Kant’s criticism of the cosmological argument

Thesis

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KANT'S CRITICISM OF THE COSMOLOGICAL ARGUMENT

SUBMITTED BY ALASTAIR CAMERON QUIN

FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

1985

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ABSTRACT

This thesis sets out to examine Kant's criticism of the cosmological argument. Kant's general philosophical views are expounded and his reasons for the rejection of metaphysics are explained.

In the course of the argument Kant's own analysis of the cosmological proof is discussed. He laid great stress on the fact that there are two stages involved in the cosmological proof. His principal criticism concerns its second stage. There the proponent of the proof seeks to move from the necessary being, whose existence is said to have been established in the first stage of the argument, to God. Kant's claim that the second stage of the proof involves the principle of the ontological argument is discussed as is his criticism of the ontological argument itself.

There are two principal forms of the cosmological argument. These are the argument from contingency and the first cause argument. Kant discusses both in the Critique of Pure Reason, the one in his critique of rational theology, the other in his chapter on the Antinomies. The thesis discusses the Kantian criticisms of both forms of the argument and considers how these criticisms may be answered.

Kant's criticism of the second stage of the cosmological proof is also discussed and it is argued that his principle that this must be a pure a priori argument is unduly restrictive.

Finally the possibility of founding a criticism of the cosmological argument on the central doctrines of the Critique of Pure Reason is discussed.
Chapter 1 Kant's theory of knowledge is here discussed. Metaphysics claims to provide synthetic a priori truths. These claims are unfounded but metaphysics is nevertheless the natural issue of reason. Rational theology is founded on the Ideal of Pure Reason which is produced by reason when it considers the conditions necessary for the 'complete determination' of things. The argument by which this is established has affinities with the Beweisgrund proof.

Chapter 2 Kant's account of the cosmological proof is analysed. He insists that there are two stages involved in the proof and that the second presupposes the ontological proof. His argument here is open to question. Since he has rejected the ontological proof the cosmological proof is regarded as not merely superfluous but invalid.

Chapter 3 In his analysis of the cosmological proof Kant seeks to set it out in its correct syllogistic form. Far from clarifying the issues involved this analysis has led to complications and misunderstandings. Kant's contention that the second stage of the proof depends on the ontological proof is undermined by his own Beweisgrund proof which provides another way of establishing a connection between necessary being
and the *ens realissimum*. Even if the second stage were dependent on the ontological proof it would not follow that the cosmological argument was superfluous as it might still be appealed to in order to show the world's dependence on God. To bring down the cosmological proof by showing it to be dependent on the ontological we need to prove the ontological proof to be invalid.

**Chapter 4**

The Kantian criticisms of the ontological proof are discussed. His claim that we cannot think the concept of necessary being because there is no being that cannot be thought away regardless of its predicates is considered. His view that existence is, in any case, not a predicate is criticised. Kant's arguments against the ontological proof are inconclusive. The proponent of the proof is, however, left with the problem of defending the notion of necessary being.

**Chapter 5**

The notion of necessary being is analysed. Some suggest that the concept of factually necessary being is all that the cosmological proof requires. This is, in fact, inconsistent with the presuppositions of the proof. We can avoid the difficulties associated with the notion of logically necessary being without being forced to accept factually necessary being. The notion of real necessity is put forward and defended.
Chapter 6
The argument from contingency is defended against the charge that it is question begging. Kant rejects the principle of sufficient reason. His own principle that the possible presupposes the actual may, however, be substituted for that of sufficient reason by the proponent of the proof. It can also be argued that if the proof is question begging then an empty world could only exist necessarily. From this we can derive an indirect form of the proof.

Chapter 7
The first cause argument is considered. The argument derives from Aristotle and was discussed by Aquinas. Kant deals with it in the dynamical antinomies. His argument here is that the conditioned presupposes the unconditioned. The argument is rejected but it is argued that its defects spring not from invalidity in its reasoning but from the falsity of its premisses.

Chapter 8
The first antinomy deals with another version of the first cause argument. According to this argument there must have been a first cause of the world series of events because there cannot be an infinite series of past events. Kant's argument in the thesis of the antinomy is defended while that of the antithesis is rejected. The difficulty for the proponent of the proof concerns the use to be made of the notion of an absolutely first event. To make use
of it he has to show that there cannot have been an uncaused physical event.

Chapter 9

The versions of the proof that have so far been discussed complete only the first stage of the proof. We must now consider how the necessary being or first cause whose existence is said to have been demonstrated by the first stage of the proof is to be identified with God. Kant holds that the only way that the second stage of the proof can be completed is by appealing to the principle of the ontological argument. Leibniz's version of the proof contains a second stage but this is based on the principle of sufficient reason. This principle is discussed. Other ways in which the second stage could be completed are reviewed and it is argued that the second stage need not be purely a priori.

Chapter 10

Even if we reject Kant's criticisms of the proof we have to consider the objections that could be founded on his epistemology. These objections concern the restriction of the concepts of causality and modality to the world of sense experience. They also concern the ideality of space and time. These arguments have been rejected. Their rejection, however, may raise further difficulties for the proponent of the proof.
Chapter 1

In the Critique of Pure Reason Kant sets out to establish the limits of human knowledge. Problems had been raised for the whole of metaphysics by Hume's analysis of causation, but this should not induce us to embrace a dogmatic empiricism. We must suspend judgement on metaphysics until we have engaged in a 'critique' or critical examination of our cognitive faculty. Thus Kant poses the general question: 'what and how much can the understanding know apart from all experience?'

According to Kant, Hume proved irrefutably that it is quite impossible for reason to think the conjunction of cause and effect a priori and out of concepts. For this conjunction contains necessity, 'but is quite impossible to see how, because something is, something else must necessarily be, and how, therefore the concept of such an a priori connection can be introduced' (Prolegomena p.6. Trans. P.G. Lucas). Hume drew the conclusion that 'reason has no power to think such connections, not even only to think them universally, because its concepts would then be mere fictions, and all its ostensibly a priori knowledge is nothing but falsely stamped ordinary experiences; which is as much as to say that there is no metaphysics at all, and cannot be any' (ibid).

While it was Hume's analysis of causation that awakened Kant from his 'dogmatic slumber' Kant was 'very far from listening to him in respect of his conclusions' (op.cit. p.9). Hume had not represented his problem to himself as a whole; had he done so he would have found 'that the concept
of cause and effect is by no means the only one by which connections between things are thought \textit{a priori} by the understanding' (ibid). In developing this theme Kant proceeds to distinguish 'analytic' from 'synthetic' judgements. The denial of an analytic judgement or proposition involves a contradiction since 'analytic judgements say nothing in the predicate that was not already thought in the concept of the subject' (op.cit.p.16); but this is not the case with synthetic propositions, which are ampliative.

Kant's distinction between analytic and synthetic judgements is parallel to Leibniz's distinction between 'truths of reason' and 'truths of fact', truths of reason being such as are guaranteed by the principle of contradiction alone. Kant, however, goes on to break new ground by claiming that 'there are ... synthetic judgements which have \textit{a priori} certainty and have their origin in pure understanding and reason' (op.cit.p.17). While there are derivative analytic judgements dealing with the analysis of metaphysical concepts, the fundamental judgements of metaphysics are one and all synthetic. We cannot, however, dismiss metaphysics on this ground alone. For synthetic \textit{a priori} judgements are not peculiar to metaphysics. 'Mathematical judgements are all without exception synthetic. This proposition, though incontestably certain and in its consequences very important, seems to have wholly escaped hitherto the notice of the analysers of human reason' (op.cit.p.18). Previous thinkers held that mathematical truths rested on the principle of contradiction; that, in Kantian terms, they were analytic. This view, Kant holds,
rests on an inadequate account of the nature of mathematics.

If we reflect on the proposition $7 + 5 = 12$ we find, according to Kant, that it is synthetic; for 'the concept of the sum of 7 and 5 contains nothing further than the unification of two numbers into a single number, and in this we do not in the least think what this single number may be which combines the two. The concept of twelve is in no way already thought by merely thinking this unification of seven and five, and though I analyse my concept of such a possible sum as long as I please, I shall never find the twelve in it' (op. cit. p. 19). Geometry is also synthetic. If we consider, for example, the proposition that the straight line between two points is the shortest we find that our concept of 'straight' 'contains nothing of quantity but only a quality. The concept of the shortest is therefore wholly an addition, and cannot be drawn by any analysis from the concept of the straight line' (op. cit. p. 20).

In seeking the answer to our original question 'what and how much can the understanding know apart from all experience?' we must first account for pure mathematics. How, asks Kant, is pure mathematics possible if it is not merely a body of analytic truths? His answer is in terms of his doctrine of pure intuition. Any empirical concept can be 'amplified synthetically in experience by new predicates which intuition itself offers' (op. cit. p. 37). In pure mathematics we 'construct the concept', e.g. of a triangle, in non-empirical intuition. Once the mathematical concept has been constructed, that is, 'once the intuition which corresponds to the concept has been exhibited a priori, it likewise can be amplified synthetically.
But how is it possible to intuit anything a priori? 'Intuition is a representation such as would depend directly on the presence of the object. Hence it seems impossible to intuit anything a priori originally, because the intuitions would then have to take place without any object being present, either previously or now' (op. cit. p. 37). Kant's answer is that space and time are forms of sensibility, and the objects of the senses can be intuited only in accordance with these forms of sensibility. With space and time we can know 'prior to all acquaintance with things ... what their intuition must be like' (op. cit. p. 40).

Pure mathematics, then, as synthetic a priori knowledge is possible only 'because it bears on none other than mere objects of the senses the empirical intuition of which is grounded a priori in a pure intuition (of space and time), and can be so grounded because the pure intuition is nothing but the mere form of sensibility which precedes the real appearance of objects, in that only through it are they in fact made possible' (op. cit. p. 39f). So, according to Kant, 'Geometry is grounded on the pure intuition of space. Arithmetic forms its own concepts of numbers by successive addition of units in time; and pure mechanics especially can only form its concepts of motion by means of the representation of time' (op. cit. p. 39).

Kant held that if mathematics concerned things in themselves mathematical propositions would have only empirical and not apodictic certainty, but in accounting for that apodictic certainty he believes he has rendered things as they are in themselves unknowable. In denying that his doctrine of the ideality of space and time leads to
Berkeley's idealism he writes 'I do indeed admit that there are bodies outside us, i.e. things which, although wholly unknown to us as to what they may be in themselves, we know through the representations which their influence on our sensibility provides for us, and to which we give the name of bodies' (op. cit. p. 45). For Leibniz, the doctrine of the ideality of space and time was part of a metaphysical system in which the nature of reality was established by the application of a priori principles. Kant, however, as he develops his argument, seeks to show that all such attempts to investigate the nature of things in themselves are entirely vain.

Kant believes that 'pure natural science' (physics) also has synthetic a priori judgements and that these have the status of fundamental principles. He cites as examples 'in all changes of the material world the quantity of matter remains unchanged; and ... in all communication of motion action and reaction must always be equal' (Critique of Pure Reason B17). He proceeds, in the Analytic, to account for this class of synthetic a priori propositions. The synthetic a priori propositions of mathematics Kant has associated with sensibility; the synthetic a priori propositions of pure natural science he now associates with the understanding, which he defines as 'a faculty of judgement'.

Kant's thought in the Analytic is complex. He holds that there are only two ways in which ideas can be related to their objects. Either the object makes the idea possible or the idea makes the object possible. The first possibility cannot account for our a priori knowledge of objects. Thus
Kant proposes his 'Copernican solution' and embraces the second possibility: it is 'the idea which makes the object possible'. This does not mean the idea or representation produces its object 'in so far as existence is concerned'. 'None the less the representation is a priori determinant of the object, if it be the case that only through the representation is it possible to know anything as an object' (A92/B125).

All experience contains, in addition to the intuition of the senses through which something is given, 'a concept of an object as being thereby given'. Thus concepts of objects in general 'underlie all empirical knowledge as its a priori conditions' (A93/B126). So the concept of an object in general is necessary to our experience. But the concept of an object in general differentiates itself into concepts of objects in general; and these concepts of objects in general are the categories or a priori concepts of the understanding.

It is possible to have a priori knowledge of objects through the categories because through them alone does experience become possible. But objects are thereby known as they must appear to us, and not as they are in themselves. So while the categories of substance and of cause and effect are necessary in that they are presupposed in our experience of objects this must not be accorded metaphysical significance.

As we have seen, Kant defines the understanding as a 'faculty of judgement'. He holds that Aristotelian logic is complete, remarking that 'to the present day this logic has not been able to advance a single step, and is thus to all appearances a closed and completed body of doctrine' (BVIII).
Since understanding is a faculty of judgement, and formal logic gives an exhaustive classification of judgements, we have a complete inventory of its powers. By basing his table of categories on this exhaustive classification Kant believes that he can achieve a similar completeness.

Kant's argument is that to the logical function embodied in each class of judgements there corresponds a category or pure concept of the understanding. The function, for example, of relating subject to predicate in a categorical judgement yields the relational categories of substance and accident; and the function of relating antecedent to consequent in a hypothetical judgement yields the relational categories of cause and effect.

