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GENERAL INTRODUCTION

I shall begin by trying to state in general terms what Kant wanted to do in the *Critique of Pure Reason*, and to explain certain notions which he constantly uses.¹

1 The main problem

Kant's main problem was the nature, limits, and validity of *a priori* knowledge. He thought that he could point to two sciences which profess to be *a priori* and to prove propositions which are not merely analytic. These were mathematics and metaphysics. Intermediate between them came physics, which Kant personally believed to involve certain synthetic *a priori* principles, such as the permanence of substance and the law of causation. If we consider the attitude of Kant's predecessors about these alleged sciences we see that they were as follows. (1) Leibniz believed both mathematics and metaphysics to be *a priori*, but he also believed that all *a priori* propositions are analytic. Kant was convinced, on the other hand, that the propositions of arithmetic, like ' $7 + 5 = 12$ ', and of geometry, like 'Two straight lines cannot enclose a space', are synthetic. (2) Hume seems to have regarded arithmetical propositions as *a priori* but analytic, and geometrical propositions as synthetic but empirical. And, of course, Hume regarded our beliefs in the law of causation and the permanence of substance as non-rational products of custom and association, and took an entirely sceptical view about metaphysics. We shall see that Kant very largely agreed with Hume about metaphysics. But about propositions like the law of causation and the permanence of substance he reached a conclusion which, as far as I know, is quite original. He held that these propositions require and are capable of proof and that they are in a certain sense *a priori*. But the proof is of a very peculiar kind, viz. what Kant calls a 'transcendental argument'. And the *a priori* is also of a peculiar kind, which is specially connected with this notion of a transcendental proof.

Now Kant noticed that of the two alleged *a priori* sciences of mathematics and metaphysics the former had made steady progress whilst the latter had hardly progressed at all. And he asked himself: 'What is the cause of

¹ All references to the *Critique of Pure Reason* are to the pages of N. Kemp Smith's translation (London, 1933). I have added the references to A and B which Kemp Smith gives in the margin of his translation.

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this difference, and could metaphysics ever be made into a genuine science like mathematics?' He says that it was Hume's attack on the law of causation which 'aroused him from his dogmatic slumbers', and that he soon came to see that Hume had touched only one particular case of a fundamental general problem. Kant puts the general problem in the form 'How is synthetic *a priori* knowledge possible?'

His answer is that there is such knowledge, but its range is severely limited. Synthetic *a priori* knowledge is possible only so far as it is about objects of possible sense-perception. The moment you try to apply these *a priori* propositions to objects like God and the soul, which could not possibly be perceived by the senses, they lose all intelligible meaning. And they show this by leading to contradictions, which he calls 'paralogisms' and 'antinomies'. Here we have two propositions which are or seem to be contradictory, and just as good reasons for accepting one as for accepting the other. He calls the application of *a priori* principles to objects of possible sense-perception 'immanent', and their attempted application beyond this range he calls 'transcendent'. ('*Transcendent*' must not be confused with '*transcendental*'. The former is a term of reproach in Kant's usage; the latter refers to a particular mode of argument, which we shall consider later. But Kant does often use one where he obviously means the other. In general he is very fond of drawing clear distinctions and ever afterwards neglecting them.) His work, then, falls into two main parts:

- (1) To justify the use *within* experience of certain universal propositions which are not derived by induction *from* experience.
- (2) To show that these same propositions, though not derived from experience, have no legitimate application beyond the range of possible sense-perception.

These two parts are connected in the following way. In justifying the immanent use of these propositions we have to consider their nature very carefully. Now they turn out to be principles of organisation or connexion which convert a chaotic mass of sensations into the perception of what is ostensibly a world of permanent extended law-abiding objects. And it follows that they have no application outside the range of possible sense-perception, because beyond that range there are no sensations for them to connect and organise.

I shall now try to explain three closely connected notions which are very important in Kant's philosophy; viz. (1) his notion of the *a priori*, (2) the Copernican revolution in philosophy, and (3) transcendental arguments.

2 Kant's notion of the *a priori*

Kant meant several different things by the adjective *a priori*, and never stated very clearly what they were. We must begin by noting one fun-

damental distinction, viz. that between *a priori* judgments or propositions and *a priori* concepts. Kant would say that the principle that every event is caused is an *a priori* proposition and that *cause* is an *a priori* concept. Let us begin with the term *a priori* as applied to propositions or judgments.

