merely so as to think its generality more determinately. For example, I might think of a being as existing that corresponds to a mere, and indeed transcendental, idea. Then I can never assume that this thing exists in itself. No concepts we have could reach it, none by which I can think any object determinately.

[B 705]

And the idea itself rules out the conditions under which my concepts would be objectively valid. Reality, substance, causality, even necessity in existence: these concepts have no meaning that determines any object, except in the use that makes empirical cognition of an object possible. So they can help explain how things in the world of sense are possible, but not how a whole world is possible. Its ground would have to sit beyond the world, and then it could never be an object of possible experience. All the same, I can accept a being like that, beyond our grasp and the object of nothing but an idea, relative to the world of sense, though not in itself. Suppose that behind my reason's widest possible empirical use lies an idea (of a systematically complete unity, which I'll discuss more exactly before long). Experience can never present this idea adequately in itself. Yet it's indispensable if empirical unity is to come as near as possible to the highest degree. In that case I am not only entitled but compelled to realize the idea, that is, to give it an actual object. But the object is only a something in general, which I don't know in itself at all. To it, as the ground of that systematic unity, I give properties only in relation to that unity.

[B 706]

And the properties I give it are only the ones analogous to the concepts of the understanding in empirical use. Following the analogy of the realities in the world (substances, causality, necessity), I will therefore think of a being that has all of this in the highest perfection. This idea rests only on my reason. So I can think of the being as an independent reason that causes the whole world by way of ideas of the greatest harmony and unity. I leave out every condition that limits the idea. My only purpose, sheltered by such a primal ground, is to make

possible a systematic unity of the manifold throughout the world, and through that unity the widest possible empirical use of reason. To do this I look at every combination as though a supreme reason had arranged it, a reason of which ours is a weak copy. Then I think of this highest being solely through concepts that properly apply only in the world of sense. But I use that transcendental assumption in no way other than relatively, namely to supply the substratum for the greatest possible unity of experience. So I may quite properly picture a being, distinct from the world, using properties that belong only to the world of sense. I'm not asking to know this object of my idea as it may be in itself, and I'd have no right to ask. I have no concepts for that.

[B 707]

Risk them beyond the field of the senses, and reality, substance, causality, even necessity in existence, lose all meaning. They are empty labels for concepts, with no content at all. All I think is how a being stands to the largest possible systematic unity of the entire world, a being of which I know nothing in itself. My only purpose is to turn that being into the schema of the regulative principle that serves my reason's widest possible empirical use.

Now consider the transcendental object of our idea. We can see that we can't presuppose its reality in itself by means of the concepts of reality, substance, causality and the like, because those concepts don't apply in the least to something wholly different from the world of sense. So reason's supposition of a highest being as the supreme cause is merely relative. It is thought up for the benefit of the systematic unity of the world of sense. In the idea, it is a bare something, and we have no concept of what it is in itself. This also explains something else. Anything that exists and is given to the senses makes us need the idea of a primal being that is necessary in itself. And yet we can never form the faintest concept of that being or of its absolute necessity.

At this point we can set out plainly the outcome of the entire transcendental dialectic.

[B 708]

We can also determine precisely what the ideas of pure reason are finally aimed at. They become dialectical only by being misunderstood and handled carelessly. Pure reason is really occupied with nothing but itself, and it can have no other business. What is given to it is not objects, for the unity of the concept of experience. What is given to it is the understanding's cognitions, for the unity of the concept of reason, which is to say, connection under one principle. The kind of unity reason has is the unity of a system. For reason, this systematic unity is not an objective principle that extends it over objects. It is a subjective maxim, whose job is to carry reason across the whole of possible empirical cognition of objects. Even so, the systematic connection that reason can give to the empirical use of the understanding does more than promote its extension. It also confirms its correctness. The principle of such a systematic unity is objective too, but in an indeterminate way (principium vagum). It isn't a constitutive principle for determining anything about its direct object. It is a purely regulative principle and maxim. Its work is to advance and firm up reason's empirical use without end (indeterminately), by opening new paths that the understanding does not know, and without ever running against the laws of empirical use in the least.

[B 709]

But reason can think this systematic unity only by giving its idea an object at the same time. No experience can give that object, because experience never provides an example of perfect systematic unity. This being of reason is a mere idea (ens rationis ratiocinatae). So it isn't accepted outright, as something real in itself. It is taken as a basis only problematically, because no concept of the understanding can reach it. The purpose is to look at all connection among the things of the world of sense as though they were grounded in this reasoned being. The sole reason for doing so is to found systematic unity on it. Reason can't do without that unity. For empirical cognition by the understanding it helps in every way, and it can never get in its way.

If we take this idea as a claim, or even just a premise, about some real thing to which we would credit the ground of the world's systematic makeup, we have missed its point right away. What we really do is leave open what that ground is

like in itself, because it slips beyond our concepts. We simply adopt an idea as a vantage point. From it, and only from it, can we spread that unity which reason needs so much and which does the understanding so much good.

[B 710]

In short, this transcendental thing is only the schema of the regulative principle by which reason spreads systematic unity over all experience, as far as it can. Such an idea has as its first object myself, considered purely as a thinking nature (soul). To find out what properties a thinking being has as it exists in itself, I have to ask experience. Even among the categories, there is none I can apply to this object, except where its schema is given in sensory intuition. But that route never leads me to a systematic unity of all the appearances of inner sense. So reason sets aside the concept drawn from experience (of what the soul actually is), which can't carry us far. In its place reason takes up the concept of the empirical unity in all thinking. It thinks this unity as unconditioned and original, and so turns it into a concept of reason (an idea): the idea of a simple substance. This substance is unchanging in itself (personally identical), and it stands in community with other real things outside it. In a word, it is a simple, self-standing intelligence. Yet here reason has in view only one thing: principles of systematic unity for explaining the soul's appearances. It wants us to treat all determinations as belonging to one subject, and all forces, as far as we can, as derived from one fundamental power. It wants us to see every change as belonging to the states of a being.

[B 711]

That being is one and the same throughout, and it abides. And it wants us to picture all appearances in space as altogether different from acts of thinking. The simplicity of the substance and the rest were meant merely as the schema of this regulative principle. They are not presupposed as if they were the real ground of the soul's properties. Those properties might rest on quite different grounds, which we don't know at all. Even if we wanted to grant these predicates of the soul outright, we still couldn't cognize the soul in itself through them, since they amount to a mere idea that can't be presented in any concrete case. Such a psychological idea can only bring advantage, so long as we are care-

ful not to let it count as more than an idea, that is, as holding only relative to the systematic use of reason on the appearances of our soul. In that case laws drawn from experience about bodily appearances, a completely different sort of thing, don't get mixed into the explanations of what belongs to inner sense alone. No empty hypotheses of the generation, destruction and rebirth (palingenesis) of souls are admitted either. We examine this object of inner sense in a pure state, uncontaminated by properties of another kind. What's more, the inquiry of reason aims to reduce the explanatory grounds in this subject to a single principle, as far as it can.

[B 712]

A schema of this kind, treating the subject as though it were a real being, does that best, and in fact does it alone. The psychological idea can also stand for only one thing: the schema of a regulative concept. Suppose I even asked whether the soul is by nature spiritual. The question would make no sense at all. By a concept like that, I remove not only bodily nature but nature altogether, that is, all the predicates of any possible experience, and therefore every condition for thinking an object for the concept. Yet those conditions alone are what allow us to say that the concept has a sense.

Merely speculative reason has a second regulative idea, the concept of the world as such. Nature is, after all, the only given object for which reason needs regulative principles. Nature comes in two kinds: thinking nature and bodily nature. For the second kind we need no idea, if all we want is to think it in its inner possibility, that is, to determine how the categories apply to it. An idea means a representation that goes beyond experience, and none is even possible for bodily nature, because in dealing with it we are led only by sensory intuition. That is unlike the psychological basic concept (the I), which contains a definite form of thinking—its unity—a priori.

[B 713]

So for pure reason nothing remains except nature as a whole, together with the completeness of the conditions in nature under some principle. The series of these conditions, taken as an absolute totality as we trace their members, is an idea. In the empirical use of reason it can never be fully reached, yet it serves as a

rule for how to go about it. When we explain given appearances (by going back or going up), we should act as though the series were endless in itself, in indefinitum. But where reason itself is taken as the determining cause (in freedom), that is, in practical principles, we should act as though what lay before us were not an object of the senses but an object of pure understanding. There the conditions can no longer be placed in the series of appearances. They can be placed outside it, and then the series of states can be looked at as if it started absolutely (through an intelligible cause). All of this proves that the cosmological ideas are only regulative principles. They are far from positing, constitutively as it were, a real totality of such series. The rest can be looked up in its own place, under the antinomy of pure reason.

The third idea of pure reason is reason's concept of God. It holds a merely relative supposition of a being: the one, all-sufficient cause of all cosmological series.

[B 714]

As for the object of this idea, we have not the slightest ground to accept it outright (to suppose it in itself). What could bring us to believe in a being of the highest perfection, one that is by its nature absolutely necessary, or to assert such a being, just from its own bare concept? What could even give us the right? Nothing could, except the world, since only in relation to the world can this supposition be necessary. And there it shows clearly that this being's idea, like every speculative idea, says only one thing: reason commands us to treat all connections in the world as governed by principles of systematic unity. That is, we are to look at it as though it all sprang from a single, all-embracing being, as the highest and all-sufficient cause. It is clear from this that reason has nothing in view here except its own formal rule for widening its empirical use. It never aims to widen it past every boundary of empirical use. So no constitutive principle for its use, directed to possible experience, lies hidden under this idea.

This highest formal unity rests on concepts of reason alone, and it is the unity of things in respect of their purposes. Reason's speculative interest requires us to see every single arrangement in the world as if a supreme reason had intended it.

[B 715]

For our reason, applied to the field of experience, such a principle opens wholly new prospects. It lets us connect the things of the world by teleological laws and so arrive at their greatest systematic unity. Assuming a supreme intelligence as the sole cause of the whole world—though only in the idea, of course—can therefore always help reason and never harm it. Suppose we assume in advance that a maker had wise purposes for the shape of the earth (round, though somewhat flattened)*, for mountains, seas and so on. Following this path, we can make a great many discoveries. As long as we hold to the assumption as a purely regulative principle, even a mistake can't hurt us. All that can follow, at worst, is this: where we expected a purposive connection (nexus finalis), we run into nothing but a mechanical or physical connection (nexus effectivus).

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In such a case we only lose one more unity. We don't ruin reason's unity in its empirical use. This setback can't strike the law itself, taken in its general and teleological meaning, at all. An anatomist can be shown to be wrong if he ties a limb of an animal body to a purpose that clearly doesn't follow from it. But it's completely impossible to prove, in any single case, that an arrangement of nature, whatever it is, has no purpose whatever. That's why physiology (the doctors' science) widens its very narrow empirical knowledge of the purposes of an organic body's structure by a principle that pure reason alone supplied. It carries this so far that people quite boldly assume, with the agreement of everyone sensible, that nothing in an animal lacks a use and a good purpose. If this assumption were meant constitutively, it would go much further than our observations to date entitle us to go. We can see from this that it is only a regulative principle of reason. Its aim is the highest systematic unity, reached by way of the idea that the supreme cause of the world acts with purpose—as though this cause, being the highest intelligence, had made everything for the wisest purpose.

* The advantage of a spherical earth is well known enough. Few people know, however, that its flattening, as a spheroid, is the one thing that stops projecting lands, or smaller mountains perhaps pushed up by earthquakes, from steadily

shifting the earth's axis by a good deal in a fairly short time. They would do so if the swelling of the earth at the equator were not such a huge mountain that the thrust of any other mountain can never move it noticeably from its place relative to the axis. And yet no one hesitates to explain this wise arrangement by the equilibrium of the earth's once-fluid mass.

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But suppose we step away from this restriction of the idea to its merely regulative use. Reason is then led astray in all sorts of ways. It leaves the ground of experience, which has to hold the markers of its path, and ventures out beyond that ground into the incomprehensible and unfathomable. At those heights it inevitably gets dizzy, because from there it sees itself cut off completely from any use that fits with experience.

The first mistake that arises when the idea of a highest being is used not just regulatively but constitutively (against the nature of an idea) is lazy reason (ignava ratio)*. This name fits any principle that makes us see our inquiry into nature, wherever it stands, as absolutely finished.

[B 718]

Reason then goes to rest, as if it had done its job entirely. Even the psychological idea makes things very comfortable for reason when it is treated as a constitutive principle, first to explain the soul's appearances and then even to carry our cognition of this subject out past all experience (to its state after death). But it also wrecks and ruins every natural use of reason that follows the guidance of experience. Consider the dogmatic spiritualist. He accounts for the unity of the person, which stays the same however its states change, by the unity of a thinking substance that he thinks he perceives directly in the I. Our concern for things that will happen only after our death he explains from the awareness that our thinking subject is immaterial, and the like. And so he excuses himself from any investigation of nature, through physical grounds of explanation, into what causes these inner appearances. He does it by skipping past the immanent sources of cognition in experience, as if by decree of a transcendent reason, for

the sake of his own ease but at the loss of all insight. The damaging result is even easier to see in the dogmatism about our idea of a highest intelligence, and in the theological system of nature wrongly built upon it (physico-theology).

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There, all the purposes that show up in nature (often made purposes only by ourselves) are used to make the search for causes very comfortable. Instead of looking for them in the general laws governing the mechanism of matter, we turn straight to the unsearchable decree of supreme wisdom. And we consider the work of reason finished when we spare ourselves its use. Yet that use of reason finds a guide nowhere except where the order of nature, and the series of changes under their inner and more general laws, hand one to us. We can avoid this mistake if we do not look at only a few parts of nature from the viewpoint of purposes, such as the way the solid land is distributed, its structure, and the nature and position of the mountains, or even just the organization in the plant and animal kingdoms. We must make this systematic unity of nature quite general, by relating it to the idea of a highest intelligence. Then we lay down a purposiveness according to general laws of nature as our basis. No particular arrangement is exempt from those laws. Some are simply marked out for us more clearly than others. And what we get is a regulative principle for systematic unity in a teleological connection. We do not fix that connection beforehand.

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Only in expectation of it may we pursue the physical-mechanical connection under general laws. Only so can the principle of purposive unity extend the use of reason about experience in every case, without damaging it in any.

* The ancient dialecticians used this name for a fallacious argument that ran: Suppose your fate is to get well from this sickness. Then you will get well whether or not you call a doctor. Cicero says the way of arguing got its name because following it would leave no use of reason in life. That is the reason I give the same name to the sophistical argument of pure reason.

The second mistake comes from misreading the principle of systematic unity just described. It is the mistake of upside-down reason (perversa ratio, ysteron proteron rationis). The idea of systematic unity was meant only as a regulative principle for looking for that unity in the combination of things under general laws of nature. To the extent that any of it can be found by the empirical route, we are also to believe that we have come that much nearer to the completeness of its use, though we will never reach it. People do the opposite. They start by laying down, as a hypostasis, the reality of a principle of purposive unity. Because the concept of such a highest intelligence is in itself completely unfathomable, they define it in human terms (anthropomorphically). Then they impose purposes on nature, forcefully and like dictators, when they should properly look for them by way of physical research. The consequences are twofold. Teleology, which was supposed only to round out the unity of nature under general laws, now works to cancel that unity.

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And reason also defeats its own aim, which is to use nature to prove that such an intelligent supreme cause exists. For suppose the highest purposiveness can't be presupposed in nature a priori, that is, as part of its essence. Then what could direct us to look for it at all, and to climb its ladder toward the highest perfection of an author, a perfection that is absolutely necessary and therefore knowable a priori? The regulative principle asks us to assume systematic unity outright, as the unity of nature. That unity is not merely discovered by experience. It is assumed a priori, if still without being determined, and so as following from the essence of things. If I instead start by laying down a supreme ordering being, nature's unity is in fact destroyed. It then becomes completely foreign to the nature of things, and accidental. And it can't be known from nature's general laws either. So a faulty circle appears in the proof, because we presuppose what should have been proved.

If we treat the principle that nature is a systematic unity as constitutive, when it is only regulative, we do nothing but confuse reason. The idea is laid down merely as the basis for a harmonious use of reason.

[B 722]

To presuppose it as a cause that really exists, a hypostasis, confuses reason too. The study of nature takes its own course, strictly along the chain of natural causes and by their general laws. It does follow the idea of an author. But the point is not to get from him the purposiveness it hunts for everywhere. The point is the reverse: to recognize his existence, as absolutely necessary, from that purposiveness, which we look for in what natural things essentially are and, if possible, in what all things in general essentially are. Whether this succeeds or not, the idea stays correct, and so does its use, as long as that use is kept within the terms of a merely regulative principle.

Complete purposive unity is perfection (considered absolutely). Suppose we don't find this in the essence of the things that together make up the entire object of experience (that is, of everything we cognize with objective validity), and so in general and necessary laws of nature. How then could we infer from this, of all things, the idea of a supreme, absolutely necessary perfection of a primal being, the origin of all causality? The greatest systematic unity, and so purposive unity as well, is the school of human reason and even the foundation that makes its greatest use possible.

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So the idea of this unity is inseparable from the essence of our reason. The same idea is therefore a lawgiver for us. It is then perfectly natural to assume a lawgiving reason to match it (intellectus archetypus), and to derive from that reason all the systematic unity of nature, which is the object our reason deals with.

When we dealt with the antinomy of pure reason, we claimed that every question pure reason poses has to be answerable. The excuse of the limits of our cognition, which is as unavoidable as it is fair in many questions about nature, can't be allowed here. For these questions come to us not from the nature of things but from the nature of reason alone, and they concern only its inner makeup. We can now confirm that claim, bold as it looked at first sight, for the two questions in which pure reason has its greatest interest. That brings our examination of its dialectic to a full close.

Suppose we ask, regarding a transcendental theology,* a first question.

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Is there anything distinct from the world that holds the ground of the world's order and of how it hangs together under general laws? The answer is: no doubt. The world is a sum of appearances, so some transcendental ground must exist for it, that is, a ground that pure understanding alone can think. Second, we might ask whether this being is a substance, of the greatest reality, necessary, and so on. My answer is that the question has no meaning. Whatever category I reach for in trying to conceive such an object has an empirical use only. None has any sense unless it is applied to objects of possible experience, in other words to the world of sense. Outside that field, categories are just labels for concepts. We may admit such concepts, but we can't understand anything through them. Third, we might ask whether this being, which is distinct from the world, can at least be conceived by analogy with the objects of experience. The answer is: certainly, but only as an object within the idea.

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It is not an object in reality; it is one only as a substratum we do not know, beneath the order, purposiveness and systematic unity in how the world is set up. Reason has to make that the regulative principle of its study of nature. More than that, we can allow certain anthropomorphisms in this idea, without fear or reproach, as long as they serve that regulative principle. For it is always only an idea. It doesn't refer directly to a being apart from the world. What it refers to is the regulative principle of the world being a systematic unity, and it does so only through a schema of that unity: a supreme intelligence that is, by wise purposes, the world's author. The idea was not meant to say what the primal ground behind the world's unity is in itself. It was meant to say how we are to put that ground to use, or rather its idea, relative to the systematic use of reason on the things of the world.

* What I said earlier about the psychological idea, and what it is properly for as a principle of the merely regulative use of reason, saves me the trouble of treating in particular the transcendental illusion that makes us picture that systematic unity of all the manifold of inner sense as a hypostasis. The procedure here is very close to the one the Critique follows with regard to the theological ideal.

But in this way, someone will go on to ask, can we assume one wise and all-powerful author of the world? Without any doubt. And more than that, we must presuppose one. But then we are enlarging what we know past the range of possible experience, aren't we? No, not at all. All we have presupposed is a something.

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As to what it is in itself, we have no concept at all (it is a merely transcendental object). But take the systematic, purposive order built into the world, which we have to assume whenever we study nature. In relation to that order we have thought of the unknown being solely on the pattern of an intelligence (an empirical concept). That is, with respect to purposes and the perfection that rests on them, we have given it exactly those properties which, under the conditions of our reason, can hold the ground of such a systematic unity. So, relative to the use our reason makes of it in dealing with the world, the idea is thoroughly well grounded. Now suppose we tried to grant it objective validity outright. We would then forget that what we are thinking of is only a being in the idea. We would be starting from a ground that no contemplation of the world can determine, and that would leave us unable to apply the principle in a way that fits the empirical use of reason.

But, someone will ask next, can I in this way make use of the concept and assumption of a highest being when I look at the world rationally? Yes. That is in fact what reason laid this idea down for. Then may I regard arrangements that look as if they had purposes as intentions?