There seems little room for rationalist metaphysics in Kant's scheme. Things cannot be known as they are in themselves since the understanding can never transcend the limits of sensibility. Rational ontology, which 'presumptuously claims to supply, in systematic doctrinal form, synthetic a priori knowledge of things in general ... must ... give place to the modest title of a mere Analytic of pure understanding' (A247/B303). In Kant's discussion of modality, 'The old metaphysical concept of necessity has all but disappeared' (W.H. Walsh Kant's Criticism of Metaphysics, p.153). For Kant 'the criterion of necessity lies solely in the law of possible experience, the law that everything which happens is determined a priori through its cause in the field of experience' (A227/B280).

Kant does not rest content with undermining the foundations of rationalist metaphysics, since he wishes to show that metaphysics is the natural issue of human reason.
He proposes to give a complete account of the a priori concepts of metaphysics as he believes he has done for mathematics and pure natural science, so that he will 'enjoy the inestimable advantage, never previously anticipated, of knowing completeness in the enumerating, classifying and specifying of the concepts a priori, and of knowing it according to principles' (Prolegomena P. 93). So, while metaphysics must be abandoned as a hopeless enterprise, it is not mere arbitrary speculation. It, too, according to Kant, has a structure which he proposes to trace to its source in human reason. This task he essays in the Dialectic.

Kant holds that 'reason', which he defines as the power of mediate inference, is the source of metaphysics. Reason is the highest faculty of our knowledge, to which it seeks to give systematic unity. 'Just as the understanding unifies the manifold in the object by means of concepts, so reason unifies the manifold of concepts by means of ideas, positing a certain collective unity as the goal of the activities of the understanding which otherwise are concerned with distributive unity' (A644/B672). Just as he deduced the categories from the forms of judgement in the Analytic Kant now seeks to deduce the fundamental concepts of reason, the 'Ideas of Reason', from the forms of mediate inference, or the syllogism. "Ideas lie in the nature of reason as categories in the nature of the understanding." (Prolegomena p.91). For Kant, an 'idea' is an a priori concept that 'transcends the possibility of experience'.

Since there are three forms of syllogism Kant concludes there are three Ideas of Reason. Corresponding to the categorical, hypothetical and disjunctive syllogisms we have
the 'idea of the complete subject', 'the idea of the complete series of conditions' and 'the determination of all concepts in the idea of a complete totality of the possible'. Each of the ideas is associated with a branch of metaphysics, the first with psychology, the second with cosmology and the third with theology.

Kant holds that metaphysics arises when we wrongly treat the regulative ideas of reason, whereby our knowledge is given a systematic unity, as constitutive. For example, the idea of God 'seeks only to formulate the command of reason, that all connection in the world be viewed in accordance with the principles of a systematic unity, as if all such connection had its source in one single all-embracing being, as the supreme and all sufficient cause' (A686/B714).

In terms of Kant's epistemology, metaphysics, or the attempt to acquire knowledge of things as they are in themselves, is bound to fail. How, he asks, could such knowledge be possible 'when time, space and all the concepts of the understanding, and even more so the concepts drawn from empirical intuition or perception in the world of the senses, have and can have no other use than merely to make experience possible?' (Prolegomena p.117). We can, however, survey the whole of this pretended a priori science and trace it to its origin in human reason since, as we have seen, Kant claims to have enumerated all a priori concepts encountered in human knowledge 'without which everything in metaphysics is nothing but rhapsody, in which one never knows whether one has enough of what one possesses, or whether, and where, something may still be missing' (Prolegomena p.93).

Kant's deduction of the ideas of reason has won little
sympathy and is generally condemned for its artificiality. His attempt to give a complete systematic exposition of metaphysics is referred to by Bennett as "Kant's undignified attempt to derive his choice of topics from the structure of human reason rather than the philosophical preoccupations then current in the German Universities' (Kant's Dialectic p.3). Kant seems to have assumed that contemporary metaphysics, like contemporary logic, was final and complete. It is noteworthy that cosmology, which he dignifies with its own individual 'Idea of reason', was first treated as an independent branch of Metaphysics by Wolff in his Discourse on Philosophy in General of 1728.

No matter how sceptical we may be of the derivation of the problems of metaphysics from the nature of human reason, there is no doubt that Kant's discussion of the problems themselves has been very influential. He endeavours to demonstrate, in the Dialectic, that the proofs on which the fundamental propositions of rational psychology, cosmology and theology rest are fallacious whether or not we accept the doctrines of the Aesthetic and the Analytic. Indeed, the contradictions Kant discovers in rational cosmology in the 'Antinomy of Pure Reason' yield the so-called 'indirect proof' of the ideality of space and time. Thus the doctrines of the Aesthetic rest in part on the Antinomy, which must be independent of the theory it is called upon to support. How far Kant is able to maintain the independence of his specific criticisms of metaphysics from his epistemology is another question and one that we shall consider in due course.

The illusions of metaphysics Kant holds to be natural and inevitable. 'There exists ... a natural and unavoidable
dialectic of pure reason, not one in which a bungler might entangle himself through lack of knowledge ... but one inseparable from human reason, and which, even after its deceptiveness has been exposed, will not cease to play tricks with reason and continually entrap it into momentary aberrations ever and again calling for correction' (A298).

At the root, then, of rational psychology, cosmology and theology there lies an 'idea of reason'. Kant associates the 'psychological idea' with pure reason's demand that 'for every predicate of a thing we should look for its appropriate subject, and for this, which is necessarily in its turn only a predicate, its subject and so on to infinity' (Prolegomena p.97). This 'regulative principle' is misused when we infer the substantiality of the thinking subject from the fact that all predicates of inner sense refer to the 'I as subject', for the I is not a concept but merely 'the reference of inner appearances to the unknown subject of them'. The cosmological ideas owe their origin to reason's demand that 'if the conditioned is given, the entire sum of conditions, and consequently the absolutely unconditioned is also given'. The contradictions of rational cosmology arise because 'this conditioned may be conceived in either of two ways. It may be viewed as consisting of the entire series in which all the members without exception are conditioned and only the totality of them is absolutely unconditioned. This regress is to be entitled infinite. Or alternatively, the absolutely unconditioned is only a part of the series - a part to which the other members are subordinated, and which does not itself stand under any other conditions' (A417/B445). On the first view the series is without limits, on the second view the
series is limited and finite.

Kant turns finally to consider rational theology. At the root of rational theology there lies, not merely an idea but an 'ideal' of pure reason. By 'ideal' Kant says he understands 'the idea, not merely in concreto, but in individuo, that is, as an individual thing, determinable or even determined by the idea alone' (A568/B596).

The ideal of pure reason arises when we consider what conditions are necessary for the 'complete determination' of things. According to Kant 'everything, as regards its possibility, is ... subject to the principle of complete determination, according to which, if all the possible predicates of things be taken together with their contradictory opposites, then one of each pair of contradictory opposites must belong to it' (A571f/B599f). Everything that exists is completely determined, and thus 'to know a thing completely we must know every possible predicate, and must determine it thereby either affirmatively or negatively' (A573/B601). We can never acquire such complete knowledge of an individual, for this is beyond our human faculties, but every thing must nevertheless be 'completely determined' in respect of all possible predicates.

As A.W. Wood points out in Kant's Rational Theology, Kant is here influenced by the Leibnizian conception of the 'complete notion' of every individual. In the Discourse on Metaphysics, Leibniz says that 'the notion of an individual substance contains once and for all everything that can ever happen to it, and ... on considering this notion all that could be truly propounded of it is to be seen
in it' (Lucas and Grint translation, p.19). In his correspondence with Arnauld, Leibniz writes 'what determines a certain Adam must absolutely contain all his predicates, and it is this complete concept that determines generality in such a way that the individual is reached'. (The Leibniz/Arnauld Correspondence, translated H.T. Mason, p.61). On the other hand, the concept of something abstract, such as the sphere, is 'incomplete and does not contain all the circumstances necessary in practice for arriving at one particular sphere' (op.cit.pp.58f). For Leibniz, there cannot be two individuals which differ solo numero, for this would violate the principle of the identity of indiscernibles.

To be an individual thing, then, is to be completely determined. The principle of complete determination considers each individual thing, as regards its possibility 'in its relation to the sum total of all possibilities, that is, to the sum-total of all predicates of things. Presupposing this sum as being an a priori condition, it proceeds to represent everything as deriving its own possibility from the share which it possesses in this sum of all possibilities' (A572/B600). The transcendental substrate which reason employs in the complete determination of things is the idea of an omnitudo realitatis. According to Kant all 'real' as opposed to merely 'logical' negations are but limitations of the omnitudo realitatis.

Kant then moves from the omnitudo realitatis to the ens realissimum, for, he says, 'the concept of what possesses all reality is just the concept of a thing in itself as completely determined; and since in all possible pairs of
contradictory predicates, one, namely that which belongs to being absolutely, is to be found in its determination, the concept of an ens realissimum is the concept of an individual being' (A576/B604). It thus appears that 'all manifoldness of things is only a ... varied mode of limiting the concept of the highest reality which forms their common substratum, just as all figures are only possible as so many different modes of limiting infinite space' (A578/B606).

It is this transcendental ideal, then, that lies at the root of rational theology. Kant connects it with the disjunctive syllogism by arguing that 'the logical determination of a concept by reason is based upon a disjunctive syllogism, in which the major premiss contains a logical division (the division of the sphere of a universal concept), the minor premiss limiting this sphere to a certain part, and the conclusion determining the concept by means of this part' (A577/B605). The 'universal concept' used in the complete determination of an individual thing is the 'universal concept of reality in general'.

The derivation of the concept of an ens realissimum set out in the 'Ideal of Pure Reason' is not meant to be a rationalistic proof that such a being exists. Kant says 'It is obvious that reason in ... representing the necessary complete determination of things, does not presuppose the existence of a being that corresponds to this ideal, but only the idea of such a being' (A577f/B606f). Nevertheless, his argument here has affinities with the a priori proof of the existence of God that he himself advanced in the Beweisgrund essay, where he argues that possibility in general presupposes, not merely actuality, but, as Walsh expresses
it, 'what may be called a primary actualisation of basic possibilities in a single supremely real being'. (Kant's Criticism of Metaphysics p.218).

The connection between the Beweisgrund proof and the derivation of the ideal of pure reason in the Critique prompts us to ask what Kant's attitude was to this proof in his critical period. Walsh considers that the derivation of the ideal recalls 'a kind of thinking which Kant had by this time come to think radically misguided, but which all the same had at one time seemed to him correct, even compulsive. What we see here, in effect, is Kant trying to come to terms with his own metaphysical past, without being altogether open about what he is doing' (op.cit.pp.218/219). It certainly appears from the Critique, as we have seen, that Kant rejects the proof, but he clearly thinks that it has a natural appeal to human reason.

Whatever the evidence in the Critique there are grounds for supposing that Kant was far from thinking the Beweisgrund proof 'radically misguided' in his critical period. Wood has drawn attention to the Lectures on Philosophical Theology, where Kant maintains that the proof 'can in no way be refuted, because it has its ground in the nature of reason'. This does not mean that the proof succeeds in establishing the existence of an ens realissimum. The proof is held to be 'subjectively' valid, since the ens realissimum is presupposed by reason in its attempt to conceive the ground of the possibility of things in general. Kant denies objective validity to the proof, 'apparently because he regards it as failing to show that the possibility of things really has to be grounded in just this way.' (Kant's
Rational Theology p.76). In the Critique, the proof is rejected as misusing an a priori principle valid only of appearances, i.e. the principle that all possibility presupposes a material substratum, given in one whole. Nevertheless the proof is 'the one of all possible proofs which affords the most satisfaction' (Lectures on Philosophical Theology p.66).

In view of Kant's apparent sympathy with the proof it is strange that he does not consider it in his criticism of rational theology. 'There are' he claims 'only three possible ways of proving the existence of God by means of speculative reason' (A590/B618). These are the physico-theological, the cosmological and the ontological proofs. Kant is quite definite about this: 'There are, and there can be, no others.' In the Beweisgrund essay the a priori proof from possibility is referred to as the 'ontological proof', the ontological argument dealt with in the Critique being referred to there as the 'Cartesian' argument. It is indeed, as Walsh says, 'remarkable that the [Beweisgrund] argument is not so much as mentioned in the Critique' (op.cit.p.218). In any case it is certain that the possibility proof cannot be left out of account in any treatment of the Kantian criticisms of the theistic proofs.

Kant's avowed intention in discussing the theistic proofs is to show that they must be rejected. He does not intend that we should, in consequence, abandon belief in God. Although we cannot demonstrate the existence of God, that is, of a 'supreme and all-sufficient being' yet 'the same grounds which have enabled us to demonstrate the inability of human reason to maintain the existence of such a being must also
suffice to prove the invalidity of all counter assertions' (A640f/B668f). So speculative reason cannot assist those who embrace either one side of the question or the other. Nevertheless, we can have rational belief in the existence of God; but this belief will be grounded on moral theology, not on speculative metaphysics. Kant says, 'the only theology of reason which is possible is that which is based upon moral laws or seeks guidance from them' (A636/B664).

