B vii

Preface to the second edition[a]

Whether or not the treatment of the cognitions belonging to the concern of reason travels the secure course of a science is something which can soon be judged by its success. If after many preliminaries and preparations are made, a science gets stuck as soon as it approaches its end, or if in order to reach this end it must often go back and set out on a new path; or likewise if it proves impossible for the different co-workers to achieve unanimity as to the way in which they should pursue[b] their common aim; then we may be sure that such a study is merely groping about, that it is still far from having entered upon the secure course of a science; and it is already a service to reason if we can possibly find that path for it, even if we have to give up as futile much of what was included in the end previously formed without deliberation.

B viii That from the earliest times **logic** has traveled this secure course can be seen from the fact that since the time of Aristotle it has not had to go a single step backwards, unless we count the abolition of a few dispensable subtleties or the more distinct determination of its presentation, which improvements belong more to the elegance than to the security of that science. What is further remarkable about logic is that until now it has also been unable to take a single step forward, and therefore seems to all appearance to be finished and complete. For if some moderns have thought to enlarge it by interpolating **psychological** chapters about our different cognitive powers (about imagination, wit), or **metaphysical** chapters about the origin of cognition or the different kinds of certainty in accordance with the diversity of objects[c] (about idealism, skepticism, etc.), or **anthropological** chapters about our prejudice (about their causes and remedies), then this proceeds only from their ignorance of the peculiar nature of this science. It is not an improvement but a deformation of the sciences when their boundaries are allowed to run over into one another; the boundaries of logic, however, are determined quite precisely by the fact that logic is the science
B ix that exhaustively presents and strictly proves nothing but the formal

[a] This new preface, so entitled, replaces the preface from the first edition.

[b] Kant's text reads "*erfolgt*" (result or ensue), which does not make sense here because it is an intransitive verb; we follow Grillo in reading *verfolgt*.

[c] *Objecte*

rules of all thinking (whether this thinking be empirical or *a priori*, whatever origin or object[a] it may have, and whatever contingent or natural obstacles it may meet with in our minds).

For the advantage that has made it so successful logic has solely its own limitation to thank, since it is thereby justified in abstracting – is indeed obliged to abstract – from all objects[b] of cognition and all the distinctions between them; and in logic, therefore, the understanding has to do with nothing further than itself and its own form. How much more difficult, naturally, must it be for reason to enter upon the secure path of a science if it does not have to do merely with itself, but has to deal with objects[c] too; hence logic as a propadeutic constitutes only the outer courtyard, as it were, to the sciences; and when it comes to information, a logic may indeed be presupposed in judging about the latter, but its acquisition must be sought in the sciences properly and objectively so called.

Insofar as there is to be reason in these sciences, something in them must be cognized *a priori*, and this cognition can relate to its object in either of two ways, either merely **determining** the object and its con- B x
cept (which must be given from elsewhere), or else also **making** the object **actual.** The former is **theoretical**, the latter **practical** cognition of reason. In both the **pure** part, the part in which reason determines its object[d] wholly *a priori*, must be expounded all by itself, however much or little it may contain, and that part that comes from other sources must not be mixed up with it; for it is bad economy to spend blindly whatever comes in without being able later, when the economy comes to a standstill, to distinguish the part of the revenue that can cover the expenses from the part that must be cut.

Mathematics and **physics** are the two theoretical cognitions of reason that are supposed to determine their **objects**[e] *a priori*, the former entirely purely, the latter at least in part purely but also following the standards of sources of cognition other than reason.

Mathematics has, from the earliest times to which the history of human reason reaches, in that admirable people the Greeks, traveled the secure path of a science. Yet it must not be thought that it was as easy for it as for logic – in which reason has to do only with itself – to find that royal path, or rather itself to open it up; rather, I believe that B xi
mathematics was left groping about for a long time (chiefly among the Egyptians), and that its transformation is to be ascribed to a **revolution,** brought about by the happy inspiration of a single man in an at-

[a] *Object*
[b] *Objecte*
[c] *Objecte*
[d] *Object*
[e] *Objecte*

tempt from which the road to be taken onward could no longer be missed, and the secure course of a science was entered on and prescribed for all time and to an infinite extent. The history of this revolution in the way of thinking – which was far more important than the discovery of the way around the famous Cape[11] – and of the lucky one who brought it about, has not been preserved for us. But the legend handed down to us by Diogenes Laertius – who names the reputed inventor of the smallest elements of geometrical demonstrations, even of those that, according to common judgment, stand in no need of proof – proves that the memory of the alteration wrought by the discovery of this new path in its earliest footsteps must have seemed exceedingly important to mathematicians, and was thereby rendered unforgettable. A new light broke upon the first person who demonstrated the isosceles[a] triangle (whether he was called "Thales" or had some other name).[12] For he found that what he had to do was
Bxii not to trace what he saw in this figure, or even trace its mere concept, and read off, as it were, from the properties of the figure; but rather that he had to produce the latter from what he himself thought into the object and presented (through construction) according to *a priori* concepts, and that in order to know something securely *a priori* he had to ascribe to the thing nothing except what followed necessarily from what he himself had put into it in accordance with its concept.

It took natural science much longer to find the highway of science; for it is only about one and a half centuries since the suggestion of the ingenious Francis Bacon partly occasioned this discovery and partly further stimulated it, since one was already on its tracks – which discovery, therefore, can just as much be explained by a sudden revolution in the way of thinking. Here I will consider natural science only insofar as it is grounded on **empirical** principles.[b]

When Galileo[13] rolled balls of a weight chosen by himself down an inclined plane, or when Torricelli[14] made the air bear a weight that he had previously thought to be equal to that of a known column of water, or when in a later time Stahl[15] changed metals into calx[c] and then
Bxiii changed the latter back into metal by first removing something and

[a] Kant's text reads "*gleichseitig*" (equilateral); but on the basis of his correction in a letter to Schütz of 25 June 1787 (10:466), he appears to have meant "*gleichschenklig*" (isosceles).

[b] *Principien*

[c] *Kalk*. Kemp Smith translates this as "oxides," but that is anachronistic; prior to the chemical revolution of Priestley and Lavoisier, the calx was conceived to be what was left of a metal after its phlogiston had been driven off; only later was it discovered that this process was actually one of oxidation.

then putting it back again,* a light dawned on all those who study nature. They comprehended that reason has insight only into what it itself produces according to its own design; that it must take the lead with principles[a] for its judgments according to constant laws and compel nature to answer its questions, rather than letting nature guide its movements by keeping reason, as it were, in leading-strings; for otherwise accidental observations, made according to no previously designed plan, can never connect up into a necessary law, which is yet what reason seeks and requires. Reason, in order to be taught by nature, must approach nature with its principles[b] in one hand, according to which alone the agreement among appearances can count as laws, and, in the other hand, the experiments thought out in accordance with these principles[c] – yet in order to be instructed by nature not like a pupil, who has recited to him whatever the teacher wants to say, but like an appointed judge who compels witnesses to answer the questions he puts to them. Thus even physics owes the advantageous revolution in its way of thinking to the inspiration that what reason would not be able to know of itself and has to learn from nature, it has to seek in the latter (though not merely ascribe to it) in accordance with what reason itself puts into nature. This is how natural science was first brought to the secure course of a science after groping about for so many centuries. B xiv

Metaphysics – a wholly isolated speculative cognition of reason that elevates itself entirely above all instruction from experience, and that through mere concepts (not, like mathematics, through the application of concepts to intuition), where reason thus is supposed to be its own pupil – has up to now not been so favored by fate as to have been able to enter upon the secure course of a science, even though it is older than all other sciences, and would remain even if all the others were swallowed up by an all-consuming barbarism. For in it reason continuously gets stuck, even when it claims *a priori* insight (as it pretends) into those laws confirmed by the commonest experience. In metaphysics we have to retrace our path countless times, because we find that it does not lead where we want to go, and it is so far from reaching unanimity in the assertions of its adherents that it is rather a battlefield, and indeed one that appears to be especially determined for testing one's powers in mock combat; on this battlefield no combatant has ever gained the least B xv

* Here I am not following exactly the thread of the history of the experimental method, whose first beginnings are also not precisely known. B xiii

[a] *Principien*
[b] *Principien*
[c] *Principien*

bit of ground, nor has any been able to base any lasting possession on his victory. Hence there is no doubt that up to now the procedure of metaphysics has been a mere groping, and what is the worst, a groping among mere concepts.

Now why is it that here the secure path of science still could not be found? Is it perhaps impossible? Why then has nature afflicted our reason with the restless striving for such a path, as if it were one of reason's most important occupations? Still more, how little cause have we to place trust in our reason if in one of the most important parts of our desire for knowledge it does not merely forsake us but even entices us with delusions and in the end betrays us! Or if the path has merely eluded us so far, what indications may we use that might lead us to hope that in renewed attempts we will be luckier than those who have gone before us?

I should think that the examples of mathematics and natural science,
B xvi which have become what they now are through a revolution brought about all at once, were remarkable enough that we might reflect on the essential element in the change in the ways of thinking that has been so advantageous to them, and, at least as an experiment, imitate it insofar as their analogy with metaphysics, as rational cognition, might permit. Up to now it has been assumed that all our cognition must conform to the objects; but all attempts to find out something about them *a priori* through concepts that would extend our cognition have, on this presupposition, come to nothing. Hence let us once try whether we do not get farther with the problems of metaphysics by assuming that the objects[a] must conform to our cognition, which would agree better with the requested possibility of an *a priori* cognition of them, which is to establish something about objects[b] before they are given to us. This would be just like the first thoughts of Copernicus,[16] who, when he did not make good progress in the explanation of the celestial motions if he assumed that the entire celestial host revolves around the observer, tried to see if he might not have greater success if he made the observer revolve and left the stars at rest. Now in metaphysics we can try in a sim-
B xvii ilar way regarding the **intuition** of objects. If intuition has to conform to the constitution of the objects, then I do not see how we can know anything of them *a priori;* but if the object (as an object[c] of the senses) conforms to the constitution of our faculty of intuition, then I can very well represent this possibility to myself. Yet because I cannot stop with these intuitions, if they are to become cognitions, but must refer them as representations to something as their object and determine this ob-