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May I do so by tracing them back to the divine will, although by way of particular dispositions placed in the world for that purpose? Yes, you may do that too. But it must not matter to you whether someone says divine wisdom arranged everything this way for its highest purposes, or says instead that the idea of highest wisdom is a guide for inquiring into nature and a principle of the systematic and purposive unity of nature under general laws of nature, even where we don't perceive it. In other words, where you do perceive it, it has to be all one to you whether you say: God wisely willed it so, or nature wisely

arranged it so. That is because the greatest systematic and purposive unity was precisely what your reason required, as a regulative principle for all study of nature, and it was just what entitled you to put the idea of a highest intelligence at the base, as a schema of the regulative principle. As much purposiveness as you find in the world by that idea, that much confirmation you have that your idea is legitimate. But the principle aimed at nothing except finding a necessary and the greatest possible unity of nature. So whatever we achieve of that unity, we will owe it to the idea of a supreme being. The general laws of nature are the very ones for which the idea was laid down.

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Without contradicting ourselves, we cannot pass over them in order to treat this purposiveness of nature as contingent in its origin and hyperphysical. We had no right to assume a being above nature that has these properties. We could only lay down its idea, so as to see appearances as systematically tied together, by analogy with causal determination.

For the same reason we may also think of the world's cause, in the idea, in a subtler anthropomorphic way (we couldn't think anything of it without that): as a being with understanding, with pleasure and displeasure, and with a desire and a will that fit these, and so on. And we may go further and attribute infinite perfection to it, which is far more than anything empirical knowledge of the world's order could entitle us to. For the regulative law of systematic unity tells us to study nature on the assumption that systematic and purposive unity, together with the greatest possible manifoldness, turns up everywhere, without end. Only a small part of this perfection will we ever spy out or attain. Even so, it belongs to the lawgiving of our own reason to look for this perfection everywhere and to suspect it everywhere.

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Studying nature by this principle must always be to our advantage, and can never be to our harm. Under this conception, it is also clear that what I lay at the base is not the existence or knowledge of such a being, only its idea. So, strictly speaking, I derive nothing from this being, only from its idea, meaning from the nature of the things in the world as that idea would have it. A certain

awareness, though undeveloped, of the right use of this concept of our reason seems also to have shaped the modest and fair language of philosophers of all ages. They speak of the wisdom and foresight of nature and of divine wisdom as expressions meaning the same. They even prefer the first expression for as long as the question concerns merely speculative reason. It holds back the arrogance of a bigger claim than we have a right to make. And it points reason back toward its own special field, which is nature.

So pure reason, which at the start seemed to promise nothing less than a widening of knowledge past all the boundaries of experience, contains, if we understand it correctly, nothing except regulative principles. These principles demand a unity greater than the understanding can reach in empirical use. They set the goal of its approach very far out.

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In doing so they bring the understanding into the fullest harmony with itself, by means of systematic unity. But if we misunderstand them, and take them for constitutive principles of transcendent cognitions, through a shining yet deceiving illusion they breed mere persuasion and imagined knowledge, and with them endless contradictions and quarrels.

* * *

So every kind of human cognition begins with intuitions, moves on to concepts, and finishes with ideas. In all three of these elements we have sources of cognition a priori, and at first glance they seem to look down on the boundaries of all experience. Even so, a finished critique convinces us of this: when reason works speculatively, these elements will never carry it past the field of possible experience. It also tells us what this highest cognitive faculty is really meant for. It should use all its methods and principles only to follow nature to its very core, guided by every possible principle of unity, the unity of purposes being the foremost. It should never fly beyond nature's boundary, because past that line all we have is empty space. In the Transcendental Analytic, it's true, we examined critically every proposition that could extend our cognition beyond actual experience.

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That examination gave us enough reason to be sure that these propositions never lead to more than a possible experience. Suppose we didn't distrust even the clearest abstract and general doctrines, and suppose appealing, plausible prospects didn't tempt us to cast off the constraint those doctrines put on us. Then we could certainly have skipped the exhausting questioning of all the dialectical witnesses that a transcendent reason brings forward to support its claims. For we knew beforehand, with total certainty, that whatever these witnesses assert may be honestly meant but has to be completely worthless, since it concerned news that no human being can ever get. Yet there is no end to the talk until we find the true cause of the illusion, which can mislead even the most sensible person. Besides, our transcendent cognition can be analyzed into its elements. That analysis is a study of our own inner nature, it is worth a good deal on its own account, and a philosopher is even obliged to carry it out. So it was necessary to track this whole effort of speculative reason, empty though it is, back to its first sources, and to do so in detail. That wasn't the only point, though. The dialectical illusion in this case misleads not just in the judgment it produces.

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It also draws us in through the interest we take in that judgment. It is natural, it always has been, and it will remain so forever. So it was also wise to write out, so to speak, the complete record of this trial and to place it in the archive of human reason, so that similar mistakes can be avoided in the future.

Transcendental Doctrine of Method



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II. Transcendental Doctrine of Method

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Suppose I look at the sum of all cognition that pure, speculative reason can have as one building, one that we at least carry the idea of within us. In the Transcendental Doctrine of Elements, I'd say, we added up the building materials and worked out what building they would be enough for, and how tall and how sturdy it could be. It turned out, of course, that we had a tower in mind, one that was to reach the sky, but the supply of materials was enough only for a dwelling. That dwelling was roomy enough for what we do down on the plain of experience, and tall enough to look out over that plain. The bold project had to fail for lack of material. And that leaves out the confusion of languages, which was bound to split the workers over the plan and scatter them across the world, each going off to build alone to their own design. Now the plan matters to us more than the materials. We have been warned not to gamble on some arbitrary, blind design that might be beyond all our powers. Still, we can hardly give up on putting up a solid place to live. So what we need is an estimate for a building that fits the supply we actually have and also suits our needs.

So the Transcendental Doctrine of Method, as I use the term, settles what the formal conditions are.

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It settles them for a complete system of pure reason. To that end our subjects will be a discipline, a canon, an architectonic and, last of all, a history of pure reason. In the transcendental setting we will accomplish what the schools look for, and do badly, under the name of a practical logic for the use of the understanding in general. The reason they do it badly is that general logic isn't restricted to any special kind of cognition by the understanding (the pure kind, for example), or to certain objects. If it borrows nothing from other sciences, all it can do is set out headings for possible methods, along with the technical terms that all sorts of sciences use for systematic matters. These give the beginner a first acquaintance with names, whose meaning and use the beginner has yet to learn.

Transcendental Doctrine of Method First Chapter Pure Reason's Discipline

Take negative judgments, the ones that are negative in content and not just in logical form. People hungry for knowledge don't hold them in much regard. Some even see them as jealous enemies of our restless drive to widen our cognition.

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It takes almost an apology just to get them tolerated, and even more to win them favor and respect.

Logically, you can put any proposition you like in negative form. But look at the content of our cognition in general, and ask whether a judgment widens it or narrows it. Then denying judgments have one job of their own, which is simply to keep error out. That is why negative propositions meant to block a false cognition, where no error is possible anyway, are perfectly true but empty. They don't suit their purpose at all, and for that very reason they are often silly. Take the claim of a certain school orator that Alexander couldn't have conquered countries without an army.

But take a case where the limits on our possible cognition are very narrow, the urge to judge is strong, the illusion on offer is very deceptive, and the harm from error is serious. In that case the negative side of instruction, which does nothing except guard us against errors, matters even more than a good deal of positive teaching that might add to our cognition. We call discipline the constraint that holds back, and in the end wipes out, a constant tendency to stray from certain rules. Discipline differs from culture. Culture is meant only to give a skill, without abolishing another skill that is already there. So take the shaping of a talent.

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A talent already has a drive of its own to show itself. In its case discipline will make a negative* contribution, while culture and doctrine make a positive one.

* I know that in the language of the schools "discipline" is usually treated as if it meant the same as "instruction." But in many other cases the first word, in the sense of training, is carefully kept apart from the second, in the sense of teaching. The nature of things also calls for keeping the only fitting words for this difference. So I wish that no one would ever permit the word "discipline" to be used in anything but a negative sense.

Everyone will readily grant that temperament needs discipline in some respects. So do talents that like to allow themselves free and unlimited movement, such as imagination and wit. That reason should need it too may well seem strange. After all, reason is the very faculty whose business is to lay down discipline for all other efforts. And in fact reason has escaped such a humbling until now, for just this reason: it comes on with such solemnity and such a thorough air of dignity that no one could easily suspect it of a frivolous game, played with fancies instead of concepts and with words instead of things.

Reason needs no critique in its empirical use, since its principles are put to the test again and again on the touchstone.

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That touchstone is experience. It needs none in mathematics either, where its concepts must be shown at once in pure intuition, in concreto, so that anything baseless or arbitrary comes to light immediately. But there is a use where

neither empirical nor pure intuition holds reason to a visible track. That is its transcendental use, working from bare concepts. There it needs discipline so badly, to tame its urge to expand past the tight boundaries of possible experience and to keep it from excess and error, that the entire philosophy of pure reason deals only with this negative benefit. Individual lapses can be put right by censure, and their causes by critique. But when we meet, as in pure reason, a whole system of deceptions and delusions, closely tied together and joined under shared principles, a legislation all of its own seems to be called for, and a negative one. Under the name of discipline it would set up, out of the nature of reason and of the objects of its pure use, a kind of system of caution and self-examination. No false, quibbling illusion could survive before it. Whatever reasons it offered to dress itself up, it would give itself away at once.

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But note this well. Here in the second main division of the transcendental critique, I aim the discipline of pure reason not at content but only at the method of cognition from pure reason. The content was already dealt with in the Doctrine of Elements. Now, the way reason is used has a lot in common, no matter what object it is applied to. Yet to the extent that it is to be transcendental, it also differs so essentially from every other use that errors can't be prevented without the warning, negative teaching of a discipline set up especially for it. Those errors must unavoidably come from applying, in the wrong way, methods that suit reason elsewhere but just don't fit here.

First Chapter Section One Pure Reason's Discipline in Its Dogmatic Use

Mathematics gives the most brilliant example of pure reason expanding happily by its own power, with no help from experience. Examples are catching, above all for a faculty that naturally flatters itself it will have in other cases the very same luck it had in one. So pure reason hopes for the same luck when it is used transcendentally.

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It hopes to expand there as happily and as soundly as it did in mathematics, most of all by using there the same method that has been of such plain benefit here. For us it is therefore a big question whether the method for reaching apo-

dictic certainty, which in mathematics is called mathematical, is the same as the one by which philosophy seeks that very same certainty, and which there would have to be called dogmatic.

Philosophical cognition is cognition by reason from concepts. Mathematical cognition is cognition by reason from the construction of concepts. To construct a concept means to present a priori the intuition that corresponds to it. So constructing a concept requires a non-empirical intuition. As an intuition, that is a single object. But it is also the construction of a concept, which is a general representation, so it has to express in the representation a universal validity for all possible intuitions that come under the same concept. Here is how I construct a triangle. I present the object that matches this concept, either through imagination alone, in pure intuition, or afterward on paper, in empirical intuition. Either way it is done wholly a priori, with no model borrowed from any experience. The figure I draw is one single figure.

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It is empirical, and yet it serves to express the concept without harming the concept's generality. For in this empirical intuition we look only at the act of constructing the concept. Many determinations, size, sides and angles among them, make no difference to the concept. So we set aside these differences, which leave the concept of the triangle unchanged.

So philosophical cognition looks at the particular only in the universal. Mathematical cognition looks at the universal in the particular, even in the single case, and yet it does so a priori and by means of reason. This single case is fixed by certain universal conditions of construction. In the same way the object of the concept, which the single case matches only as its schema, has to be thought of as universally determined.

These two kinds of rational cognition differ essentially in this form. The difference doesn't rest on their matter, or objects. Some people thought they could tell philosophy from mathematics by saying that philosophy has only quality as its object and mathematics only quantity. They took the effect for the cause.

The form of mathematical cognition is the reason it can deal only with quanta. Magnitudes are the only things whose concept can be constructed, meaning laid out in intuition a priori.

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Qualities can be presented in no intuition other than an empirical one. So a rational cognition of them can be possible only through concepts. In the same way, an intuition for the concept of reality can come from experience only. Nobody can ever come to have one a priori, out of themselves, before they have empirical consciousness of it. We can make the shape of a cone intuitable, with no empirical help, by the concept alone. But the color of this cone will have to have been given beforehand in one experience or another. Take cause in general. The only way I can show that concept in intuition is by an example that experience happens to put in my hands, and so on. Besides, philosophy is concerned with magnitudes no less than mathematics is, for instance with totality and infinity. Mathematics also concerns itself with the difference between lines and planes, which are spaces of different quality, and with the continuity of extension, which counts as one of its qualities. In such cases they have a shared object. Even so, the way reason handles that object is entirely different in philosophical and in mathematical study. Philosophy keeps strictly to general concepts. Mathematics can do nothing with the bare concept. It hurries at once to intuition, where it considers the concept in concreto, but not empirically.

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It does so only in an intuition it has presented, that is constructed, a priori. There, whatever follows from the general conditions of the construction must hold universally for the object of the constructed concept too.

Say a philosopher is given the concept of a triangle. The job is to find out, in the way philosophers work, how the total of its angles relates to a right angle. Their whole stock is the concept of a figure bounded by three straight lines, and, within that, the concept of as many angles. They can ponder this concept as long as they like and will produce nothing new. They can take apart the concept of a straight line, or an angle, or the number three, and make it clear. But they can't arrive at other properties that don't lie in these concepts at all. Now

let the geometer take up the same question. The geometer begins at once by constructing a triangle. They know that two right angles together amount to exactly as much as the sum of all adjacent angles that can be drawn at one point on a straight line. So they extend one side of the triangle and get two adjacent angles that together equal two right angles. Next the outer one of these angles is divided, by a line drawn parallel with the side opposite. The geometer now sees that an outer adjacent angle arises here that equals an inner one, and so on. They go on in this way.

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Guided by intuition at every step, a chain of inferences brings them to a solution of the question that is perfectly clear and universal at once.

Mathematics doesn't only construct magnitudes (quanta), as in geometry. It also constructs bare magnitude (quantitatem), as in algebra, and there it sets aside entirely the nature of the object that is to be thought through such a concept of magnitude. It then picks a notation for all constructions of magnitude in general (numbers, for addition, subtraction and so on, and extraction of roots). Once it has also given signs for the general concept of magnitudes in all their various relations, it displays in intuition, by certain general rules, every operation that magnitude produces and alters. To divide one magnitude by another, it writes the signs of both together in the form that stands for division, and so on. In this way a symbolic construction takes mathematics, just as well as an ostensive or geometric construction (of the objects themselves) does in geometry, to a place that discursive cognition by bare concepts could never reach.

Why do two craftsmen of reason find themselves in such different positions, when one goes by concepts and the other by intuitions that they present a priori to match those concepts?

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The transcendental first principles laid out above make the answer clear. What matters here is not analytic propositions, which can be produced just by taking concepts apart. (There the philosopher would no doubt have the edge over a rival.) What matters is synthetic propositions, and in particular ones that are to

be cognized a priori. I am not supposed to attend to what I really think when I think my concept of a triangle, which is nothing more than the bare definition. I am meant to go beyond the concept to properties that aren't in it but still belong to it. That can be done in only one way, by determining my object under the conditions of either empirical or pure intuition. The first way would give only an empirical proposition, obtained by measuring the angles. It would contain no universality, let alone necessity, and we aren't talking about anything of that sort. The second way is mathematical construction, in this case geometrical construction. Working in a pure intuition, as I would in an empirical one, I add whatever manifold belongs to the general schema for triangles, and so to the triangle's concept. And that is how universal synthetic propositions have to be constructed.

So I would philosophize about the triangle in vain, that is, think it over discursively.

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I would get not an inch further than the bare definition, which is where I would have to start anyway. There is, it is true, a transcendental synthesis made of nothing but concepts, and again only the philosopher can manage it. But all it ever concerns is a thing in general, namely under what conditions perception of such a thing could belong to possible experience. Mathematical problems don't ask this, and they don't ask about existence at all. They ask what properties the objects have in themselves, solely so far as these are bound up with their concept.

In the example we gave, we tried only to bring out how large a difference there is between two uses of reason. One is the discursive use, by concepts. The other is the intuitive use, through the construction of concepts. The natural question now is what makes it necessary to use reason in two ways, and by what conditions we can tell whether only the first is at work or the second as well.

All our cognition does relate in the end to possible intuitions, since an object is given only through these. Now a concept a priori (a non-empirical concept) either has a pure intuition already in it, and then it can be constructed. Or it

has nothing but the synthesis of possible intuitions that are not given a priori. In that case we can indeed judge by means of it.

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The judgments are synthetic and a priori, but they can only be discursive, made by concepts, and never intuitive, made by constructing the concept.

Of all intuition, the only part given a priori is the mere form of appearances, namely space and time. Treating these as quanta, we can present a concept of them a priori in intuition, that is, construct it. We can do this together with their quality, their shape, or for their quantity alone, by number. That quantity is the bare synthesis of the homogeneous manifold. Appearances also have matter, and that is what gives us things in space and time. It can be represented only in perception, so a posteriori. Just one concept stands for this empirical content of appearances a priori, the concept of a thing in general. Synthetic cognition of a thing in general, a priori, gives nothing beyond the bare rule for synthesizing whatever perception may deliver a posteriori. It never delivers an intuition of the real object a priori, since that intuition has to be empirical.

A synthetic proposition is transcendental when it is about things in general and their intuition can't be given a priori at all. So transcendental propositions can never be given by constructing concepts, only by concepts a priori. They contain nothing but the rule for looking, through experience, for a certain synthetic unity in what can't be presented in intuition a priori.

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I mean perceptions. And in no case can they present even one of their concepts a priori. They do that only a posteriori, by way of the experience that first becomes possible under those synthetic principles.

Suppose we want to make a synthetic judgment about a concept. Then we have to move outside it, to the intuition where it is given. Staying with what the concept contains would give a merely analytic judgment, which only explains the thought by what is actually in it. But I can move from the concept to the pure or empirical intuition that matches it. In that intuition I look at the concept in concreto and find out, either a priori or a posteriori, what applies to its object. The first is rational, mathematical cognition, obtained by constructing the con-

cept. The second is merely empirical, or mechanical, cognition, and it can never yield necessary, apodictic propositions. Here is an example. Say I break down my empirical concept of gold. All I would gain is the ability to list everything I actually think when I say the word. That improves my cognition logically, but adds nothing to it. Now suppose I take the matter that goes by this name and make observations with it.

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They will hand me various synthetic but empirical propositions. Or take the mathematical concept of a triangle. I would construct it, meaning give it a priori in intuition, and that yields synthetic but rational cognition. A transcendental concept is different: say reality, substance, force and so on. Once I am given one, it points to neither an empirical nor a pure intuition, only to the synthesis of empirical intuitions, and those can't be given a priori. The synthesis can't reach out a priori to an intuition matching the concept. So no determining synthetic proposition can come from it, only a principle governing the synthesis* of possible empirical intuitions. A transcendental proposition is therefore synthetic rational cognition from bare concepts, so a discursive one. It first makes all synthetic unity of empirical cognition possible, yet gives no intuition a priori.

* With the concept of cause I do really step outside the empirical concept of an event (something happening). But I don't step to an intuition that presents the concept of cause in concreto. I step to the conditions of time in general, which might be found in experience to fit the concept of cause. So I proceed by concepts alone, and can't proceed by constructing concepts. That is because a concept of this kind is a rule for combining perceptions into a synthesis, and perceptions are not pure intuitions, so they can't be given a priori.

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So reason is used in two ways. In what they share they are alike, since the cognition is universal and is produced a priori. In how they proceed they differ widely. The reason is that every appearance, which is the way all objects reach us, has two parts. One is the form of intuition, space and time, and that can be fully known and fixed a priori. The other is the matter, the physical element or con-

tent. It means something that turns up in space and time, so it carries existence and answers to sensation. The matter can never be given in a determinate way except empirically. About it we can have nothing a priori except indefinite concepts of how possible sensations are synthesized, provided they belong to the unity of apperception (within a possible experience). About the form we can fix our concepts a priori in intuition. By a uniform synthesis we generate the objects themselves, in space and time, simply by treating them as quanta. The first of these is called the use of reason by concepts. There we can do nothing except bring appearances, as far as their real content goes, under concepts. Afterward those concepts can be fixed only empirically, a posteriori, though following the concepts as rules of an empirical synthesis. The second is the use of reason by the construction of concepts.