We can, then, be certain of the existence of God. But our conviction is a moral, not a logical certainty. As moral agents we are called upon to aim at certain ends, in particular we are called upon to promote a state of affairs in which happiness is proportioned to virtue. The only condition under which pursuit of this end can have 'practical validity' is that there be a God and a future life, 'for a final end within, that is set before (us) as a duty and a nature without, that has no final end, though in it the former end is to be actualised, are in open contradiction' (Critique of Judgement p.129). Since we cannot achieve the morally ideal state which is our goal as moral agents, we find ourselves impelled to believe in the co-operation of a moral Ruler of the world that will enable us to reach this goal. It is only on the condition of a Supreme Cause ruling the world according to moral laws that we can conceive it possible for nature to harmonise with the moral law dwelling with us.

This 'moral proof' is unlike the metaphysical proofs that Kant has rejected. These are claimed to be valid arguments that require only to be understood to win acceptance. The moral proof, however, does not lead to
objective knowledge, but to a species of personal conviction. Thus Kant writes: 'I must not ... say, "It is morally certain that there is a God, etc."', but "I am morally certain" etc (A829/B857).

Kant claims for this 'moral theology' 'the peculiar advantage over speculative theology that it inevitably leads to the concept of a sole, all-perfect and rational primordial being, to which speculative theology does not, on objective grounds, even so much as point the way' (A814/B842). The Divine Being of the moral proof 'must be omnipotent, in order that the whole of nature and its relation to morality in the world may be subject to his will; omniscient, that he may know our innermost sentiments and their moral worth; omnipresent, that he may be immediately at hand for the satisfying of every need which the highest good demands; eternal, that this harmony of nature and freedom may never fail, etc.' (A815/B843).

We may then, be certain of the existence of God; but Kant holds that all metaphysical proofs of the existence of God must be rejected. It remains to see how damaging Kant's criticisms are in respect of these metaphysical arguments, in particular that of which he says 'speculative reason seems ... to have brought to bear all the resources of its dialectical skill to produce the greatest possible transcendental illusion' (A606/B634). This argument Kant entitles 'the cosmological proof'.

In the Critique, Kant maintains that there are only three ways of proving the existence of God open to 'speculative reason'. These he proceeds to enumerate. We must, he says, 'begin either from determinate experience and the specific constitution of the world of sense as thereby known, and ascend from it, in accordance with laws of causality, to the supreme cause outside the world; or ... start from experience which is purely indeterminate, that is, from experience of existence in general; or finally ... abstract from all experience, and argue completely a priori, from mere concepts, to the existence of a supreme cause. The first proof is the physico-theological, the second the cosmological, the third the ontological. There are, and there can be no others' (A590/B618f).

In fact, however, rational theology is even more circumscribed than this suggests, for, in this field 'there is not indeed ... much room for choice, since all merely speculative proofs in the end bring us always back to one and the same proof, namely the ontological' (A638/B666). In considering, therefore, the theistic proofs open to rational theology Kant is confident that he has 'no need to fear the fertile ingenuity of the dogmatic champions of supersensible reasons' (ibid.).

Kant deals first with the ontological argument, which he rejects as invalid. He then attempts to demonstrate that it is in some sense presupposed by the other proofs. This gives the impression that his principal objection to the other proofs is that they stand or fall with the ontological proof,
which he believes he has shown to be unsound. A disadvantage of this strategy, as Wood points out, is that it makes Kant's criticism of the other proofs dependent on his criticism of the ontological argument. Thus Wood argues that if Kant's criticism of the ontological argument should prove less than conclusive 'then Kant really provides no effective criticism at all of the other two proofs' (Kant's Rational Theology, p.99).

Wood's point requires to be qualified. If Kant has failed to demonstrate that the cosmological proof is dependent on the ontological then the question of the effectiveness of his criticism of the latter is irrelevant to the question of the validity of the former. If, on the other hand, he has succeeded in demonstrating that the cosmological proof is dependent on the ontological, it would be open to him to argue that this in itself should lead to a rejection of the cosmological proof as a redundant and circuitous version of the pure a priori proof, as 'an old argument disguised as a new one' (A606/B634).

Kant does suggest criticisms of the cosmological proof other than its supposed dependence on the ontological argument but these are not fully worked out. He insists that there are two stages to the proof, the first being designed to prove the existence of a necessary being, the second that this necessary being is the ens realissimum. With regard to the first stage Kant lists what he takes to be the 'deceptive principles' involving leaving it to the reader to refute them. These are '1) The transcendental principle whereby from the contingent we infer the cause ... (2) The inference to a first cause, from the impossibility of an infinite
series of causes, given one after the other, in the sensible world ... (3) The removal of all the conditions without which no concept of necessity is possible [being] taken by reason to be a completion of the concept of the series, on the ground that we can then conceive nothing further' (A610/B638). It is, however, to the second stage that Kant's principal objection applies: that the cosmological proof is dependent upon the ontological argument. Before we attempt to assess Kant's criticisms we ought to examine his account of the proof itself.

Kant's statement of the first stage of the argument is a version of the argumentum a contingentia mundi. The proponent of the proof is said to argue: 'If anything exists an absolutely necessary being must also exist. Now I, at least, exist. Therefore an absolutely necessary being exists' (A604/B632). Kant says in a note that this inference, from there being any experience at all to the existence of the necessary, is 'too well known to require detailed statement'. It depends, he says, 'on the supposedly transcendental law of natural causality: that everything contingent has a cause, which, if itself contingent, must likewise have a cause, till the series of subordinate causes ends with an absolutely necessary cause, without which it would have no completeness' (A605/B633n).

According to Bennett, 'This supposed demand for "completeness" owes more to Kant's peculiar theory of reason than to anything in the thought of his predecessors, and Kant's reference to it is a lapse' (Kant's Dialectic, p.244). I do not see why we need to accept Bennett's interpretation. The proponent of the argument would hold that the series of
contingent causes is 'incomplete' in the sense that it is dependent or not self-sufficient and that it is on these grounds that we infer the existence of a necessary being on whom the series is said to depend. Where Kant does misrepresent the argument is in his statement that the series of subordinate causes must end with an absolutely necessary cause. The proponent of the argument would contend that even if the series be infinite, it would still, as contingent, require or be dependent upon necessary being.

There is other evidence in the Critique to indicate that Kant assumes the first stage of the proof to lead to a literal first cause. Thus he says 'the contingent exists only under the condition of some other contingent existence as its cause and from this again we must infer yet another cause, until we are brought to a cause which is not contingent, and which is therefore unconditionally necessary. This is the argument upon which reason bases its advance to the primordial being' (A584/B612). If we come to the necessary being by regression through the series of contingent causes, then presumably we come to it as a literal first cause. Again, in enumerating the 'dialectical assumptions' present in the cosmological argument Kant includes, as we have seen, 'the inference to a first cause from the impossibility of an infinite series of causes, given one after the other, in the sensible world' (A610/B638).

The point is clarified only when Kant comes to discuss the physico-theological argument. He there writes: 'Nothing has of itself come into the condition in which we find it to exist, but always points to something else as its cause, while this in turn commits us to a repetition of the same
enquiry. The whole universe must ... sink into the abyss of nothingness, unless, over and above this infinite chain of contingencies, we assume something to support it - something which is original and independently self-subsistent, and which as the cause of the origin of the universe serves also at the same time its continuance' (A622/B650). Bennett sees this as an altogether more satisfactory account of how actual proponents of the cosmological argument have argued for necessary being. Here, he writes, 'the cosmological arguer allows that the causal-explanatory regress may be infinite, so that each member of it can be explained by reference to some earlier member of it; but he contends that it would still not explain why the world contained that series rather than some other' (ibid.). This version of the first stage of the proof does bring us closer to the cosmological argument as used by Kant's predecessors and in particular to Leibniz's statement of it, in which the principle of sufficient reason is fundamental.

Leibniz clearly set great store by the cosmological argument and it appears in various forms throughout his writings. It is most fully and satisfactorily argued in his paper 'On the Ultimate Origination of Things' of 1697. What is in essence the same argument, though very condensed, is given in the Monadology (Sections 36-39). In its mature form, Leibniz's cosmological proof depends on his 'great principle' of sufficient reason 'in virtue of which we hold that there can be no fact real or existing, no statement true unless there be a sufficient reason why it should be so and not otherwise, although these reasons usually cannot be known by us' (Monadology 32).
Leibniz argues that the sufficient reason of the existence of the world 'cannot be found either in any particular thing or in the whole aggregate and series of things' (Latta, The Philosophical Works of Leibniz, p.338). If we consider the successive states of the world we see that each state of the world is, in a sense, a copy of that which precedes it. 'Therefore, at whatever earlier stage you go back, you can never find in it the complete reason of things, that is to say, the reason why there exists any world and why this world rather than some other' (ibid.). We may suppose the world to be eternal, but 'in eternal things, even though there be no cause, there must be a reason which, for permanent things, is necessity or essence' (ibid.). Thus Leibniz concludes that 'even by supposing the eternity of the world, we cannot escape the ultimate extramundane reason of things, that is to say God' (op.cit.p.339).

Similar arguments appear in the 'Principles of Nature and Grace'. There Leibniz, having affirmed the principle of sufficient reason, asks 'Why does something exist rather than nothing? For "nothing" is simpler and easier than "something". Further, granting that things must exist, we must be able to give a reason why they should exist thus and not otherwise' (op.cit.p.415). The ultimate sufficient reason for the existence and configuration of the universe 'must needs be outside [the] sequence of contingent things and must be in a substance which is the cause of this sequence, or which is a necessary being, otherwise we should not yet have a sufficient reason with which we could stop. And this ultimate reason of things is called God' (ibid.).

Such, then, is the classical formulation of the
cosmological proof as based on the principle of sufficient reason. Can we show that the first stage of the proof, in Kant's view, rests on this principle? While it is not mentioned by him, it appears to lie behind the passage quoted above from the physico-theological proof. Its influence may be felt yet more strongly in Kant's statement of the proof in the Lectures on Philosophical Theology where he says, 'if I am contingent, there must be somewhere external to me a ground for my existence, which is the reason why I am as I am and not otherwise. This ground of my existence must be absolutely necessary. For if it too were contingent, then it could not be the ground of my existence, since it would once again have need of something else containing the ground of its existence. This absolutely necessary being, however, must contain in itself the ground of its own existence, and consequently the ground of the existence of the whole world. For the whole world is contingent, and hence it cannot contain it itself the reason why it is and not otherwise' (op. cit. p. 35).

To throw further light on how Kant viewed the first stage of the proof we naturally turn to the fourth antinomy, the thesis of which argues for a necessary being. Indeed Weldon claims that Kant's version of the cosmological argument is 'not actually distinguishable from the argument contained in the thesis of the Fourth Antinomy' (Kant's Critique of Pure Reason, p. 126).

In the thesis of the antinomy, Kant sets out to establish that 'there belongs to the world, either as its part or as its cause, a being that is absolutely necessary'. He distinguishes the cosmological argument, which he uses
here, from the 'pure cosmological proof' which has to leave unsettled the question whether the necessary being is the world itself or a thing distinct from it. It appears that the cosmological argument of the thesis of the Fourth Antinomy settles this question, because we are here concerned with the series of alterations that constitute the sensible world, and the causality of the necessary being must be in time and therefore in the world, so that the necessary being itself must belong to the world. It is impossible, according to Kant, for the series of alterations to derive from a necessary cause that does not belong to the world. 'For since the beginning of a series in time can be determined only by that which precedes it in time, the highest condition of the beginning of a series of changes must exist in the time when the series as yet was not' (A454/B482).

The cosmological argument of the antinomy rests on the principle that the regress of conditions presupposed by every conditioned thing and by every alteration cannot be complete without an unconditioned necessary being as its source. Thus Kant writes: 'Now every conditioned that is given presupposes, in respect of its existence, a complete series of conditions up to the unconditioned, which alone is absolutely necessary' (A453/B481). This argument must be distinguished from the cosmological argument of the theology chapter which requires principles 'which are no longer cosmological and do not continue in the series of appearances' (A456/B484).

What, then, is the relationship between the two proofs? Weldon, as we have seen, finds them indistinguishable; and, for Wilkerson, the cosmological argument of the Ideal of Pure
Reason is 'a more economical version of the argument of the fourth antinomy' (Kant's Critique of Pure Reason, p.146). There is certainly a close resemblance between the inference to unconditioned necessary being in the antinomy and the argument from the existence of the contingent to the existence of the necessary in the cosmological argument proper. In the antinomy the existence of the conditioned presupposes the complete series of conditions; and the series of conditions cannot be complete unless it includes the absolutely necessary unconditioned. In the cosmological argument proper the series of contingent causes must end with an absolutely necessary cause, 'without which it would have no completeness'.