[a] *Objecte*
[b] *Objecte*
[c] *Object*

ject through them, I can assume either that the concepts through which I bring about this determination also conform to the objects, and then I am once again in the same difficulty about how I could know anything about them *a priori*, or else I assume that the objects, or what is the same thing, the *experience* in which alone they can be cognized (as given objects) conforms to those concepts, in which case I immediately see an easier way out of the difficulty, since experience itself is a kind of cognition requiring the understanding, whose rule I have to presuppose in myself before any object is given to me, hence *a priori*, which rule is expressed in concepts *a priori*, to which all objects of experience must therefore necessarily conform, and with which they must agree. As for B xviii objects insofar as they are thought merely through reason, and necessarily at that, but that (at least as reason thinks them) cannot be given in experience at all – the attempt to think them (for they must be capable of being thought) will provide a splendid touchstone of what we assume as the altered method of our way of thinking, namely that we can cognize of things *a priori* only what we ourselves have put into them.*

This experiment succeeds as well as we could wish, and it promises to metaphysics the secure course of a science in its first part, where it concerns itself with concepts *a priori* to which the corresponding objects appropriate to them can be given in experience. For after this alteration in B xix our way of thinking we can very well explain the possibility of a cognition *a priori*, and what is still more, we can provide satisfactory proofs of the laws that are the *a priori* ground of nature, as the sum total of objects of experience – which were both impossible according to the earlier way of proceeding. But from this deduction of our faculty of cognizing *a pri-*

* This method, imitated from the method of those who study nature, thus con- B xviii
sists in this: to seek the elements of pure reason in that **which admits of being confirmed or refuted through an experiment.** Now the propositions of pure reason, especially when they venture beyond all boundaries of possible experience, admit of no test by experiment with their **objects**[a] (as in natural science): thus to experiment will be feasible only with **concepts** and **principles** that we assume *a priori* by arranging the latter so that the same objects can be considered from two different sides, **on the one side** as objects of the senses and the understanding for experience, and **on the other** B xix
side as objects that are merely thought at most for isolated reason striving beyond the bounds of experience. If we now find that there is agreement with the principle[b] of pure reason when things are considered from this twofold standpoint, but that an unavoidable conflict of reason with itself arises with a single standpoint, then the experiment decides for the correctness of that distinction.

[a] *Objecte*
[b] *Princip*

ori in the first part of metaphysics, there emerges a very strange result, and one that appears very disadvantageous to the whole purpose with which the second part of metaphysics concerns itself, namely that with this faculty we can never get beyond the boundaries of possible experience, which is nevertheless precisely the most essential occupation of
B XX this science. But herein lies just the experiment providing a checkup[a] on the truth of the result of that first assessment of our rational cognition *a priori*, namely that such cognition reaches appearances only, leaving the thing[b] in itself as something actual for itself but uncognized by us. For that which necessarily drives us to go beyond the boundaries of experience and all appearances is the **unconditioned,** which reason necessarily and with every right demands in things in themselves for everything that is conditioned, thereby demanding the series of conditions as something completed. Now if we find that on the assumption that our cognition from experience conforms to the objects as things in themselves, the unconditioned **cannot be thought at all without contradiction,** but that on the contrary, if we assume that our representation of things as they are given to us does not conform to these things as they are in themselves but rather that these objects as appearances conform to our way of representing, then **the contradiction disappears;** and consequently that the unconditioned must not be present[c] in things insofar as we are acquainted with them (insofar as they are given to us), but rather in things insofar as we are not acquainted with them, as things[d] in themselves: then this would show that what we initially as-
B xxi sumed only as an experiment is well grounded.* Now after speculative reason has been denied all advance in this field of the supersensible, what still remains for us is to try whether there are not data in reason's practical data for determining that transcendent rational concept of the unconditioned, in such a way as to reach beyond the boundaries of all possible experience, in accordance with the wishes of metaphysics, cognitions *a priori* that are possible, but only from a practical standpoint. By

* This experiment of pure reason has much in common with what the **chemists** sometimes call the experiment of **reduction,** or more generally the **synthetic procedure.** The **analysis of the metaphysician** separated pure *a priori* knowledge into two very heterogeneous elements, namely those of the things as appearances and the things in themselves. The **dialectic** once again combines them, in **unison** with the necessary rational idea of the **unconditioned,** and finds that the unison will never come about except through that distinction, which is therefore the true one.

[a] *Gegenprobe*
[b] *Sache*
[c] *angetroffen*
[d] *Sachen*

such procedures speculative reason has at least made room for such an extension, even if it had to leave it empty; and we remain at liberty, indeed we are called upon by reason to fill it if we can through practical data of reason.* B xxii

Now the concern of this critique of pure speculative reason consists in that attempt to transform the accepted procedure of metaphysics, undertaking an entire revolution according to the example of the geometers and natural scientists. It is a treatise on the method, not a system of the science itself; but it catalogs the entire outline of the science of metaphysics, both in respect of its boundaries and in respect of its entire internal structure. For pure speculative reason has this peculiarity B xxiii about it, that it can and should measure its own capacity[a] according to the different ways for choosing the objects[b] of its thinking, and also completely enumerate the manifold ways of putting problems[c] before itself, so as to catalog the entire preliminary sketch of a whole system of metaphysics; because, regarding the first point, in *a priori* cognition nothing can be ascribed to the objects[d] except what the thinking subject takes out of itself, and regarding the second, pure speculative reason is, in respect of principles[e] of cognition, a unity entirely separate and subsisting for itself, in which, as in an organized body, every part exists for the sake of all the others as all the others exist for its sake, and no principle[f] can be taken with certainty in **one** relation unless it has at the

* In the same way, the central laws of the motion of the heavenly bodies established with certainty what Copernicus assumed at the beginning only as a hypothesis, and at the same time they proved the invisible force (of Newtonian attraction) that binds the universe,[g] which would have remained forever undiscovered if Copernicus had not ventured, in a manner contradictory to the senses yet true, to seek for the observed movements not in the objects of the heavens but in their observer. In this Preface I propose the transformation in our way of thinking presented in criticism[b] merely as a hypothesis, analogous to that other hypothesis, only in order to draw our notice to the first attempts at such a transformation, which are always hypothetical, even though in the treatise itself it will be proved not hypothetically but rather apodictically from the constitution of our representations of space and time and from the elementary concepts of the understanding. B xxiii

[a] *Vermögen*
[b] *Objecte*
[c] *Aufgaben*
[d] *Objecte*
[e] *Principien*
[f] *Princip*
[g] *Weltbau*
[b] *in der Kritik,* which could also be translated "in the *Critique,*" referring to the present book as a whole.

same time been investigated in its **thoroughgoing** relation to the entire use of pure reason. But then metaphysics also has the rare good fortune, enjoyed by no other rational science that has to do with objects[a] (for **logic** deals only with the form of thinking in general), which is that if by this critique it has been brought onto the secure course of a science, then it can fully embrace the entire field of cognitions belonging to it
B xxiv and thus can complete its work and lay it down for posterity as a principal framework[b] that can never be enlarged, since it has to do solely with principles[c] and the limitations on their use, which are determined by the principles themselves. Hence as a fundamental science, metaphysics is also bound to achieve this completeness, and we must be able to say of it: *nil actum reputans, si quid superesset agendum.*[d]

But it will be asked: What sort of treasure is it that we intend to leave to posterity, in the form of a metaphysics that has been purified through criticism but thereby also brought into a changeless state?[e] On a cursory overview of this work, one might believe that one perceives it to be only of **negative** utility, teaching us never to venture with speculative reason beyond the boundaries of experience; and in fact that is its first usefulness. But this utility soon becomes **positive** when we become aware that the principles with which speculative reason ventures beyond its boundaries do not in fact result in **extending** our use of reason, but rather, if one considers them more closely, inevitably result in **narrowing** it by threatening to extend the boundaries of sensibility, to which
B xxv these principles really belong, beyond everything, and so even to dislodge the use of pure (practical) reason. Hence a critique that limits the speculative use of reason is, to be sure, to that extent **negative**, but because it simultaneously removes an obstacle that limits or even threatens to wipe out the practical use of reason, this critique is also in fact of **positive** and very important utility, as soon as we have convinced ourselves that there is an absolutely necessary practical use of pure reason (the moral use), in which reason unavoidably extends itself beyond the boundaries of sensibility, without needing any assistance from speculative reason, but in which it must also be made secure against any counteraction from the latter, in order not to fall into contradiction with

[a] *Objecte*

[b] *Hauptstuhl;* Kant's metaphor seems to be drawn from weaving (cf. *Webstuhl*, a loom or frame for weaving).

[c] *Principien*

[d] "Thinking nothing done if something more is to be done." The correct quotation is: "*Caesar in omnia praeceps, nil actum credens, cum quid superesset agendum, instat atrox*" (Caesar, headlong in everything, believing nothing done while something more remained to be done, pressed forward fiercely) (Lucan, *De bello civili* 2:657).

[e] *beharrlichen Zustand*

itself. To deny that this service of criticism[a] is of any **positive** utility would be as much as to say that the police are of no positive utility because their chief business is to put a stop to the violence that citizens have to fear from other citizens, so that each can carry on his own affairs in peace and safety.[17] In the analytical part of the critique it is proved that space and time are only forms of sensible intuition, and therefore only conditions of the existence of the things as appearances, further that we have no concepts of the understanding and hence no elements for the cognition of things except insofar as an intuition can be B xxvi
given corresponding to these concepts, consequently that we can have cognition of no object as a thing in itself, but only insofar as it is an object[b] of sensible intuition, i.e. as an appearance; from which follows the limitation of all even possible speculative cognition of reason to mere objects of **experience**. Yet the reservation must also be well noted, that even if we cannot **cognize** these same objects as things in themselves, we at least must be able to **think** them as things in themselves.* For otherwise there would follow the absurd proposition that there is an appearance without anything that appears. Now if we were to assume that B xxvii
the distinction between things as objects of experience and the very same things as things in themselves, which our critique has made necessary, were not made at all, then the principle of causality, and hence the mechanism of nature in determining causality, would be valid of all things in general as efficient causes. I would not be able to say of one and the same thing, e.g., the human soul, that its will is free and yet that it is simultaneously subject to natural necessity, i.e., that it is not free, without falling into an obvious contradiction; because in both propositions I would have taken the soul **in just the same meaning**,[c] namely as a thing in general (as a thing[d] in itself), and without prior critique, I

* To **cognize** an object, it is required that I be able to prove its possibility B xxvi
(whether by the testimony of experience from its actuality or *a priori* through reason). But I can **think** whatever I like, as long as I do not contradict myself, i.e., as long as my concept is a possible thought, even if I cannot give any assurance whether or not there is a corresponding object[e] somewhere within the sum total of all possibilities. But in order to ascribe objective validity to such a concept (real possibility, for the first sort of possibility was merely logical) something more is required. This "more," however, need not be sought in theoretical sources of cognition; it may also lie in practical ones.