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These concepts already go to an intuition a priori, and for that very reason they can be given in a fixed way a priori, in pure intuition, with no empirical data at all. Take whatever there is, some thing in space or time. We can ask whether it is a quantum, and how far. We can ask whether existence, or a lack of it, must be represented in it. Is the something that fills space or time a first substratum, or only a determination? Does its existence stand in relation to something else, as cause or as effect? Finally, does it stand alone, or in mutual dependence with other things where existence is concerned? We can weigh whether this existence is possible, actual or necessary, or the opposite of these. All this is the business of rational cognition from concepts, and that is what we call philosophical. But fixing an intuition a priori in space (shape), dividing time (duration), or knowing only the general element in synthesizing the same item in time and in space, plus the magnitude of an intuition in general that follows from it (number): that is a task for reason through the construction of concepts, and it is called mathematical.

Reason has had great luck through mathematics. Quite naturally that luck suggests that its success will carry over outside the field of magnitudes too, if not for reason itself then at least for its method.

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In mathematics, after all, reason turns every one of its concepts into intuitions it can supply a priori, and that makes it master of nature, so to speak. Pure philosophy, in contrast, fumbles around in nature with a priori concepts that work discursively. It can't show the reality of those concepts a priori in intuition, and so it can't make them trustworthy either. The masters of this art also seem to lack neither confidence in themselves nor the public's great hopes of their skill, should they ever take this matter on. They have hardly ever philosophized about their mathematics (a hard job!). So the specific difference between one use of reason and the other never occurs to them. Rules that are in common circulation and used empirically, borrowed from ordinary reason, count for them as axioms. Where the concepts of space and time come from, which they work with as the only original quanta, is of no concern to them. In the same way it seems pointless to them to look into where the pure concepts of the understanding come from, and with that how far they hold. They just want to use them. In all this they are quite right, as long as they don't cross the boundary assigned to them, which is the boundary of nature. But in fact they slip without noticing from the field of sensibility onto the unsteady ground of pure and even transcendental concepts. There the footing (instabilis tellus, innabilis unda) won't let them stand.

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Nor will it let them swim. They can take only fleeting steps, of which time keeps not the slightest trace. In mathematics, by contrast, their course makes a highway that even the latest descendants can walk with confidence.

We have made it our duty to mark out exactly, and with certainty, where the boundaries of pure reason lie when it is used transcendentally. But this kind of striving has a peculiar feature. Despite the most emphatic and clearest warnings, people still let hope string them along before they give up the plan of getting beyond the boundaries of experience into the charming regions of the intellectual. So it is necessary to pull up, so to speak, the final anchor of an imaginative hope. We have to show that bringing the mathematical method into this kind of cognition can bring no advantage at all. The only thing it can

do is show all the more plainly its own weak spots, namely that the art of measuring and philosophy are two entirely different things. They do join hands in natural science, but neither can copy the other's way of working.

Mathematics gets its thoroughness from definitions, axioms and demonstrations. I will be content to show this: none of these three, as the mathematician understands them, can be supplied by philosophy.

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Nor can philosophy imitate them. And I will show that a geometer working by their method can build only card houses in philosophy, and that a philosopher working by theirs can stir up only chatter in mathematics' share, even though knowing its boundaries is exactly what philosophy consists in. I will also show that even the mathematician, unless nature has already limited their talent and confined it to their own field, can't brush aside the warnings of philosophy or set themselves above them.

1 On definitions. To define, as the word itself suggests, really means no more than this: originally to present, inside its boundaries, the complete concept of a thing*. By that standard an empirical concept can't be defined at all. It can only be explicated. In such a concept we hold just a few marks of a certain kind of object of the senses. So we can never be sure that a word naming the same object doesn't make us think of more of its marks one time and fewer another time.

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One person might think of gold as having weight, color and toughness, and also the property of not rusting. Another person might know nothing of that last one. We use certain marks only as long as they are enough for telling things apart. New observations drop some marks and bring in others. A concept like this therefore never sits between firm boundaries. And what would be the point of defining it anyway? Suppose we are talking about water and its properties. We won't stop at what we think when we hear the word "water." We go on to experiments. Water, with the handful of marks that cling to the word, is supposed to be only a label for the thing, not a concept of it. So the so-called defin-

ition is nothing more than a fixing of what a word means. Strictly speaking, concepts given a priori can't be defined either. That is the second point. Take substance, cause, right, equity and so on. Only if I know that a distinct representation of a concept (a concept given, as yet, only confusedly) is adequate to its object can I be sure it has been developed completely. A concept, in the shape in which it is given, may carry many obscure representations that we leave out when we analyze it, even though we depend on them every time we use it. So whether my analysis of the concept is complete is always doubtful.
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It can be made probable by many fitting examples, but never apodictically certain. In place of the word "definition" I would rather use "exposition." That word stays cautious, and a critic can accept an exposition up to a point and still have doubts about its completeness. Since neither empirical nor a priori concepts can be defined, the only ones left for this trick are concepts that someone has made up at will. In that case I can always define my concept. After all, I must know what I meant to think, since I made the concept myself on purpose. Neither the nature of the understanding nor experience handed it to me. But I can't claim that I have defined a true object by doing so. If the concept depends on empirical conditions (a ship's clock, for example), this made-up concept still doesn't give the object or its possibility. From it I don't even know whether there is any object at all. My explanation deserves the name of a declaration (of my project) more than that of a definition of an object. So the only concepts left that suit defining are those that hold a self-chosen synthesis, one that can be constructed a priori. Therefore only mathematics has definitions. Mathematics presents the object it thinks a priori in intuition.
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That object can't contain more or less than the concept does, because the explanation gave the concept of the object originally, that is, without deriving it from anything else. German has only one word, "Erklärung" (explanation), for "exposition," "explication," "declaration" and "definition." So we must relax our strict demand a little, since we denied philosophical explanations the honorable name of definition. We'll limit this remark to the following. In philoso-

phy, definitions come about only as expositions of concepts already given. In mathematics they come about as constructions of concepts made originally. The first kind arises only analytically, by taking the concept apart (and the completeness of that is not apodictically certain). The second arises synthetically, and so it makes the concept itself, while the first only explains it. From this it follows:

* Completeness means that the marks are clear and sufficient. Boundaries means precision, that is, having no more marks than the complete concept calls for. And original means that this setting of boundaries isn't derived from anywhere else. If it were, it would still need a proof, and that would disqualify the supposed explanation from coming first among all judgments about an object.

a) Philosophy shouldn't copy mathematics by sending the definition ahead of everything else, apart from perhaps a rough try. Philosophical definitions are analyses of given concepts. So those concepts come first, though still confused, and the incomplete exposition comes before the complete one. From a few marks drawn out of an analysis that isn't finished yet, we can infer a good deal in advance, before we arrive at the complete exposition, which is the definition. [B 759]

To put it briefly, in philosophy a definition, being exactly measured distinctness, should close the work and not open it*. Mathematics is different. Before the definition we have no concept whatever, because the definition is what first provides one. So mathematics must begin with it, and always can.

* Philosophy teems with faulty definitions, above all ones that hold real elements of a definition but not the full set. If we could do nothing at all with a concept until we had defined it, all philosophizing would be in bad shape. But as far as the elements (of the analysis) reach, we can always make good and safe use of them. So even defective definitions can be used to great benefit. By these I mean propositions that are not yet really definitions but are otherwise true, and so come close to being definitions. In mathematics the definition belongs ad esse, to the thing's being. In philosophy it belongs ad melius esse, to its being better. It is fine to reach one, but often very hard. Jurists are still looking for a definition of their concept of right.

b) Mathematical definitions can never be wrong. Since the concept is first given by the definition, it contains exactly what the definition wants thought through it. Nothing incorrect can turn up in the content. Still, there can occasionally be a mistake in the form (the dress), though only rarely, and the mistake is one of precision. Take the common explanation of the circle. It says the circle is a curved line.

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All the points on it are the same distance from a single point (the center). The fault here is that the word "curved" has slipped in without need. There has to be a separate theorem, which follows from the definition and is easy to prove: any line whose points are all the same distance from one point is curved (no part of it is straight). Analytic definitions, by contrast, can go wrong in many ways. They can bring in marks that really weren't in the concept. Or they can lack the completeness that is the essential point of a definition, since we can't be fully certain that our analysis is complete. That is why the mathematical way of defining can't be copied in philosophy.

2 On axioms. These are synthetic principles a priori, in so far as they are immediately certain. Now one concept can't be connected with another both synthetically and immediately. That is because, to go beyond a concept, we need a third, mediating cognition. Now philosophy is nothing but rational cognition by concepts, so no principle will be found in it that deserves the name of an axiom. Mathematics, however, is capable of axioms, because by constructing concepts in the intuition of the object it can link the object's predicates a priori and immediately. For example, three points always lie in one plane.

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A synthetic principle from concepts alone, by contrast, can never be immediately certain. Consider this proposition: whatever happens has a cause. Here I have to look around for a third thing, namely the condition of determining time in an experience. The concepts alone could never have shown me such a principle, immediately and directly. So discursive principles are quite different from intuitive ones, that is, axioms. Discursive principles always require a

deduction as well, while axioms can do without one entirely. Axioms are evident for that very reason, and philosophical principles, certain as they may be, can never claim that. So no synthetic proposition of pure, transcendental reason comes anywhere near being as plainly evident (to use the defiant phrase) as the statement that two times two gives four. In the Analytic, where I set out the principles of pure understanding in a table, I did speak of certain axioms of intuition. But the principle given there was itself no axiom. It was meant only to name the underlying principle that makes axioms possible at all, and it was itself just a principle from concepts. For even the possibility of mathematics has to be shown in transcendental philosophy. So philosophy has no axioms, and it may never simply command its principles a priori.

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It has to bring itself to justify its right to them by a thorough deduction.

3 On demonstrations. Only an apodictic proof that is also intuitive deserves the name demonstration. Experience does teach us what is there, but not that it couldn't be otherwise. So empirical grounds of proof can never yield an apodictic proof. And from concepts a priori (in discursive cognition), intuitive certainty, that is, evidence, can never arise, no matter how apodictically certain the judgment itself may be. That is why only mathematics has demonstrations. It draws its cognition not from concepts but from constructing them, which means from an intuition that can be supplied a priori to fit them. Even the method algebra uses with its equations is a construction, though not a geometrical one. From the equations it produces the truth together with the proof by reduction. It is a construction by symbols, in which we lay out the concepts in intuition by means of signs, above all concepts of the relation of magnitudes. It secures every inference against errors by putting each one before our eyes, quite apart from any use in discovery. Philosophical cognition has to do without this advantage, because it must always look at what is universal abstractly, in abstracto, by means of concepts. Mathematics looks at what is universal in concreto, in a single intuition.

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And it still works a priori with pure representation, where every misstep shows. That is why I would rather call the philosophical ones acroamatic (discursive) proofs than demonstrations. They can be carried on only through words alone (the object in thought), whereas demonstrations, as the word itself indicates, proceed in the intuition of the object.

All this shows that it simply doesn't suit philosophy's nature, above all in the realm of pure reason, to strut around in a dogmatic manner and dress itself up in the titles and ribbons of mathematics. Philosophy isn't a member of that order, though it has good cause to hope for a sisterly alliance with it. Such claims are empty conceit, and they can never work. They can only reverse philosophy's own aim, which is to uncover the delusions of a reason that misjudges its boundaries and, by clearing up our concepts enough, to bring the self-conceit of speculation back to modest but thorough self-knowledge. So in its transcendental attempts reason can't look straight ahead with such confidence, as if the road it has traveled led so directly to the goal. And it can't count so boldly on the premises it started from that it never needs to look back and watch for errors. Such errors may turn up as the inferences go on, and may have been overlooked in the principles.

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They would make it necessary either to define the principles more closely or to change them altogether.

I divide all apodictic propositions (whether provable or immediately certain) into dogmata and mathemata. A dogma is a synthetic proposition drawn directly from concepts. A mathema is a proposition of that sort that comes through the construction of concepts. Analytic judgments teach us nothing more about the object than what is already in the concept we have of it. They don't widen cognition past the concept of the subject. They only make it clearer. So they can hardly be named dogmas (a word we might render as "doctrinal sayings"). Of those two sorts of a priori synthetic propositions, ordinary speech lets only the ones in philosophical cognition wear this name. Hardly anyone

would call the propositions of arithmetic or geometry dogmata. So this usage confirms the explanation we gave: only judgments from concepts, and not those from the construction of concepts, can be called dogmatic.

Taken in its purely speculative use, pure reason as a whole holds no directly synthetic judgment from concepts at all, not even one. As we have shown, it can make no synthetic judgments through ideas that carry objective validity.

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Through concepts of the understanding it does set up secure principles, but never directly from concepts. It does so only indirectly, by tying those concepts to something completely contingent, namely possible experience. Once that is presupposed (something as an object of possible experiences), the principles are indeed apodictically certain. But in themselves they can't be cognized (directly) a priori at all. No one can see the truth of the proposition that whatever happens has a cause, in a thorough way, from those given concepts alone. That is why it is not a dogma, even though from another point of view it can be proved quite well and apodictically. That point of view is the single field of its possible use, experience. It is called a principle and not a theorem, even though it has to be proved, because it has a special property: it first makes possible its own ground of proof, namely experience, and must always be presupposed in that experience.

Suppose there are no dogmata at all in the speculative use of pure reason, not even as to content. Then every dogmatic method is unsuitable in itself, whether it is borrowed from the mathematician or is meant to become a manner of its own. All it does is hide faults and errors, and it deceives philosophy, whose real aim is to let every step of reason be seen in the clearest light. Still, the method can always be systematic.

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Our reason, taken subjectively, is itself a system, but when it works in its pure use, with bare concepts alone, it amounts to just a system of searching for principles of unity, and only experience can supply the material for that unity. A transcendental philosophy has a method peculiar to itself, but there is nothing

to say about it here. We are dealing only with a critique of our resources. The questions are whether any building can go up at all, and how tall a structure we might put up using the materials on hand, namely pure concepts a priori.

First Chapter Section Two Pure Reason's Discipline with Regard to Its Polemical Use

In all its undertakings reason must submit to critique. No ban can cut into critique's freedom without hurting reason itself and bringing on it a suspicion that does it harm. Nothing is so important for its usefulness, and nothing so sacred, that it may slip away from this testing and inspecting search, which pays no regard to persons. Reason's very existence rests on this freedom. Reason has no dictatorial authority. Its verdict is always only the agreement of free citizens.

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Each of them has to be able to voice their reservations, even their veto, without holding back.

Reason can never refuse critique, but that doesn't mean it always has cause to fear it. When pure reason works dogmatically (not mathematically), it isn't so conscious of having kept its supreme laws with perfect care. So it would have to stand under the scrutiny of a higher reason sitting as judge. It would do so timidly, with every claim to dogmatic authority laid aside.

Things are quite different when reason isn't up against a judge's censure but is answering what a fellow citizen claims, and only has to defend itself. The fellow citizen's claims want to be dogmatic too, though in denying, just as reason's own claims are dogmatic in affirming. So a justification kat' anthropon is available. It protects against every encroachment and secures a titled possession that need not fear anyone else's pretensions, even though the possession itself can't be proved sufficiently kat' aletheian.

I call it the polemical use of pure reason when it defends its propositions against dogmatic denials of them. The issue here isn't whether reason's claims could be false after all. The issue is only that nobody can ever claim the opposite with apodictic certainty.

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Nobody can claim it even with greater plausibility. For we don't hold our possession as a favor granted on request when we have a title to it, even an insufficient one, and when it is completely certain that nobody can ever prove the possession unlawful.

It is saddening and dispiriting that pure reason should have an antithetic at all. Pure reason stands as the highest court over all disputes, and yet it is supposed to fall into conflict with itself. Above, to be sure, we did have such an apparent antithetic of reason before us. But it turned out to rest on a misunderstanding. Going along with a widespread prejudice, people treated appearances as things in themselves. Then they demanded an absolute completeness of the synthesis of appearances, in one way or another (and either way was equally impossible). That can't be expected of appearances at all. So at that time there was no real contradiction of reason with itself between two propositions. One was that the series made up of appearances given in themselves has a first beginning that is absolute. The other was that the same series, taken purely in itself, has no beginning at all. The two go together quite well. For appearances, as far as their existence goes (as appearances), are nothing in themselves, that is, something self-contradictory, and so assuming them naturally has to draw contradictory conclusions after it.

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But a misunderstanding of this kind can't be pleaded, and the dispute of reason can't be settled that way, in the following cases. Suppose one side claimed, as a theist, that a highest being exists, and the other claimed, as an atheist, that none does. Or take psychology. One claim there is that everything that thinks is of absolute, permanent unity, and so is distinct from all perishable material unity. The opposite claim is that the soul isn't a unity free of matter, and so can't escape perishing. For the subject of the question here is free of anything alien that conflicts with its nature, and the understanding is concerned only with things in themselves, not appearances. So a true conflict would indeed turn up here, if only pure reason had something to say on the denying side that came close to the ground of an assertion. As for criticism of the grounds of proof

offered by the dogmatic affirmer, that can be granted to them quite readily without giving up these propositions. These propositions do at least have the interest of reason behind them, which the opponent can't invoke at all.

I do not share the opinion that excellent, thoughtful men (Sulzer, for example) have so often voiced when they felt the weakness of the proofs so far. They hoped that someday we might prove, with demonstrations that are plain to see, our pure reason's two cardinal propositions: there is a God, there is a future life.

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I am rather certain that this will never happen. For where could reason get the ground for such synthetic assertions, which have nothing to do with objects of experience or with their inner possibility? It is just as apodictically certain, though, that nobody will ever step forward who can maintain the opposite with the slightest plausibility, let alone dogmatically. They could demonstrate it only through pure reason. So they would have to try proving that a highest being cannot exist, and likewise the thinking subject in us as pure intelligence. But where would they get the knowledge that entitled them to judge synthetically in this way about things beyond all possible experience? So we can be quite unconcerned about anyone someday proving the opposite to us. That means we have no need to devise textbook-style proofs either. We can go on adopting those propositions that fit well with the speculative interest of our reason in its empirical use, and that are, besides, the only means of uniting it with the practical interest. Against the opponent (who must not be regarded here as a mere critic) we hold our non liquet ("it is not clear") ready, and it is bound to confuse them. We don't refuse their retort against us, since we always keep in reserve the subjective maxim of reason.

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The opponent necessarily lacks it, and under its protection we can watch all their blows at the air with calm and indifference.

In this way there really is no antithetic of pure reason at all. The only battlefield for it would have to be sought in pure theology and psychology. But that ground bears no fighter in full armor, armed with weapons to be feared. The

opponent can show up only with mockery or bragging, and these can be laughed off as child's play. This is a comforting remark, and it gives reason courage again. For what else could reason rely on if it, the only faculty called to do away with all errors, were itself in disarray, with no hope of peace and quiet possession?

Everything nature itself arranges is good for some purpose. Even poisons serve to overpower other poisons that form in our own bodily fluids, and so they must not be missing from a complete stock of remedies (an apothecary's shop). The objections against the persuasions and self-conceit of our merely speculative reason are themselves set for us by the nature of this reason. So they must have their good purpose and aim, which should not be thrown to the wind. Why has providence set certain objects so high, though they connect with our highest interest?

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We are almost only permitted to come upon them in a perception that is vague, and that we ourselves doubt. Searching glances are provoked by this more than satisfied. Whether it does any good to venture bold claims about such views is open to doubt at the least, and may even do harm. But it is always, and beyond all doubt, useful to give reason, both as inquirer and as examiner, complete freedom, so that it can look after its own interest unhindered. That interest is served just as much by setting limits to its insights as by widening them. And it always suffers when outside hands interfere to steer reason against its natural course toward forced aims.

So let your opponent speak only in terms of reason, and fight them only with the weapons of reason. As for the good cause (the practical interest), put your worries aside, because it never comes into play in a merely speculative dispute. All the dispute reveals is a certain antinomy of reason. Since it rests on reason's nature, it must necessarily be heard and examined. The dispute cultivates reason by viewing its object from two sides, and it corrects reason's judgment by restricting it. The quarrel in all this concerns not the subject itself but the tone. For you still have enough left to speak the language of a firm belief.

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That language is justified before the sharpest reason, even though you have had to give up the language of knowledge.

Suppose we were to ask David Hume, that cool-headed man, truly made for balance in judgment: what moved you, with laboriously brooded scruples, to undermine the persuasion, so comforting and useful to human beings, that their rational insight is enough to claim, and to frame a definite concept of, a highest being? He would answer that it was nothing but the aim of carrying reason further in its self-knowledge. At the same time he felt a measure of resentment over the pressure people try to place on reason, by making a great show of it while stopping it from freely confessing the weaknesses that show up when it examines itself. Now ask Priestley, who is devoted to the principles of the empirical use of reason alone and averse to all transcendent speculation. What motives did he have for tearing down the freedom and immortality of our soul, two such pillars of all religion? (For him the hope of a future life is just the expectation of a miraculous resurrection.) And this from a man who is himself a devout, eager teacher of religion. He could answer nothing other than this: the interest of reason. Reason loses out when people want to put certain objects out of the reach of the laws of material nature, which are the only laws we can know and fix with precision.