Presumably the thought in both cases is that we cannot give a complete account of the existence of a conditioned or contingent thing by a regressive series of causal explanations unless the series terminates in a necessarily existing first cause or highest member. What, then, is the distinction between the two proofs? It appears that the argument of the antinomy leads to a necessary being that is 'in the world' because its causality 'must be in time and therefore in the world'. We are bound to the sensible world in the antinomy by its use of the principle that 'if the conditioned is given, the entire sum of conditions, and consequently the absolutely unconditioned ... is also given' (A409/B436). The necessary being must here be held to be the highest member of the cosmological series, for the relation of the conditioned to its condition 'is sensible and falls within the province of the possible empirical employment of understanding, the highest condition or cause can bring the
regress to a close only in accordance with the laws of sensibility, and therefore only in so far as it itself belongs to the temporal series' (A458/B486). If this is so, however, why does not the necessary being of the 'pure' cosmological argument also belong to the sensible world since there too we make use of the notion of the causal regress?

The fact that in the sensible world we are presented with change and alteration is indeed important to Kant's version of the 'pure' cosmological proof. But what we infer from this fact is in the first place the contingency of things. 'We see things alter, come into being, and pass away; and these, or at least their state, must have a cause' (A589/B617). Elsewhere, Kant says that the cosmological proof, starting from the simplest possible experience, viz. 'that I am', proceeds: 'but the changes which go on in me show that I am not necessary. Therefore I am contingent [so] there must be somewhere external to me a ground for my existence' (Lectures on Philosophical Theology, p.35).

It is because the 'pure' cosmological proof makes use of the concept of contingency that it can leave unsettled the question of whether or not the necessary being belongs to the world itself or is distinct from it. Proponents of the proof, since they could not find in the series of empirical conditions any first beginning or highest member, 'passed suddenly from the empirical concept of contingency, and laid hold upon the pure category, which then gave rise to a strictly intelligible series the completeness of which rested on the existence of an absolutely necessary cause' (A458/B486). Since this cause was 'intelligible' rather than sensible, 'it was freed from the temporal condition which
would require that its causality should have a beginning' (ibid.).

The first stage of the 'pure' cosmological proof would, then, appear to be complete when the existence of a necessary being has been demonstrated, whether that necessary being belong to the sensible world or to the intelligible realm. Some commentators, however, consider that the thesis argument of the fourth antinomy is irrelevant to the 'pure' cosmological proof and cannot be used by a proponent of the proof. Thus, according to Al Azm, 'Kant's concern in the fourth antinomy is with a cosmological and not a theological unconditioned which is definitely not a part of the phenomenal world but is separate from it' (The Origins of Kant's Arguments in the Antinomies, p.113). According to Bennett, Kant, in the interests of his classification of metaphysics, 'needs to distinguish the fourth antinomy's Thesis-argument from the cosmological argument in the theology chapter' (op.cit.p.243). If, however, we deny the relevance of the thesis argument to the cosmological proof, it is difficult to make sense of Kant's remark that the 'pure' cosmological argument, 'in demonstrating the existence of a necessary being, has to leave unsettled whether this being is the world itself or a thing distinct from it' (A456/B484). For, if both alternatives are left open then to demonstrate either would appear to be sufficient for the first stage of the cosmological proof proper.

Kant unfortunately goes on to confuse the point by suggesting that the 'pure' cosmological proof does seek to establish the view that the necessary being is a thing
distinct from the world. To establish this, is, however, outside the scope of the thesis of the antinomy, since we should 'require principles which are no longer cosmological and do not continue in the series of appearances. For we should have to employ concepts of contingent beings in general (viewed as objects of the understanding alone) and a principle which will enable us to connect these, by means of mere concepts, with a necessary being' (ibid.).

We might interpret Kant as saying here that by such an argument we could establish the possibility of a necessary being existing apart from the world. Or we might interpret him as saying that the rationalist theologian, e.g., Leibniz, for whom space and time were ideal and for whom the distinction between appearances and things in themselves already existed, would have to argue in this way. Certainly the argument of the thesis of the antinomy, where the necessary being is said to belong to the world, has been interpreted as a Leibnizian attack on the Newtonian theory of absolute space and time. (Vide Al Azm, op.cit.). In his correspondence with Clarke, Leibniz argued that if space and time were 'absolute' or things in themselves God would be 'part of nature'. Kant himself says that if time and space were absolute then 'as conditions of all existence in general they must also be conditions of the existence of God' (B.71).

Presumably, then, whether the necessary being of the first stage of the proof is held to be a part of the world or a thing distinct from the world depends not so much on the argument employed as on the metaphysical presuppositions which lie behind it. In any event Kant is clearly highly critical of the alleged proofs of necessary being which we
have outlined. He does not, however, go into detailed criticism here, for he believes that he can provide a conclusive refutation of the cosmological proof by attacking its second stage.

The second stage of the cosmological proof, to which we now turn, argues that the necessary being, whose existence has been established, is the ens realissimum. Kant clearly thinks that this second stage is essential to the proof, but when we turn to the classical statements of the proof we find that this requirement was not always obvious to his predecessors. Thus in the 'Third Way' of Aquinas we read that 'it is necessary to assume something which is necessary of itself, and has no cause of its necessity itself, but is rather the cause of necessity in other things, and this men call God'. Leibniz similarly dispenses with any 'second stage' in his use of the proof in his paper 'On the Ultimate Origination of Things' where we read that 'we cannot escape the ultimate extramundane reason of things, that is to say God'.

Kant could, of course, argue that even if the principal statements of the proof do not include a 'second stage' they ought to do so. In this he would be supported by R.W. Hepburn who writes: 'the path of argument from First Cause, or Necessary Being, to a Christian personal God must be a complex and problematic one. Proponents of the Cosmological Argument have sometimes improperly shortened it' (Encyclopaedia of Philosophy, Vol.2, p.234). The proponent of the proof as outlined by Kant certainly owes some account of this path of argument; but there is more than one cosmological argument and the question arises whether other
versions of the proof are complete without this 'second stage'.

According to one commentator, 'it is unfortunate that Kant addresses himself to a rather feeble version of the cosmological argument. Since he is engaged in exposing the illusions of rationalist metaphysics he might well have chosen the Cartesian version in the Third Meditation' (T.E. Wilkerson op.cit.p.146). The argument Wilkerson refers to here is that in which Descartes applies the causal principle to ideas, in particular to his idea of God as 'a substance infinite, eternal, immutable, independent, all knowing and all powerful'. An idea requires a cause which possesses at least the same degree of formal or intrinsic reality as the idea itself possesses 'objectively', the 'objective reality' of an idea being governed by the degree of reality enjoyed by its object. We have, then, an idea of God, but 'of this idea the objective reality is not contained in us either formally or eminently, nor can it be contained in any other except in God himself. Therefore this idea of God which is in us demands God for its cause and consequently God exists' (Meditations, Everyman Edition p.235).

If, with Wilkerson, we class this as a version of the cosmological argument, then it is one which does not involve a second stage. From our idea of God, with the aid of Descartes' causal principle, we infer that he exists. It is not true, however, as Wilkerson implies, that Kant leaves us in doubt as to how he would answer Descartes here. As we have already seen, Kant has his own account of how we arrive at the a priori concepts of metaphysics; and he would also deny Descartes' use of the causal principle, which is
employed to take us beyond the phenomenal world into the realm of super-sensible reality, where, for Kant it has no application. In any event, with regard to those versions of the cosmological argument that issue in an affirmation of the existence of a necessary being or a first cause we may grant Kant his point that a second stage is required to establish that the first cause or necessary being is God.

Kant's account of the second stage of the proof is as follows: 'The necessary being can be determined in one way only, that is, by one out of each possible pair of opposed predicates. It must therefore be completely determined through its own concept. Now there is only one possible concept which determines a thing completely a priori, namely the concept of an ens realissimum. The concept of the ens realissimum is therefore the only concept through which a necessary being can be thought. In other words, a supreme being necessarily exists' (A605/B633f). This argument, from necessary existence to the highest reality, is obscure although, as Wood notes, 'the influence of Kant's possibility proof is quite evident' (op.cit.p.125).

According to Kant the natural procedure of human reason, once it has persuaded itself of the existence of a necessary being, is to look around 'for the concept of that which is independent of any condition, and find it in that which is itself the sufficient condition of all else, that is, in that which contains all reality. But that which is all-containing and without limits is absolute unity, and involves the concept of a single being which is likewise the supreme being' (A586/B615f). Thus it appears that human reason naturally 'apprehends necessary being as having an existence
which is unconditioned'. That which is conditioned is in some sense dependent. The concept of the ens realissimum is the concept of the unconditioned which contains the conditions of all that is possible.

Bennett holds that the argument for the second stage relies on the fact that the concept of the ens realissimum is a saturated concept, i.e., 'for any monadic predicate F, the truth-value of "An ens realissimum is F" is settled, one way or another, just by the definition of "ens realissimum". There can therefore be no contingent truths about an ens realissimum' (op. cit. p.248). Bennett goes on to say that what Kant says about the ens realissimum is 'trivially true of everything'. Each individual thing is completely determined by a certain concept which includes everything which ever was, is, or will be true of it. So, with respect to such a concept, every truth about its object will be analytic. The point is, however, that the ens realissimum is completely determined a priori containing in its concept a 'therefore for every wherefore'. We do not need to go beyond the concept itself to learn why it is F. The concept of an ens realissimum is held by Kant to be the concept of an unconditioned single being that contains the conditions of all possibility. It may be true that each individual is 'completely determined by a certain concept' but it is nevertheless the concept of a conditioned being and to account for its nature we must go beyond its 'complete notion' or concept to the conditions themselves. With the ens realissimum alone do we have 'a thing whose thorough determination is bound up with its concept' (Lectures on Philosophical Theology, p.44).
That the *ens realissimum* should be accounted the necessary being of the first stage of the argument then seems to depend on its being unconditioned and the source of all possibility. It contains all reality and therefore every condition, being itself absolutely unconditioned. If we grant the existence of a necessary being and then set out to establish what it is, then, Kant says, 'we have no choice at all, but find ourselves compelled to decide in favour of the absolute unity of complete reality as the ultimate source of possibility' (A587/B615). We are not, however, forced to make such a choice, since for all we know 'any limited beings whatsoever, notwithstanding their being limited, may also be unconditionally necessary, although we cannot infer their necessity from the universal concepts which we have of them' (A589/B616). There may then, for all the cosmological argument has been able to establish, be any number of necessary beings.

Kant's principal objection to the cosmological argument and indeed to the physico-theological argument is that they in some sense presuppose the validity of the ontological proof. When he 'searches among pure concepts' to find which thing among all possible things contains in itself the conditions essential to absolute necessity, the proponent of the cosmological argument holds that these conditions are 'nowhere to be found save in the concept of an *ens realissimum*, and the conclusion is therefore drawn that the *ens realissimum* is the absolutely necessary being' (A607/B635). However, if we can deduce necessary existence from the concept of an *ens realissimum* the empirical premiss is otiose and we can argue directly from the concept to the
existence of the *ens realissimum*. To argue thus, that absolute necessity of existence can be inferred from the concept of the *ens realissimum*, is to endorse the ontological proof.

According to some authorities, Kant's demonstration that the proponent of the cosmological argument must, in consistency, endorse the ontological argument is not merely intended to show that the cosmological argument is a superfluous elaboration of the ontological. He has already rejected the ontological proof as invalid and thus to show that it is presupposed by the cosmological proof is to show that it too is invalid. The cosmological argument, then, is in an even worse case than the ontological. Its attempt to prove the existence of a supreme being fails as the ontological proof has failed, but it has the additional defect that it involves an *ignoratio elenchi*. 'It professes to lead us by a new path, but after a short circuit brings us back to the very path we had deserted at its bidding' (A609/B637).

The physico-theological argument is in a similar case since it 'can never by itself establish the existence of a supreme being, but must always fall back upon the ontological argument to make good its deficiency' (A625/B653). The most the physico-theological argument can prove is 'an architect of the world who is always very much hampered by the adaptability of the material in which he works, not a creator of the world to whose idea everything is subject' (A627/B655). The proponent of the physico-theological proof, to advance from the concept of an architect of the world to the existence of an absolutely necessary being must rely on
the cosmological argument which is, Kant says, only a 'disguised ontological proof'. So 'the physico-theological proof of the existence of an original or supreme being rests upon the cosmological proof, and the cosmological upon the ontological. And since, besides these three, there is no other path open to speculative reason, the ontological proof from pure concepts of reason is the only possible one, if indeed, any [such] proof ... is possible at all' (A630/B658).
Kant's principal objection to the cosmological argument is, as we have seen, that it is dependent on the ontological argument. The nature of the relationship that he believes to subsist between the two proofs is, unfortunately, obscure. To begin with he constantly emphasises the naturalness of the cosmological argument as opposed to the ontological proof, which involves 'a quite unnatural procedure and a mere innovation of scholastic subtlety' (A603/B631). Kant indicates (at A591/B619) that in the order in which reason develops the proofs 'in the progress of its own development' the cosmological naturally precedes the ontological; but we later read that the cosmological proof is 'an old argument disguised as a new one' (A606/B634). At one point Kant goes so far as to say that the cosmological proof is 'artfully designed to enable us to escape having to prove the existence of a necessary being a priori through mere concepts' (A610/B638).