2.1 'A priori' as applied to judgments

In discussing this question I think it is convenient to distinguish two pairs of opposites, viz. *necessary* and *contingent* and *a priori* and *empirical*. These are closely connected with each other, but they are different. The terms 'necessary' and 'contingent' are logical or ontological. They apply to propositions or to facts. It is a necessary proposition or fact that $2 \times 2 = 4$ or that the square root of 2 is irrational. It is a contingent proposition or fact that all animals which have cloven hoofs chew the cud. The terms '*a priori*' and 'empirical' are epistemological. They apply to knowledge of facts or to belief in propositions. Let us use the word 'judgment' to cover knowing facts and believing propositions. Now the ordinary use of *a priori* as applied to judgments is this. One's knowledge of *p* is *a priori* if and only if one can see that *p* is necessary. One may come to recognise that *p* is necessary either *directly* through inspecting its terms and reflecting on them or *indirectly* by showing that *p* follows, in accordance with the principles of formal logic, from other propositions each of which one can see by direct inspection to be necessary. We may distinguish the two cases by saying that *a priori* knowledge may be either *intuitive* or *demonstrative*. It follows from these definitions that any fact or proposition which is or could be known *a priori* is necessary. Conversely, any fact or proposition which is necessary, and only such facts or propositions, might conceivably be known *a priori*. But there may be many necessary facts or propositions which are not known *a priori* by a particular person at a particular time. And there may be many necessary facts or propositions which never have been and never will be known *a priori* by any human being. There are many propositions, e.g. about the properties of numbers, with regard to which we can know that they are *either* necessarily true *or* necessarily false. But with regard to many of these no human being has so far been able to see either by direct inspection or by demonstration that they are necessarily true or to see that they are necessarily false. Here *a priori* knowledge is theoretically possible but does not actually exist. If a person in fact believes one of these propositions with more or less confidence, his belief is empirical. Again, suppose that I accept on authority a mathematical proposition which has been proved by an expert. Then the expert's knowledge of that necessary proposition is *a priori*, but my belief in that same proposition is empirical.

If a fact or a proposition is contingent, then knowledge of that fact or

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belief in that proposition must be empirical and cannot be *a priori*. There is genuine knowledge of *singular* contingent facts. E.g. I *know* that I am now having certain experiences, e.g. certain visual and auditory sensations. But it is doubtful whether there is genuine knowledge, as distinct from rationally justifiable *strong belief*, in any *universal* contingent proposition, e.g. that all cloven-footed animals chew the cud.

I think that the above is a fair account of the ordinary use of '*a priori*' and 'empirical' as applied to knowledge and belief. This is certainly what Kant's predecessors, such as Leibniz and Locke and Hume, meant by it, and it is what Kant begins by meaning. But I think it is quite certain that he introduced another sense of '*a priori*' as applied to judgments. In order to see what this is we must first consider the distinction between *analytic* and *synthetic* judgments, which plays an important part in Kant's philosophy. We may confine our attention here to universal judgments, such as 'All negroes are black' and 'All crows are black'. Kant would say that the judgment 'All *S* is *P*' is analytic if and only if the concept of the class *S* contains explicitly or implicitly the concept of the characteristic *P*, so that by merely analysing the concept of *S* one could see that it would be *self-contradictory* to suppose that there might be an instance of *S* which did not have the characteristic *P*. Thus, e.g., it would be self-contradictory to suppose that there might be a negro who was not black, and we can see this by reflecting on the meaning of the word 'negro'; but it would not be self-contradictory to suppose that there might be a crow which was not black. Kant regarded the principles of formal logic, e.g. the principle of the syllogism, as analytic. The judgment 'All *S* is *P*' is synthetic if it is not analytic, i.e. if the concept of *S* does not contain explicitly or implicitly the notion of *P*, so that it is *not self-contradictory* to suppose that there might be an instance of *S* which did not have the property *P*.

I think that there are considerable difficulties and obscurities in the notion of an analytic judgment. In the first place, to talk of *the* concept of *S* begs questions. Is there anything that can be called *the* concept of a negro or a crow or an ellipse? May not different men have different concepts of the same term at the same time, and may not the same man have different concepts of the same term at different times? And may not some of these concepts of *S* contain the notion of *P*, and others of them not contain the notion of *P*? Again, the phrase 'contain the notion of *P*' is plainly metaphorical, and the literal meaning of the metaphor is highly obscure. Does the concept of the circle 'contain' every property which could be shown to belong to all circles and only to circles? If so, what does 'contain' mean? If not, on what principle do you subdivide these properties into those which *are* contained in the concept of the circle and those which are *not*?