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It would seem unfair to decry Priestley, who knows how to unite his paradoxical claim with his religious purpose, and to hurt a well-meaning man because he is lost the moment he has wandered out of natural science. But the same favor has to be granted to Hume, who is no less well-meaning and whose moral character is beyond reproach. Hume can't give up his abstract speculation, since he is right to hold that its object lies entirely beyond natural science's boundaries, in the field of pure ideas.

What should be done about this, especially when the common good seems to be in danger from it? Nothing is more natural, nothing fairer, than the decision you should take. Just let these people go on. If they show talent, if they show profound new research, in short, if they simply display reason, reason always gains. Suppose you use means other than those of free, unforced reason.

Suppose you shout "treason!" and summon the public to the scene as if for a fire, though it has no understanding of such subtle work. Then you make yourselves ridiculous. The question is not what helps or harms the common good here. The only questions are these. How far can reason get in speculation cut off from every interest?

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And can we count on such speculation at all, or would we rather give it up entirely in favor of the practical? So instead of striking out with the sword, watch this dispute calmly from the safe seat of critique. It must turn out tiring for the fighters, entertaining for you, and, since the outcome is sure to be bloodless, useful for your insights. It is quite absurd to expect enlightenment from reason and yet tell it beforehand which side it has to come down on. Besides, reason is already tamed and held within limits by reason itself so well that you needn't summon the guard to set civil resistance against the side whose worrying superior power seems dangerous to you. In this dialectic there is no victory you would have cause to worry about.

Reason also badly needs such a dispute, and it would have been desirable for it to have been fought earlier, with unrestricted public permission. That would have brought a ripe critique that much earlier. When it appeared, all these quarrels would have to drop away of themselves, because the disputants would learn to see the blindness and prejudices that had set them at odds.

There is a certain insincerity in human nature.

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Like everything that comes from nature, it must in the end contain a predisposition to good purposes. This is an inclination to hide one's true convictions and to display certain adopted ones that one considers good and honorable. Certainly through this tendency, both to hide themselves and to put on a show that flatters them, human beings have not only become civilized but gradually, to a certain degree, moralized. No one could see through the rouge of decency, respectability and modesty. So each person found, in the supposedly genuine examples of good that they saw around them, a school of improvement for themselves. But this knack for looking better than one really is, and for voicing

convictions one lacks, serves only provisionally, as it were. It is there to bring human beings out of crudeness and let them at first at least take on the manner of the good that they know. Later, once genuine principles have been developed and have passed into their way of thinking, that falseness has to be fought vigorously, bit by bit. Otherwise it corrupts the heart, and it lets good convictions find no room to grow under the rank weeds of a fine-looking show.

I'm sorry to see the same insincerity, pretense and hypocrisy even in speculative thinking. Here people have far less to stop them from confessing their thoughts openly and frankly, as they fairly should.

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And they have nothing at all to gain by hiding them. For what could be worse for insight than passing on even our bare thoughts to each other in a falsified form, hiding the doubts we feel about our own claims, or giving proofs that don't satisfy even us a look of clear certainty? As long as private vanity alone stirs up these secret schemes, other people's vanity pushes back, with the public's approval. (That is usually how it goes with speculative judgments, which hold no special interest and can't easily reach apodictic certainty.) In the end things arrive where the purest intentions and honesty would have brought them, only much sooner. But suppose the community believes that hair-splitting reasoners are out to shake the very foundations of public welfare. Then it seems not just prudent but allowed, even admirable, to help the good cause with sham arguments. That beats handing its supposed opponents even this small win: getting us to lower our voice to the modest level of a conviction that is only practical, and making us confess that we lack speculative, apodictic certainty. Still, I'd think that nothing in the world goes worse with the aim of defending a good cause than trickery, pretense and fraud.

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That everything should be honest when we weigh reasons in a mere speculation is surely the least anyone can ask. But if we could count on even that little, the dispute of speculative reason over the weighty questions of God, the immortality of the soul and freedom would have been settled long ago, or would be over

very soon. As it is, purity of intention often runs in inverse proportion to the goodness of the cause itself. The good cause perhaps has more sincere and honest opponents than defenders.

So I assume readers who don't want a just cause defended by unjust means. For them the principles of our critique settle it: if we look at what ought to happen rather than at what does happen, strictly speaking there shouldn't be any polemic of pure reason at all. How can two people argue over something when neither can show its reality in any actual experience, or even any possible one? All either of them does is brood over its idea, hoping to squeeze something more than an idea out of it, namely the actuality of the object itself. How do they plan to get out of the quarrel, when neither can make their own side directly understandable and certain, and each can only attack and refute the other's? This is the fate of every claim of pure reason.

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They reach past the conditions that make any experience possible, and outside those conditions no documentary proof of truth turns up anywhere. Yet they still have to use the laws of the understanding, which are meant only for empirical use, and without which we can't take one step in synthetic thinking. So they always leave themselves open to the opponent, and each side can take advantage of the other's exposed weak spots.

We can see the critique of pure reason as the true court for all of pure reason's disputes. It isn't tangled up in those disputes, which deal directly with objects. It was set up to fix and judge the rights of reason in general, according to the principles of reason's original founding.

Without critique, reason is in a kind of state of nature. It can make its claims and demands count, or protect them, only by war. Critique, on the other hand, takes all its decisions from the basic rules of reason's own establishment, and no one can doubt their authority. It brings us the calm of life under law, where we are to carry on our dispute only through a trial. In the first state, what ends the quarrels is a victory, and both sides boast of it. Mostly only an uncertain peace follows, one that the authorities set up. They step in between the parties.

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In the second state, what ends them is a verdict, and since it reaches the source of the quarrels themselves, it has to bring an everlasting peace. The endless quarrels of a merely dogmatic reason also force us, in the end, to look for peace in some critique of that reason itself, and in a legislation based on it. Hobbes says the same about the state of nature: it is a state of injustice and violence, and we must leave it and submit to the constraint of law. Only that constraint limits our freedom so that it can exist alongside everyone else's freedom, and by that very fact alongside the common good.

Part of this freedom is the freedom to put our thoughts and our doubts, the ones we can't settle ourselves, before the public for judgment, without being shouted down as a restless and dangerous citizen. This is already contained in the original right of human reason. Reason accepts no judge except the general reason of all people, where each person has a say. Since every improvement our condition allows has to come from there, this right is sacred and must not be cut back. It's also very unwise to raise an alarm over certain daring claims or arrogant attacks on views that already have the backing of the biggest and best share of the community. That only gives them an importance they shouldn't have.

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Suppose I hear that a man of no ordinary mind has supposedly proved that the human will isn't free, that there's no hope of a life to come, and that God doesn't exist. I'm eager to read his book. I expect his talent to take my insights further. But I know beforehand, with complete certainty, that he won't have achieved any of this. That isn't because I think I already hold unbeatable proofs of these important propositions. It's because transcendental critique showed me everything our pure reason has in stock, and it has left me completely convinced of this: reason is quite inadequate to make positive claims in this field, and it knows just as little, or even less, that would let it claim anything negative about these questions. Where would the so-called freethinker get his knowledge that there is, say, no supreme being? That claim lies beyond the field of possible experience, and therefore beyond the boundaries of all human insight. As for the dogmatic champion who defends the good cause against this enemy,

I wouldn't read him at all. I know in advance that he'll attack the other man's sham arguments only to win a hearing for his own. Besides, an everyday illusion doesn't give as much material for new observations as a strange and cleverly devised one.

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An opponent of religion, on the other hand, who is dogmatic too in his own way, would give my critique welcome work and a reason to correct its principles further. And there would be nothing at all to fear from him.

But shouldn't young people who are entrusted to academic teaching at least be warned against writings like these? Shouldn't they also be kept from early knowledge of such dangerous propositions, until their power of judgment has ripened? Or rather, until the doctrine we want to plant in them has taken root so firmly that it can strongly resist any persuasion to the opposite, whatever its source?

Suppose dogmatic procedure had to stay in place in matters of pure reason. Suppose dealing with opponents had to be properly polemical, that is, such that we'd go into battle and arm ourselves with proofs for the opposite claims. Then nothing would be more advisable for the moment. But in the long run nothing would be emptier or more fruitless than to put the reason of the young under a guardian for a while and shield it from seduction at least that long. Suppose, though, that later on, through curiosity or the fashion of the times, they come across such writings. Will that youthful persuasion still stand up? Take someone who brings only dogmatic weapons to fend off his opponent's attacks. He doesn't know how to bring out the hidden dialectic.

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It lies no less in his own heart than in his opponent's. He sees sham arguments with the pull of novelty line up against sham arguments that no longer have it, and that instead stir up the suspicion that young people's gullibility was abused. He thinks the best way to show that he's outgrown the discipline of childhood is to brush aside those well-meant warnings. Dogmatic by habit, he drinks in great gulps of the poison that dogmatically ruins his principles.

In university teaching we have to do exactly the reverse of what's advised here, though only if students have first been thoroughly taught the critique of pure reason. To put its principles to work as early as possible, and to show that they hold up even against the greatest dialectical illusion, it's absolutely necessary to aim the attacks that frighten the dogmatist so much at his own reason. That reason is still weak, but critique has enlightened it. We have to let him try testing the opponent's groundless claims, piece by piece, against those principles. It can't be hard for him to dissolve them into plain smoke. In this way he feels early on how strong he is, strong enough to make himself fully safe against such harmful deceptions, which in the end must lose all their illusion for him.
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Of course, the very same blows that knock down the enemy's building must be just as ruinous to his own speculative structure, if he ever thought of putting one up. But this doesn't trouble him in the least. He has no need of living in it. He still has a view ahead into the practical field, where he can hope with good reason for firmer ground on which to build his own sound and wholesome system.

So there is no real polemic in the field of pure reason. Both sides are fencing with the air and grappling with their own shadows. They have gone beyond nature, and there is nothing there for their dogmatic holds to grab and keep. They can fight all they like. Like the heroes of Valhalla, the shadows they hack in two join up again in an instant, so that the fun of bloodless fighting can start over.

Nor does pure reason have any acceptable skeptical use, which we might call the principle of staying neutral in all its disputes. To set reason against itself, to hand it weapons on both sides, and then to watch its fiercest fight with calm and mockery, doesn't look good from a dogmatic point of view. It has the air of a spiteful, gloating temper. Still, look at the unbeatable blindness and bragging of those reasoners.
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They refuse to be moderated by any critique. In that case there really is no other course than to set against the bragging on one side another that stands on exactly the same rights. Then the resistance of an enemy will at least stop reason short, make it doubt its pretensions a little, and get it to listen to critique. But to leave things entirely at these doubts is a wholly futile plan. The same goes for urging people to be convinced of their ignorance, and to confess it, as something more than a cure for dogmatic self-conceit, namely as the way to end reason's conflict with itself. It can't possibly bring reason to rest. At most it is a means of waking reason from its sweet dogmatic dream, so that it examines its condition more carefully. This skeptical manner of getting out of an irritating business of reason seems to be the short road to lasting philosophical calm. At least it is the highway that people like to take when they think a mocking contempt for every inquiry of this kind gives them philosophical standing. So I find it necessary to show this way of thinking in its own proper light.

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On the Impossibility of a Skeptical Satisfaction for a Pure Reason at Odds with Itself

Awareness of my ignorance (unless that ignorance is also recognized as necessary) is not what ends my inquiries, though it may seem it should. It is rather the real cause that stirs them up. All ignorance is either ignorance of things, or ignorance of the determination and boundaries of my cognition. If the ignorance is accidental, it has to drive me to look into the things (the objects) dogmatically in the first case, and into the boundaries of my possible cognition critically in the second. Whether my ignorance is absolutely necessary, and so lets me off all further inquiry, can't be decided empirically, by observing. Only a critical test can decide it, by probing the first sources of our cognition. So the setting of our reason's boundary can happen only on grounds a priori. Its restriction, on the other hand, is a cognition, though only an indefinite one, of an ignorance that can never be fully removed. That can also be recognized a posteriori, from what is always still left to know in spite of all our knowing.

The first kind of knowledge of one's ignorance, which only a critique of reason itself makes possible, is therefore science, while the second is nothing but perception.

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About that, no one can say how far an inference from it might reach. Suppose I picture the earth's surface as a plate, as the illusion of the senses suggests. Then I can't know how far it extends. But experience does teach me this: wherever I get to, I always see space around me that I could go on into. So I do see limits to the earth-knowledge I actually have each time, but not the boundaries of any possible description of the earth. Now suppose I've got as far as knowing that the earth is a ball and that its surface is spherical. Then from a small piece of it, say the length of one degree, I can work out the diameter, and through the diameter the complete boundary of the earth, that is, its surface. I can know this definitely and by principles a priori. And although I'm ignorant about the objects this surface may hold, I'm not ignorant about the extent that holds them, about its size and limits.

Everything that could possibly be an object of our cognition seems to us a flat surface with an apparent horizon. That horizon is whatever takes in the whole extent of the surface, and we have called it the concept of reason of unconditioned totality. We can't reach it empirically. All the attempts to fix it a priori by some principle have failed.

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Yet every question our pure reason asks is about something that may lie beyond this horizon, or at most right on its boundary line.

One of these geographers of human reason was the famous David Hume. He thought he had dealt with those questions well enough by sending them all outside the horizon, though he could not fix where the horizon was. He dwelt mainly on the principle of causality. About it he saw, quite rightly, that its truth rests on no insight, meaning no cognition a priori. The same goes for the notion of an efficient cause as such: not even its objective validity rests on insight. So the necessity of this law has no part at all in giving it its standing. What gives it its whole standing is only that it can be used everywhere as experi-

ence goes on, together with a subjective necessity that arises from this, which he calls habit. Our reason can't use this principle beyond all experience. From that inability he concluded that all the pretensions of reason to go beyond the empirical in general are void.

A procedure like this, which puts the facts of reason to the test and, where it finds fault, blames them, can be called the censure of reason. Beyond question, a censure like this must lead to doubts about every transcendent use of the principles.

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But this is only the second step, and it is far from finishing the job. In dealing with pure reason, the first step, the one that characterizes its childhood, is dogmatic. The second step, named above, is skeptical. It shows the carefulness of a power of judgment that experience has made wiser. A third step is still needed, and it belongs only to a mature, adult power of judgment, one that rests on firm maxims proven in their universality. That step is to assess reason itself rather than the facts it produces: its whole capacity, and how well suited it is to pure cognitions a priori. That isn't censure but critique of reason. It shows not just limits but the definite boundaries of reason. It shows ignorance not just in this or that area, but about every possible question of a certain type. And this isn't merely suspected but proved from principles. So skepticism gives human reason a place to rest. There it can reflect on its dogmatic wandering and draw a sketch of the region where it stands, so that it can pick its path with more confidence from then on. But it is not a place to live permanently. A permanent home exists only where certainty is complete, whether it is certainty about the objects themselves or about the boundaries.

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All our cognition of objects lies enclosed inside those boundaries.

Our reason is not a plane that spreads out without any determinable end, one whose limits we know only in a general way. We should compare it instead to a sphere. We can work out its radius from the bend of an arc on its surface (which is the nature of synthetic propositions a priori). From the radius we can also give, with certainty, its content and its boundary. Beyond this sphere

(which is the field of experience) reason has no object at all. Even questions about such alleged objects touch only subjective principles. These are principles for fully determining the relations that can occur among the concepts of the understanding inside this sphere.

We really do possess synthetic cognition a priori. Those principles of the understanding that anticipate experience prove it. Now suppose someone can't make its possibility understandable to himself. At first he may doubt whether we really have such cognition a priori. But he can't yet declare it impossible through the mere forces of the understanding, or declare worthless every step reason takes by that guideline. All he can say is this: if we saw where these cognitions come from and whether they're genuine, we could fix the extent and the boundaries of our reason.

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Until that is done, all the claims of reason are ventured blindly. In that case a thoroughgoing doubt about all dogmatic philosophy that goes its way without a critique of reason itself would be well founded. Even so, reason could not be denied such progress altogether, if better groundwork prepared and secured it. For one thing, all the concepts, indeed all the questions, that pure reason puts to us do not lie in experience. They lie in reason itself. So they must be capable of being solved, and of being understood as either valid or void. Nor may we dismiss these tasks by claiming we're not up to them, as if the answer really did lie in how things are, or refuse to investigate any further. Reason alone, in its own womb, produced these very ideas. So it is bound to give an account of their validity, or of their dialectical illusion.

All skeptical polemic is really aimed at one target, the dogmatist. He goes solemnly on his way without ever doubting the objective principles he began with, which means without critique. The skeptic only wants to upset his plans and bring him to self-knowledge. Taken by itself, such polemic decides nothing at all about what we are able to know and what we aren't.

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Reason's failed dogmatic attempts are all facts, and it's always useful to put them to censure. But censure can decide nothing about what reason may expect. It can't say whether reason may hope for better success in its future efforts, or lay claim to it. That is why censure alone can never finish the dispute about what human reason is entitled to.

Hume may well be the cleverest of all skeptics. Beyond dispute he is the foremost, in the influence that the skeptical procedure can have in stirring up a thorough examination of reason. So it is worth the effort to lay out how his reasoning ran, and where such a perceptive and valuable man went astray, since his errors began on the trail of truth. I'll do this only as far as my purpose requires.

Perhaps Hume sensed, without ever working it out fully, that certain judgments take us past the concept we have of the object. I have called this kind of judgment synthetic. There is no difficulty about how I can go beyond the concept I have so far by means of experience. Experience is itself a synthesis of perceptions of this sort. It takes the concept I have by means of one perception and enlarges it with other perceptions that come in. But we also believe we can go out beyond our concept a priori and widen our cognition that way.

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We try this in one of two ways: through the pure understanding, concerning whatever may at least become an object in experience, or through pure reason, which covers features of things, and even the existence of objects, that experience can never present. Our skeptic didn't tell these two kinds of judgment apart, though he should have. He simply held it impossible for our understanding (together with reason) to enlarge its concepts out of itself and, so to speak, to give birth to itself, without being made pregnant by experience. So he took all its supposed principles a priori to be imagined. What he found was that they amount to nothing more than a habit that grows out of experience and its laws. They are therefore merely empirical rules, that is, rules accidental in themselves, and we credit them with a supposed necessity and universality. To back up this odd claim, he appealed to the generally accepted principle about the relation of cause to effect. No power of the understanding can lead us from a thing's concept to the existence of something else, something that would be given by that

concept universally and necessarily. From that he thought he could infer that apart from experience we have nothing to widen our concept, nothing that would justify a judgment that expands itself a priori like this. Sunlight shines on wax.

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That it melts the wax while it hardens clay, he said, no understanding could guess from the concepts we had of these things beforehand, let alone infer according to a law. Only experience could teach us such a law. But in the transcendental logic we saw otherwise. We can never go directly beyond what is contained in the concept we are given. Yet we can know the law of connection with other things completely a priori, in relation to a third thing, namely possible experience. So the knowledge is still a priori. When wax that was solid melts, then, I can know a priori that something must have come before (the sun's warmth, say), and that the melting followed it according to a constant law. Still, without experience I couldn't work out a definite cause from the effect, or a definite effect from the cause, a priori and without being taught by experience. So he wrongly inferred, from the accidental character of our determination according to the law, that the law itself is accidental. And he confused two things. One is stepping out of a thing's concept toward possible experience. That happens a priori, and it constitutes the concept's objective reality. The other is the synthesis of the objects that real experience gives, and that is of course always empirical. In this way he turned a principle of affinity, which has its seat in the understanding and states a necessary connection, into a rule of association.

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It is found only in the reproductive imagination, and it can present only accidental combinations, not objective ones at all.

The skeptical errors of this man, who was otherwise extremely sharp, came mainly from a shortcoming that he shared with all dogmatists. He did not survey, systematically, all the kinds of synthesis of the understanding a priori. If he had, he would have found (to leave the rest aside here) that the principle of persistence, for one, anticipates experience exactly as the principle of causality

does. That would have let him mark out definite boundaries both for the understanding as it expands itself a priori and for pure reason. As it was, he only restricts our understanding without bounding it. He produces a general distrust, but no definite knowledge of the ignorance we cannot escape. He puts some principles of the understanding under censure, without weighing the understanding itself, in its whole capacity, on the testing scales of critique. And in denying it what it really cannot do, he goes further and disputes its whole capacity to extend itself a priori, even though he never put that whole capacity to the test. So the same thing happens to him that always brings skepticism down: he himself is doubted. His objections rest only on facts, which are accidental.

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They do not rest on principles that could make giving up the right to dogmatic claims a matter of necessity.