What emerges from Kant's discussion is that he holds that anyone who condemns the ontological argument must, in consistency, abandon all attempts to produce a rationalistic proof of the existence of God. Other proofs may indeed, as Kant has indicated, have other faults, but his fundamental criticism is that 'all merely speculative proofs in the end bring us always back to one and the same proof, namely the ontological' (A638/B666). Let us now examine this claim.

In the first stage of the proof, Kant says 'experience may perhaps lead us to the concept of absolute necessity, but
it is unable to demonstrate this necessity as belonging to any determinate thing' (A607/B635). How, having arrived at the concept of 'absolute necessity' are we to proceed? Kant depicts the rationalist theologian reflecting upon pure concepts 'to discover whether any one of them contains the conditions of the possibility of an absolutely necessary being'. However, 'if in this way we can determine the possibility of a necessary being, we likewise establish its existence' (A608/B636).

In order to clarify this point, Kant sets out the argument of the second stage in 'correct syllogistic form'. The nervus probandi of the proof is the proposition that every absolutely necessary being is likewise the most real of all beings. If we convert this per accidens we obtain the proposition that some entia realissima are likewise absolutely necessary beings. But since one ens realissimum is in no respect different from another 'we can convert simpliciter and say that every ens realissimum is a necessary being. However, if 'every absolutely necessary being is likewise the most real of all beings' then 'the mere concept of the ens realissimum must carry with it the absolute necessity of that being'. Now 'this is precisely what the ontological proof has asserted and what the cosmological proof has refused to admit' (A608/B636).

Kant holds, then, that to infer that the absolutely necessary being of the first stage of the proof is the ens realissimum we require the principle that only the ens realissimum is an absolutely necessary being. This seems to go beyond the principle of the ontological argument, which asserts that the ens realissimum is an absolutely necessary
being. If we allow the possibility that there exists a plurality of absolutely necessary beings we should have to show how we identify the necessary being of the first stage of the proof with ens realissimum.

While this shows that the second stage of the cosmological proof may be more complicated than Kant indicates, his fundamental point remains. If the second stage of the proof is to show that the necessary being of the first stage is the ens realissimum or God do we not require a proof that the ens realissimum or God is a necessary being? Do we not, in fact, require an a priori proof such as that provided by the ontological proof? Some commentators seem to have missed this point. Thus T.A. Johnston writes that 'when [Kant] goes through the process of converting the proposition "necessary being is infinitely perfect being" he takes it for granted that it is by this proposition that the existence of a necessary being is established, entirely neglecting the fact that the existence of a necessary being has already been established by the previous step in the argument. When we say "Necessary being is infinitely perfect" we are speaking of a being already known to exist" (Australasian Journal of Philosophy, 1943, p.15).

Johnston's criticism is entirely misdirected. Kant does not say that the cosmological argument establishes the existence of a necessary being by employing the principle of the ontological proof, but that given that a necessary being exists we can identify that being with the ens realissimum only if we employ a process of reasoning that commits us to accepting the ontological argument as valid. To be fair to Johnston, it should be pointed out that there are grounds in
favour of his interpretation; e.g., Kant says that 'the mere concept of the ens realissimum must carry with it the absolute necessity of that being; and this is precisely what the cosmological proof has refused to admit, although the conclusions of the latter are indeed covertly based on it' (A608/B636f). Study of the text as a whole, however, makes it clear that Kant's objection here concerns the second stage of the proof.

Smart also attacks Kant's argument here, though on different grounds. He says that 'Kant ... has made a very simple mistake. He has forgotten that the existence of a necessary being has already been proved ... in the first part of argument. He changes "All necessary beings are infinitely perfect beings" round to "Some infinitely perfect beings are necessary beings". If this change round is to be valid the existence of a necessary being is already presupposed. Kant has been misled by an ambiguity in "all". "All x's are y's" may take it for granted that there are some x's or it may not' (New Essays in Philosophical Theology, Eds. Flew and MacIntyre, p.37).

Smart's point is that the first stage of the Kantian version of the cosmological proof is essential for the validity of the second stage. Kant himself suggests that the first stage of the proof is otiose: 'The appeal the experience is quite superfluous' (A607/B635). Smart points out that 'all necessary beings are entia realissima' cannot validly be converted to 'some entia realissima are necessary beings' unless we presuppose the existence of at least one necessary being. Without the first stage of the proof all we can legitimately say is that if there exists a necessary
being then it is an ens realissimum.

This criticism of Kant's argument has not found favour with other commentators. Thus P. Remnant comments: 'To prove that a necessary being must be a perfect being amounts to proving that a perfect being must be a necessary being, and this is just what the ontological argument, and no other known argument, is intended to do' (Australasian Journal of Philosophy, Vol. 37, p.154f). While this is intended as an answer to Smart, it concerns, not the conversion of the proposition 'every absolutely necessary being is likewise the most real of all beings' but this proposition itself. To prove this we require the ontological argument, since 'no other known argument' has been advanced for this purpose. W.H. Baumer takes the same view. 'To recognise the truth of "All absolutely necessary beings are most real", as such an argument requires, is to understand that there is an absolutely necessary being, that the most real being exists. Kant insists upon pointing out that recognition of the truth of this is a recognition which entails "any most real being is absolutely necessary" since that is the usual basic formulation of an ontological argument. After all, the essence of such an argument is that the understanding of what a thing is is eo ipso an understanding that it is' (Monist, Vol. 51, p.528).

These critics, then, support the Kantian view that the cosmological argument requires the principle that 'all absolutely necessary beings are entia realissima and, since one ens realissimum is in no respect different from another' by the principle of the identity of indiscernibles we derive the proposition that the necessary being of the first stage
of the proof is the *ens realissimum*. But, it is maintained, we can claim to establish the identity of necessary being and *ens realissimum* only if we employ the principle of the ontological proof. This is, however, irrelevant to Smart's point that for the conversion of the proposition 'all necessary beings are *entia realissima*' to be valid we require to presuppose that its subject term is not empty. It ignores this issue, which really only emerges in Kant's 'formal' statement of the argument, and claims that the second stage of the proof involves the principle of the ontological argument. On this view, then, Kant's criticism is effective whether or not we presuppose the conclusion of the first stage of the proof.

It is not really clear what Kant gains by his formal analysis of the relationship alleged to hold between the two proofs. If 'every *ens realissimum* is a necessary being', that is, 'is determined from its *a priori* concepts alone [so that] the mere concept of the *ens realissimum* must carry with it the absolute necessity of that being' (A608/B636), then surely the proposition 'every absolutely necessary being is likewise the most real of all beings' must be 'determined' in the same manner. It is Kant's own formal analysis of the relationship between the proofs which makes it appear that only if we presuppose the conclusion of the first stage of the proof can we demonstrate that it is dependent upon the ontological argument. In fact, as Remnant and Baumer point out, the dependence of the cosmological proof on the ontological could, on Kant's premises, be demonstrated directly without any need to presuppose the conclusion of the first stage of the proof.
Wood holds that Kant does indeed suppose in his conversion per accidens of 'all necessary beings are supremely real' that there does exist at least one necessary being. He is fully entitled to do so 'since he has granted for the sake of argument that the existence of such a being has been demonstrated by the first stage of the cosmological proof. Surely the proponent of the argument is in no position to dispute this presupposition, since it is drawn from his own argument' (op. cit. p. 127). This may be admitted, but the point remains that Kant's argument for the dependence of the proof on the ontological argument can be stated without presupposing the conclusion of the first stage of the proof. According to Kant both proofs make use of the supposed conceptual connection between absolute necessity of existence and the ens realissimum. Thus he could argue that even if the cosmological proof succeeded in establishing the existence of a necessary being the only way to demonstrate that this necessary being was the ens realissimum would be to employ the principle of the ontological proof.

Is Kant correct, then, in saying that the second stage of the cosmological proof is dependent on the ontological argument? This seems a dubious claim in spite of the approval which it has won from Remnant and Baumer. Even if Kant is correct and the second stage of the proof requires the proposition that all absolutely necessary beings are entia realissima, it does not follow without further argument that necessity of existence can be inferred from the concept of the ens realissimum. For the second stage of the proof it is sufficient to show that if there exists an absolutely necessary being then that being is the ens realissimum. As
E.J. Nelson writes, 'the second stage of the cosmological proof does not demand a determination of the totality of indispensable conditions, but only the presence of one; namely the property of being an ens realissimum. Thus the argument requires merely that the proposition 'x is an ens realissimum' is necessary to 'x is a necessary existent' be demonstrable through the analysis of the concept of a necessary existent. So all that reason needs to do is to discover a certain necessary condition of 'x is a necessary existent' not a sufficient one' (Philosophical Review Vol. 44, p.285).

Another serious difficulty for Kant's argument here is that his own account of reason's procedure in the second stage of the proof makes no reference to the principle of the ontological argument. According to Kant, human reason 'begins by persuading itself of the existence of some necessary being. This being it apprehends as having an existence that is unconditioned. It then looks around for the concept of that which is independent of any condition, and finds it in that which is itself the condition of all else, that is, in that which contains all reality. But that which is all containing and without limits is absolute unity, and involves the concept of a single being that is likewise the supreme being. Accordingly, we conclude that the supreme being, as primordial ground of all things, must exist by absolute necessity' (A586/B614f).

In this account of the procedure of human reason we see the influence of Kant's Beweisgrund proof. It would appear that Kant has here undermined his own contention that the ontological proof is the only argument open to reason to
establish a conceptual connection between necessary being and

\textit{ens realissimum}.

Kant's claim, then, that the cosmological proof in its second stage is dependent on the ontological argument is open to question. Nevertheless, as Nelson acknowledges, Kant has shown 'that the empirical premise, even if it justify belief in a supreme existent, does not suffice to justify belief in a supreme being, without some proposition about the analysis of, and the connection between, the relevant concepts. In short, he teaches that in order to pass from contingent existent to necessary existent and from necessary existent to god, a priori elements are needed' (op. cit. p. 287).

If we accept Kant's account of the second stage of the proof, what follows? It would appear that, since Kant has already condemned the ontological argument as fallacious, then its collapse must bring down the cosmological proof. This is certainly Wood's interpretation for he writes that 'Kant's criticism of the cosmological proof is ... that if we assume the cosmological proof works, then we are committed to holding that the ontological argument works as well. The idea is that since the ontological proof has already shown itself to be unsound any proof which is found to be committed to it must be equally unsound. If Kant's claim can be made out, this would certainly be an effective attack on the cosmological proof, assuming ... that his earlier criticism of the ontological proof was successful' (op. cit. p. 124).

It is true that if Kant's attack on the ontological argument is sound, and if his analysis of the second stage of the cosmological proof is correct, then an effective attack on the cosmological proof could be given on the lines
suggested by Wood. If, however, we turn to Kant's analysis of the cosmological proof, we do not find this possibility pursued. What Kant appears to hold is that the cosmological proof is a spurious addition to rational theology; that it is redundant. In the cosmological proof, 'an old argument is disguised as a new one, [in] which appeal is made to the agreement of two witnesses, the one with credentials of pure reason and the other with those of experience. In reality the only witness is that which speaks in the name of pure reason; in the endeavour to pass as a second witness it merely changes its dress and voice' (A606/B634). A little later we read that the 'so-called' cosmological proof 'really owes any cogency which it may have to the ontological proof from mere concepts. The appeal to experience is quite superfluous' (A607/B635).

Bennett, following Remnant, considers that the section on the cosmological argument may have been written before the section on the ontological proof. That is, it was, he feels, written before Kant has developed his criticisms of the ontological proof. This, he says, would explain inter alia why 'the discussion of the cosmological argument gives no hint as to what is wrong with the ontological argument, and indeed hardly suggests that anything is wrong with it' (op.cit.p.254). Writing of Kant's treatment of the cosmological argument here, Bennett says 'This whole discussion seems to be addressed to an audience who are cool towards the ontological argument without having any firm doctrine about why it is unacceptable' (op.cit.pp.254f). Bennett's point is interesting, but it must be remembered that Kant had developed his criticism of the ontological
proof by 1763 when he wrote the Beweisgrund essay and it seems unlikely that the criticism of the incorporated proof in the Critique was written before then.

Can we show that to dispose of the cosmological argument it would be sufficient to show that it is dependent on the ontological proof? This may well have been Kant's view. The appeal to experience is superfluous and the cosmological argument redundant. If we require the principle of the ontological proof for the second stage of the cosmological proof then we can use it to demonstrate the existence of the ens realissimum directly; for we will have already endorsed it as valid. Baumer takes this view and generalises the objection so that it applies to 'non-classical' cosmological arguments, i.e. those intended to establish that something other than God is the source of all that exists, whether that source be 'some sort of deity [or] some sort of 'naturalistic' thing, perhaps hydrogen from nowhere, perhaps a big bang, perhaps some sort of life force' (op.cit.pp.531).

No matter, then, what is taken to be the source of all that is, to speak of such a source here is to 'speak of something such that understanding what it is is eo ipso understanding that it is. This being so, any non-classical cosmological argument, just as any classical one, includes as an essential element an ontological argument. Thus the appeal to experience remains otiose, and unless ontological arguments are acceptable, cosmological ones are not' (op.cit.p.532). Once again the point is that if we are prepared to specify what is the source of all that exists, as is required by the second stage of the cosmological proof, then we must do so on the grounds that it exists necessarily;
and to maintain that it exists necessarily is to maintain that this necessity of existence can be inferred from our knowledge of what it is; for 'understanding what it is is eo ipso understanding that it is'. That being so we can argue directly from concept to necessary existence without first proving that there must be a necessary being as a 'first stage' in the proof.