[a] *der Kritik*
[b] *Object*
[c] *Bedeutung;* "meaning" will translate this word for the remainder of this paragraph.
[d] *Sache*
[e] *Object*

could not have taken it otherwise. But if the critique has not erred in teaching that the object[a] should be taken in **a twofold meaning,** namely as appearance or as thing in itself;[18] if its deduction of the pure concepts of the understanding is correct, and hence the principle of causality applies only to things taken in the first sense, namely insofar as they are objects of experience, while things in the second meaning are not subject to it; then just the same will is thought of in the appear-
B xxviii ance (in visible actions) as necessarily subject to the law of nature and to this extent **not free**, while yet on the other hand it is thought of as belonging to a thing in itself as not subject to that law, and hence **free,** without any contradiction hereby occurring. Now although I cannot **cognize** my soul, considered from the latter side, through any speculative reason (still less through empirical observation), and hence I cannot **cognize** freedom as a property of any being to which I ascribe effects in the world of sense, because then I would have to cognize such an existence as determined, and yet not as determined in time (which is impossible, since I cannot support my concept with any intuition), nevertheless, I can **think** freedom to myself, i.e., the representation of it at least contains no contradiction in itself, so long as our critical distinction prevails between the two ways of representing (sensible and intellectual), along with the limitation of the pure concepts of the understanding arising from it, and hence that of the principles flowing from them. Now suppose that morality necessarily presupposes freedom (in the strictest sense) as a property of our will, citing *a priori* as **data** for this freedom certain original practical principles lying in our reason, which would be absolutely impossible without the presupposition of
B xxix freedom, yet that speculative reason had proved that freedom cannot be thought at all, then that presupposition, namely the moral one, would necessarily have to yield to the other one, whose opposite contains an obvious contradiction; consequently **freedom** and with it morality (for the latter would contain no contradiction if freedom were not already presupposed) would have to give way to the **mechanism of nature**. But then, since for morality I need nothing more than that freedom should not contradict itself, that it should at least be thinkable that it should place no hindrance in the way of the **mechanism of nature** in the same action (taken in another relation), without it being necessary for me to have any further insight into it: the doctrine of morality asserts its place and the doctrine of nature its own, which, however, would not have occurred if criticism had not first taught us of our unavoidable ignorance in respect of the things in themselves and limited everything that we can **cognize** theoretically to mere appearances. Just the same sort of exposition of the positive utility of critical principles of pure reason can be

[a] *Object*

given in respect to the concepts of **God** and of the **simple nature** of our **soul,** which, however, I forgo for the sake of brevity. Thus I cannot even **assume God, freedom and immortality** for the sake of the necessary practical use of my reason unless I simultaneously **deprive** speculative reason of its pretension to extravagant insights; because in order to attain to such insights, speculative reason would have to help itself to principles that in fact reach only to objects of possible experience, and which, if they were to be applied to what cannot be an object of experience, then they would always actually transform it into an appearance, and thus declare all **practical extension** of pure reason to be impossible. Thus I had to deny **knowledge** in order to make room for **faith;** and the dogmatism of metaphysics, i.e., the prejudice that without criticism reason can make progress in metaphysics, is the true source of all unbelief conflicting with morality, which unbelief is always very dogmatic. – Thus even if it cannot be all that difficult to leave to posterity the legacy of a systematic metaphysics, constructed according to the critique of pure reason, this is still a gift deserving of no small respect; to see this, we need merely to compare the culture of reason that is set on the course of a secure science with reason's unfounded groping and frivolous wandering about without critique, or to consider how much better young people hungry for knowledge might spend their time than in the usual dogmatism that gives so early and so much encouragement to their complacent quibbling about things they do not understand, and things into which neither they nor anyone else in the world will ever have any insight, or even encourages them to launch on the invention of new thoughts and opinions, and thus to neglect to learn the well-grounded sciences; but we see it above all when we take account of the way criticism puts an end for all future time to objections against morality and religion in a **Socratic** way, namely by the clearest proof of the ignorance of the opponent. For there has always been some metaphysics or other to be met with in the world, and there will always continue to be one, and with it a dialectic of pure reason, because dialectic is natural to reason. Hence it is the first and most important occupation of philosophy to deprive dialectic once and for all of all disadvantageous influence, by blocking off the source of the errors.

B xxx

B xxxi

With this important alteration in the field of the sciences, and with the **loss** of its hitherto imagined possessions that speculative reason must suffer, everything yet remains in the same advantageous state as it was before concerning the universal human concern and the utility that the world has so far drawn from the doctrines of pure reason, and the loss touches only the **monopoly of the schools** and in no way the **interest of human beings.** I ask the most inflexible dogmatist whether the proof of the continuation of our soul after death drawn from the simplicity of substance, or the proof of freedom of the will against uni-

B xxxii

versal mechanism drawn from the subtle though powerless distinctions between subjective and objective practical necessity, or the proof of the existence of God drawn from the concept of a most real being (or from the contingency of what is alterable and the necessity of a first mover), have ever, after originating in the schools, been able to reach the public or have the least influence over its convictions? If that has never happened, and if it can never be expected to happen, owing to the unsuitability of the common human understanding for such subtle speculation; if rather the conviction that reaches the public, insofar as it rests on rational grounds, had to be effected by something else – namely, as regards the first point, on that remarkable predisposition of our nature, noticeable to every human being, never to be capable of being satisfied by what is temporal (since the temporal is always insufficient for the predispositions of our whole vocation) leading to the hope of a future life; in respect of the second point, the mere clear exB xxxiii position of our duties in opposition to all claims of the inclinations leading to the consciousness of freedom; and finally, touching on the third point, the splendid order, beauty, and providence shown forth everywhere in nature leading to the faith in a wise and great author of the world – then this possession not only remains undisturbed, but it even gains in respect through the fact that now the schools are instructed to pretend to no higher or more comprehensive insight on any point touching the universal human concerns than the insight that is accessible to the great multitude (who are always most worthy of our respect), and to limit themselves to the cultivation of those grounds of proof alone that can be grasped universally and are sufficient from a moral standpoint. The alteration thus concerns only the arrogant claims of the schools, which would gladly let themselves be taken for the sole experts and guardians of such truths (as they can rightly be taken in many other parts of knowledge), sharing with the public only the use of such truths, while keeping the key to them for themselves (*quod mecum nescit, solus vult scire videri*).[a] Yet care is taken for a more equitable claim on the B xxxiv part of the speculative philosopher. He remains the exclusive trustee of a science that is useful to the public even without their knowledge, namely the critique of reason; for the latter can never become popular, but also has no need of being so; for just as little as the people want to fill their heads with fine-spun arguments for useful truths, so just as little do the equally subtle objections against these truths ever enter their minds; on the contrary, because the school inevitably falls into both, as does everyone who raises himself to speculation, the critique of reason

[a] "What he knows no more than I, he alone wants to seem to know." The correct quotation is "*Quod mecum ignorat, solus volt scire videri*" (What is unknown to me, that alone he wants to seem to know) (Horace, *Epistles* 2.1.87).

is bound once and for all to prevent, by a fundamental investigation of the rights of speculative reason, the scandal that sooner or later has to be noticed even among the people in the disputes in which, in the absence of criticism, metaphysicians (and among these in the end even clerics) inevitably involve themselves, and in which they afterwards even falsify their own doctrines. Through criticism alone can we sever the very root of **materialism, fatalism, atheism,** of freethinking **unbelief,** of **enthusiasm** and **superstition,** which can become generally injurious, and finally also of **idealism** and **skepticism,** which are more dangerous to the schools and can hardly be transmitted to the public. If governments find it good to concern themselves with the affairs of B XXXV
scholars, then it would accord better with their wise solicitude both for the sciences and for humanity if they favored the freedom of such a critique, by which alone the treatments of reason can be put on a firm footing, instead of supporting the ridiculous despotism of the schools, which raise a loud cry of public danger whenever someone tears apart their cobwebs, of which the public has never taken any notice, and hence the loss of which it can also never feel.

Criticism is not opposed to the **dogmatic procedure** of reason in its pure cognition as science (for science must always be dogmatic, i.e., it must prove its conclusions strictly *a priori* from secure principles)[a]; rather, it is opposed only to dogmatism, i.e., to the presumption of getting on solely with pure cognition from (philosophical) concepts according to principles,[b] which reason has been using for a long time without first inquiring in what way and by what right it has obtained them. Dogmatism is therefore the dogmatic procedure of pure reason, **without an antecedent critique of its own capacity.**[c] This opposition therefore must not be viewed as putting in a good word for that loquacious shallowness under the presumed name of popularity, or even of skepticism, which gives short shrift to all metaphysics; rather, criticism B XXXVI
is the preparatory activity necessary for the advancement of metaphysics as a well-grounded science, which must necessarily be dogmatic, carried out systematically in accordance with the strictest requirement, hence according to scholastic rigor (and not in a popular way); for this requirement is one that it may not neglect, since it undertakes to carry out its business wholly *a priori* and thus to the full satisfaction of speculative reason. In someday carrying out the plan that criticism prescribes, i.e., in the future system of metaphysics, we will have to follow the strict method of the famous Wolff, the greatest among all dogmatic philosophers, who gave us the first example (an ex-

[a] *Principien*
[b] *Principien*
[c] *Vermögen*

ample by which he became the author of a spirit of well-groundedness in Germany that is still not extinguished) of the way in which the secure course of a science is to be taken, through the regular ascertainment of the principles,[a] the clear determination of concepts, the attempt at strictness in the proofs, and the prevention of audacious leaps in inferences; for these reasons he had the skills for moving a science such as metaphysics into this condition, if only it had occurred to him to prepare the field for it by a critique of the organ, namely pure reason itself:
B xxxvii a lack that is to be charged not so much to him as to the dogmatic way of thinking prevalent in his age; and for this the philosophers of his as of all previous times have nothing for which to reproach themselves. Those who reject his kind of teaching and simultaneously the procedure of the critique of pure reason can have nothing else in mind except to throw off the fetters of **science** altogether, and to transform work into play, certainty into opinion, and philosophy into philodoxy.