He also fails to tell apart what the understanding can rightly claim from the dialectical pretensions of reason, though his attacks are mostly aimed at the latter. So reason feels that the room for its expansion has not been shut off. Its very own momentum isn't disturbed at all, only held back. It may be nipped at now and then, but it can never be argued out of its attempts completely. For people arm themselves against attacks, and dig in their heels all the harder to get their demands through. A complete survey of one's whole capacity is different. From it comes the conviction that one's possession is certain though small, and that higher claims are vanity. That ends all quarrel, and moves one to be peacefully content with a limited property that nobody disputes.

Skeptical attacks are not just dangerous to the uncritical dogmatist. They are ruinous to him. He hasn't measured the sphere of his understanding, and so hasn't fixed by principles the boundaries of his possible cognition. He doesn't know beforehand how much he can do, and thinks he'll find out by trying. Suppose he is caught out on a single claim.

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He can't justify it, and he can't develop its illusion from principles either. Then suspicion falls on all of his claims, however persuasive they may otherwise be.

And so the skeptic is the taskmaster who drives the dogmatic reasoner toward a sound critique of the understanding and of reason itself. Once the dogmatist has got that far, he has no further challenge to fear. For he then tells his own possession apart from what lies entirely outside it. He makes no claims on that, and so can't be drawn into disputes about it. So the skeptical procedure, though it does not satisfy us about the questions of reason in itself, is still a useful preliminary exercise. It wakes reason's caution, and it points to thorough means by which reason can secure its rightful possessions.

First Chapter Section Three Pure Reason's Discipline with Regard to Hypotheses

At long last the critique of our reason has taught us this much: when we use it purely and speculatively, we really can know nothing whatever. So shouldn't reason now have all the wider a field open to hypotheses? After all, we're at least allowed to invent and to hold opinions, even if we can't assert anything.

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Where imagination isn't to run wild but to invent under the strict supervision of reason, something must always come first that is completely certain, neither invented nor mere opinion. That something is the possibility of the object itself. Only then is it allowed to fall back on opinion about the object's actuality. But to avoid being groundless, that opinion has to be connected, as an explanatory ground, with what is actually given and therefore certain. It is then called a hypothesis.

We can't form the faintest concept of how dynamic connection could be possible a priori. And the category of the pure understanding isn't there to invent such things. It serves only to understand them where they turn up in experience. So we can't originally think up even one object with a new quality, one that experience can't show us, in line with these categories, and then lay it down as the basis of an allowed hypothesis. That would mean giving reason empty fantasies in place of concepts of things. In the same way, we may not think up any new original forces. One example would be an understanding able to intuit its object without senses. Another would be a force of attraction with-

out any contact. A third would be a new kind of substance, say one that would be present in space without impenetrability. It follows that we may not think up a community of substances either.

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It must not differ from any that experience offers: no presence except in space, no duration except in time. To sum up: the only thing our reason can do is take what makes experience possible and treat it as what makes things possible. It can't, quite independently of those conditions, create some of its own, so to speak. Concepts like that, though free of contradiction, would still have no object.

As I said, concepts of reason are mere ideas. They have no object in any experience. Still, that doesn't mean they stand for objects that are made up and, at the same time, taken to be possible. They are thought only problematically. Their purpose is to serve (as heuristic fictions) as the basis for regulative principles that guide how the understanding is used systematically within experience. Take that away and they are mere thought-things. Their possibility can't be proved, so they can't be used as the basis of a hypothesis that explains actual appearances. It's perfectly allowed to think of the soul as simple. Guided by this idea, we can adopt a complete and necessary unity of all the mind's forces as our principle for judging its inner appearances, though we can't see that unity concretely. But to accept the soul as a simple substance, which is a transcendent concept, is another matter.

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That would be a proposition that can't be proved, as with many physical hypotheses, and in addition is entirely arbitrary and risked blindly. For the simple can't turn up in any experience at all. And if by substance here we mean the persisting object of sensible intuition, we can't see at all how a simple appearance could be possible. Merely intelligible beings, or merely intelligible properties of the things of the world of sense, can't be adopted even as an opinion on any well-grounded authority of reason. We have no concept of whether they are possible or impossible. So we can't flatly deny them, dogmatically, on the strength of some supposedly better insight either.

To explain given appearances, we can bring in only those things and grounds of explanation that have been connected with the given appearances according to already known laws of appearances. A transcendental hypothesis, in which a mere idea of reason was used to explain things in nature, would therefore explain nothing. What we don't sufficiently understand from known empirical principles would be explained by something we understand nothing about at all. Such a hypothesis would really just give reason some satisfaction. It would do nothing to help the understanding in dealing with its objects. Order and purposiveness in nature, in turn, have to be explained from natural grounds and by natural laws.

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Here even the wildest hypothesis is easier to put up with, provided it is physical, than a hyperphysical one, which would mean appealing to a divine author assumed for the occasion. For that is the principle of lazy reason (ignava ratio): to walk past, in one stroke, every cause whose objective reality we could still learn, at least as something possible, through more experience, just so that we can settle down with a bare idea that suits reason very well. As for the absolute totality of the ground of explanation in the series of such grounds, it can't be an obstacle for the objects of the world. They are nothing but appearances, so we can never hope to see the synthesis of a series of conditions for them completed.

Transcendental hypotheses for the speculative use of reason can't be allowed at all. Neither can a freedom to make up for a lack of physical grounds of explanation by turning, when need be, to hyperphysical ones. One reason is that this gets reason no further. It cuts off the whole progress of its use. The other is that this license would in the end cost reason all the fruits of working its own proper soil, namely experience. For whenever explaining nature gets hard for us here or there, we would always have a transcendent ground of explanation at hand to excuse us from that investigation.

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Our inquiry then ends not in insight but in the total incomprehensibility of some principle, one that was designed beforehand so that it had to include the concept of what is absolutely first.

The second requirement for a hypothesis to deserve acceptance is that it be sufficient to determine a priori the consequences that are given. If we're forced to call in helper hypotheses for this purpose, they raise the suspicion of mere invention. Each of them needs, in itself, the same justification that the underlying thought needed, and so none can serve as a reliable witness. Suppose we assume an unlimitedly perfect cause. Then we are never short of grounds to account for the purposiveness, order and size we find in the world. But that cause still needs new hypotheses to rescue it from the deviations and evils that show up, at least by our concepts, as objections to it. Suppose the soul has been laid down as a simple thing that stands on its own, at the base of its appearances. And suppose this is challenged by difficulties in its phenomena, which resemble the changes of a material (growth and decline). Then new hypotheses must be called in to help. They have a certain look of plausibility, but no warrant at all.

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The only warrant they have is the one that the opinion taken as the main ground gives them, and they're supposed to speak up for that very opinion.

Take the claims of reason used here as examples: the incorporeal unity of the soul and the existence of a highest being. Suppose they are meant to be taken not as hypotheses but as dogmas that have been proved a priori. Then they don't come up here at all. In that case we have to make sure the proof is as apodictically certain as a demonstration. To want to make the actuality of such ideas merely probable is an absurd undertaking, as if someone planned to prove a proposition of geometry only as probable. When reason is cut off from all experience, it can know things only a priori, and only as necessary, or it can't know them at all. So its judgment is never opinion. It is either withholding of all judgment or apodictic certainty. Opinions, and judgments that are merely probable, about what pertains to things have a place only in two roles: as grounds that explain something actually given, or as consequences, by empiri-

cal laws, of something actual lying at the base. So they can occur only within the series of objects of experience. Outside this field, to hold an opinion is as good as playing with thoughts. The one exception would be if someone held, as an opinion only, that an uncertain way of judging might perhaps lead him to the truth.

[B 804]

When the questions are purely speculative questions of pure reason, hypotheses can't serve as the basis for any proposition. Still, they are perfectly fine for defending such propositions where needed. That means using them polemically, not dogmatically. By defense I don't mean adding to the proofs of one's own claim. I mean only foiling the sham insights of the opponent, which are meant to damage our asserted proposition. All synthetic propositions that come from pure reason share one peculiarity. Whoever asserts that certain ideas are real never knows enough to make that claim certain. But on the other side, the opponent can know just as little in order to assert the opposite. In speculative cognition this equal lot of human reason favors neither of them. And that is the real battlefield of feuds that never get settled. We'll see later, however, that in practical use reason does have a right to assume things that it could never presuppose in mere speculation without adequate proofs. Every such presupposition damages the perfection of speculation, and practical interest doesn't care about that at all. There reason is in possession. It doesn't have to prove that its possession is lawful, and in fact it couldn't supply the proof anyway.

[B 805]

So the opponent is the one who has to prove. But the opponent knows just as little about the doubted object as the first person, who asserts that it is real. He knows too little to show that it doesn't exist. So the advantage here goes to whoever asserts something as a presupposition that practice requires (melior est conditio possidentis). As a kind of self-defense, he is free to use hypotheses, the same tools his opponent uses against his good cause. They're not meant to strengthen the proof of his case. Their only job is to show that the opponent knows so little about what the quarrel is over that he can't boast of any gain in speculative insight over us.

So in the field of pure reason hypotheses are allowed only as weapons of war. They're not for founding a right on, but only for defending one. We have to look for the opponent here always in ourselves. Speculative reason in its transcendental use is dialectical in itself. The objections we might have to fear lie within us. We have to dig them out, like old claims that never expire, in order to found an everlasting peace on their annulment. Outer calm is only apparent. The seed of these challenges is planted in the nature of human reason, and it has to be rooted out.

[B 806]

But how can we root it out unless we give it freedom, even food, to shoot up its weeds so that it shows itself, and then destroy it root and all? So think up objections yourselves, ones no opponent has yet hit on, and even lend him weapons, or give him the most favorable ground he could wish for. There is nothing to fear in this, but there is something to hope for: that you'll win a possession that will never again be challenged, for all time to come.

Your full armor now includes the hypotheses of pure reason too. They are only lead weapons, since no law of experience has tempered them into steel. Still, they are always as strong as the ones any opponent may use against you. Suppose you run into a difficulty against the nature of the soul, which you have assumed (on some other, non-speculative ground) to be immaterial and not subject to bodily change. Experience seems to prove that the raising up and the breakdown of our mental forces are just different modifications of our organs. You can weaken that proof if you suppose our body to be only the fundamental appearance. In our present state (in life) the whole capacity of sensibility, and with it all thinking, relates to it as its condition. Leaving the body behind would end this sensory use of your cognitive power and begin its intellectual use.

[B 807]

So the body would not be the cause of thinking but only a restricting condition of it. We'd therefore have to regard the body as something that promotes the life of the senses and the animal side of us, and even more as something that holds back the pure, spiritual life. The sensory life's dependence on the body's

condition would prove nothing about whether our whole life depends on the state of our organs. You can go further still, and even find new doubts that haven't been raised or haven't been pushed far enough.

Procreation is a matter of chance. In human beings, as in creatures without reason, it depends on opportunity. It also often depends on means of support, on the government and its moods and whims, and often even on vice. This is a big difficulty for the opinion that a creature goes on existing for eternities, when its life first began under such trivial circumstances, circumstances left entirely to our freedom. As for the species as a whole continuing here on earth, this difficulty matters little, since chance in single cases is still ruled by a law in the whole. But to expect such a mighty effect from such trivial causes for each individual does seem questionable. Against this you can bring forward a transcendental hypothesis. Its claim is that all life is really only intelligible.

[B 808]

Such life is not subject to changes in time at all, and it neither began with birth nor ends with death. The hypothesis adds that this life is just an appearance, in other words a sensory representation of the pure spiritual life, and that the whole world of sense is a mere picture that floats before our present way of knowing and, like a dream, has no objective reality in itself. It adds that, were we to intuit things, and ourselves, as they really are, we would find ourselves in a world made up of spiritual natures, and that our one true community with that world neither began with birth nor will stop with bodily death (these being mere appearances), and so on.

We know nothing at all of what we put forward here, as hypotheses, against the attack, and we don't seriously assert any of it. It isn't even an idea of reason. It is only a concept thought up for defense. Even so, we are acting entirely in line with reason. The opponent thinks he has used up every possibility. He falsely passes off the lack of their empirical conditions as proof that what we believe is wholly impossible. All we do is show him this: he can no more reach all possible things in themselves with laws of experience alone than we can obtain anything for our reason, outside experience, on firm ground.

[B 809]

If someone turns such hypothetical antidotes against the arrogance of an opponent who denies things boldly, nobody should think he is adopting them as opinions he truly holds. He drops them as soon as he has dealt with the opponent's dogmatic self-conceit. It can look modest and restrained when someone just declines and says no to other people's claims. But once he wants his objections to pass as proofs of the contrary, his pretension is just as proud and conceited as if he had taken the affirmative side and its assertion.

This shows that when reason is used speculatively, hypotheses don't count as valid opinions in their own right. They are valid only relative to opposing transcendent presumptions. It is every bit as transcendent to carry the principles of possible experience over to the possibility of things in general as it is to claim objective reality for concepts whose objects can only be found beyond the boundary of any possible experience. What pure reason judges assertorically has to be necessary (as does everything reason cognizes), or it is nothing. So reason in fact holds no opinions at all. The hypotheses we have in mind are only problematic judgments. They at least cannot be refuted, though of course nothing can prove them.

[B 810]

So they aren't private opinions. Still, we can't well do without them, even for our own inner reassurance, against scruples that stir. But we have to keep them in that character. We must be careful that they don't show up as vouched for in themselves, or as having some absolute validity, and so drown reason in inventions and deceptions.

First Chapter Section Four Pure Reason's Discipline with Regard to Its Proofs

Of all the proofs we give for synthetic cognition a priori, those for transcendental, synthetic propositions are special. When reason proves one of these through its concepts, it isn't allowed to go straight at the object. First it has to show that the concepts are objectively valid, and that they can be put together a priori. This is not just a rule of caution we happen to need. It goes to the nature of proofs themselves, and to whether they are possible. If I'm to go a priori beyond my concept of an object, I can't do it without a special guide that lies

outside the concept. In mathematics, the guide is intuition a priori, which steers my synthesis, and there every inference can be drawn straight from pure intuition.

[B 811]

In transcendental cognition, as long as it deals only with concepts of the understanding, this guideline is possible experience. The proof doesn't show that a given concept (of what happens, say) leads straight to another (that of a cause). A crossing like that would be a leap that couldn't be defended at all. What it shows instead is that without such a connection there could be no experience at all, and so no object of experience. So the proof had to show at the same time how we can reach, by synthesis and a priori, some cognition of things that their concept didn't contain. Without this attention, proofs run like water that has broken its banks. They go wild, straight across country, to wherever the slope of hidden association happens to lead them. The illusion of conviction that rests on subjective causes of association, and is taken for insight into a natural affinity, can't hold its own against the misgiving that such risky steps rightly ought to raise. That is also why every attempt to prove the principle of sufficient reason has failed, as the experts all admit. Before transcendental critique appeared, people could not abandon this principle. They would sooner fall back stubbornly on common sense than attempt new dogmatic proofs.

[B 812]

(That refuge always shows that the cause of reason is desperate.)

Now suppose the proposition we want to prove is a claim of pure reason, and that I'm trying to get past my concepts of experience by using nothing but ideas. Then the proposition would need, all the more, to contain a justification for such a synthetic step, if the step is possible at all. That justification would be a necessary condition for the proposition to prove anything. There is a supposed proof, from the unity of apperception, that our thinking substance is simple by nature. It may look as plausible as you like. Still, an unavoidable misgiving stands against it. Absolute simplicity is not a concept that can be related directly to a perception. As an idea it can only be inferred. So it's impossible to see how bare consciousness could carry me across to awareness and knowledge

of a thing that can hold thinking and nothing else. True, that consciousness is present in all thinking, or at least can be, and so far it is a simple representation. For suppose I picture the force of my body in motion. So far as that goes, the body counts for me as an absolute unity, and the representation I have of it is simple. So I can also express that representation through the motion of a point. The body's volume plays no part here. Without any loss of force it can be made as small as I like.

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So it can also be thought of as sitting in one point. Even so, I would not infer that the body may be thought of as a simple substance, merely because its representation abstracts from all size of spatial content and so is simple, in a case where nothing is given to me but a body's moving force. Here I find a paralogism. It is this: the simple in abstraction and the simple in the object are two quite different things. In the first sense the I contains no manifold at all. In the second sense, where it means the soul itself, it can be a very complex concept, since it contains and designates a great deal under itself. But to sense such a paralogism ahead of time (without a preliminary suspicion like that, we would never grow suspicious of the proof), we absolutely need a standing criterion at hand for the possibility of synthetic propositions that are supposed to prove more than experience can give. The criterion is this: the proof must not go straight to the predicate that is wanted. It must rely only on a principle that makes it possible to extend the concept we are given, a priori, out to ideas, and to make those ideas real. Suppose we always took this care. Suppose we first asked ourselves, wisely, before trying a proof, how and on what ground of hope we could expect such an extension from pure reason. And suppose we asked where, in a case like that, we would get these insights from.

[B 814]

They can't be developed out of concepts, and they can't be anticipated in relation to possible experience either. Then we could spare ourselves a lot of hard but fruitless work. We would ask nothing of reason that plainly goes beyond its capacity. Or rather, we would put reason under the discipline of abstinence, since in its fits of speculative craving to expand it doesn't like to be restricted.

The first rule, then, is this: don't attempt any transcendental proofs without first thinking it over, and justifying to yourself, where you mean to get the principles you plan to build them on, and by what right you can expect the inferences to succeed. If they are principles of the understanding (causality, say), it is pointless to use them to arrive at ideas of pure reason. They apply only to objects of possible experience. If they're to be principles from pure reason, all the effort is again pointless. Reason does have such principles. Taken as objective principles, though, they are all dialectical. At most they can be valid as regulative principles of the systematically connected use of experience. If proofs of this kind are already on the table, set against their deceptive conviction the non liquet ("it is not clear") that your mature power of judgment pronounces.
[B 815]

You may not yet see through their deception. Still, you have every right to demand the deduction of the principles they use. If those principles are supposed to spring from mere reason, that deduction can never be supplied to you. So you needn't even trouble yourselves with unraveling and refuting every groundless illusion. You can dismiss, in whole heaps at once, all that dialectic with its endless supply of tricks, before the tribunal of a critical reason that insists on laws.

Transcendental proofs have a second peculiarity: for any transcendental proposition, only one proof can be found. Suppose my inference doesn't start from concepts at all but from the intuition that matches a concept. The intuition may be pure, as in mathematics, or empirical, as in natural science. Then the intuition I start from gives me varied material for synthetic propositions. I can connect that material in several ways, and because I'm free to start from more than one point, I can arrive at the same proposition by different paths.

Every transcendental proposition, though, starts from a single concept and says what the synthetic condition is for an object to be possible under that concept. So the ground of proof can be only one. There is nothing else besides this concept.
[B 816]

Nothing else could determine the object. So the proof can contain nothing more than the determination of an object in general by this concept, which is itself only one. In the transcendental analytic, for example, we had the principle that whatever happens has a cause. It was drawn from one single condition for a concept of what happens at all to be objectively possible: an event could not be determined in time, and so could not belong to experience, unless it stood under a dynamical rule of this sort. This is, in fact, the only ground of proof that is possible. Only because an object is determined for the concept through the law of causality does the event we represent have objective validity, that is, truth. People have tried other proofs of this principle too, for example from contingency. But look at contingency closely and the only sign of it we can find is happening, which is existence preceded by the object's non-existence. So we always come back to the same ground of proof. To prove the proposition "everything that thinks is simple," we don't stop at the manifold in thinking. We hold only to the concept of the I, since that is simple and all thinking refers back to it. The same holds for the transcendental proof of God's existence.
[B 817]
It rests solely on the fact that the concept of the most real being and the concept of the necessary being can be swapped for each other, and it can't be looked for anywhere else.
This warning remark shrinks the critique of the claims of reason down to a very small job. Where reason does its work through mere concepts, only one proof is possible, if any is possible at all. So when you see a dogmatist step forward with ten proofs, you can safely believe he has none. If he had a single proof that was apodictic (and in pure reason it has to be), what would he want the others for? His aim is the same as that of the lawyer who pleads before a high court: one argument is for this judge, another for that one. His plan is to play on the weakness of his judges, who don't look into the case deeply. They want the business over with fast, so they grab whatever happens to catch their eye first and rule on that.

The third special rule of pure reason, when it is disciplined with regard to transcendental proofs, is this: its proofs must never be apagogic. They must always be ostensive. In every sort of cognition, the direct (ostensive) proof is the kind that gives us conviction that something is true together with insight into where that truth comes from. The apagogic proof, on the other hand, can produce certainty, but it can't produce comprehensibility of the truth in its connection with the grounds of its possibility.