If we consent to waive these difficulties, it is evident that any judgment

which was analytic would be *a priori* in the traditional sense. The proposition judged would be seen to be necessary, because the opposite of it would be seen to be self-contradictory and therefore impossible. But it does not follow from our definitions that every judgment which was *a priori* in the traditional sense would be analytic. For it is at least conceivable that I might be able to see that 'All *S* is *P*' is necessary, either by direct inspection or by deductive inference, without its being the case that the opposite of it would be *self-contradictory*. Many people, e.g., claim to be able to see on inspection that every event must be causally determined. Yet most people would admit that the notion of being causally determined is not part of the concept of an event, and that there is nothing *self-contradictory* in the supposition that there might be an event which was not causally determined.

Thus we cannot rule out by definition the possibility that there might be judgments which are both synthetic and *a priori* in the traditional sense. There are plenty of judgments, e.g. those of ordinary geometry, which seem *prima facie* to combine both these properties. And many of Kant's predecessors, e.g. Locke, held that there are in fact plenty of judgments which are both *a priori* in the traditional sense and synthetic. Others, e.g. Leibniz, held that this is a mistake, and that all judgments which are *a priori* in the traditional sense must be analytic.

Now Kant begins by talking as if he accepted the view that there are judgments which are synthetic and yet are *a priori* in the traditional sense. He talks of the propositions of arithmetic and geometry, and of the principle of universal causation, as synthetic *a priori* judgments. And he professes to be concerned with the question 'Granted, as we must do, that there is synthetic *a priori* knowledge, how is it possible?' But, when we look at his attempts to answer this question, we find that he does not really admit these judgments to be *a priori* in the traditional sense. He holds them to be *a priori* in a new sense, which he never explicitly defines, but which can be understood by reflecting on his arguments.

This point comes out quite plainly in Kant's dealings with the law of universal causation and the principle of the permanence of substance. He describes these as synthetic principles which are or can be known *a priori*. Now he certainly did not admit that they are self-evident, i.e. that we can see their necessity by reflecting on their terms. For he devotes an immense amount of trouble to proving them. And when we look at the proofs we find that they do not start from premisses which are self-evident. The ultimate premisses of these arguments are found to be certain very general but quite contingent facts about the nature of human experience. E.g. one premiss is that our knowledge of physical objects and events is based on sensations which arise in us successively. Another premiss is that we can and do distinguish between the temporal order in which we get our

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sensations and an objective temporal order of the things or events which we perceive by means of our sensations. A third important premiss is that each of us recognises his own persistence and self-identity throughout his changing experiences, although he is not acquainted introspectively with a persistent unchanging ego. Now all these premisses, though very general and pervasive, are quite contingent. It is therefore clear that, when Kant describes our knowledge of the law of causation or of the permanence of material substance as '*a priori*', he cannot be using '*a priori*' in the traditional sense. For, in that sense, any proposition which could be known *a priori* would be necessary. But these propositions, according to Kant, are inferable only from premisses which are contingent; and the consequences of contingent premisses are themselves contingent.

I will distinguish the traditional sense of *a priori* by the name '*absolutely a priori*' and Kant's peculiar sense of it by the name '*transcendentally a priori*'. We must now try to state what Kant meant by '*transcendentally a priori*'.

If we look at the judgments which Kant regards as *transcendentally a priori*, we notice that they are all hypothetical and that there is a common feature in the antecedents of all of them. E.g. Kant does not claim to have proved that *every* event has a cause or that *no* substance can begin or cease to exist. He distinctly says that it is impossible for us to know whether this is so or not. What he claims to prove about causation is that any event which could possibly be an object of human sense-perception must be caused by some such earlier event. What he claims to prove about substance is that all *perceptible* change is change in the states of perceptible substances and not the coming into existence or the cessation of such substances. This characteristic of being 'perceptible by a human mind' which qualifies the subjects of all Kant's *transcendentally a priori* propositions needs a little further explanation. 'Perceptible' must be taken in a very wide sense. A thing or event would not cease to be 'perceptible by a human mind', in Kant's sense, merely because no human being happens to have acute enough sense-organs or to have been in the right place at the right time to perceive it. E.g. an event happening in the sun before there were any human beings would count as 'perceptible' for Kant's purpose. Kant only requires that the event shall be such that it *would* have been perceived by any mind which worked on the same general principles as ours, provided that it was in the right place at the right time and had suitable sense-organs. (I think that Kant would have difficulty, in view of his own doctrine about the subjectivity of space and time, in putting a satisfactory interpretation on the phrase 'in the right place at the right time'. But that is a difficulty which he shares with many other philosophers, e.g. with phenomenologists.)