Concerning this second edition, I have wanted, as is only proper, not to forgo the opportunity to remove as far as possible those difficulties and obscurities from which may have sprung several misunderstandings into which acute men, perhaps not without some fault on my part, have fallen in their judgment of this book. I have found nothing to alter either in the propositions themselves or in their grounds of proof, or in the form and completeness of the book's plan; this is to be ascribed partly to the long period of scrutiny to which I subjected them prior to laying it before the public; and partly to the constitution of the matter itself, namely to the nature of a pure speculative reason, which contains a truly articulated structure of members in which each thing is an organ, that is, in which everything is for the sake of each member, and each
B xxxviii individual member is for the sake of all, so that even the least frailty, whether it be a mistake (an error) or a lack, must inevitably betray itself in its use. I hope this system will henceforth maintain itself in this unalterability. It is not self-conceit that justifies my trust in this, but rather merely the evidence drawn from the experiment showing that the result effected is the same whether we proceed from the smallest elements to the whole of pure reason or return from the whole to every part (for this whole too is given in itself through the final intention of pure reason in the practical); while the attempt to alter even the smallest part directly introduces contradictions not merely into the system, but into universal human reason. Yet in the **presentation** there is still much to do, and here is where I have attempted to make improvements in this edition, which should remove first, the misunderstanding of the Aesthetic, chiefly the one in the concept of time; second, the obscurity in the Deduction of the Concepts of the Understanding, next the supposed

[a] *Principien*

lack of sufficient evidence in the proofs of the Principles of Pure Understanding, and finally the misinterpretation of the paralogisms advanced against rational psychology. My revisions[19] of the mode of presentation* extend only to this point (namely, only to the end of the first chapter of the Transcendental Dialectic) and no further, because time B xxxix

* The only thing I can really call a supplement, and that only in the way of proof, is what I have said at [B]273 in the form of a new refutation of psychological **idealism,** and a strict proof (the only possible one, I believe) of the objective reality of outer intuition. No matter how innocent idealism may be held to be as regards the essential ends of metaphysics (though in fact it is not so innocent), it always remains a scandal of philosophy and universal human reason that the existence of things outside us (from which we after all get the whole matter for our cognitions, even for our inner sense) should have to be assumed merely **on faith,** and that if it occurs to anyone to doubt it, we should be unable to answer him with a satisfactory proof. Because there are some obscurities in the expressions of this proof between the third and sixth lines, I ask leave to alter this passage as follows: **"But this persisting element cannot be an intuition in me. For all the determining grounds of my existence that can be encountered in me are representations, and as such they themselves need something persisting distinct from them, in relation to which their change, and thus my existence in the time in which they change, can be determined."** Against this proof one will perhaps say: I am immediately conscious to myself only of what is in me, i.e., of my **representation** of external things; consequently it still remains undecided whether there is something outside me corresponding to it or not. Yet I am conscious through inner **experience** of **my existence in time** (and consequently also of its determinability in time), and this is more than merely being conscious of my representation; yet it is identical with the **empirical consciousness of my existence,** which is only determinable through a relation to something that, while being bound up with my existence, **is outside me.** This consciousness of my existence in time is thus bound up identically with the consciousness of a relation to something outside me, and so it is experience and not fiction, sense and not imagination, that inseparably joins the outer with my inner sense; for outer sense is already in itself a relation[a] of intuition to something actual outside me; and its reality, as distinct from imagination, rests only on the fact that it is inseparably bound up with inner experience itself, as the condition of its possibility, which happens here. If I could combine a determination of my existence through **intellectual intuition** simultaneously with the **intellectual consciousness** of my existence, in the representation **I am,** which accompanies all my judgments and actions of my understanding, then no consciousness of a relation[b] to something outside me would necessarily belong to this. But now that intellectual consciousness does to be sure precede, but the inner intuition, in which alone B xxxix B xl

[a] *Verhältnis*
[b] *Verhältnis*

B xl was too short, and also in respect of the rest of the book no misunderstanding on the part of expert and impartial examiners has come my
B xli way, whom I have not been able to name with the praise due to them;
B xlii but the attention I have paid to their reminders will be evident to them in the appropriate passages. This improvement, however, is bound up with a small loss for the reader, which could not be guarded against without making the book too voluminous: namely, various things that are not essentially required for the completeness of the whole had to be omitted or treated in an abbreviated fashion, despite the fact that some readers may not like doing without them, since they could still be useful in another respect; only in this way could I make room for what I hope is a more comprehensible presentation, which fundamentally alters absolutely nothing in regard to the propositions or even their grounds of proof, but which departs so far from the previous edition in the method of presentation that it could not be managed through interpolations. This small loss, which in any case can be compensated for, if anyone likes, by comparing the first and second

my existence can be determined, is sensible, and is bound to a condition of-time; however, this determination, and hence inner experience itself, depends on something permanent, which is not in me, and consequently must be out-
B xli side me, and I must consider myself in relation[a] to it; thus for an experience in general to be possible, the reality of outer sense is necessarily bound up with that of inner sense, i.e., I am just as certainly conscious that there are things outside me to which my sensibility relates, as I am conscious that I myself exist determined in time. Now which given intuitions actually correspond to outer objects, which therefore belong to outer **sense,** to which they are to be ascribed rather than to the imagination – that must be decided in each particular case according to the rules through which experience in general (even inner experience) is to be distinguished from imagination; which procedure is grounded always on the proposition that there actually is outer experience. To this the following remark can be added: The representation of something **persisting** in existence is not the same as a **persisting representation;** for that can be quite variable and changeable, as all our representations are, even the representations of matter, while still being related to something permanent, which must therefore be a thing distinct from all my representations and external, the existence of which is necessarily included in the **determination** of my own existence, which with it constitutes only a single experience, which could not take place even as inner if it were not simultaneously (in part) outer. The "How?" of this can be no more explained than we can explain further how we can think at all of what abides in time, whose simultaneity with what changes is what produces the concept of alteration.

[a] *Relation*

editions, is, as I hope, more than compensated for by greater comprehensibility. In various public writings (partly in the reviews of some books, partly in special treatises) I have perceived with gratitude and enjoyment that the spirit of well-groundedness has not died out in Germany, but has only been drowned out for a short time by the fash- Bxliii
ionable noise of a freedom of thought that fancies itself ingenious, and I see that the thorny paths of criticism, leading to a science of pure reason that is scholastically rigorous but as such the only lasting and hence the most necessary science, has not hindered courageous and clear minds from mastering them. To these deserving men, who combine well-groundedness of insight so fortunately with the talent for a lucid presentation (something I am conscious of not having myself), I leave it to complete my treatment, which is perhaps defective here and there in this latter regard. For in this case the danger is not that I will be refuted, but that I will not be understood. For my own part, from now on I cannot let myself become involved in controversies, although I shall attend carefully to all hints, whether they come from friends or from opponents, so that I may utilize them, in accordance with this propaedeutic, in the future execution of the system. Since during these labors I have come to be rather advanced in age (this month I will attain my sixty-fourth year), I must proceed frugally with my time if I am to carry out my plan of providing the metaphysics both of nature and of morals, as confirmation of the correctness of the critique both of theoretical and practical reason; and I must await the illumination of those obscurities that are hardly to be avoided at the beginning of this Bxliv
work, as well as the defense of the whole, from those deserving men who have made it their own. Any philosophical treatise may find itself under pressure in particular passages (for it cannot be as fully armored as a mathematical treatise), while the whole structure of the system, considered as a unity, proceeds without the least danger; when a system is new, few have the adroitness of mind[a] to gain an overview of it, and because all innovation is an inconvenience to them, still fewer have the desire to do so. Also, in any piece of writing apparent contradictions can be ferreted out if individual passages are torn out of their context and compared with each other, especially in a piece of informal discourse[b] that in the eyes of those who rely on the judgment of others cast a disadvantageous light on that piece of writing but that can be very easily resolved by someone who has mastered the idea of the whole. Meanwhile, if a theory is really durable, then in time the effect

[a] *Geist*
[b] *als freie Rede fortgehenden Schrift*

of action and reaction, which at first seemed to threaten it with great danger, will serve only to polish away its rough spots, and if men of impartiality, insight, and true popularity make it their business to do this, then in a short time they will produce even the required elegance.

Königsberg, in the month of April, 1787.

B 1

Introduction[a]

I.[b]

On the difference between pure and empirical cognition.

There is no doubt whatever that all our cognition begins with experience; for how else should the cognitive faculty be awakened into exercise if not through objects that stimulate our senses and in part themselves produce representations, in part bring the activity of our understanding into motion to compare these, to connect or separate them, and thus to work up the raw material of sensible impressions into a cognition of objects that is called experience?[7] **As far as time is concerned,** then, no cognition in us precedes experience, and with experience every cognition begins.

But although all our cognition commences **with** experience, yet it does not on that account all arise **from** experience. For it could well be that even our experiential cognition is a composite of that which we receive through impressions and that which our own cognitive faculty (merely prompted by sensible impressions) provides out of itself,
B 2 which addition we cannot distinguish from that fundamental material until long practice has made us attentive to it and skilled in separating it out.

It is therefore at least a question requiring closer investigation, and one not to be dismissed at first glance, whether there is any such cognition independent of all experience and even of all impressions of the senses. One calls such **cognitions *a priori*,**[c] and distinguishes them from **empirical** ones, which have their sources *a posteriori*, namely in experience.[8]

The former expression[d] is nevertheless not yet sufficiently determinate to designate the whole sense of the question before us. For it is customary to say of many a cognition derived from experiential sources that we are capable of it or partake in it *a priori*, because we do not derive it

[a] As in the second edition.
[b] Sections I and II (B 1–6) replace the first two paragraphs of Section I in the first edition (A 1–2).
[c] Normally set in roman type, here emphasized by Kant by the use of italics.
[d] That is, "*a priori*."

immediately from experience, but rather from a general rule that we have nevertheless itself borrowed from experience. So one says of someone who undermined the foundation of his house that he could have known *a priori* that it would collapse, i.e., he need not have waited for the experience of it actually collapsing. Yet he could not have known this entirely *a priori*.[9] For that bodies are heavy and hence fall if their support is taken away must first have become known to him through experience.