[B 818]

So the latter are more of an emergency help than a procedure that satisfies all the aims of reason. Still, they have one advantage over direct proofs in clearness of evidence. A contradiction always brings more clarity to the representation than the best connection does, and so comes closer to the intuitive quality of a demonstration.

The real reason apagogic proofs are used in various sciences is probably this. Sometimes the grounds that a given cognition is supposed to be derived from are too varied or too deeply buried. Then people try to get at them through the consequences. Now the modus ponens, which concludes that a cognition is true because its consequences are true, would be allowed only if all the possible consequences of it are true. Then only one ground is possible for them, and that one is therefore the true one. But this procedure is not workable, because it's beyond our powers to see all the possible consequences of any assumed proposition. Still, people do use this kind of inference, though with a certain indulgence, when the aim is to prove something merely as a hypothesis. They accept an inference by analogy: suppose every consequence anyone has tried agrees nicely with an assumed ground. Then all the remaining possible consequences will agree with it as well.

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For that reason no hypothesis can ever be turned into demonstrated truth by this route. The modus tollens, among the inferences of reason that run from consequences back to grounds, proves things with complete strictness and also with great ease. If a proposition yields even one false consequence, that proposition is false. In an ostensive proof we would have to go through the whole

series of grounds that could bring us to a cognition's truth by fully seeing how it is possible. Instead, we need only find a single one of the consequences that flow from its opposite to be false. Then the opposite is false, and the cognition we were supposed to prove is therefore true.

The apagogic kind of proof is allowed only in sciences where it's impossible to slip what is subjective in our representations in place of what is objective, that is, cognition of what belongs to the object. Where the subjective does rule, it must often happen that the opposite of a given proposition contradicts only the subjective conditions of thinking and not the object. Or it can happen that the two propositions contradict each other only under a subjective condition, one wrongly taken to be objective. The condition is false, so both can be false, and then the falsity of one tells us nothing about the truth of the other.

[B 820]

In mathematics this subreption cannot happen, which is why these proofs have their proper home there. In natural science everything rests on empirical intuitions. So that sneaking-in can mostly be prevented there by many compared observations. But even there this kind of proof is mostly of little importance. The transcendental attempts of pure reason, however, are all carried out within the proper medium of dialectical illusion. That is, they are carried out within the subjective, which offers itself to reason in its premises as objective, or even forces itself on it. Here, as far as synthetic propositions go, it can't be allowed at all to justify one's claims by refuting the opposite. For either this refutation is nothing other than showing that the opposing view conflicts with the subjective conditions under which our reason can grasp things. That does nothing to throw out the thing itself. (For example, an unconditioned necessity in a being's existence is something we simply cannot grasp. For that reason, subjectively, it rightly stands in the way of every speculative proof of a necessary supreme being. But it wrongly stands in the way of the possibility, in itself, of such a primal being.) Or both parties, the asserting and the denying, are deceived by transcendental illusion and lay an impossible concept of the object at the base.

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Then the rule applies: non entis nulla sunt praedicata. That is, whatever one asserted of the object, whether affirming or denying, is wrong in both cases, and one can't reach cognition of the truth apagogically by refuting the opposite. For example, suppose it is assumed that the world of sense is given in itself in its totality. Then it's wrong to say it must be either infinite in space or finite and bounded, since each is false. For appearances (being mere representations) that would still be given in themselves (as objects) are an impossibility. And the infinity of this imagined whole would indeed be unconditioned. But, since everything in appearances is conditioned, it would contradict the unconditioned determination of magnitude that is presupposed in the concept.

The apagogic kind of proof is also the real deception by which admirers of the thoroughness of our dogmatic reasoners have always been kept in suspense. It is like a champion who tries to establish the honor and undisputed right of the side he has chosen by offering to fight anyone who cares to doubt it. Yet such bragging settles nothing about the matter itself. It decides only how strong the opponents are relative to each other, and even that only in favor of whoever goes on the attack.

[B 822]

The spectators see that each one wins in his turn and loses in his turn too, and this often leads them to become skeptical about what the dispute is over in the first place. But they have no reason to. It's enough to call out to them: non defensoribus istis tempus eget (the time doesn't need defenders like these). Everyone must argue his case by a proof of right, one built on a transcendental deduction of the grounds of proof. That means going directly, so that we can see what his claims of reason have to say for themselves. If his opponent relies on subjective grounds, it's certainly easy to refute him. But the dogmatist gains nothing, since he usually clings to subjective causes of judgment too and can be cornered the same way. But if both parties proceed only directly, one of two things will happen. Either they'll notice on their own how hard, indeed impossible, it is to find a title for their claims, and end up able to appeal only to long possession. Or else critique will easily expose the dogmatic illusion and make

pure reason give up its overstretched pretensions in speculative use. Reason will then pull back inside the boundaries of its own ground, which is practical principles.

[B 823]

Transcendental Doctrine of Method Second Chapter Pure Reason's Canon

It is humbling for human reason that in its pure use it accomplishes nothing, and even needs a discipline to hold its excesses in check and prevent the deceptions that come from them. On the other hand, it lifts reason up again and gives it confidence in itself that it can and must exercise this discipline itself, without allowing any other censure over it. It is also uplifting that the boundaries reason is forced to set for its speculative use at the same time restrict the sophistical pretensions of any opponent. So whatever is still left of its earlier exaggerated demands can be made safe against all attacks. The greatest and perhaps the only use of all philosophy of pure reason is therefore only negative. It serves not as an organon for extending knowledge but as a discipline for fixing boundaries. It discovers no truth. Its only merit is the quiet one of keeping errors from happening.

Still, there must be a source somewhere for positive cognitions that belong to the territory of pure reason.

[B 824]

Perhaps only a misunderstanding makes them lead to errors. In fact they are the goal of reason's zeal. What else could we blame for the unstoppable urge to get a firm foothold somewhere beyond the boundary of experience? Reason has a sense of objects that hold great interest for it. It sets out on the path of mere speculation to get near them, but they flee from it. Probably better luck can be hoped for on the one path that is still left to it, namely that of practical use.

By a canon I mean all the a priori principles, taken together, for using certain powers of cognition correctly, in general. General logic works this way too. In its analytic part it is a canon for the understanding and for reason as such, but only a canon of form, because it sets aside all content. The transcendental analytic was likewise the canon for the pure understanding, since only the understanding is capable of genuine synthetic cognitions a priori. Where no correct

use of a power of cognition is possible, there is no canon. But by every proof given so far, no synthetic cognition at all is possible for pure reason when it is used speculatively. So there is no canon at all for its speculative use (since that use is dialectical through and through). In this respect all transcendental logic is nothing but discipline.

[B 825]

So suppose pure reason has some correct use after all. Then it must also have a canon, and that canon will deal not with speculative use but with practical use. That is what we now want to investigate.

Pure Reason's Canon Section One The Final Purpose of the Pure Use of Our Reason

A natural tendency in reason pushes it past its use in experience. Working purely, with nothing but ideas, it dares to go out to the farthest boundaries of all cognition. And it finds rest only once it has completed its circle, in a systematic whole that stands on its own. Is this striving grounded merely in reason's speculative interest, or rather solely and entirely in its practical interest?

For now I'll set aside whatever success pure reason has with a speculative aim. I ask only about the tasks whose solution makes up its final purpose, whether it reaches that purpose or not. Next to that purpose, all its other aims have only the value of means.

[B 826]

By the nature of reason, these highest purposes will in turn have to form a unity, so that together they can advance the interest of humanity that is subordinate to no higher one.

The final aim that the speculation of reason in its transcendental use ultimately comes down to concerns three objects: the freedom of the will, the soul's immortality, and God's existence. In all three cases the interest that reason has in merely speculative terms is very small. For the sake of that interest alone, hardly anyone would take on the wearying labor of transcendental inquiry, which struggles with endless obstacles. Whatever might be discovered about these three, we could make no use of it that would prove its worth in concreto, that is, in the study of nature. First, the will may be free. Even so, that could

bear only on the intelligible cause behind our willing. As for the phenomena of its expressions, that is, our actions, we must, by an inviolable basic maxim without which we can't exercise reason in its empirical use at all, explain them in no other way than all other appearances of nature, namely by nature's unchanging laws. Second, perhaps we could gain insight into the soul's spiritual nature (and with it its immortality). Even so, we couldn't count on it as an explanation for the appearances of this life.

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Nor could we count on it for the particular character of the future state. The reason is that the concept we have of a nature without a body is purely negative. It doesn't extend our cognition in the least. It offers no usable material for conclusions, except perhaps ones that can pass only for inventions, and philosophy doesn't allow those. Third, suppose the existence of a supreme intelligence were proved. We could then understand the purposiveness in how the world is arranged, and its order in general. But we would have no right at all to derive from it any particular arrangement or order, or to boldly infer one where none is perceived. For speculative reason has a necessary rule: don't skip natural causes, and don't abandon what experience can teach us, merely to explain something we know by appeal to what is wholly beyond our knowledge. To put it briefly, for speculative reason these three propositions stay transcendent, always. None of them has an immanent use, meaning a use that is allowed for objects of experience and so is in some way useful to us. Considered in themselves they are quite idle, and yet extremely hard, labors of our reason.

Suppose we don't need these three cardinal propositions for knowledge at all, and still our reason strongly urges them on us.

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Then their importance must really concern only what is practical.

Practical means everything that is possible through freedom. But suppose that what is needed for our free power of choice to act is empirical in nature. Then reason can have only a regulative use there, and serves only to bring about unity among empirical laws. Take the doctrine of prudence. There the whole business of reason is to unite all the ends that our inclinations set for us into the

one end, happiness, and to bring the means for reaching it into agreement. So all reason can offer are pragmatic laws for free conduct, laws for reaching the ends that the senses urge on us. It can't supply pure laws, determined completely a priori. Pure practical laws would be different. Their end is given completely a priori by reason, and they command absolutely, not conditioned by anything empirical. They would be products of pure reason. The moral laws are of this kind. That is why only the moral laws fall under the practical use of pure reason, and only they allow a canon.

All the equipment of reason, in the work that can be called pure philosophy, is in fact aimed only at the three problems just named. They in turn have a more distant aim: what we ought to do should the will be free, should there be a God, and should there be a world to come.

[B 829]

This has to do with how we act in relation to the highest end. So nature, which looks after us wisely when it sets up our reason, really aims in the end only at the moral.

We need to be careful, though. We are now turning our attention to a subject that is foreign* to transcendental philosophy. On the one hand, we must not wander off into side episodes and break the unity of the system. On the other, we must not say too little about this new material and so leave it lacking in clearness or conviction. I hope to do both by staying as close to the transcendental as I can, and by leaving out entirely anything that might be psychological here, in other words empirical.

* Every practical concept is about objects that please or displease us, that is, objects of pleasure or displeasure. So they are directed, at least indirectly, at objects of our feeling. Feeling, though, is not a power of representing things. It lies outside the whole power of cognition. So the elements of our judgments that refer to pleasure or displeasure, and therefore the practical elements, don't belong in the sum total of transcendental philosophy, which is concerned only with pure cognitions a priori.

A note to start with: for the present I will use the concept of freedom in its practical meaning alone. The concept in its transcendental meaning I put aside here, as settled above.

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That meaning can't be assumed empirically as an explanation of appearances, and is itself a problem for reason. Whatever power of choice is determinable only by sensory impulses, which is to say pathologically, is merely animal (arbitrium brutum). The power of choice that can be determined without depending on sensory impulses, and so by motives which only reason puts before us, is known as the free power of choice (arbitrium liberum). Whatever is tied to it, as a ground or as a consequence, gets the name practical. Practical freedom can be proved by experience. For what determines the human power of choice is not merely what stimulates, that is, what directly affects the senses. We have a power to overcome the impressions on our sensory faculty of desire. We do so by conceiving of what is advantageous or damaging, even if only at a further remove. These deliberations about what is desirable with regard to our whole condition, that is, what is good and useful, rest on reason. So reason also gives laws, namely imperatives, which are objective laws of freedom. They say what ought to happen, even if it perhaps never does. That is where they differ from laws of nature, which are only about what happens. That's why they are also called practical laws.

[B 831]

Whether reason itself, in the very acts by which it lays down laws, is again determined by other influences is no concern of ours in practical matters. The same goes for whether what we call freedom, as against sensible impulses, might turn out to be nature once more when we look at higher and more distant efficient causes. In practice we only ask reason, first of all, for the rule of conduct. These questions are purely speculative, and we can put them aside as long as our aim is to act or to refrain. So we know practical freedom from experience. It is one of the natural causes: reason acting as a cause when it determines the will. Transcendental freedom is another matter. It requires reason itself to be independent of every determining cause in the world of sense, in respect of its

causality in starting a series of appearances. To that extent it seems to conflict with the law of nature, and so with all possible experience, and it remains a problem. But this problem has no place in reason's practical use. So in a canon of pure reason we have to deal with only two questions. They concern the practical interest of pure reason, and a canon of how reason is used must be possible for them: Is there a God? Is there a future life? The question of transcendental freedom touches only speculative knowledge. We can treat it as a matter of complete indifference and leave it aside.

[B 832]

That holds whenever the practical is what matters. The Antinomy of Pure Reason has already discussed it enough.

Pure Reason's Canon Section Two The Ideal of the Highest Good as What Determines the Final Purpose of Pure Reason

When reason worked in its speculative way, it took us across the field of experience. It can never find full satisfaction there, so from there it took us on to speculative ideas. In the end those ideas brought us back to experience. So they did serve their purpose, in a way that is useful but nothing like what we had expected. One attempt is still left to us. Can pure reason also be found at work in practical use? Does it lead us there to the ideas that reach the highest purposes of pure reason, the ones we have just named? Looked at from its practical interest, can it give us what it flatly refuses us on the speculative side?

Everything that my reason takes an interest in, speculative and practical alike, comes together in these three questions:

1 [B 833]

What can I know?

2. What should I do?

3. What may I hope for?

The first question is purely speculative. We have gone through every possible answer to it, or so I flatter myself, and have finally found the one that reason has to accept. If reason sets the practical aside, it even has cause to be content with it. But we've stayed just as far from the two great aims that this whole

effort of pure reason was really aimed at as if we had refused the work from the start, out of love of ease. So where knowledge is concerned, this much at least is certain and settled: we can never have it on those two problems.

The second question is purely practical. As such it can belong to pure reason. But then it isn't transcendental. It's moral, and so our critique can't take it up in itself.

The third question is this: if I now do what I should, what may I then hope for? It is practical and theoretical at once. The practical side serves only as a guide toward answering the theoretical question, and, if that goes high enough, the speculative one. All hoping aims at happiness. For the practical and the moral law, hoping is just what knowing and natural law are for theoretical cognition of things.

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The one ends in the inference that something exists (something that fixes the last possible purpose) because something ought to happen. The other ends in the inference that something exists (something that acts as the supreme cause) because something does happen.

Happiness means having all our inclinations satisfied. We can measure it in three ways: extensively, by the variety of inclinations that are met; intensively, by how strongly; and protensively, by how long it lasts. A practical law that takes happiness as its motive I call pragmatic, a rule of prudence. A law that has no motive but being worthy of happiness, if there is such a law, I call moral, the moral law. The pragmatic law gives advice: here is what to do if you want a part in happiness. The moral law gives an order: here is how to behave if all you want is to become worthy of happiness. The pragmatic law is built on empirical principles. Without experience I can't tell which inclinations exist and ask to be met, or which natural causes might meet them. The moral law pays no attention to inclinations or to the natural ways of meeting them. It looks solely at the freedom of rational beings as such, and at the conditions that are necessary if that freedom is to agree, on principle, with how happiness gets shared out. For that reason it can rest, at the very least, on pure ideas of reason, and we can know it a priori.

[B 835]

I assume that pure moral laws really exist. They settle what we do and what we refrain from doing, in other words how any rational being uses its freedom. They do this entirely a priori, with no eye to empirical motives, which means happiness. I assume, too, that these laws command without condition, and not merely hypothetically on the basis of some other empirical purpose, so that they are necessary in every way. This is an assumption I may fairly make. I can appeal to what the most enlightened moralists have demonstrated, and also to anyone's moral judgment, as soon as they try to picture such a law clearly.

So pure reason does contain principles of the possibility of experience. It doesn't in its speculative use, but it does in one practical use, the moral one. I mean experience of the kind of actions that could turn up in human history in line with moral precepts. Reason commands that such actions are to happen, so they must be able to happen. That means a special kind of systematic unity must be possible, the moral kind. Systematic unity of nature, by contrast, couldn't be proved from the speculative principles of reason. Reason has causality in regard to freedom in general but not in regard to nature as a whole, and moral principles of reason can bring about free actions but not natural laws.

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So the principles of pure reason have objective reality in their practical use, and above all in their moral use.

A world that fitted every moral law I call a moral world. Such a world can exist, given the freedom of rational beings, and it should exist, given morality's necessary laws. In this sense we think of it only as an intelligible world, since it leaves out of account all conditions (purposes) and even every obstacle to morality there (the weakness or impurity of human nature). So far it is a mere idea, yet a practical one, since it can and should shape the world of sense, to make that world match it as well as possible. That is why the idea of a moral world has objective reality. It isn't that the idea aims at an object of intelligible intuition, which we couldn't even think. It aims at the world of sense, but as an object that pure reason has in its practical use. And it aims at a corpus mysticum (a

mystical body) formed by the rational beings in that world, to the degree that each one's free power of choice, under moral laws, is consistently and systematically unified with itself and with the freedom of every other.

That answered the first of pure reason's two practical questions: do what makes you worthy of happiness.

[B 837]

The second question is this. Suppose I conduct myself so that I'm not unworthy of happiness. Can I then hope to receive it? To answer it we have to ask something about the principles of pure reason, the ones that lay down the law a priori: do they also tie that hope to the law by necessity?

My answer, then, is this. The moral principles are necessary for reason in its practical use. By the same token, reason in its theoretical use has to accept that each person has grounds to hope for as much happiness as they have made themselves worthy of by how they act. It follows that the system of morality and the system of happiness can't be pulled apart. They are joined, however, only in the idea of pure reason.

Think of an intelligible world, a moral one, whose very concept leaves out every obstacle to morality, meaning our inclinations. In that world we can also see it as necessary that happiness is shared out in proportion to morality and joined to it. Freedom there is partly driven and partly held back by moral laws, so freedom itself would produce general happiness. Rational beings, led by such principles, would be the makers of their own lasting well-being and of everyone else's too. But this system, in which morality pays for itself, is only an idea.

[B 838]

Making it real depends on a condition: everyone must do what they ought, so that all the actions of rational beings come out as if they flowed from one supreme will that holds all private choice inside it or beneath it. However, the obligation under the moral law stays in force for each person's own use of freedom, even if others don't live up to the law. For that reason nothing in the nature of worldly things, and nothing in how actions cause things or how they stand to morality, tells us how the results of actions will line up with happiness. Reason can't know the necessary connection I mentioned, between hoping to

be happy and tirelessly striving to deserve happiness, if it builds on nature alone. We can only hope for the connection, and only if a highest reason that gives commands by moral laws is placed beneath nature as its cause.

The ideal of the highest good is my name for the idea of an intelligence like this: a will that is morally perfect and joined with supreme blessedness, and that causes all the happiness in the world to the extent that this happiness stands in exact proportion to morality, which is worthiness to be happy. The ground of the practically necessary connection between the two elements can be found by pure reason in just one place, the ideal of the highest original good.

[B 839]

Those two elements make up the highest derived good: an intelligible, that is, moral, world. Reason forces us to represent ourselves as members of such a world, though our senses present nothing but a world of appearances. Since the sensible world offers no such connection, we have to take the moral world to be a result of how we behave here, and to be a world that lies ahead of us. So God and a future life are two things we must presuppose. The principles of this same reason won't let us separate them from the obligation that pure reason puts on us.

Morality by itself forms a system. Happiness does not, unless it is shared out in exact keeping with morality. That works only in the intelligible world, where a wise creator and governor presides. Reason is driven to assume one: a governor, along with a life in that world, which we have to see as lying in the future. The only alternative is to dismiss the moral laws as idle fantasies. For without that assumption the necessary result that reason itself attaches to the laws would vanish. That's why everyone treats moral laws as commands. They couldn't be commands if they didn't attach suitable consequences to their rule a priori, and so bring promises and threats with them.

[B 840]

They can't do that, though, unless they rest on a necessary being that is itself the highest good, since only such a being can make that kind of purposive unity possible.

Leibniz called the world the realm of grace when we attend in it only to the rational beings and how they hang together under moral laws, governed by the highest good, and distinguished it from the realm of nature. In the realm of nature these beings also stand under moral laws, but they expect no results from their conduct other than those that follow the course of nature in our world of sense. To see ourselves in the realm of grace, then, where all happiness waits for us unless we cut down our own share of it by being unworthy to be happy, is a practically necessary idea of reason.