If we look at Kant's proofs of the judgments which he counts as

synthetic and *a priori*, we find that they all start with certain very general premisses, positive and negative, about the way in which human minds work. He then claims to deduce from these premisses that any object of possible human sense-perception must have such-and-such a property. We can now define a 'transcendentally *a priori* judgment'. It is a judgment which asserts, with regard to all objects of possible human sense-perception, that they must have certain characteristics, because the latter are entailed by certain very general facts about the way in which human minds work. Kant's transcendentally *a priori* judgments are not judgments of *intrinsically* necessary propositions. If Kant is right, they are judgments of propositions which are *necessary consequences* of certain facts about the human mind; but these facts are contingent and so are their consequences.

If my interpretation is correct, Kant answered his original question only by altering its meaning. The original question was: 'How are synthetic *a priori* judgments possible?' This meant originally: 'How can we come to see that a proposition of the form "All *S* is *P*" is necessarily true, in cases where the notion of *P* is *not* contained either explicitly or implicitly in the concept of *S*, and therefore the supposition that there might be an instance of *S* which is not *P* is *not* self-contradictory?' To this question Kant's answer is that, in this sense of '*a priori*', synthetic *a priori* judgments are not possible. So far as I can see, Kant is in complete agreement with Leibniz and with Hume, and in disagreement with Locke, on this point. According to him, the only judgments which are or can be *a priori* in the absolute sense are analytic. What he then proceeds to do is to introduce a new sense of '*a priori*', viz. the transcendental sense, and to try to show that many important judgments, which are synthetic, and were thought to be *a priori* in the absolute sense, are *a priori* in the transcendental sense. Now, this has at least the merit of originality. Before Kant's time there were three alternative views about such judgments as 'Every event has a cause'. (1) The orthodox rationalist view that they are knowings of facts which are intrinsically necessary and can be seen to be so by reflecting upon the terms involved in them. Kant agreed that Hume had upset this view. (2) The orthodox empiricist view, which we find in Mill, that they are proved or rendered probable by induction. This Kant also rejected on the grounds that induction could not account for the fact that we make these judgments with complete confidence about *every* member of an *unlimited* class of possible subjects. Moreover some of them seem to be presupposed in all inductive arguments. (3) The sceptical view of Hume that such judgments have no rational ground at all, but are simply irrational expectations caused by constant experience of regularity. Hume took this view because he rejected the first and second theories and could think of no other alternative. Now Kant held that our geometrical and arithmetical judg-

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ments raise precisely the same kind of problem as our belief in the law of universal causation. And he thought that, if Hume had realised this, he would have hesitated to adopt his sceptical view.

However that may be, Kant's great originality was to think of a fourth alternative. Stated very roughly, it may be put as follows. Each of us, when awake and sane, ostensibly perceives a world consisting of many independent extended movable things, of various recognisable kinds, occupying positions in a single spatial system and interacting with each other. He ostensibly perceives each of these things as persisting, as having a history consisting of various successive states, and as simultaneously possessing many different properties. He is able to identify a particular thing on various occasions, in spite of profound changes in its appearances, its states, and its relationships. He ostensibly perceives himself as the persistent owner of a whole set of very various experiences, simultaneous and successive. And he regards his own experiences and the events in all other things as dated in a single temporal system. This is one of Kant's premisses, and it must be accepted as substantially true.

Kant's other premiss is that the only empirical data on which all this is based are sensations, images, feelings and emotions of various kinds, which are passively received and are fleeting and come and go in a most chaotic way. Now it seemed to Kant that the only way in which one could explain how the characteristic experience of a sane waking man can arise from such empirical data is this. One must suppose that each of us unconsciously combines, separates, modifies, and supplements the crude passively received data in accordance with certain very general innate principles. Propositions like the law of universal causation are explicit formulations of the innate principles in accordance with which we unconsciously operate on the crude data in generating normal waking sense-perception and self-consciousness.

Such a view carries certain consequences with it. (1) Principles like the law of universal causation must be stated in a more restricted form. They must not be applied to events as such and without restriction, but only to events which are capable of being objects of human sense-perception. (2) It follows at once that both the orthodox rationalist view and the orthodox empiricist view of our knowledge of such principles must be rejected. But Hume's sceptical view would also be undermined. For, according to Kant, the regular experience, which Hume postulates in order to explain the formation of our habitual expectations, could not have existed unless these principles, in their restricted form, had been true. For no coherent perceptual experience at all, e.g. no experience in which persistent things are distinguished and identified on various occasions, would have been possible unless these principles had been true.