In the sequel therefore we will understand by *a priori* cognitions not those that occur independently of this or that experience, but rather those that occur *absolutely* independently of all experience. Opposed to B3
them are empirical cognitions, or those that are possible only *a posteriori*, i.e., through experience. Among *a priori* cognitions, however, those are called **pure** with which nothing empirical is intermixed. Thus, e.g., the proposition "Every alteration has its cause" is an *a priori* proposition, only not pure, since alteration is a concept that can be drawn only from experience.[10]

II.
We are in possession of certain *a priori* cognitions, and even the common understanding is never without them.

At issue here is a mark by means of which we can securely distinguish a pure cognition from an empirical one.[11] Experience teaches us, to be sure, that something is constituted thus and so, but not that it could not be otherwise. **First,** then, if a proposition is thought along with its **necessity,** it is an *a priori* judgment; if it is, moreover, also not derived from any proposition except one that in turn is valid as a necessary proposition, then it is absolutely *a priori*. **Second:** Experience never gives its judgments true or strict but only assumed and comparative **universality** (through induction), so properly it must be said: as far as we have yet perceived, there is no exception to this or that rule. Thus if B4
a judgment is thought in strict universality, i.e., in such a way that no exception at all is allowed to be possible, then it is not derived from experience, but is rather valid absolutely *a priori*. Empirical universality is therefore only an arbitrary increase in validity from that which holds in most cases to that which holds in all, as in, e.g., the proposition "All bodies are heavy," whereas strict universality belongs to a judgment essentially; this points to a special source of cognition for it, namely a faculty of *a priori* cognition. Necessity and strict universality are therefore secure indications[a] of an *a priori* cognition, and also belong together in-

[a] *Kennzeichen*

separably. But since in their use it is sometimes easier to show the empirical limitation in judgments than the contingency in them, or is often more plausible to show the unrestricted universality that we ascribe to a judgment than its necessity, it is advisable to employ separately these two criteria, each of which is in itself infallible.[12]

Now it is easy to show that in human cognition there actually are such necessary and in the strictest sense universal, thus pure *a priori* judgments. If one wants an example from the sciences, one need only look at all the propositions of mathematics; if one would have one
B5 from the commonest use of the understanding, the proposition that every alteration must have a cause will do; indeed in the latter the very concept of a cause so obviously contains the concept of a necessity of connection with an effect and a strict universality of rule that it would be entirely lost if one sought, as Hume did, to derive it from a frequent association of that which happens with that which precedes and a habit (thus a merely subjective necessity) of connecting representations arising from that association.[13] Even without requiring such examples for the proof of the reality of pure *a priori* principles in our cognition, one could establish their indispensability for the possibility of experience itself, thus establish it *a priori*. For where would experience itself get its certainty if all rules in accordance with which it proceeds were themselves in turn always empirical, thus contingent?;[a] hence one could hardly allow these to count as first principles. Yet here we can content ourselves with having displayed the pure use of our cognitive faculty as a fact together with its indication.[b] Not merely in judgments, however, but even in concepts is an origin of some of them revealed *a priori*. Gradually remove from your experiential concept of a **body** everything that is empirical in it – the color, the hardness or softness, the weight, even the impenetrability – there still remains the **space** that was occupied by the body (which has now entirely disappeared),
B6 and you cannot leave that out. Likewise, if you remove from your empirical concept of every object,[c] whether corporeal or incorporeal, all those properties of which experience teaches you, you could still not take from it that by means of which you think of it as a **substance** or as **dependent** on a substance (even though this concept contains more determination than that of an object[d] in general). Thus, convinced by the necessity with which this concept presses itself on you, you must concede that it has its seat in your faculty of cognition *a priori*.

[a] Question mark not in original.
[b] *Kennzeichen*, i.e., sign.
[c] *Objects*
[d] *Objects*

III.[a]

Philosophy needs a science that determines the possibility, the principles,[b] and the domain of all cognitions *a priori*.

But what says still more than all the foregoing[c] is this, that certain cognitions even abandon the field of all possible experiences, and seem A3
to expand the domain of our judgments beyond all bounds of experience through concepts to which no corresponding object at all can be given in experience.

And precisely in these latter cognitions, which go beyond the world of the senses, where experience can give neither guidance nor correction, lie the investigations of our reason that we hold to be far more preeminent in their importance and sublime in their final aim than B7
everything that the understanding can learn in the field of appearances, in which we would rather venture everything, even at the risk of erring, than give up such important investigations because of any sort of reservation or from contempt and indifference. [d]These unavoidable problems of pure reason itself are **God, freedom** and **immortality.** But the science whose final aim in all its preparations is directed properly only to the solution of these problems is called **metaphysics,** whose procedure is in the beginning **dogmatic,** i.e., it confidently takes on the execution of this task without an antecedent examination of the capacity or incapacity[e] of reason for such a great undertaking.

Now it may seem natural that as soon as one has abandoned the terrain of experience one would not immediately erect an edifice with cognitions that one possesses without knowing whence, and on the credit of principles whose origin one does not know, without having first assured oneself of its foundation through careful investigations, thus that one would all the more[f] have long since raised the question how the understanding could come to all these cognitions *a priori* and what domain, validity, and value they might have. And in fact nothing is more A4
natural, if one understands by the word **natural**[g] that which properly and reasonably ought to happen; but if one understands by it that which B8
usually happens, then conversely nothing is more natural and compre-

[a] This section number and title added in the second edition. The ensuing paragraph commences the first part of the introduction common to both editions, extending from here to B 14, though with one major interpolation in the next paragraph and another change at B 11–12.

[b] *Principien*

[c] "than all the foregoing" added in the second edition.

[d] The remainder of this paragraph added in the second edition.

[e] *des Vermögens oder Unvermögens*

[f] "*vielmehr*" added in the second edition.

[g] "*dem Wort* ***natürlich***" substituted for "*unter diesem Worte*" in the second edition.

hensible than that this investigation should long have been neglected.[a] For one part of these cognitions, the mathematical, has long been reliable, and thereby gives rise to a favorable expectation about others as well, although these may be of an entirely different nature. Furthermore, if one is beyond the circle of experience, then one is sure of not being refuted[b] through experience. The charm in expanding one's cognitions is so great that one can be stopped in one's progress only by bumping into a clear contradiction. This, however, one can avoid if one makes his inventions carefully, even though they are not thereby inventions any the less. Mathematics gives us a splendid example of how far we can go with *a priori* cognition independently of experience. Now it is occupied, to be sure, with objects and cognitions only so far as these can be exhibited in intuitions. This circumstance, however, is easily overlooked, since the intuition in question can itself be given *a priori*, and thus can hardly be distinguished from a mere pure concept.
A5 Captivated[c] by such a proof of the power of reason, the drive for expansion sees no bounds. The light dove, in free flight cutting through the air the resistance of which it feels, could get the idea[d] that it could
B9 do even better in airless space. Likewise, Plato abandoned the world of the senses because it set such narrow limits[e] for the understanding, and dared to go beyond it on the wings of the ideas, in the empty space of pure understanding. He did not notice that he made no headway by his efforts, for he had no resistance, no support, as it were, by which he could stiffen himself, and to which he could apply his powers in order to put his understanding into motion. It is, however, a customary fate of human reason in speculation to finish its edifice as early as possible and only then to investigate whether the ground has been adequately prepared for it. But at that point all sorts of excuses will be sought to assure us of its sturdiness or also, even better,[f] to refuse such a late and dangerous examination. What keeps us free of all worry and suspicion during the construction, however, and flatters us with apparent thoroughness, is this. A great part, perhaps the greatest part, of the business of our reason consists in *analyses* of the concepts that we already have of objects. This affords us a multitude of cognitions that, although they are nothing more than illuminations or clarifications of that which is al-
A6 ready thought in our concepts (though still in a confused way), are, at least as far as their form is concerned, treasured as if they were new in-

[a] The second edition reads "*lange*" instead of "*lange Zeit.*"
[b] The second edition reads "*widerlegt*" instead of "*widersprochen.*"
[c] The second edition reads "*eingenommen*" instead of "*aufgemuntert.*"
[d] *Vorstellung*
[e] The second edition reads "*so enge Schranken setzt*" instead of "*so vielfältige Hindernisse legt.*"
[f] The second edition inserts the words "*auch*" and "*lieber gar.*"

sights, though they do not extend the concepts that we have in either matter or content, but only set them apart from each other. Now since B 10
this procedure does yield a real *a priori* cognition, which makes secure and useful progress, reason, without itself noticing it, under these pretenses surreptitiously makes assertions of quite another sort, in which reason adds something entirely alien to given concepts and indeed[a] does so *a priori*, without one knowing how it was able to do this and without such a[b] question even being allowed to come to mind. I will therefore deal with the distinction between these two sorts of cognition right at the outset.

IV.[c]
On the difference between analytic and synthetic judgments.[14]

In all judgments in which the relation of a subject to the predicate is thought (if I consider only affirmative judgments, since the application to negative ones is easy) this relation is possible in two different ways. Either the predicate *B* belongs to the subject *A* as something that is (covertly) contained in this concept *A;* or *B* lies entirely outside the concept *A*, though to be sure it stands in connection with it. In the first case I call the judgment **analytic,** in the second **synthetic.** Analytic judg- A 7
ments (affirmative ones) are thus those in which the connection of the predicate is thought through identity, but those in which this connection is thought without identity are to be called synthetic judgments. One could also call the former **judgments of clarification,** and the lat- B 11
ter **judgments of amplification,**[d] since through the predicate the former do not add anything to the concept of the subject, but only break it up by means of analysis into its component concepts, which were already thought in it (though confusedly); while the latter, on the contrary, add to the concept of the subject a predicate that was not thought in it at all, and could not have been extracted from it through any analysis. E.g., if I say: "All bodies are extended," then this is an analytic judgment. For I do not need to go beyond[e] the concept that I combine with the body[f] in order to find that extension is connected with it, but rather I need only to analyze that concept, i.e., become conscious of the manifold that I always think in it, in order to encounter this predicate therein; it is therefore an analytic judgment. On the contrary, if I say:

[a] The second edition adds the words "*und zwar.*"
[b] The second edition replaces "*diese*" with "*eine solche.*"
[c] Section number "IV" added in the second edition.
[d] "*Erläuterungs-*" and "*Erweiterungsurteile.*"
[e] The second edition reads "*über*" instead of "*aus.*"
[f] The second edition reads "*dem Körper*" instead of "*dem Wort Körper.*"

"All bodies are heavy," then the predicate is something entirely different from that which I think in the mere concept of a body in general. The addition of such a predicate thus yields a synthetic judgment.