Those who take this view would maintain that their objection stands whether or not the ontological argument is valid since their contention is simply that the cosmological argument fails to make good its claim to be an independent proof. It is very doubtful, however, whether this objection can be sustained.

To clarify this point let us consider the Cartesian version of the ontological proof which infers the necessary existence of God from the concept that we have of a supremely perfect being. For Descartes, since God is perfect and existence is a perfection it follows necessarily that God exists. A supremely perfect being who lacks existence would be, he argues, as much of a contradiction as a triangle that lacks three sides.

Let us assume, for the sake of argument, that the Cartesian ontological proof is sound and that Kant is correct in maintaining that the second stage of the cosmological proof rests on it. Does it follow that the cosmological proof is redundant? I believe it does not. The cosmological proof seeks to prove the existence of God no less than does the ontological proof. But it seeks to prove the existence of God from the contingency of the world, from the necessity of a first cause of the world or from some general fact about
the world. The essential point here is that God is the creator or sustainer of the world. This is entirely outside the scope of the Cartesian ontological proof. All the ontological proof claims to prove is that God exists necessarily. It does not prove the world to be dependent on God although this could perhaps be proved by other a priori principles.

The cosmological proof seeks to establish first that the world is dependent on necessary being and second that this necessary being is God. There seems no reason why the proponent of the proof should not make use of the principle of the ontological argument in the second stage unless he rejects the ontological argument as invalid. Kant suggests that the proponent of the cosmological proof would reject the ontological, but there seems no reason why this should be so. Certainly Leibniz endorsed both proofs. At any event if Kant's claim were that the cosmological proof is redundant since its first stage is otiose and without its first stage the cosmological proof reduces to the ontological, he is mistaken as we have seen: for without the first stage of the proof we should be unable to establish the dependence of the world on God.

A parallel defence can be offered in respect of physico-theological proof, which, according to Kant, 'rests upon the cosmological, and the cosmological upon the ontological' (A630/B658). This may be intended to imply the redundance of the physico-theological proof but, if so, it is inconclusive. It may be that the physico-theological proof rests on the cosmological, since it is 'unable to give any determinate concept of the supreme cause of the world and therefore has
to fall back on the contingency which, in the first steps of the argument we had inferred from the order and purposiveness of the world'. All that follows if this is so is that some of the proofs are more fundamental than others. Kant says that 'the utmost ... that the argument can prove is an architect of the world ... not a creator of the world to whose idea everything is subject' (A627/B655). Kant does not consider the possibility that the deficiencies which he notes in the argument could be made good out of the proofs on which he believes it rests.

We can, then, defend the cosmological proof against the charge that it is redundant, that is, that the appeal to experience that it involves is superfluous. There are, however, limits to this defence. If, to use Baumer's example, the proponent of a 'non-classical' cosmological argument inferred that the necessary being of the first stage of the proof is matter, grounding this inference to necessary being on an a priori analysis of the concept of matter, then we should have to admit the first stage of the proof to be superfluous. For, in that case, to establish the nature of the necessary being is ipso facto to account for the existence of the world if not its form. There may be a parallel here with Kant's own version of the cosmological proof, which argues for the ens realissimum, since the ens realissimum is held to be not only a necessary being, but also, on the argument of the Beweisgrund proof, the source of all possibility.

It may be, then, that Kant would argue that the cosmological argument is redundant since, if its second stage is valid, then the concept of the ens realissimum is
sufficient for the necessary existence of such a being; and, since the **ens realissimum** is at the same time the **ens originarium**, 'containing in itself the ground of all possible things', we may hold that 'the matter of things [derives] from the divine essence, since this matter consists in realities' (*Lectures in Phil. Theology*, p.67). Thus the rational theologian may be represented as deducing necessary existence from the concept of the **ens realissimum** which he also regards as the source of the world.

The difficulty for this interpretation is that in order to reduce the cosmological to the ontological proof Kant has to show that both employ the notion of a logically necessary being. Reason, he says, 'recognises that only as absolutely necessary which follows of necessity from its concept' (A612/B640). To emphasise that the **ens realissimum** is the source of all possibility or the ground of all possible things is to invite the rejoinder that Kant himself, in the *Beweisgrund* essay, 'claimed to have formulated a concept of necessary existence which differs from the concept of logically necessary existence used in the ontological proof' (Wood, op.cit.p.129).

Although we reject Kant's claim to have reduced the cosmological to the ontological proof on these grounds there is still an answer available to him. The first stage of the cosmological proof might still be regarded as superfluous if we can infer the necessary existence of the original being on grounds other than those provided by the first stage of the proof. Thus, if we rely on the *Beweisgrund* proof in the second stage, that in itself gives us a necessary being without any need of the first stage as a preliminary step in
the argument. Here, however, we can make Nelson's point, that in the second stage of the proof we are concerned to find a necessary condition and not a sufficient condition of absolutely necessary existence. Thus we may multiply the necessary conditions for the existence of a necessary being, conditions which will enable us to essay the second stage of the cosmological proof; but this in itself does not enable us to show that such a being exists.

I believe, then, that we must reject the claim that the first stage of the proof is superfluous and that, having dispensed with the first stage, the truncated argument with which we are left proves to be the ontological proof. The ontological proof would not, even if valid, do all that the rational theologian requires of the other proofs; and Kant himself provided other proofs, e.g. the Beweisgrund proof from possibility, that the ens realissimum is a necessary being. If, however, we grant Kant his point that the ontological proof is essential to the cosmological proof, then, since he believes that he has shown the former to be invalid, he could argue that this invalidity must infect the latter. Some authorities, as we have seen, have assumed this to be Kant's main point against the cosmological proof. There are, however, different interpretations of the nature of the relationship Kant believed to subsist between the proofs.

According to Wood, 'Kant's criticism of the cosmological proof is not that the ontological serves it as a tacit premise, but rather that if we assume that the cosmological proof works, then we are committed to holding that the ontological argument works as well' (op.cit.p.125). Wood's
interpretation seems to depend on emphasising Kant's unfortunate reduction of the proof to its 'correct syllogistic form'. There Kant seeks to prove that the proposition required by the second stage of the proof, i.e., 'every absolutely necessary being is likewise the most real of all beings' implies the ontological proof, that the mere concept of the ens realissimum must carry with it the absolute necessity of that being.

It may be, however, that Kant saw a more direct connection between the proofs. Thus he says, 'if I say the concept of the ens realissimum is a concept, and indeed the only concept, which is appropriate and adequate to necessary existence, I must also admit that necessary existence can be inferred from this concept' (A607/B635). This suggests that, having proved something to exist necessarily we ask what this necessary being can be; and since the concept of the ens realissimum involves necessary existence we take this to be the necessary being. But to hold that the concept of the ens realissimum involves necessary existence is already, according to Kant, to accept the ontological proof. Immediately we endeavour to demonstrate that absolute necessity belongs to any determinate thing 'we must abandon all experience and search among pure concepts to discover whether any one of them contains the conditions of the possibility of an absolutely necessary being. If in this way we can determine the possibility of an absolutely necessary being we likewise establish its existence' (A607/B635f).

Whether Kant regards the second stage of the proof as appealing directly to the principle of the ontological proof, or whether he regards the connection between the proofs to be
a hidden one to be made explicit by logical analysis, his rejection of the ontological proof as invalid is, at least by implication, a rejection of the cosmological proof on the same grounds.

The claim that Kant's criticism of the ontological argument is sufficient to bring down the cosmological argument cannot, of course, be sustained unless that criticism can be shown to be conclusive. There is no doubt that the second stage of the cosmological proof is beset with problems. To accept the ontological argument as valid would solve some of the problems for a proponent of the proof; and we have seen that to accept the pure a priori proof as valid may not, as Kant seems to have thought, render the 'appeal to experience' superfluous.

Difficulties would remain, however. For example, how are we to identify the necessary being of the first stage of the proof with the ens realissimum? As Nelson remarks, 'Kant imports into the argument the notion that there can be only one necessary existent thus getting us into a receptive mood for the later assertion that the notion of a necessary existent and the notion of an ens realissumum are equivalent' (op. cit. p. 285). For Nelson the cosmological argument 'is not essentially a monotheistic proof. Properly stated, it concludes to the existence of a god' (op. cit. p. 286).

The main question at this stage, however, is whether Kant has succeeded in demonstrating the invalidity of the ontological argument on which the cosmological proof is said to depend. If he has succeeded then the proponent of the proof will have to look elsewhere for the materials to construct the 'second stage' of his argument. Consideration
of Kant's criticism of the ontological proof will also shed light on his views concerning necessary being in general.
Chapter 4

Kant gives no detailed account of the ontological argument before proceeding to criticism. He makes three principal criticisms that are progressively narrower in scope. The first, which concerns the possibility of an absolutely necessary being, is relevant to the cosmological argument no less than to the ontological argument. Previous thinkers had sought to prove the existence of such an absolutely necessary being without first considering 'whether and how a thing of this kind allows even of being thought' (A592/B620). Kant's second objection is directed against the procedure whereby the proponent of the ontological proof seeks to establish the existence of the ens realissimum, i.e., by inferring necessity of existence from the concept we have of such a being. His objection here would apply to what Baumer refers to as 'non-classical' ontological arguments as well as to the classical Anselmian and Cartesian versions of the proof. There is no being which cannot be thought away regardless of its predicates. In the third objection Kant is specifically concerned with the Cartesian version of the proof in which the existence of God as the ens perfectissimum is inferred from the fact that existence is a perfection and must therefore be included in our concept the ens perfectissimum. Kant's reply to Descartes is that existence is not a predicate. We shall now examine these objections in turn.

(1.) According to Kant human reason arrives at the notion of absolutely necessary being by two distinct routes, both of which lead to the ens realissimum. Reason requires the
concept of the *ens realissimum* as the source of the complete
determination of its concepts. But it also requires to
affirm the existence of an absolutely necessary being since it
cannot tolerate the notion of the regress of the
conditioned without ultimate support from the unconditioned.
The unconditioned reason equates with the *ens realissimum*,
since the concept of the *ens realissimum* is the concept which
best 'squares with so supreme a mode of existence'
(A585/B613). Thus it appears that we can certainly 'think'
the concept of an absolutely necessary being, and indeed by
the demands of reason we are constrained to do so. But
Kant's real challenge to the proponent of the proof is that
he should give an account of the conditions which make the
non-existence of the *ens realissimum* unthinkable.

In spite of the claims of reason the *ens realissimum* fails to give us the concept of an absolutely necessary
being. Kant dismisses the argument that the *ens realissimum*
is essential for the determination of our concepts. 'Such a
thing is a mere fiction in which we combine and realise the
manifold of our idea [of the sum total of all possibility] in
an ideal as an individual being' (A580/B608).

Kant's exposition of the argument that he is here
attacking is obscure. He holds that what he calls "the
principle of complete determination" leads us to the *ens
realissimum*. We "determine" a concept when we affirm or deny
that a given predicate applies to it. Leibniz and Wolff had
held that every particular thing must be completely
determined with respect to all possible predicates; indeed to
be a particular thing is to be completely determined. In
Kant's argument 'every thing, as regards its possibility, is
subject to the principle of complete determination, according to which if all the possible predicates of things be taken, together with their contradictory opposites, then one of each pair of contradictory opposites must belong to it' (A571f/B600f). The principle of complete determination then, since 'all concepts of negations are derivative' leads us to the notion of a total of all the predicates of the real each of which can be affirmed or denied of any real thing. This total proves in fact to be the concept of an individual thing determined positively with respect to all predicates expressing reality. Thus the total of all non-derivative predicates which is presupposed by the principle of complete determination becomes the completely determined concept of all reality, the concept of the ens realissimum.

According to Kant the ens realissimum is regarded by reason, not merely as the source of the complete determination of our concepts, but as the source of all possibility of things. 'Reason regards all possibility of things as derived from a single fundamental possibility, namely that of the highest reality, and thereupon presupposes this to be contained in an individual primordial being' (A581/B610). 'It does so because nothing can be an object for us unless the given in the field of appearance is regarded as a single all-embracing whole. 'It is upon the limitation of this whole that all possibility of empirical objects, their distinction from each other and their complete determination, can alone be based' (A582/B610). 'Reason, however, misuses the principle that nothing is an object for us, unless it presupposes the sum of all empirical reality as the condition of its possibility. 'Owing to a natural illusion, we regard
this principle, which applies only to those things which are
given as objects of our senses, as being a principle which
must be valid of things in general. Accordingly, omitting
this limitation, we treat the empirical principle of our
concepts of the possibility of things, viewed as appearances,
as being a transcendental principle of the possibility of
things in general' (ibid.).