2.2 'A priori' as applied to concepts and percepts

We will now consider what Kant means by '*a priori*' as applied to concepts and to percepts. I will begin with concepts, and I will first treat the matter in my own way and then try to relate Kant's view to what I have said.

2.2.1 Concepts

We derive our concepts of certain characteristics by abstraction from particulars met with in sense-perception or introspection, which present themselves to us as having those characteristics. Thus we derive the concept of 'red' by abstraction from things which we have seen and which looked red and of the concept of 'painfulness' by abstraction from experiences which we have had which were painful. Then, again, we have the power of conceiving complex characteristics which have never been presented to us in sense-perception or introspection, provided that instances of their component characteristics have been presented to us. We can form the concept of a mermaid, although we have never seen one, because we have seen women and fish, and can then combine the notion of having a woman's body with that of having a fish's tail. Now I would define an 'empirical concept' as one which has been formed in one or other of these two ways. And I would define an *a priori* concept as one which is not empirical in this sense. This is of course a definition in purely negative terms.

Now it seems plausible to hold that we have some concepts which are *a priori*, in the sense that they are not derived in either of these two ways. The most plausible instances would be the concepts of cause and of substance. Again, if ethical words like 'morally right', 'ought', etc. stand for characteristics, then it seems plausible to hold that our concepts of these characteristics are *a priori*, in the sense of being non-empirical. Kant did in fact describe the concepts of cause and of substance and of moral obligation as '*a priori*'. So at any rate the phrase '*a priori* concept', as I have defined it and as Kant used it, has much the same range of application.

Now, even if such concepts as cause and substance are not *abstracted from* instances presented to us by sense-perception or by introspection, no doubt special kinds of experiences are necessary before we can explicitly formulate them. Probably we should never have explicitly formulated the notions of cause or of substance unless certain kinds of sensation had occurred frequently in conjunction or immediate sequence. What is asserted by those who call these concepts '*a priori*' is that such features in our experience are only the *occasions* and the *necessary conditions* for us to formulate explicitly the concept of cause and of substance. These peculiar experiences do not *present us with instances* of causation or substantiality,

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from which these concepts could literally be abstracted, as the experience of seeing a pillar-box presents us with an instance of redness from which the concept of redness could be abstracted. At most they present us with instances of conjunction or of sequence. You cannot literally *see* with your eyes a moving stone *causing* a window to break. All that you can literally see is the stone coming in contact with the window and immediately afterwards the continuous pane of glass being replaced by falling fragments. I think that all this would be admitted and asserted by Kant about the concepts which he describes as '*a priori*'.

Now persons who hold that there are concepts which are *a priori*, in the negative sense of non-empirical, are naturally inclined to supplement this with some positive view as to the nature of such concepts. Two types of positive view have been held, which might be called *objectivist* and *subjectivist*. According to the objectivist view, the causal relation and the relation of an event to a substance in which it occurs, e.g., are objective features of the world, quite independent of the processes in human or other minds. We just become aware of these independent features, on the occasion of certain appropriate kinds of sense-experience, by a peculiar kind of rational insight. So far as I can understand, Hegel held a form of the objectivist view. According to the subjectivist view, the notions of cause and substance, e.g., are innate ideas peculiar to human minds; and we, so to speak, 'project' these ideas into the world on the occasion of certain appropriate kinds of sense-experience. Now there is no doubt that Kant held a form of the subjectivist view as to the nature of *a priori* concepts. The form in which he held it is peculiar to himself, and difficult to state briefly and fairly at this stage. But it may be put very roughly as follows. In passing from merely having sensations to the experience of ostensibly perceiving a world of independent persistent identifiable extended interacting things we must have unconsciously performed various elaborate processes of synthesis upon the crude data of sense. These various processes must in fact take place in accordance with certain very general rules or principles which are the same for all men at all times. For the perceptual experiences of all men are on the same general plan and fit more or less satisfactorily together. Now, when we come to reflect upon our ordinary waking perceptual experience, we make judgments which involve such notions as 'cause and effect', 'substance and states', and so on. According to Kant these notions, which become explicit in such judgments, correspond to the various fundamental types of synthesis which have been taking place unconsciously and have generated the perceptual experience to whose objects these judgments refer. So Kant's view seems very roughly to be as follows. Each different *a priori* concept is correlated with and corresponds to a different fundamental type of innate unconscious synthetic process, whereby the human mind generates out of crude