[a]**Judgments of experience, as such, are all synthetic.** For it would be absurd to ground an analytic judgment on experience, since I do not need to go beyond my concept at all in order to formulate the judgment, and therefore need no testimony from experience for that. That a body is extended is a proposition that is established *a priori*, and is not
B 12 a judgment of experience. For before I go to experience, I already have all the conditions for my judgment in the concept, from which I merely draw out the predicate in accordance with the principle of contradiction, and can thereby at the same time become conscious of the necessity of the judgment, which experience could never teach me. On the
A 8 contrary, although I [b]do not at all include the predicate of weight in the concept of a body in general, the concept nevertheless designates an object of experience[c] through a part of it, to which I can therefore add still other parts of the same experience as belonging with the former. I can first cognize the concept of body analytically through the marks of extension, of impenetrability, of shape, etc., which are all thought in this concept. But now I amplify my cognition and, looking back to the experience from which I had extracted this concept of body, I find that weight is also always connected with the previous marks, [d]and I therefore add this synthetically as predicate to that concept. It is thus experience [e]on which the possibility of the synthesis of the predicate of weight with the concept of body is grounded, since both concepts, though the one is not contained in the other, nevertheless belong together, though only contingently, as parts of a whole, namely experience, which is itself a synthetic combination of intuitions.

A 9 [f]But in synthetic *a priori* judgments this means of help is entirely
B 13 lacking.[15] If I am to go beyond[g] the concept *A* in order to cognize another *B* as combined with it, what is it on which I depend and by means of which the synthesis becomes possible, since I here do not have the advantage of looking around for it in the field of experience? Take the proposition: "Everything that happens has its cause." In the concept of

[a] The first part of the following paragraph replaces two paragraphs in the first edition; see A7–8 above.
[b] The text common to the first edition resumes here.
[c] The second edition has "*einen Gegenstand der Erfahrung*" instead of the first edition's "*die vollständige Erfahrung.*"
[d] The remainder of this sentence is added in the second edition.
[e] The remainder of this sentence is modified and expanded in the second edition.
[f] The common text resumes here.
[g] "*über*" substituted in the second edition for "*ausser*" in the first.

something that happens, I think, to be sure, of an existence that was preceded by a time, etc., and from that analytic judgments can be drawn. But the concept of a cause lies entirely outside that concept, and[a] indicates something different than the concept of what happens in general, and is therefore[b] not contained in the latter representation at all. How then do I come to say something quite different about that which happens in general, and to cognize the concept of cause as belonging to it, indeed necessarily,[c] even though not contained in it?[d] What is the unknown =[e]*X* here on which the understanding depends when it believes itself to discover beyond the concept of *A* a predicate that is foreign to it yet which it nevertheless believes to be connected with it?[f] It cannot be experience, for the principle that has been adduced adds the latter representations to the former not only with greater generality than experience can provide, but also with the expression of necessity, hence entirely *a priori* and from mere concepts. Now the entire final aim of our speculative *a priori* cognition rests on such synthetic, A 10
i.e., ampliative principles; for the analytic ones are, to be sure, most important and necessary, but only for attaining that distinctness of con- B 14
cepts which is requisite for a secure and extended synthesis as a really new acquisition.[g]

[b]V.
Synthetic *a priori* judgments are contained as principles[i] in all theoretical sciences of reason.

[j]1. **Mathematical judgments are all synthetic.**[16] This proposition seems to have escaped the notice of the analysts of human reason until now, indeed to be diametrically opposed to all of their conjectures, although it is incontrovertibly certain and is very important in the sequel. For since one found that the inferences of the mathematicians all proceed in accordance with the principle of contradiction (which is re-

[a] "*liegt ganz außer jenem Begriffe, und*" added in the second edition.
[b] "*ist also*" in the second edition instead of "*und ist*" in the first.
[c] "*und so gar notwendig*" added in the second edition.
[d] Kant ends this and the next sentence with periods, for which we have substituted question marks.
[e] "*unbekannte* =" added in the second edition.
[f] In the second edition, "*welches er gleichwohl damit verknüpft zu sein erachtet?*" substituted for "*das gleichwohl damit verknüpft sei.*"
[g] In the second edition, "*Erwerb*" replaces "*Anbau.*"
[h] At this point one paragraph from the first edition is omitted and replaced with the following Sections V and VI, B 14 through B 25.
[i] *Principien*
[j] Kant adapts the following five paragraphs from the *Prolegomena*, § 2 (4:268–9).

quired by the nature of any apodictic certainty), one was persuaded that the principles could also be cognized from the principle[a] of contradiction, in which, however, they[b] erred; for a synthetic proposition can of course be comprehended in accordance with the principle of contradiction, but only insofar as another synthetic proposition is presupposed from which it can be deduced, never in itself.

It must first be remarked that properly mathematical propositions are always *a priori* judgments and are never empirical, because they carry necessity with them, which cannot be derived from experience. But if
B 15 one does not want to concede this, well then, I will restrict my proposition to **pure mathematics,** the concept of which already implies that it does not contain empirical but merely pure *a priori* cognition.

To be sure, one might initially think that the proposition "7 + 5 = 12" is a merely analytic proposition that follows from the concept of a sum of seven and five in accordance with the principle of contradiction. Yet if one considers it more closely, one finds that the concept of the sum of 7 and 5 contains nothing more than the unification of both numbers in a single one, through which it is not at all thought what this single number is which comprehends the two of them. The concept of twelve is by no means already thought merely by my thinking of that unification of seven and five, and no matter how long I analyze my concept of such a possible sum I will still not find twelve in it. One must go beyond these concepts, seeking assistance in the intuition that corresponds to one of the two, one's five fingers, say, or (as in Segner's arithmetic)[17] five points, and one after another add the units of the five given in the intuition to the concept of seven. [c]For I take first the number 7, and, as I take the fingers of my hand as an intuition for assistance with the concept of 5, to that image of mine I now add the units that I have previ-
B 16 ously taken together in order to constitute the number 5 one after another to the number 7, and thus see the number 12 arise. That 7 **should** be added to 5 I have, to be sure, thought in the concept of a sum = 7 + 5, but not that this sum is equal to the number 12. The arithmetical proposition is therefore always synthetic; one becomes all the more distinctly aware of that if one takes somewhat larger numbers, for it is then clear that, twist and turn our concepts as we will, without getting help from intuition we could never find the sum by means of the mere analysis of our concepts.

[a] *Satz*

[b] Kant switches number from "*man*" to "*sie.*"

[c] This and the following sentence are substituted here for the clause "*Man erweitet also wirklich seinen Begriff durch diesen Satz 7 + 5 = 12 und thut zu dem ersteren Begriff einen neuen hinzu, der in jenem gar nicht gedacht war*" (One therefore really amplifies his concept through this proposition "7 + 5 = 12" and adds a new concept to the former, which was not thought in it) in the *Prolegomena* (4:269).

Just as little is any principle of pure geometry analytic. That the straight line between two points is the shortest is a synthetic proposition. For my concept of **the straight** contains nothing of quantity, but only a quality.[18] The concept of the shortest is therefore entirely additional to it, and cannot be extracted out of the concept of the straight line by any analysis. Help must here be gotten from intuition, by means of which alone the synthesis is possible.

To be sure, a few principles that the geometers presuppose are actually analytic and rest on the principle of contradiction; but they also[a] only serve, as identical propositions, for the chain of method and not as principles,[b] e.g., $a = a$, the whole is equal to itself, or $(a + b) > a$, i.e., the B 17
whole is greater than its part. And yet even these, although they are valid in accordance with mere concepts, are admitted in mathematics only because they can be exhibited in intuition.[19] What usually makes us believe here that the predicate of such apodictic judgments already lies in our concept, and that the judgment is therefore analytic, is merely the ambiguity of the expression. We **should,** namely, add a certain predicate to a given concept in thought, and this necessity already attaches to the concepts. But the question is not what we **should think** in addition to the given concept, but what we **actually think** in it, though only obscurely, and there it is manifest that the predicate certainly adheres to those concepts necessarily, though not as thought in the concept itself,[c] but by means of an intuition that must be added to the concept.

2. **Natural science (*Physica*) contains within itself synthetic *a priori* judgments as principles.**[d] I will adduce only a couple of propositions as examples, such as the proposition that in all alterations of the corporeal world the quantity of matter remains unaltered, or that in all communication of motion effect and counter-effect must always be equal. In both of these not only the necessity, thus their *a priori* origin, but also that they are synthetic propositions is clear. For in the concept B 18
of matter I do not think persistence, but only its presence in space through the filling of space. Thus I actually go beyond the concept of matter in order to add something to it *a priori* that I did not think **in it**. The proposition is thus not analytic, but synthetic, and nevertheless thought *a priori*, and likewise with the other propositions of the pure part of natural science.

3. **In metaphysics,** even if one regards it as a science that has thus far

[a] "*auch*" added to text from *Prolegomena* (4:269).
[b] *Principien*
[c] "*als im Begriffe selbst gedacht*" substituted here for the word "*unmittelbar*" in the *Prolegomena* (4:269).
[d] *Principien*

merely been sought but is nevertheless indispensable because of the nature of human reason, **synthetic *a priori* cognitions** are supposed **to be contained,** and it is not concerned merely with analyzing concepts that we make of things *a priori* and thereby clarifying them analytically, but we want to amplify our cognition *a priori;* to this end we must make use of such principles that add something to the given concepts that was not contained in them, and through synthetic *a priori* judgments go so far beyond that experience itself cannot follow us that far, e.g., in the proposition "The world must have a first beginning," and others besides, and thus metaphysics, at least as far as **its end is concerned,** consists of purely synthetic *a priori* propositions.[20]

B 19

VI.
The general problem[a] of pure reason.[21]

One has already gained a great deal if one can bring a multitude of investigations under the formula of a single problem. For one thereby not only lightens one's own task, by determining it precisely, but also the judgment of anyone else who wants to examine whether we have satisfied our plan or not. The real problem of pure reason is now contained in the question: **How are synthetic judgments *a priori* possible?**

That metaphysics has until now remained in such a vacillating state of uncertainty and contradictions is to be ascribed solely to the cause that no one has previously thought of this problem and perhaps even of the distinction between **analytic** and **synthetic** judgments. On the solution of this problem, or on a satisfactory proof that the possibility that it demands to have explained does not in fact exist at all, metaphysics now stands or falls. David Hume, who among all philosophers came closest to this problem, still did not conceive of it anywhere near determinately enough and in its universality, but rather stopped with the synthetic proposition of the connection of the effect with its cause
B 20 (*Principium causalitatis*), believing himself to have brought out that such an *a priori* proposition is entirely impossible, and according to his inferences everything that we call metaphysics would come down to a mere delusion of an alleged insight of reason into that which has in fact merely been borrowed from experience and from habit has taken on the appearance of necessity; an assertion, destructive of all pure philosophy, on which he would never have fallen if he had had our problem in its generality before his eyes, since then he would have comprehended that according to his argument there could also be no pure mathematics, since this certainly contains synthetic *a priori* propositions, an assertion

[a] *Aufgabe*

from which his sound understanding would surely have protected him.[22]

In the solution of the above problem there is at the same time contained the possibility of the pure use of reason in the grounding and execution of all sciences that contain a theoretical *a priori* cognition of objects, i.e., the answer to the questions:

How is pure mathematics possible?