When practical laws also become subjective grounds for acting, they turn into subjective principles, and these are called maxims. Judging morality, in its purity and its consequences, goes by ideas. Following its laws goes by maxims.

Our whole conduct of life must be put under moral maxims. Yet that cannot happen unless reason links the moral law, a mere idea, to an operating cause. This cause has to fix, for conduct in line with the law, an outcome that fits our highest ends exactly, in this life or in some other.

[B 841]

So without a God and a world to come, one that we can't see now but hope for, the magnificent ideas of morality earn our approval and admiration but don't spur us to resolve and act. That's because they don't fulfill the entire end that comes naturally to every rational being and that this very same pure reason fixes a priori as necessary.

In the eyes of our reason, happiness alone is nowhere near the complete good. Reason does not give it approval, however strongly inclination wants it, unless it comes together with worthiness to be happy, which is to say, good moral conduct. Yet morality alone is not the complete good either, and neither is the bare worthiness to be happy that goes with it. To make the good complete, whoever has behaved in a way that doesn't make them unworthy of happiness has to be able to hope for a share in it. A reason free of every private aim would judge no differently, if it imagined itself in the place of a being who has all happiness to give out to others and took no interest of its own into account. In the practical idea, both parts are bound together essentially, but in this order: the moral dis-

position, as the condition, makes a share in happiness possible. The prospect of happiness does not first make the moral disposition possible. If it did, the disposition wouldn't be moral.

[B 842]

And so it wouldn't deserve the whole of happiness, which in reason's view is limited only by what comes of our own immoral behavior.

So the highest good of a world is nothing else than happiness that keeps exact step with the morality of rational beings, the morality that makes them worthy of it. Pure but practical reason requires us to see ourselves as living in such a world. Of course it can only be an intelligible world, because the world of sense doesn't promise that the nature of things will give us any such systematic unity of purposes. What makes that unity real can rest on one thing only: the assumption of a highest original good. There, an independent reason with every power a supreme cause needs sets up, sustains and brings to completion the universal order of things, with perfect purposiveness, though in the world of sense that order stays deeply hidden from us.

Moral theology has one advantage of its own over speculative theology. It leads inevitably to the concept of a single primal being, perfect in every way and rational. Speculative theology doesn't even hint at that on objective grounds, much less persuade us of it. Neither transcendental theology nor natural theology, however far reason carries us in them, offers any weighty reason for assuming just one being.

[B 843]

It would have to be a being we could set over all natural causes, with sufficient reason to make them depend on it in every respect. Look at the matter from the side of moral unity instead. That is a necessary law for the world. Ask what cause alone can give this law its fitting effect, and with it binding force for us. Then it has to be one supreme will, which holds all these laws within itself. How else would we find perfect unity of purpose among a variety of wills? That will must be all-powerful, so that all of nature and its bearing on morality in the world is under its rule. It must be all-knowing, so that it can see into the depths of our dispositions and judge their moral worth. It must be present

everywhere, so that it is right there for every need that the world's highest welfare makes. And it must be eternal, so that this harmony of nature and freedom never fails at any time, and so on.

This systematic unity of purposes belongs to the world of intelligences. As mere nature, that world is only the world of sense. As a system of freedom, it can be called an intelligible, that is, a moral, world (regnum gratiae). It also leads without fail to a purposive unity of all the things in this great whole under universal laws of nature, just as the first unity holds under universal and necessary moral laws. So it joins practical reason to speculative reason. The world must be thought of as sprung from an idea.

[B 844]

Only so can it agree with the moral use of reason, the one use without which we would think ourselves unworthy of reason itself. That moral use rests wholly on the idea of the highest good. That gives all inquiry into nature a direction toward the form of a system of purposes. Carried as far as it can possibly be extended, such inquiry becomes physico-theology. But physico-theology started out from a moral order, which is a unity rooted in the essence of freedom and not set up by accident through commands from outside. So it takes nature's purposiveness back to grounds that must be bound up, a priori and inseparably, with the inner possibility of things. This brings us in turn to a transcendental theology. It makes the ideal of supreme ontological perfection into a principle of systematic unity, one that links all things by universal and necessary laws of nature, since all of them have their source in the absolute necessity of one primal being.

Without purposes, what use could we make of our understanding, even for experience? The highest purposes are the moral ones, and pure reason alone can bring them to our knowledge. Armed with these and following them as our guide, we still can't use our knowledge of nature purposively for the sake of cognition, except where nature has itself laid down purposive unity.

[B 845]

Without it we wouldn't have reason at all, because there would be no schooling for reason and no cultivation from objects that offer the raw material for such concepts. Now the purposive unity of morals is necessary and is rooted in the very nature of the power of choice. The purposive unity in nature, which contains the condition for applying it to concrete cases, must therefore be necessary too. And then the transcendental raising of our rational cognition would not be what causes the practical purposiveness that pure reason imposes on us. It would be merely an effect of it.

The history of human reason shows the same thing. There was a time when moral concepts hadn't yet been purified or defined well enough, and the systematic unity of purposes that follows from them hadn't yet been understood from necessary principles. In that period, knowledge of nature, and even a high level of cultivation of reason in several other sciences, led in some cases to nothing but rough, drifting ideas of the deity. In other cases it left people with a surprising indifference to the whole question. Then came a fuller treatment of moral ideas, which the very pure moral law of our religion made necessary. It sharpened reason's focus on the subject, because of the interest that reason was forced to take in it. Wider knowledge of nature did nothing to bring this about, and neither did sound, reliable transcendental insight, which has been lacking in every age.

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Yet the moral ideas produced the notion of the divine being that we now consider correct. We don't consider it correct because speculative reason has satisfied us of its correctness. We do so because it fits perfectly with the moral principles of reason. So when it comes down to it, the credit always belongs to pure reason, in its practical use only. It takes a cognition that mere speculation can only fancy and cannot make valid, and fastens it to our highest interest. That doesn't make the cognition a demonstrated dogma, but it does make it an absolutely necessary assumption for reason's most essential purposes.

But there is a limit on practical reason once it has reached this height, the concept of one primal being as the highest good. It must not presume to behave as if it had risen above every empirical condition for applying that concept. It

must not behave as if it had swung up into immediate knowledge of new objects, so that it could start from this concept and deduce the moral laws from it. Those laws, after all, are what drove us, by their own inner practical necessity, to assume an independent cause or wise ruler of the world, to make the laws effective. So we can't now turn around and regard them as accidental and derived from a mere will.

[B 847]

That goes above all for a will that we couldn't even conceive if we hadn't shaped the concept of it to fit those laws. As far as practical reason is entitled to lead us, we will not hold actions to be obligatory because God commands them. Instead we will see them as God's commands because we are obligated to them from within. We will study freedom under the purposive unity set by principles of reason. We will believe that we match the divine will only to the extent that we hold the moral law sacred, which reason teaches from the nature of actions themselves, and we will think of ourselves as serving God only when we advance the world's good, in ourselves and in other people. Moral theology is therefore only for immanent use. That is, it helps us live out our calling here in the world, by finding our place in the system of all purposes. It is not to abandon, in a fanatical or even outrageous way, the thread of a morally legislating reason in the course of a good life, in order to attach that life directly to the idea of the highest being. That would be a transcendent use. Like speculation alone, it would have to twist and thwart the final purposes of reason.

[B 848]

Pure Reason's Canon Section Three Having an Opinion, Knowing and Having Faith

Taking a thing to be true is something that happens in our understanding. It can rest on objective grounds, but it also calls for subjective causes in the mind of the one judging. If anyone at all with reason would accept it, the ground is objectively sufficient, and then we call it conviction. When its ground lies only in the particular constitution of the subject, we call it persuasion.

Persuasion is just illusion. A ground that lies solely in the subject gets mistaken for an objective one. For that reason a judgment of this kind is valid only privately, and taking it as true cannot be passed on to anyone else. Truth rests on agreement with the object, so the judgments of every understanding have to agree with one another about it (consentientia uni tertio, consentiunt inter se). From outside, then, the test of whether taking something as true is conviction or mere persuasion is whether we can communicate it and find that it holds for every human's reason. If so, there is at least a presumption.

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It is that the ground of the agreement among all these judgments, in spite of the differences among the people judging, lies in a shared ground, the object. Each of them is in line with the object, and that shows the judgment is true.

From the subject's own point of view, persuasion can't be told apart from conviction, as long as the subject sees the taking-as-true only as something appearing in their own mind. But there is a test we can run. We take the grounds that convince us and try them on someone else's understanding, to see whether they affect another reason as they affect ours. This is a means, though a merely subjective one. It cannot create conviction, but it can bring to light the merely private validity of the judgment, that is, whatever in it is just persuasion.

There is more we can do. Suppose we can lay out the subjective causes that stand behind the judgment, the ones we have been taking for objective grounds, we can explain the misleading taking-as-true as something that happened in our own minds, without needing to know anything about the object. Then we have stripped the illusion bare, and it fools us no longer, although it can still tempt us to some extent when the subjective cause of the illusion belongs to our nature.

The only thing I can assert, that is, declare as a judgment necessarily valid for all, is what produces conviction.

[B 850]

Persuasion I can keep for myself, if it suits me, but I can't, and shouldn't, try to make it count outside myself.

Taking something as true, which is the subjective validity of a judgment, has three levels, related to conviction (which also counts objectively): having an opinion, having faith, and knowing. An opinion is a taking-as-true that you are aware is not enough, either subjectively or objectively. If it is enough subjectively but regarded as not enough objectively, it is called faith. And when it is enough both subjectively and objectively, it is called knowledge. Enough subjectively is conviction (for me myself); enough objectively is certainty (for everybody). I won't dwell on explaining notions so easy to grasp.

I must never take it on myself to hold an opinion unless I know something, at least, that connects the judgment (which taken alone is merely problematic) with truth. The connection may be incomplete, but it must be more than free invention. And the law of such a connection has to be certain. If I have nothing but opinion about that as well, it is all a play of imagination with no relation to truth at all. In judgments of pure reason, forming opinions is not allowed whatsoever. They are not supported by grounds taken from experience.

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Everything in them is to be known a priori, where all is necessary. So the principle of connection requires universality and necessity, and therefore complete certainty. Otherwise nothing guides us toward truth at all. That's why it's absurd to hold opinions in pure mathematics. You must know, or else refrain from judging entirely. The principles of morality are the same. You may not risk an action because you merely suppose it's allowed. You have to know that.

In the transcendental use of reason, by contrast, an opinion is too little, though knowledge is also too much. So from a purely speculative standpoint we can't judge at all here. Subjective grounds for taking something as true, like those that can give rise to faith, deserve no approval in speculative questions. They can't be kept clear of every empirical aid, and they can't be passed on to others in the same measure.

Only in a practical connection, then, can we call a theoretically inadequate taking-as-true faith. And this practical aim is either skill or morality. Skill is for any chance purposes, whichever we like. Morality is for purposes that are necessary without exception.

Once a purpose is given, the conditions for reaching it are hypothetically necessary. That necessity is subjective.

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It is sufficient only by comparison, and only if there are no other conditions known to me that would let the purpose be reached. It is sufficient absolutely and for everyone if I know for sure that nobody could know other conditions that would lead to the purpose set. In the first case, my assumption and my taking certain conditions as true is an accidental faith. In the second case it is a necessary faith. A doctor with a patient in danger must act, but doesn't know the illness. The doctor looks at the signs and, knowing nothing better, decides it's consumption. By the doctor's own judgment this belief is only accidental; someone else might perhaps hit on it better. The name I give to this kind of accidental faith, when it underlies the actual use of means for particular actions, is pragmatic faith.

The usual test of what lies behind someone's assertion, mere persuasion or at least subjective conviction (firm faith), is to bet on it. Often a person speaks with such sure, stubborn defiance that every worry about error seems to be gone. A bet makes them hesitate. Now and then it turns out that they have just enough persuasion to be worth one ducat, but not ten. One ducat they will still risk.

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But at ten they realize for the first time what they hadn't seen before, that they may well be wrong. Suppose you imagine staking your whole life's happiness on it. Our triumphant judgment then drops sharply, we turn very timid, and we discover for the first time that our faith doesn't stretch that far. So pragmatic faith comes in degrees, and the degree can be large or small, depending on how much is at stake.

Sometimes we can do nothing at all with an object, so that taking something to be true about it is purely theoretical. Even then, in many cases we can think up an undertaking and picture it, one we believe we have good enough grounds for, if only there were some way to settle the matter with certainty. So in purely theoretical judgments there is something that parallels practical ones, and the

word faith suits the way we hold such a judgment true. We can call it doctrinal faith. Suppose some experience could settle the question. I would gladly stake all I own on there being inhabitants on at least one of the planets we can see. That is why I say it is more than an opinion. It is a strong faith, on whose being right I would risk many of life's advantages, that other worlds have inhabitants too.

[B 854]

Now we must concede that the teaching about God's existence is a matter of doctrinal faith. When it comes to explaining the world theoretically, nothing I have to work with requires this thought as a premise for accounting for the appearances. On the contrary, I'm bound to use my reason as though everything were only nature. Still, purposive unity is such an important condition for applying reason to nature, and experience gives me so many examples of it, that I cannot simply pass it by. The only condition I know of that would make this unity a guide for my study of nature is to assume that a supreme intelligence has arranged everything according to the wisest purposes. Supposing there is a wise maker of the world is therefore a condition for reaching an aim that is accidental but not trivial: having guidance as I investigate nature. The results of my attempts confirm, again and again, how useful this assumption is, and nothing decisive can be said against it. I would be saying far too little if I called my holding it true a mere opinion. I can go further and say, even here on the theoretical side, that my belief in God is firm. Yet in the strict sense this faith is still not practical. It has to be called doctrinal faith.

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The theology of nature (physico-theology) is bound to produce this faith everywhere. The same wisdom, together with the excellent equipment of human nature and the shortness of life, which fits that equipment so poorly, can likewise supply sufficient ground for a doctrinal faith in the future life of the human soul.

In cases like these, the word faith expresses modesty from the objective side and yet firm confidence from the subjective side. Suppose I called this merely theoretical holding-true a hypothesis that I was entitled to adopt. Then I would

already be committing myself to more of a concept of the cause of the world and of another world than I can really show. Whatever I adopt even as a hypothesis, I have to know enough about its properties that I am free to invent only its existence, not its concept. But the word faith points only to the lead that an idea provides, and to the pull it has within me on how my rational actions go forward. That pull keeps me attached to the idea, though I'm unable to account for it from a speculative standpoint.

Merely doctrinal faith, though, has something unsteady about it. Difficulties that turn up in speculation often knock us out of it.

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We always come back to it again, though, without fail.

Moral faith is a very different matter. Here it is absolutely necessary that something must happen: that I obey the moral law in every respect. The purpose is firmly fixed, with no way around it. As far as I can see, only one condition makes it possible for this purpose to hang together with all purposes taken together, and so to have practical validity: that a God exists and a world to come exists. I also know for certain that nobody knows of any other condition that leads to the same unity of purposes under the moral law. But the moral precept is at the same time my maxim, as reason commands that it should be. So I can't help believing that God exists and that there is a life to come. And I'm sure nothing could shake this faith, because it would overturn my own moral principles, and I can't give those up without becoming detestable in my own eyes.

So, with all the ambitious aims of a reason that roams beyond the boundaries of all experience thwarted, enough still remains to give us cause for satisfaction in the practical respect. Of course no one will be able to boast of knowing that a God exists and that a future life exists.

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If they know that, they are exactly the person I have been looking for all this time. All knowledge, when it concerns an object of pure reason alone, can be communicated, so I could hope that their teaching would extend my own knowledge to a wonderful degree. No: the conviction is not logical certainty

but moral certainty. It rests on subjective grounds (the moral disposition), so I mustn't even put it this way: "It is morally certain that God exists," and so on. The right way is: "I am morally certain," and so on. What I mean is that my belief in a God and another world is woven into my moral disposition so tightly that I am in no more danger of losing the disposition than I fear this belief could ever be torn from me.

There is only one troubling point here. This faith of reason is founded on the assumption that moral dispositions exist. Drop that, and take someone completely indifferent to moral laws. Then the question that reason raises becomes merely a task for speculation. Strong grounds from analogy can still support the answer, but not grounds that the most stubborn skepticism would have to give in to*.

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Still, nobody is wholly uninterested in these questions. Even if a lack of good dispositions cuts that person off from the moral interest, enough is left to make them fear that there is a divine being and a future. For that, all that is needed is that they can't pretend to be sure that no such being exists and that there is no future life. They would have to prove that both are impossible, and since that would have to be proved by pure reason, and so apodictically, no reasonable person could take it on. This would be a negative faith. It could not produce morality and good dispositions, but it could produce their analogue: it could powerfully hold back the outbreak of bad dispositions.

* The human mind has a natural interest in morality. I believe this is so, necessarily, in every rational being, even though the interest is neither undivided nor practically dominant. Strengthen and deepen this interest, and reason will turn out to be very ready to learn, and even brighter at joining its speculative interest to its practical one. But if you don't first see to it that people become good, at least partway, you will never turn them into honest believers either!

"Is that all?" someone will say. "Is that all pure reason achieves by opening up prospects beyond the boundaries of experience? Nothing more than two articles of faith?

[B 859]

"Common understanding could have managed that much without asking any philosophers!"

I won't praise here what philosophy has done for human reason through the hard work of its critique, though the outcome may prove merely negative. A little more will be said about that in the next section. But do you really demand that a cognition which concerns all human beings should rise above common understanding and be revealed to you only by philosophers? What you complain about is the best confirmation that what I've said so far is correct. It reveals something that no one could foresee at the start: that nature can't be accused of handing out its gifts unfairly in what matters to all people alike, and that the highest philosophy, regarding the essential purposes of human nature, can get no further than the guidance that nature has given even to the most ordinary understanding.

[B 860]

Transcendental Doctrine of Method Third Chapter Pure Reason's Architectonic

By architectonic I mean the art of building systems. Ordinary cognition becomes science, that is, a system rather than a mere aggregate, only through systematic unity. So architectonic is the doctrine of the scientific element in our cognition as a whole, and it therefore belongs necessarily to the doctrine of method.

Under reason's rule, our cognitions must not be a patchwork. They have to form a system, since only in a system can they support and advance reason's essential purposes. By a system I mean the unity of many different cognitions under one idea. This idea is the concept of reason for the form of a whole. It settles a priori both how far the manifold extends and where the parts stand in relation to one another. The scientific concept of reason therefore contains the purpose and the form of the whole that matches it. All the parts relate to that single purpose, and in the idea of it they relate to one another as well. This unity of purpose means that once we know the other parts, we can tell when any one part is missing.

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No accidental addition can occur, and no amount of perfection that is not fixed within limits a priori. The whole is therefore articulated (articulatio), not piled up (coacervatio). It can grow from within (per intus susceptionem) but not from outside (per appositionem). An animal body is like this: its growth adds no limb, but makes each limb stronger and better fitted for its ends, with no change in proportion.

To be carried out, an idea needs a schema. That is, it needs an essential manifold and an order of the parts, fixed a priori by the principle of the purpose. A schema that is drawn up not from an idea, that is, from the main purpose of reason, but from experience, shaped by whatever aims happen to present themselves (and nobody can know in advance how many), gives technical unity. What arises solely from an idea, where reason sets the purposes a priori and does not wait for them to come from experience, founds architectonic unity. What we call a science cannot arise technically, from the likeness of the manifold or from the accidental use of cognition in concrete cases for all sorts of external purposes of one's choosing. It arises architectonically, from the affinity of the parts and their derivation from one supreme, inner purpose that first makes the whole possible. The schema of a science has to hold the outline (monogramma) of the whole.

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It also has to hold the division into members, drawn from the idea and so a priori. And it has to set the science apart from every other, securely and by principles.

No one sets out to build a science without an idea underlying it. But as the work proceeds, the schema, and even the definition the person gives of their science right at the start, very seldom matches their idea. The idea lies in reason like a seed, with all the parts still tightly folded up and hidden, barely visible even under a microscope. For this reason, and because every science is thought up from the standpoint of some general interest, we should not explain and define a science by the description its founder gives. We should do it by the idea that we find grounded in reason itself, on the basis of the natural unity of the parts the founder has brought together. We will then find that the founder, and

often even the latest followers, wander around an idea they haven't managed to make clear to themselves. They can't fix the science's own content, its articulation (systematic unity) and its limits.

It is unfortunate that for a long while we collect many related cognitions as building material, in patchwork fashion, guided by an idea that lies hidden in us. We even put them together technically over long periods.