If reason resorts to the concept of the unconditioned as
the ground of the conditioned it is again led to the ens
realissimum that is itself the sufficient condition of all
else; but it is no nearer the concept of an absolutely
necessary being. We can remove all the conditions which the
understanding requires to regard something as necessary, but
that 'is very far from sufficing to show whether I am still
thinking anything in the concept of the unconditionally
necessary, or perhaps rather nothing at all' (A593/B621). In
thinking the unconditioned we are thinking away the
conditions necessary for anything to be an object of our
experience, for example the condition that objects of
experience should be in causal interaction, but we are far
from showing that this leads us to the concept of any
possible being.

The concept of the ens realissimum is not, then, the
concept of an absolutely necessary being although it is
presupposed in our experience. Kant seems to suggest that if
the ens realissumum were truly the source of all possibility,
that is, if it were a condition of 'things in general' and
not merely of objects of the senses, then it would indeed be
an absolutely necessary being. But this is false, since it
needs to be proved that the 'source of all possibility' could
not itself be contingent. The *ens realissimum* as the source of all possibility cannot give us the concept of an absolutely necessary being as required by the ontological proof. What the ontological proof requires is a concept from which we may infer the existence of its object. It is only if something exists that we can infer the existence of a source of 'possibility' and so we are led back to the cosmological argument at this point and to its appeal to this 'simple experience'.

Kant says that if we are obliged to agree that there is a necessary being, then we have no choice in coming to a decision as to what this necessary being may be, but find ourselves compelled to decide in favour of the *ens realissimum*. However, in his discussion of the cosmological argument, as we have seen, he holds that reason seeks to establish the existence of an absolutely necessary being on conceptual grounds in the second stage, and that this is simply the ontological argument from pure concepts, which makes the 'appeal to experience' redundant. Here, on the other hand, we are said to be inevitably led to the *ens realissimum* once we concede the existence of an absolutely necessary being, making it appear that the 'appeal to experience' or first stage of the cosmological proof may after all be an essential step in establishing the existence of the *ens realissimum* since its existence cannot be established on conceptual grounds alone. Kant appears to mean that given the concept of necessary being we are led on psychological grounds to equate this with the *ens realissimum* but that this would be justified only if the concept of the *ens realissimum* were such that we could infer the existence
of its object.

The concept of the *ens realissimum* is not, according to Kant, the concept of an absolutely necessary being. Our reason may persuade itself of the existence of an absolutely necessary being as the source of all possibility or as the unconditioned ground of the conditioned; but we can go no further since we cannot provide an account of 'the conditions which make it necessary to regard the non-existence of [such] a thing unthinkable' (A593/B621). It is this latter requirement that must be fulfilled if any version of the ontological argument is to succeed. Kant, however, proceeds to develop arguments designed to show that this requirement cannot be fulfilled and that no version of the ontological proof can be successful.

(2.) Kant's second objection to the ontological argument is related to Caterus's criticism of the Cartesian version of the proof. Caterus wrote: 'though it be conceded that an entity of the highest perfection implies its existence by its very name, yet it does not follow that very existence is anything actual in the real world, but merely that the concept of existence is inseparably united with the concept of highest being. Hence you cannot infer that the existence of God is anything actual, unless you assume that that highest being actually exists; for then it will actually contain all its perfections, together with this perfection of real existence' (*The Philosophical Works of Descartes*, trans. by Haldane and Ross, Volume II, p.7).

Caterus holds, then, that we cannot resort to conceptual truths, to what Kant calls 'analytic' truths, to provide us with knowledge of what is actual until we know that the
concepts concerned are instantiated. We may accept that our concept of God includes existence but we can no more infer that God therefore exists than we can infer the existence of an omnipotent being from the fact that omnipotence is included in the concept of God. Kant, in similar vein, holds that it is only if the subject is 'posited' that it is contradictory to reject the predicates which constitute our concept of it: 'To posit a triangle, and yet to reject its three angles, is self-contradictory; but there is no contradiction in rejecting the triangle together with its three angles. The same holds true of the concept of an absolutely necessary being. If its existence is rejected, we reject the thing itself with all its predicates; and no question of contradiction can then arise' (A594/B623f).

Wood, having noted that Kant, in his early 'Nova dilucidatio' essay, urges objections to the ontological argument similar to those advanced by Caterus, goes on to point out that this line of criticism is implied by the Kantian doctrine that even analytic judgements are assumed to be about objects and not merely about concepts, this being an instance of his belief that the truth of a proposition is always its correspondence with an object. 'Such a view ... suggests that the subject term of even an analytic proposition must succeed in referring to an object if that proposition is to be counted as true' (Wood, op.cit.p.114). In fact, Wood holds that we need not hold a subject/predicate proposition to be false where reference fails since we could maintain that in such a case the proposition concerned has no truth value; and he regrets that Caterus gives no indication of his views on this point. We could hardly, however, hold
that a positive existential proposition such as Caterus was considering is neither true nor false when its subject term fails to refer to anything. It is then plainly false.

By distinguishing between analyticity and truth we can allow that existence is included in the concept of God and yet deny that the proposition 'God exists' is true. In the "Discourse on Method," Descartes had written that his idea of a perfect being includes the existence of such a being 'in the same way as the idea of a triangle includes the equality of its three angles to two rights angles' (Haldane and Ross, Vol.1,p.104). Kant rejects all such examples since they involve only conditioned necessity: 'All such judgements are, without exception, taken from judgements, not from things and their existence. But the unconditioned necessity of judgements is not the same as an absolute necessity of things. The absolute necessity of the judgement is only a conditioned necessity of the thing, or of the predicate in the judgement. The ... proposition [that a triangle has three angles] does not declare that three angles are absolutely necessary, but that, under the condition that there is a triangle (that is that a triangle is given), three angles will necessarily be found in it' (A593/B621f).

There is no contradiction, then, for Kant, in rejecting the existence of an absolutely necessary being. 'There is nothing outside it that would then be contradicted, since the necessity of the thing is not supposed to be derived from anything external: nor is there anything internal that would be contradicted, since in rejecting the thing itself we have at the same time rejected all its internal properties' (A595/B623). There are difficulties here, however. A. Kenny
has argued that 'Descartes' argument is most intelligible if we regard him as admitting, with Meinong, that there is a status of pure objecthood, beyond being and nonbeing, but, unlike Meinong ... restricting it to those entities that have true and immutable essences, that is, those about which nontrivial truths can be proved a priori or whose component properties are necessarily linked' (Descartes, P.168). Thus Kenny affirms that 'for Descartes, the subject of the sentence "God exists" [is] a pure object, beyond being and nonbeing. A pure object can have properties whether or not it exists' (op.cit.p.157).

If we allow such 'pure objects' then we can accord absolute necessity to essential truths concerning true and immutable natures without begging questions of existence. Kant says that 'in rejecting the thing itself we have at the same time rejected all its internal properties'. We cannot, however, reject the properties of Cartesian 'true and immutable essences' that are independent of thought. How does this affect the issue of the ontological proof? According to Descartes the true and immutable nature of God includes all perfections and existence is a perfection. We cannot say that if God exists he possesses all perfections. His true and immutable nature, which is independent of all conception and all thought, includes existence.

This version of the ontological proof depends on non-existent entities, pure objects, having natures and properties. Presumably Descartes would hold that pure objects have the properties we clearly and distinctly conceive them to have. Thus the triangle as a pure object has three angles, that is, what has a nature has the
properties belonging to that nature. It follows that since the true and immutable nature of God includes existence, and since whatever possesses a nature has the properties belonging to that nature, there is no 'pure object' possessing the properties of a perfect being. Since existence is, on Descartes' argument, a property, and since it is one belonging to the nature of the *ens perfectissimum* or God, the true and immutable essence of God can belong only to an existing thing. There is here no distinction between essence and existence.

While Kant does not deal with the niceties of the Cartesian proof there is no doubt that he would reject the Cartesian notion of true and immutable natures. In Kant's theory, the objects of mathematics derive from our pure intuition. We know *a priori* truths concerning the triangle because they involve the nature of our sensibility, not because our understanding grasps an essence that is independent of thought. As Wood says, on Kant's view, 'the idea of God could represent to us something like a true and immutable nature only if we possessed an intuitive understanding, a capacity to produce contents wholly *a priori* without any reliance on sensibility to supply their contents' (op.cit.p.123).

Kant's second objection, then, is directed against the notion of logically necessary being that is at the root of the ontological argument. He holds that there can never be a contradiction in denying the existence of anything, no matter what its predicates may be, since in rejecting the existence of anything we are rejecting the whole subject/predicate complex. There remains the claim that when our concept of
anything includes existence essentially there is a contradiction in denying the existence of its object. It is to this claim that Kant now turns.

(3.) In one sense, Kant's third objection to the ontological proof is more radical than the second. The second objection was directed against the attempt to infer necessity of existence from the concept of an absolutely necessary being, the point being that if we reject the existence of such a necessary being 'we reject the thing itself with all its predicates; and no question of contradiction can then arise' (A595/B623). Whereas the second objection apparently allows the concept of necessary being employed by the proof, the third rejects it as ill-formed. The concept is of a being that possesses all perfections, including existence, and from which the existence of the perfect being is inferred. To this Kant replies, ' "Being" is obviously not a real predicate; that is, it is not a concept of something which could be added to the concept of a thing' (A598/B626). If this is so it cannot be held that 'God exists' is analytic.

According to Kant, existential propositions are synthetic: 'if ... we admit, as every reasonable person must, that all existential propositions are synthetic, how can we profess to maintain that the predicate of existence cannot be rejected without contradiction? This is a feature which is found only in analytic propositions, and is indeed precisely what constitutes their analytic character' (ibid.). As J. Shaffer has pointed out, this does not square with Kant's statement that 'being' is not a real predicate. For Kant, synthetic judgements are those that 'add to the concept of the subject a predicate which has not been thought in it'
Thus it appears that synthetic judgements are those which add 'real' predicates to the concept of a thing. By insisting that existential propositions are synthetic and that existence is not a real predicate, Kant seems committed to the view that there are two distinct types of synthetic propositions, the one existential, the other ampliative. It would, of course, be possible to argue that the analytic/synthetic dichotomy does not give an exhaustive classification of propositions and that existential propositions form a third class. Kant, however, clearly states that existential propositions are synthetic.

If 'being' is not a real predicate, what is it? Frege and others have argued that the ontological argument is mistaken in treating 'exists' as a predicate instead of as a quantifier. The point here is that when we say 'God exists' we are not attributing a predicate to a subject but saying that a certain group of predicates is instantiated or applies to something. Kant sometimes follows a similar line of argument. Thus, in the Beweisgrund, he says: 'If I say "God is an existing thing", it appears that I express the relation of a predicate to a subject. But there is an incorrectness in this expression. Expressed correctly it should say: something existing is God, that is, those predicates that we designate collectively by the expression "God" belong to an existing thing' (Beweisgrund (11 74)).

Kant's treatment of this issue is less satisfactory in the Critique. There he says that if 'we take the subject [God] with all its predicates ... and say "God is" or "There is a God", we attach no new predicate to the concept of God, but only posit the subject itself with all its predicates,
and indeed posit it as being an object which stands in relation to my concept' (A599/B627). As Walsh says, 'It is not the subject which is posited, but the characteristics it comprehends, since to posit in this connection is to declare that something general has an instance' (op.cit.p.223). The point behind the claim that existence is a quantifier is that we thereby avoid the problems associated with treating affirmations or denials of existence as affirmations or denials that concern a subject. In affirming or denying the existence of anything we are, it is claimed, merely saying that a certain group of predicates either is or is not instantiated.

For Kant, then, existence is not a real predicate although it may serve as a 'logical' predicate. A 'real' predicate is 'a concept of something which could be added to the concept of a thing' (A598/B626). It appears that a 'real' predicate is also a 'determining' predicate, that is, 'a predicate which is added to the concept of the subject and enlarges it' (ibid.). If this is so, however, it is difficult to see how any predicate attributed to a subject in an analytic judgement can be a 'real' predicate; and if the proponent of the ontological proof believes 'God exists' is analytic then he could argue that in no analytic judgement do we find a 'real' predicate.

Some predicates may, of course, occur sometimes in analytic and sometimes in synthetic judgements, e.g., the predicate 'is coloured' in the 'blue expanse is coloured' and in 'the expanse is coloured'. It might be held that a proposition of the form 'x exists' can never be synthetic and it is only predicates that can occur in synthetic judgements
that are 'real predicates'. This, however, conflicts with what Kant has already said viz. that existential propositions are always synthetic. It is worth noting that if it were held that in 'x exists', 'exists' cannot be a determining predicate on the grounds that it can never enlarge our concept of anything and thus can never occur in synthetic judgements, it would follow that no predicate is a real or determining predicate unless it can occur in synthetic judgements. There may be difficulties here as it is difficult to conceive circumstances in which a proposition of the form 'x is temporally continuous' would be synthetic and yet the predicate 'is temporally continuous' would generally be taken to be a real predicate though not a determining one. It can certainly occur in analytic judgements.