How is pure natural science possible?

About these sciences, since they are actually given, it can appropriately be asked **how** they are possible; for that they must be possible is proved through their actuality.* As far as **metaphysics** is concerned, however, its poor progress up to now, and the fact that of no meta- B21
physics thus far expounded can it even be said that, as far as its essential end is concerned, it even really exists, leaves everyone with ground to doubt its possibility.

But now this **kind of cognition** is in a certain sense also to be regarded as given, and metaphysics is actual, if not as a science yet as a natural predisposition (*metaphysica naturalis*). For human reason, without being moved by the mere vanity of knowing it all, inexorably pushes on, driven by its own need to such questions that cannot be answered by any experiential use of reason and of principles[a] borrowed from such a use; and thus a certain sort of metaphysics has actually been present in all human beings as soon as reason has extended itself to speculation in them, and it will also always remain there. And now about this too the question is: **How is metaphysics as a natural predisposition pos-** B22
sible? i.e., how do the questions that pure reason raises, and which it is driven by its own need to answer as well as it can, arise from the nature of universal human reason?

But since unavoidable contradictions have always been found in all previous attempts to answer these natural questions, e.g., whether the world has a beginning or exists from eternity, etc., one cannot leave it up to the mere natural predisposition to metaphysics, i.e., to the pure faculty of reason itself, from which, to be sure, some sort of metaphysics (whatever it might be) always grows, but it must be possible to bring it

* Some may still doubt this last point in the case of pure natural science. Yet one B21
need merely consider the various propositions that come forth at the outset of proper (empirical) physics, such as those of the persistence of the same quantity of matter, of inertia, of the equality of effect and counter-effect, etc., and one will quickly be convinced that they constitute a *physica pura* (or *rationalis*), which well deserves to be separately established, as a science of its own, in its whole domain, whether narrow or wide.

[a] *Principien*

to certainty regarding either the knowledge or ignorance of objects, i.e., to come to a decision either about the objects of its questions or about the capacity and incapacity[a] of reason for judging something about them, thus either reliably to extend our pure reason or else to set determinate and secure limits for it. This last question, which flows from the general problem above, would rightly be this: **How is metaphysics possible as science?**

The critique of reason thus finally leads necessarily to science; the dogmatic use of it without critique, on the contrary, leads to groundless
B 23 assertions, to which one can oppose equally plausible ones, thus to **skepticism.**

Further, this science cannot be terribly extensive, for it does not deal with objects[b] of reason, whose multiplicity,[c] is infinite, but merely with itself, with problems that spring entirely from its own womb, and that are not set before it by the nature of things that are distinct from it but through its own nature; so that, once it has become completely familiar with its own capacity[d] in regard to the objects that may come before it in experience, then it must become easy to determine, completely and securely, the domain and the bounds of its attempted use beyond all bounds of experience.

Thus one can and must regard as undone all attempts made until now to bring about a metaphysics **dogmatically;** for what is analytic in one or the other of them, namely the mere analysis of the concepts that inhabit our reason *a priori*, is not the end at all, but only a preparation for metaphysics proper, namely extending its *a priori* cognition synthetically, and it is useless for this end, because it merely shows what is contained in these concepts, but not how we attain such concepts *a priori* in order thereafter to be able to determine their valid use in regard to the
B 24 objects of all cognition in general. It also requires only a little self-denial in order to give up all these claims, since the contradictions of reason, which cannot be denied and which are also unavoidable in dogmatic procedure, have long since destroyed the authority of every previous metaphysics. More resolution will be necessary in order not to be deterred by internal difficulty and external resistance from using another approach,[e] entirely opposed to the previous one, in order to promote the productive and fruitful growth of a science that is indispensable for human reason, and from which one can chop down every stem that has shot up without ever being able to eradicate its root.

[a] *Vermögen und Unvermögen*
[b] *Objecten*
[c] *Mannigfaltigkeit*
[d] *Vermögen*
[e] *Behandlung*

[a]VII.
The idea and division of a special science under the name of a critique of pure reason.

Now from all of this there results the idea of a special science, which A11
can be called the **critique of pure reason.**[b] For[c] reason is the faculty that provides the principles[d] of cognition *a priori.* Hence pure reason is that which contains the principles[e] for cognizing something absolutely *a priori.* An **organon** of pure reason would be a sum total of all those principles[f] in accordance with which all pure *a priori* cognitions can be B25
acquired and actually brought about. The exhaustive application of such an organon would create a system of pure reason. But since that requires a lot, and it is still an open question whether such an amplification of our knowledge is possible at all and in what cases it would be possible, we can regard a science of the mere estimation of pure reason, of its sources and boundaries, as the **propaedeutic** to the system of pure reason. Such a thing would not be a **doctrine,** but must be called only a **critique** of pure reason, and its utility in regard to speculation[g] would really be only negative, serving not for the amplification but only for the purification of our reason, and for keeping it free of errors, by which a great deal is already won. I call all cognition transcendental that is occupied not so much with objects but rather with our mode of cognition of objects insofar as this is to be possible *a priori.*[b,23] A **system** of A12
such concepts would be called **transcendental philosophy.** But this is again too much for the beginning. For since such a science would have to contain completely both the analytic as well as the synthetic *a priori* cognition, it is, so far[i] as our aim is concerned, too broad in scope, since we need to take the analysis only as far as is indispensably necessary in order to provide insight into the principles of *a priori* synthesis in their entire scope, which is our only concern. This investigation, which we B26

[a] The section number VII and the following title are inserted at this point in the second edition, following which the text common to the two editions resumes, with minor alterations.

[b] "***die Kritik der reinen Vernunft** heißen kann*" substituted in the second edition for "*die zur Kritik der reinen Vernunft dienen könne.*" The next two sentences in the first edition are omitted; see A11 above.

[c] "*Denn*" substituted in the second edition for "*Nun.*"

[d] *Principien*

[e] *Principien*

[f] *Principien*

[g] "*in Ansehung der Spekulation*" added in the second edition.

[h] "*sondern mit unserer Erkenntnisart von Gegenständen, so fern* **diese** a priori **möglich sein soll**" substituted in the second edition for "*sondern mit unsern Begriffen* a priori *von Gegenständen.*"

[i] "*so weit*" substituted for "*insofern*" in the second edition.

can properly call not doctrine but only transcendental critique, since it does not aim at the amplification of cognitions themselves but only at their correction, and is to supply the touchstone of the worth or worthlessness of all cognitions *a priori*, is that with which we are now concerned. Such a critique is accordingly a preparation, if possible, for an organon, and, if this cannot be accomplished, then at least for a canon, in accordance with which the complete system of the philosophy of pure reason, whether it is to consist in the amplification or mere limitation[a] of its cognition, can in any case at least some day be exhibited both analytically and synthetically. For that this should be possible, indeed that such a system should not be too great in scope for us to hope to be able entirely to complete it, can be assessed in advance from the fact that our object is not the nature of things, which is inexhaustible,
A13 but the understanding, which judges about the nature of things, and this in turn only in regard to its *a priori* cognition, the supply of which, since we do not need to search for it externally, cannot remain hidden from us, and in all likelihood is small enough to be completely recorded, its worth or worthlessness assessed, and subjected to a correct appraisal.
B27 [b]Even less can one expect here a critique of the books and systems of pure reason, but rather that of the pure faculty of reason itself. Only if this is one's ground does one have a secure touchstone for appraising the philosophical content of old and new works in this specialty; otherwise the unqualified historian and judge assesses the groundless assertions of others through his own, which are equally groundless.

[c]Transcendental philosophy is here the idea of a science,[d] for which the critique of pure reason is to outline the entire plan architectonically, i.e., from principles,[e] with a full guarantee for the completeness and certainty of all the components that comprise this edifice. It is the system of all principles[f] of pure reason.[g] That this critique is not itself already called transcendental philosophy rests solely on the fact that in order to be a complete system it would also have to contain an exhaustive analysis of all of human cognition *a priori*. Now our critique must, to be sure, lay before us a complete enumeration of all of the ancestral concepts[h] that comprise the pure cognition in question. Only it properly refrains from the exhaustive analysis of these concepts themselves as well as

[a] *Begrenzung*
[b] The next two sentences are added in the second edition.
[c] The title **"II. Division of transcendental philosophy"** present in the first edition is omitted in the second.
[d] *"Die Idee einer Wissenschaft"* substituted in the second edition for *"hier nur eine Idee."*
[e] *Principien*
[f] *Principien*
[g] This sentence inserted in the second edition.
[h] *Stammbegriffe*

from the complete review of all of those derived from them, partly because this analysis would not be purposeful,[a] since it does not contain the difficulty encountered in the synthesis on account of which the A14/B2
whole critique is actually undertaken, partly because it would be contrary to the unity of the plan to take on responsibility for the completeness of such an analysis and derivation, from which one could yet be relieved given its aim. This completeness of the analysis as well as the derivation from the *a priori* concepts that are to be provided in the future will nevertheless be easy to complete as long as they are present as exhaustive principles[b] of synthesis, and if nothing is lacking in them in regard to this essential aim.

To the critique of pure reason there accordingly belongs everything that constitutes transcendental philosophy, and it is the complete idea of transcendental philosophy, but is not yet this science itself, since it goes only so far in the analysis as is requisite for the complete estimation of synthetic *a priori* cognition.