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Only then can we catch sight of the idea in clearer light and draw up a whole architectonically, in line with reason's purposes. Systems seem to have been formed like worms, by generatio aequivoca, out of the mere flowing together of gathered concepts. At first they are mutilated, and with time they become complete. Yet all of them had their schema, as the original seed, in reason as it simply unfolded. For that reason each system is articulated by an idea on its own, and beyond that, all of them are united purposively with one another, as members of a whole, in one system of human cognition. This allows an architectonic of all human knowledge. In our time, when so much material has already been gathered, or can be salvaged from the rubble of old, collapsed buildings, such an architectonic would not only be possible but not even hard. For now we are satisfied to finish our own business, which is only to outline the architectonic for all the cognition that comes from pure reason. Our starting point is where the shared root of our power of cognition splits and sends out two trunks, reason being one of them. By reason here I mean the whole higher power of cognition, and so I set the rational against the empirical.

Set aside everything a cognition contains when we look at it objectively.

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Looked at subjectively, every cognition is then either historical or rational. Historical cognition is cognitio ex datis. Rational cognition is cognitio ex principiis. A cognition may have been given in the first place from anywhere at all. In the person who has it, it is still historical if they know only as much as someone else has handed them, and only to that degree. It makes no difference whether it came through direct experience, through a report, or through teaching of general cognitions. So take someone who has truly learned a system of

philosophy, say the Wolfian one. They might carry all the principles, explanations and proofs in their head, along with the layout of the whole teaching structure, and might be able to count it all off on their fingers. Even so, what they have is only a complete historical cognition of the Wolfian philosophy. They know and judge only as much as they were given. If someone disputes one of their definitions, they don't know where to find another. They were shaped by another person's reason. But the power to copy is not the power to produce. In other words, their cognition did not spring from reason. Objectively it was indeed a cognition of reason, but subjectively it is merely historical. They took it in well and kept it, that is, they learned it, and they are a plaster cast of a living person. A cognition that counts as rational objectively, one that could at first only have arisen from a person's own reason, earns that name in the subjective sense as well only if it has been drawn from the general sources of reason.

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Criticism can arise from those sources, and so can the rejection of what was learned. That is, the cognition must be drawn from principles.

Rational cognition always works in one of two ways: from concepts, or by constructing concepts. The first is called philosophical, the second mathematical. I have already dealt with the inner difference between them in the first chapter. A cognition can therefore be philosophical objectively and yet historical subjectively. That is how it is with most apprentices, and with everyone who never gets past the school and stays an apprentice all their life. It is odd, though, that mathematical cognition, learned as it was taught, can still count subjectively as cognition of reason, and that mathematics doesn't show this kind of difference the way philosophy does. The reason is that the teacher can draw only on sources that lie in nothing but the essential, genuine principles of reason. So the apprentice can't take them from anywhere else, and they can't be disputed. In mathematics reason is used only in the concrete, though still a priori: it works on pure intuition. Pure intuition can't mislead, and so it shuts out every decep-

tion and error. So among all the sciences of reason (a priori), only mathematics can be learned. Philosophy never can, unless as history. As far as reason is concerned, the most anyone can do is learn to philosophize.

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Philosophy is the system made up of all philosophical cognition. We have to take philosophy objectively if by it we mean the archetype for judging every attempt to philosophize. That archetype is meant to serve as the standard for judging each subjective philosophy, and the structures of those are often so varied and so changeable. Understood like this, philosophy is nothing but the idea of a science that could exist. It is not given anywhere in the concrete. People try to approach it by many routes, until the one footpath, thickly overgrown with sensibility, is found, and they succeed in making the copy, which has so far failed, match the archetype as closely as human beings are allowed. Until then no one can learn philosophy. Where is it, who has it, and how could we recognize it? All we can learn is to philosophize. That means practicing the talent of reason, in following its general principles, on certain attempts that already exist. This is always done with reason keeping its right to examine those attempts right down to their sources, and to confirm or reject them.

Until that happens, the concept of philosophy remains a school concept. It is the concept of a system of cognition that is sought only as a science, with no aim beyond the systematic unity of this knowledge, and so the logical perfection of the cognition. But there is also a world concept (conceptus cosmicus), which has always underlain this name.

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That holds above all when one, so to speak, personified it and pictured it as an archetype in the ideal philosopher. In this sense philosophy is the science of how all cognition relates to the essential purposes of human reason (teleologia rationis humanae), and the philosopher is not a craftsman of reason but the lawgiver of human reason. It would be quite vain to call yourself a philosopher in that sense, and to claim you have come up to the archetype, which exists only as an idea.

Mathematicians, natural scientists and logicians can be first-rate. The former may make excellent progress in rational cognition in general, and the latter in philosophical cognition in particular. Still, they are only craftsmen of reason. There is another teacher, in the ideal, who sets all of them to work and uses them as tools to advance the essential purposes of human reason. Only this teacher should be called the philosopher. But no such teacher is found anywhere, while the idea of this teacher's lawgiving is found everywhere in every human reason. So we will keep to that idea alone, and work out more closely what philosophy, according to this world concept*, prescribes.

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What it prescribes is a systematic unity, seen from the standpoint of purposes.

* A world concept here means one that concerns what interests everyone necessarily. So I determine a science's aim by school concepts when it is looked at only as one skill among others, serving certain purposes anyone happens to choose.

Essential purposes are not for that reason the highest purposes. There can be only one highest purpose, if reason is to have perfect systematic unity. So essential purposes are either the final purpose, or subordinate purposes that necessarily belong to it as means. The final purpose is nothing other than the whole vocation of human beings, and the philosophy about it is called morals. Moral philosophy has this priority over every other pursuit of reason. Because of it, the ancients also always meant by the name of philosopher, above all, the moralist as well. And even now, the outward look of self-command through reason leads us to call someone a philosopher, by a kind of analogy, though their knowledge is limited.

The legislation of human reason, which is philosophy, has two objects: nature and freedom. So it contains the law of nature and also the moral law, at first in two separate philosophical systems and in the end in a single one. The philosophy of nature is about everything that is. The philosophy of morals is only about what ought to be.

Philosophy is of two kinds. One is cognition from pure reason. The other is rational cognition that starts from empirical principles. We call the first pure philosophy and the second empirical philosophy.

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The philosophy of pure reason is one of two things. First, it can be a propaedeutic (a preliminary exercise) that examines the power of reason with respect to all pure cognition a priori. That is called critique. Second, it can be the system of pure reason (a science): the whole of philosophical cognition from pure reason, true and illusory alike, in systematic connection. That is called metaphysics. The name metaphysics can also be applied to pure philosophy as a whole, critique included. Then it takes in, together, the inquiry into whatever we may ever come to cognize a priori, together with the account of what makes up a system of such pure philosophical cognitions. Both are set apart from everything empirical, and also from the mathematical use of reason.

Metaphysics divides into the metaphysics of the speculative use of pure reason and that of its practical use. So it is either the metaphysics of nature or the metaphysics of morals. The first contains all pure principles of reason, drawn from concepts alone (so leaving mathematics out), for the theoretical cognition of all things. The second contains the principles that determine what we do and leave undone, a priori, and make it necessary. Of all the ways actions can conform to law, morality is the only one we can derive wholly a priori from principles. So the metaphysics of morals is really pure morals, with no anthropology (no empirical condition) laid at its base.

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The metaphysics of speculative reason is what people usually mean by metaphysics in the narrower sense. But pure moral doctrine also belongs to that particular stem of human, and indeed philosophical, cognition from pure reason. So we will let it keep that name too, even though we leave it to one side here, since it has no part in our present aim.

It matters enormously to isolate cognitions that differ from others in kind and origin, and to take care that they don't run together in a mixture with other cognitions they are usually combined with in use. Chemists do this when they

separate substances. Mathematicians do it in their pure theory of magnitudes. Philosophers have even more reason to do it, so that they can reliably determine the share a particular kind of cognition has in the free-ranging use of the understanding, along with its own worth and influence. So from the moment people first thought, or rather began to reflect, their reason has needed a metaphysics. But it never managed to present one cleaned of everything alien to it. The idea of this science goes back exactly as far as speculative reason does. And whose reason doesn't speculate, whether in the schools or in everyday ways? We must admit, however, that thinkers by trade kept one distinction very hazy.

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I mean the distinction between two elements in our cognition. One is wholly at our disposal a priori. The other can be obtained only from experience, a posteriori. Because of that, they could never fix the boundary of a particular kind of cognition, and so could never form the true idea of a science that has kept human reason busy for so long and so intensely. Suppose someone defined it like this: "Metaphysics is the science that deals with the first principles in human cognition." That points out not a quite particular kind of cognition but only a rank in generality. It couldn't set metaphysics apart from the empirical in any recognizable way. Even empirical principles come in more and less general ones, and the more general are higher. Where, in a series ordered like that, with no distinction drawn between what is known wholly a priori and what is known only a posteriori, do you make the cut between the first part, with its highest members, and the last part, with the subordinate ones? How would we react if chronology could divide the world's epochs only into the first centuries and those that came after? Would we ask whether the fifth century belongs among the first ones? And the tenth? And so on? I ask in the same way: is the concept of something extended part of metaphysics? You answer: yes! Well, then, the concept of body too? Yes! And of a liquid body?

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Now you hesitate, because if we go on this way, everything will turn out to belong to metaphysics. From this we can see that no science gets its boundaries from a mere degree of subordination, that is, the particular falling under the

general. Here the boundaries come from complete difference of kind and of origin. Something else obscured the basic idea of metaphysics from another side. As cognition a priori, metaphysics shows a certain likeness to mathematics. In origin, that likeness makes the two akin, because both are a priori. But look at the way metaphysics cognizes from concepts, and compare it with the way mathematics judges a priori purely by constructing concepts. That is the difference between philosophical and mathematical cognition. There the two turn out to be completely unlike. People always felt it, in a way, but never managed to state it in clear criteria. The result was this. Philosophers themselves went wrong in developing the idea of their sciences. So the work on those sciences could have no fixed purpose and no reliable guideline. The plan was made arbitrarily. Philosophers did not know which road they ought to take, and they were always quarreling, each boasting of finds made along their own path. In the end they brought their science into contempt, first with others and finally even with themselves.

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All pure cognition a priori forms a unity of its own, thanks to the special power of cognition in which alone it can be seated. The philosophy that is to display this cognition within that systematic unity is metaphysics. The speculative part of it, which has mostly taken the name for itself, is what we call the metaphysics of nature. It weighs everything that exists, and not what ought to be, working from a priori concepts. We divide it as follows.

Metaphysics, as the name is used in the narrower sense, has two parts. One is transcendental philosophy. The other is the physiology of pure reason. Transcendental philosophy looks only at the understanding and at reason itself. It sets out a system of all concepts and principles that apply to objects in general, and it assumes no objects as given (Ontologia). The physiology of pure reason looks at nature, meaning everything given as an object, whether it is given to the senses or, if you prefer, to some other kind of intuition. So it is a physiology, though only a rational one (rationalis). Reason can go about this rational study of nature in a physical way or in a hyperphysical way. Better said, its use is either immanent or transcendent. Immanent use covers nature as far as the cog-

nition of it can be applied in experience (in concreto). Transcendent use covers that connection among the objects of experience which goes beyond all experience.

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This transcendent physiology takes as its subject either an inner or an outer connection, and both of them exceed possible experience. The inner one is the physiology of all of nature taken together, that is, transcendental cognition of the world. The outer one concerns how all nature hangs together with a being above nature, that is, transcendental cognition of God.

Immanent physiology, on the other hand, looks at nature as everything that the senses can take in as objects. It takes nature in the way it is given to us, but looks only at the a priori conditions that must hold for anything to be given to us. It has just two kinds of object. 1. Objects of the outer senses, which together make up corporeal nature. 2. The object of inner sense, which is the soul and, by the basic concepts of the soul in general, thinking nature. The metaphysics of corporeal nature is physics. Since it is to contain only the a priori principles for knowing nature, it is rational physics. The metaphysics of thinking nature is psychology. For the same reason just given, only rational cognition of the soul is meant here.

So the whole system of metaphysics has four main parts. 1. Ontology. 2. Rational physiology. 3. Rational cosmology. 4. Rational theology. The second part is the doctrine of nature drawn from pure reason.

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It has two divisions: physica rationalis* and psychologia rationalis.

* Let no one suppose that I mean by this what is commonly called physica generalis. That is more mathematics than philosophy of nature. The metaphysics of nature is a wholly separate thing from mathematics. It can offer much less in the way of new insights that widen what we cognize. But it is very important for criticizing the pure cognition of the understanding in general, insofar as that is applied to nature. Where that critique is missing, even mathematicians have held on to certain common concepts that are really metaphysical, and have

loaded natural science with hypotheses without noticing. A critique of these principles makes such hypotheses vanish. That does no damage whatever to the use of mathematics here, and mathematics can't be done without.

The very first idea of what a philosophy of pure reason is already lays down this division. It is therefore architectonic: it follows reason's essential purposes. It is not merely technical, which would mean arranging things by affinities noticed by chance, more or less hit and miss. Because of that, it is also fixed and legislative. But a few points come up here that raise concern and could shake our conviction that the division is lawful.

First, how can I look for a priori cognition, and so for metaphysics, about objects given through our senses, that is, a posteriori? And how is it possible to know the nature of things?

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How can that be done by a priori principles, so that we reach a rational physiology? The answer is that we take nothing from experience except what we need to be given an object, partly of outer sense and partly of inner sense. For outer sense, the bare concept of matter does this (impenetrable, lifeless extension). For inner sense, the concept of a thinking being does it (in the empirical inner representation, I think). For the rest, throughout the metaphysics of these objects, we must abstain from all empirical principles that would add some further experience to the concept in hopes of drawing some judgment about these objects out of it.

Second: where does empirical psychology go? It has always held its place in metaphysics, and in our time people have expected great things from it for enlightening metaphysics, once they gave up hope of getting anything useful done a priori. My answer is that it goes where the properly empirical doctrine of nature has to go: on the side of applied philosophy. Pure philosophy contains the a priori principles for applied philosophy, so the two must be joined but not mixed. Empirical psychology therefore has to be banished from metaphysics altogether, and the very idea of metaphysics already shuts it out. Even so, by the custom of the schools we will still have to allow it a little spot there, as a mere episode.

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We do so for reasons of economy. It isn't yet rich enough to be a study of its own, and yet it is too important to throw out entirely or to pin on somewhere it would have even less kinship than it has in metaphysics. So it is only a stranger who is taken in for the time being, given a place to stay until its own house is ready in a full anthropology (the counterpart to the empirical doctrine of nature).

That is the general idea of metaphysics. At first people asked more of it than could fairly be demanded, and for a time they amused themselves with pleasant expectations. Then they found their hopes betrayed, and metaphysics finally fell into general contempt. The whole course of our critique should have convinced the reader of this much. Metaphysics cannot be the foundation of religion, but it must always stand as religion's bulwark. And human reason is dialectical by the very tendency of its nature. It could never do without a science that holds it in check. Through scientific, fully evident self-knowledge, that science keeps away the devastation that lawless speculative reason would otherwise inevitably cause in morals and in religion alike. So we can be sure of one thing.

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However prudish or scornful those people may be who weigh a science by what happens to come of it and not by what it is, people will always come back to metaphysics, like a beloved with whom we have quarreled. Reason cannot rest, because essential purposes are at stake. It must work either toward thorough insight or toward tearing down good insights that already exist.

So metaphysics, of nature and of morals alike, together with above all the critique of a reason that ventures out on its own wings, which comes first as a preparatory exercise (propaedeutic), is all that we can properly call philosophy in the true sense. Philosophy refers everything to wisdom. It goes by way of science, which is the only road that, once cut, doesn't grow over again and doesn't let anyone wander off. Mathematics, natural science, and even empirical knowledge of human beings are highly valuable as means. They mostly serve acciden-

tal purposes of humanity, but in the end necessary and essential ones too. But they can do this only with the help of a rational cognition from concepts alone. Call it what you like, it is really nothing but metaphysics.

That's why metaphysics also completes the cultivation of human reason.

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Such completion can't be dispensed with, even if we leave aside what metaphysics does, as a science, for particular ends. It examines reason in its elements and supreme maxims. Some sciences couldn't even be possible without them, and no science could be used without them. Metaphysics, as mere speculation, does more to keep errors away than to extend cognition. That takes nothing from its value. It gives metaphysics dignity and authority, through its role as a censor that safeguards general order, harmony and even the prosperity of the scientific commonwealth, and keeps that commonwealth's bold and fruitful labors from moving away from the chief aim, universal happiness.

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Transcendental Doctrine of Method Fourth Chapter Pure Reason's History

This title is here only to mark a place that remains open in the system and will have to be filled later. I'll be content to take a quick look at everything that has been done with pure reason so far. I look at it from a purely transcendental point of view, that is, from the nature of pure reason. To my eye it shows buildings, to be sure, but only in ruins.

It is remarkable enough, though it could hardly have gone any other way, that people in the childhood of philosophy began where we would now rather end. They started by studying the cognition of God, and the hope of another world, or even what that world is like. Whatever crude ideas of religion may have been introduced by the old customs, which were left over from the rough early state of peoples, this did not stop the more enlightened part from devoting itself to free inquiry into the subject. It was easy for them to see how one might please the invisible power that rules the world, and so be happy in another world at the very least.

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No way could be more thorough or more reliable than a good way of life. So theology and morals were the two driving forces, or better, the two points of reference, for all the abstract inquiries of reason that people have devoted themselves to since. Theology, though, was really what drew merely speculative reason, bit by bit, into that business, which was later to win such fame as metaphysics.

I won't now sort out the periods in which this or that change in metaphysics took place. I only want to sketch quickly the differences in the idea that set off the main revolutions. And here I find three aims behind the most famous changes on this stage of dispute.

1 About the object of all our cognitions of reason: some philosophers were sensualists only, others intellectualists only. Epicurus is the leading philosopher of sensibility, and Plato the leading philosopher of the intellectual. This difference between the schools, subtle as it is, began in the earliest times and has lasted without a break for a long while. The first school held that reality is found only in the objects of the senses and everything else is imagination. The second school said the opposite: in the senses there is nothing but illusion.

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Only the understanding cognizes what is true. Yet the first school did not deny that concepts of the understanding have reality. For them that reality was only logical, whereas for the others it was mystical. The first school admitted intellectual concepts but accepted only sensible objects. The second demanded that true objects be purely intelligible. They claimed there is an intuition through the pure understanding, one that is accompanied by no senses, which in their view would only confuse it.

2 About where pure cognitions of reason come from. Are they taken from experience, or do they originate in reason itself, without depending on experience? Aristotle may be seen as the chief of the empiricists, Plato as the chief of the noologists. In more recent times Locke followed the first, and Leibniz the second (though at a good distance from Plato's mystical system). Yet neither has been able to bring this dispute to a decision. At least Epicurus, for one, was

much more consistent in following the sensualist system than Aristotle and Locke were (above all Locke). Epicurus never took any inference beyond the limit of experience. Locke derived all concepts and principles from experience. Then Locke went so far in using them as to claim that we can prove the existence of God and the immortality of the soul as evidently as any mathematical theorem.

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Both of these objects, though, lie wholly outside the limits of possible experience.

3 About method. To deserve the name of method, something has to be a way of proceeding by principles. The methods now in force in this field of natural inquiry fall into two kinds, the naturalistic and the scientific. The naturalist of pure reason adopts as a principle that common reason without science (which the naturalist calls sound reason) can accomplish more on the loftiest questions that make up the task of metaphysics than speculation can. So they claim that the size and distance of the moon can be determined more reliably by eye than by mathematical detours. This is plain hatred of reasoning (misology) turned into a principle. And, most absurd of all, ignoring every artificial aid gets praised as a distinct way of widening one's cognition. Naturalists can't fairly be blamed for simply lacking further insight. They go by common reason and don't brag that their ignorance is a method with the secret of pulling truth up from the bottom of Democritus's deep well. Quod sapio, satis est mihi; non ego curo, esse quod Arcesilas aerumnosique Solones, Pers. ("What I know is enough for me; I don't care to be what Arcesilas and the careworn Solons were") is their motto.

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With it they can live cheerfully and respectably, without troubling themselves about science or disturbing its work.

Those who adopt a scientific method can choose here between a dogmatic and a skeptical course, but either way they are bound to work systematically. If I name the famous Wolf for the first group and David Hume for the second, I

can leave the rest unnamed, given my present aim. Only the critical path is still open. If the reader has been kind and patient enough to walk this path in my company, they may now judge for themselves. Suppose they are willing to do their part toward making this footpath a highway. Might not what many centuries could not achieve then be reached before the present one is over? I mean this: bringing human reason to full satisfaction in what has always occupied its thirst for knowledge, but until now in vain.