The chief target in the division of such a science is that absolutely no concept must enter into it that contains anything empirical, or that the *a priori* cognition be entirely pure. Hence, although the supreme principles of morality and the fundamental concepts of it are *a priori* cognitions, they still do not belong in transcendental philosophy,[c] for, while A15
they do not, to be sure, take the concepts of pleasure and displeasure, B29
of desires and inclinations, etc., which are all of empirical origin, as the ground of their precepts, they still must necessarily include them in the composition of the system of pure morality in the concept of duty, as the hindrance that must be overcome or the attraction that ought not to be made into a motive. Hence transcendental philosophy is a philosophy[d] of pure, merely speculative reason. For everything practical, insofar as it contains incentives,[e] is related to feelings, which belong among empirical sources of cognition.

Now if one wants to set up the division of this science from the general viewpoint of a system in general, then what we will now present must contain first a **Doctrine of Elements** and second a **Doctrine of Method** of pure reason. Each of these main parts will have its subdivision, the grounds for which cannot yet be expounded. All that seems

[a] *zweckmäßig*

[b] *Principien*

[c] The remainder of this sentence in the second edition is substituted for the following in the first: "since the concepts of pleasure and displeasure, of desires and inclinations, of choice, etc., which are all of empirical origin, must thereby be presupposed."

[d] *Weltweisheit*

[e] *Bewegungsgründe* in the first edition is replaced in the second with *Triebfedern* to leave room for the idea that although incentives based on feelings are not adequate for morality, there can be other, more purely rational motives for it.

necessary for an introduction or preliminary is *that there are two stems* of human cognition, which may perhaps arise from a common but to us unknown root, namely sensibility and understanding, through the first of which objects are given to us, but through the second of which they are thought. Now if sensibility were to contain *a priori* representations,
B 30 which constitute the condition[a] under which objects are given to us, it will belong to transcendental philosophy. The transcendental doctrine
A 16 of the senses will have to belong to the first part of the science of elements, since *the conditions under which alone the objects of human* cognition are given precede those under which those objects are thought.

[a] "*Bedingung*" in the second edition replaces "*Bedingungen*" in the first.

11 The Cape of Good Hope, the southernmost point in Africa.

12 In his letter to Schütz of 25 June 1787, Kant says he has in mind the demonstration in Euclid, *Elements*, bk. I, prop. 5 (10:466). Diogenes Laertius actually reports that Thales learned geometry from the Egyptians, but also that he taught them to measure the height of the pyramids using the lengths of their shadows (*Lives of Eminent Philosophers* [London: Heinemann, 1924] 1.24,27).

13 Galileo Galilei (1564–1647) described these experiments concerning acceleration in his *De Motu Accelerato* and the "Third Day" of *Dialogues on the Two World Systems* (1632).

14 Evangelista Torricelli (1608–1647), a follower of Galileo, invented the barometer, described here, in 1643. His findings were first published posthumously in the edition of his academic lectures (1715).

15 Georg Ernst Stahl (1660–1734) performed experiments with combustion and the smelting of metals which led to his formulation of the phlogiston theory in 1702. Antoine Lavoisier's discoveries, which eventually led to the replacement of the phlogiston theory, were first made in 1777, but were unavailable to Kant in 1781. The phlogiston theory was still accepted by many chemists, such as Joseph Priestley, for many years afterward. Kant followed the revolution in chemistry very closely and in 1796 attended a replication of Lavoisier's crucial experiments by his colleague Carl Gottfried Hagen (as reported by A. F. Gehlen, *Neues allgemeines Journal der Chemie* 2 [1804], p. 240). Kant's acceptance of Lavoisier's oxidation theory is evident in the *Opus postumum* (22:508).

16 "All apprehended change of place is due to movement either of the observed object or of the observer, or to differences in movements that are

occurring simultaneously in both. For if the observed object and the observer are moving in the same direction with equal velocity, no motion will be detected. Now it is from the earth that we visually apprehend the revolution of the heavens. If, then, any movement is ascribed to the earth, that motion will generate the appearance of itself in all things which are external to it, though as occurring in the opposite direction, as if everything were passing across the earth. This will be especially true of the daily revolution. For it seems to seize upon the whole universe, and indeed upon everything that is around the earth, though not the earth itself . . . As the heavens, which contain and cover everything, are the common locus of things, it is not at all evident why it should be to the containing rather than to the contained, to the located rather than to the locating, that motion is ascribed" (Nicolaus Copernicus [1473–1543], *De revolutionibus orbium coelestium* [Nuremberg, 1543] 1:5).

17 The claim that metaphysics has only a negative theoretical use but a positive practical use will be one of Kant's most fundamental philosophical theses. In addition to the "Canon of Pure Reason" below and the *Critique of Practical Reason* and *Critique of Judgment*, see the following notes: R 4284 (1770–71? 1773–75? 1776–78? 18:45); R 4892 (1776–78, 18:50); R 5112 (1776–78, 18:93), where Kant uses the same metaphor as the present passage and says that "Metaphysics is as it were the police of our reason with regard to the public security of morals and religion"; R 5073 (1776–78, 18:79–80), where Kant uses instead a medical metaphor; R 5119 (1776–78, 18:96–7); and Kant's important comment on the character of his own idealism, perhaps written shortly after the publication of the first edition of the *Critique*, R 5642 (1780–81, 18:279–82).

18 For further discussion of what this means, see R 5962 (1785–89, 18:401–5) at p. 401.

19 Kant's dissatisfaction with the exposition of the new "Refutation of Idealism," which he had added to the second edition of the *Critique* (B 274–9) is evident from this further attempt at getting it right. This footnote is in fact only the beginning of further attempts, in 1788 and 1790, to perfect this crucial argument; see the note to B 274 for references to these attempts.

Introduction

7 R 2740 and 2741 (16:494).
8 See R 4851 (18:8–10).
9 In *Metaphysik Mrongovius*, Kant draws a similar distinction between the *a priori simpliciter* and the *a priori secundum quid*, where the latter is "cognized through reason but from empirical principles" (29:751).
10 Compare R 3955 (17:364), from 1769. At R 4993 (1776–78; 18:54–5), Kant suggests that philosophy has both pure and empirical parts, a claim crucial to his eventual distinction between the critiques of theoretical and practical reason on the one hand and the metaphysics of nature and morals on the other, so the present suggestion that there is such a thing as impure but *a priori* cognition should not be overlooked. See also R 5048 (1776–78; 18:72).

11 Compare the ensuing discussion with Leibniz's comments in the preface to the *New Essays concerning Human Understanding*, translation by Jonathan Bennett and Peter Remnant (Cambridge: Cambridge University Press, 1981), pp. 49–51.

12 For a similar suggestion, see Kant's inaugural dissertation, "*On the form and principles of the sensible and intelligible worlds*," § 29 (2:417).

13 Kant refers, of course, to Hume's famous discussion of causation in the *Enquiry concerning Human Understanding* (1748). Hume discusses "skeptical doubts" about causal *reasoning* in section IV, and provides his "skeptical solution" to these doubts in section V; he then discusses "the idea of necessary connexion" and provides his psychological account of the origin of that idea in section VII. Kant's reference to the concepts of "cause" and of a "necessity of connection" would seem to refer primarily to the latter section. The first *Enquiry* was translated into German as early as 1755.

14 See note 4 to the first-edition introduction, above.

15 See note 5 above.

16 Kant's attempt to characterize the difference between mathematical and philosophical propositions goes back to his response to the 1762 Berlin Academy of Science essay competition, his *Inquiry concerning the distinctness of the principles of natural theology and morality*, written in 1762 and published in 1764 (2:273–301; *Theoretical Philosophy 1755–1770*, ed. Walford, pp. 243–75). The synthetic character of mathematical propositions was also a central issue in Kant's polemics with Eberhard; see *On a Discovery*, 8:191–3, 210–13 (Allison, *Kant-Eberhard Controversy*, pp. 110–12, 126–8).

17 Kant refers to Johann Andreas Segner, *Elementa Arithmeticae, Geometriae et Caluculi* (Halle, 1756; second edition, 1767), translated into German by J. W. Segner, *Anfangsgründe der Arithmetik, Geometrie und der geomtrischen Berechnung* (Halle, 1764; second edition, 1773). Hans Vaihinger refers Kant's example specifically to figures on pp. 27 and 79 of the 1773 edition of Segner's work; Hans Vaihinger, *Commentar zu Kant's Kritik der reinen Vernunft*, Vol. I (Stuttgart: W. Spemann, 1881), p. 299.

18 For another example, see R 4922 (18:29), from the early 1780s: "That the radius can be carried over into the circumference 6 times cannot be derived from the concept of the circumference" ("6 times" is obviously Kant's approximation for $2\pi r$).

19 Vaihinger argues (*Commentar*; vol. I, pp. 303–4) that the following sentences, which continue the paragraph just concluded, should actually complete the previous paragraph, and Kemp Smith accordingly transposes it. However, the disputed lines occur in the same position in the *Prolegomena*, so in order to make this transposition here one must also make it in the *Prolegomena* (as does Lewis White Beck in his edition of that work [Kant, *Prolegomena to any Future Metaphysics* (Indianapolis: Bobbs-Merrill, 1950), p. vi]), thereby assuming that Kant twice allowed the same misprint to stand. Given the rapidity with which Kant made his revisions for the second edition of the *Critique*, this is hardly impossible; but we leave the text as originally printed, although it does seem that what follows should be read as a comment on the whole discussion of mathematical propositions rather than on the first part of the present paragraph.

20 For several earlier formulations of this point, see R 5115 and 5116 (1776–78, 18:94–6).

21 The first five paragraphs of this section are loosely based on *Prolegomena*, § 5 (2:275–80), but, unlike the preceding paragraphs on mathematics, not directly copied from it.

22 In the *Treatise of Human Nature*, Hume *does* argue that "the ideas which are most essential to geometry, *viz.* those of equality and inequality, of a right line and a plain surface, are far from being exact and determinate . . . As the ultimate standard of these figures is deriv'd from nothing but the senses and imagination, 'tis absurd to talk of any perfection beyond what these faculties can judge of . . ." (book I, part II, section IV; in the edition by L. A. Selby-Bigge, revised by Ph. H. Nidditch [Oxford, 1978], pp. 50–1). In other words, he here denies the possibility of pure mathematics, precisely what Kant supposes his "sound understanding" would have prevented him from doing. Kant's ignorance of Hume's assertion of the empirical foundation and limitation of mathematics in the *Treatise*, which is not repeated in the first *Enquiry*, is good evidence for the traditional assumption that Kant had no firsthand acquaintance with most of the *Treatise*, which was not translated into German until 1791.

23 See note 6 to the first-edition introduction, above.