It does not appear that the distinction between analytic and synthetic proposition is helpful to Kant's argument at this point. To hold that existential propositions are synthetic is to invite the reply that in that case exist must, after all, be a 'real' predicate. To hold that such propositions can be analytic would be to concede too much to the proponent of the proof unless it can be shown that analyticity in existential propositions is harmless because trivial. In fact, J. Barnes, in The Ontological Argument, argues that Kant's claim that 'being' is not a real predicate derives ultimately from Hume, who, in the Treatise, writes: 'The idea of existence ... is the very same with the idea of what we conceive to be existent. To reflect on any thing simply, and to reflect upon it as existent, are nothing different from each other. That idea, when conjoin'd with the idea of any object, makes no addition to it. Whatever we
conceive, we conceive to be existent' (I.ii.6).

The issue of whether existential propositions are synthetic or analytic deflects Kant from his main contention, which is that existence is not a predicate. If it is not a predicate then clearly no existential proposition can be analytic. Kant is well aware that his denial that existence is a predicate will carry little weight unless he is able to support it by argument, since 'the illusion which is caused by the confusion of a logical with a real predicate (that is, with a predicate which determines a thing) is almost beyond correction' (A598/B626). His proof of his thesis involves an appeal to his principle that a real predicate is one that is added to the concept of the subject and enlarges it. Existence cannot be 'added' to a concept in this way, since 'by whatever and by however many predicates we may think a thing - even if we completely determine it - we do not make the least addition to the thing when we further declare that this thing is. Otherwise, it would not be exactly the same thing that exists but something more than we had thought in the concept; and we could not, therefore, say that the exact object of my concept exists' (A600/B628).

Kant's argument here has been severely criticised. Shaffer considers it astonishing that it has stood up for so long. 'For the argument, if sound, shows that nothing can be a real predicate. Suppose I wish to say that something is red, where red is intended as a "real" predicate. In asserting that the thing is red, I would be adding to the concept of the thing, and hence would be unable to say that the object as originally conceived is red, that the 'exact object of my concept' is red. The argument which shows that
'exists' is not a 'real' predicate also shows that nothing can be one. ('Existence, Predication, and the Ontological Argument' in T. Penelhum and J.J. MacIntyre (eds.) The First Critique p.126)

According to Bennett, 'what exists is always "more than we had thought in the concept". Whatever one "thinks in a concept" must be abstract, omitting answers to at least some questions of detail, and so a reality corresponding to any such thought will always have some features with regard to which the thought was, as it were, silent. Kant implies that we might "completely determine" a thing, but that is impossible'. If we could, then 'perhaps that would involve us automatically in thinking of it as existing. In assuming the contrary, Kant is simply begging the question in favour of his view that "existent" is not a determining predicate' (op.cit.p.230).

Bennett's argument seems somewhat confused here. If 'existent' is a determining predicate then any completely determined concept must be determined with respect to existence, so that a completely determined concept of x will be a concept of an existent x or a non-existent x. If 'existent' is a determining predicate, then the question of whether we think the object of a completely determined concept as existing or not is settled by the concept itself. Kant's view is always that the concept of any possible being can be 'completely determined' without begging questions of existence. His view here derives from Leibniz, who held that God contemplated the 'complete concepts' of all possible beings, conferring existence to such as would produce the best of all possible worlds. Kant would presumably argue
against Shaffer that if existence were a predicate we would no longer have 'completely determined' concepts of possible beings.

In the *Critique*, Kant provides a second, somewhat similar, argument to show that existence is not a predicate. 'If we think in a thing every feature of reality except one, the missing reality is not added by my saying that this defective thing exists. On the contrary, it exists with the same defect with which I have thought it, since otherwise what exists would be something different from what I had thought' (A600/B628). Wood interprets Kant as saying that we may have the concept of an 'almost perfect being' that has every perfection but one. We do not know which perfection is lacking. 'Now Kant's contention is that we are led into absurdities if we assume that "existence" is the reality we are seeking. For suppose it is. In that case, if the almost perfect being we are thinking of existed, it would have the missing reality, and therefore would not be almost perfect, but wholly perfect. But this contradicts the assumption that we are thinking of an almost perfect being, and hence is absurd ... Consequently if existence cannot be the missing reality this can only be because existence is not a reality at all' (Wood, op.cit.p.108).

Wood rejects this argument. 'We see at once that it cannot be correct if we run through it again, this time, supposing "omnipotence" (or any other undisputed real predicate) to be the reality missing from our almost perfect being. In that case too we would have to admit that if the almost perfect being were omnipotent, it would have the missing reality, and hence be wholly perfect, contrary to our
original suppositions. Thus if Kant's argument succeeded in showing that existence is not a real predicate, it would also succeed in showing that nothing could be one' (ibid.).

The issue may not be settled as simply as Wood suggests. If we have the concept of an 'almost perfect being' that is completely determined with respect to all real predicates and includes all realities except omnipotence, then that concept may be instantiated. If, on the other hand, we have the concept of an 'almost perfect being' that does not include existence we have the concept of an 'almost perfect non-existent being'. Clearly this concept cannot be instantiated since if it were, 'what exists would be something different from what I had thought'. If existence is a predicate then our 'completely determined' concept of any being must include or exclude its existence.

Kant holds that we can have 'completely determined' concepts of possible beings which leave open the question of the existence of their objects. If existence were a predicate then no concept undetermined with respect to existence could be realised since in coming to be its object would acquire a characteristic not possessed by the concept. Of course, if existence were a predicate then a completely determined concept would include or exclude it. Presumably Kant would say that such a concept is not the concept of a possible being. It would, however, be possible to hold that existence is included in the concept of all possible beings, since we conceive them as existent. But while this would show that 'existence' could not, after all, be the 'missing reality' of Kant's 'almost perfect being' conceived as a possible being, it is inconsistent with his
view that existence is not a predicate.

There appears to lie behind Kant's argument what J.W. Forgie has called the 'Doctrine of Isomorphism' between concepts and actual beings. ('Kant and the Question "Is Existence a Predicate?" Canadian Journal of Philosophy Vol.5 (1975)). Thus Kant writes: 'the real contains no more than the merely possible. A hundred real thalers do not contain the least coin more than a hundred possible thalers. For as the latter signify the concept, and the former the object and the positing of the object, should the former contain more than the latter, my concept would not, in that case, express the whole object, and would not therefore be an adequate concept of it' (A599/B627). Kant here appears to be begging the question. As Forgie says, the reductio argument will not show that existence is not a predicate of any real object 'unless we make the additional assumption that existence cannot be included in any concept of a thing' (op.cit.p.571).

Although we may concede that Kant's arguments to prove that existence is not a predicate are unsuccessful they do not appear to be as simply fallacious as some commentators have suggested. The notion of the 'complete determination' of concepts lies behind much of what he says here. If existence were a predicate then every 'completely determined' concept would include or exclude it. Clearly no concept of a possible being could exclude existence. So the only alternatives appear to be that existence is not a predicate or it is a universal predicate of possible beings. Kant embraces the first possibility; but many would hold that the second would also be sufficient to dispose of the ontological argument since the concept of God is no longer unique in
including existence. It may be objected here that we are led into paradox if we suppose our concepts of physical things to include existence. For then it would be analytic that such physical things exist whereas, as Kant insists, denials of existence are never contradictory. Thus the denial that existence can ever be included in the concept of a thing is associated with the fear that it would then be the concept of a necessary existent. This fear is groundless. Our concepts of things change with experience. Our concept of the crow is of a black bird. If, however, we discover white crows, then our concept changes. In the same way our concept of the crow is of an existing creature. If we found that there were no crows and never had been it could be argued that our concept would change so that it excluded existence. Our concept would then belong to the realm of mythology and fiction.

To argue that existence cannot be included in our concepts of things because our concepts cannot change in this way, is, as Forgie says, to beg the question. If existence is a predicate then our concepts must be capable of change in this respect as in any other. Against this it might be argued that, on a causal theory of concepts, such change is ruled out. For, on such a theory, if we found that there were one-horned horse-like animals, they would not be unicorns since neither they nor their ancestors gave rise to our concept of the unicorn, which derives from mythology. Arguments of this type have been used in the causal theory of names. Thus K.S. Donnellan has argued that if our descriptions of a mythological creature named X happen to fit an existing creature, that existing creature is not, in fact, X. Naming, Necessity and Natural Kinds ed. S.P. Schwartz
But even on a causal theory of concepts it does not follow that existence could not be a predicate. For in the case of the unicorn we have simply two concepts, one, excluding existence, for the mythological beast and one, including existence, for the newly discovered species.

Barnes, in reviewing the objections to the ontological argument that are associated with existence and predication, rejects the view that, as he expresses it, 'everything exists'. To support his contention that existence cannot be a universal predicate he adduces first the case of fictional entities, then the fact that in 'recent advances in modal logic ... the interpretation of modality relies heavily on the notion of identifiable non-existent individuals' (op.cit.p.50). If, however, existence were a predicate then in neither case would we be dealing with possible individuals. Even if we assume that we can have 'completely determined' concepts of such things, our concepts of them qua fictions or qua non-existent individuals exclude existence. If our concept of such a thing were realised, it would include the property of existence and thus be 'something more than we had thought in the concept'. Thus we can still urge against Barnes that our concepts of all possible beings include existence.

Our interest in the ontological proof has been whether, given Kant's contention that it is fundamental to the other theistic proofs and to the cosmological proof in particular, he has provided a convincing refutation of it. Kant's principal objection, that existence is not a predicate, has been widely criticised and it must be admitted that his arguments here are inconclusive. While it might, as we have
seen, have been more profitable for Kant on his own premises to have considered existence as a universal predicate of possible beings, he does not pursue this line of argument in his criticism of the proof. Perhaps Kant's most telling point against the ontological argument is his second objection, that is, that whereas we cannot 'in an identical proposition' reject the predicate while retaining the subject, we can, without contradiction, reject both. His criticism of the proof, although it contains many valuable points, is, I believe, inconclusive. This does not, of course, mean that the ontological argument is valid.

We now need to return to the cosmological argument and to consider it in the light of Kant's criticisms of that argument itself and in the light of his discussion of the ontological proof that we have just reviewed. As we have seen Kant rejects the notion of necessary being, which he equates with logically necessary being. Only if we can give a sense to the concept of necessary being can we go on to consider the first stage of the proof, which seeks to establish the existence of such a being. If this can be accomplished we are left with the problem of completing the second stage of the proof, that is, of identifying this necessary being with God. We shall now consider these problems in turn.
Chapter 5

The proponent of the cosmological proof seeks to establish, in the first stage of his argument, the existence of a necessary being. Since, however, the very notion of necessary being has been rejected as an absurdity by some thinkers, we must ensure that he is not embarking on a hopeless enterprise, a search for the impossible. Kant's own position on this issue is ambivalent. His objections to the notion of necessary being turn on the point that we cannot conceive absolutely necessary existence, that we cannot give an account of the conditions that make it necessary. He appears, nevertheless, to allow that there may be an absolutely necessary being. In the solution of the fourth antinomy he writes that both sides in the apparent conflict may be correct in the terms of transcendental idealism, since all things in the world of sense may be contingent, 'yet there may be a non-empirical condition of the whole series; that is, there may exist an unconditionally necessary being' (A560/B588). At one point he objects to the claim that the cosmological argument proves the existence of a necessary being, which must ipso facto be divine, that 'we are entirely free to hold that any limited beings whatsoever, notwithstanding their being limited, may also be unconditionally necessary' (A588/B616).

If Kant allows that there may be a necessary being or a being that exists necessarily, other thinkers have rejected the very notion of such a being as incoherent. Indeed, J.N. Findlay, in an important paper, has argued that this incoherence can provide us with an a priori disproof of the
existence of God. He maintains that for a being to be a worthy object of our religious worship, for it to 'deserve the utter self-abandonment peculiar to the religious frame of mind', certain conditions must be fulfilled. Such a being 'can never be a thing that merely happens to exist, or one on which all other objects merely happen to depend. The true object of religious reverence must not be one, merely, to which no actual independent realities stand opposed; it must be one to which such opposition is totally inconceivable. God mustn't merely cover the territory of the actual, but also, with equal comprehensiveness, the territory of the possible. And not only must the existence of other things be unthinkable without Him, but His own non-existence must be unthinkable in any circumstances. There must, in short, be no conceivable alternative to any existence properly termed 'divine': God must be wholly inescapable ... whether for thought or [for] reality. And so we are led on insensibly to the barely intelligible notion of a Being in Whom Essence and Existence lost their separateness' (Mind, Vol. 57, 1948 p.180).

Findlay goes on to argue that a divine being would also have to possess all perfections necessarily; but for the moment we shall concentrate on his attack on necessary being. For Findlay, on the 'modern view' of the matter, 'necessity in propositions merely reflects our use of words, the arbitrary conventions of our language. On such a view the Divine Existence could only be a necessary matter if we had made up our minds to speak theistically whatever the empirical circumstances turn out to be' (op.cit.p.182). In this case the 'modern approaches' do not allow us to remain
'agnostically poised' but 'force us to come down on the atheistic side. For if God is to satisfy religious claims and needs He must be a being in every way inescapable, one Whose existence and Whose possession of certain excellences we cannot possibly conceive away. And modern views make it self-evidently absurd (if they don't make it ungrammatical) to speak of such a Being and attribute existence to Him' (ibid.).

Proponents of the proof who assume that the notion of logically necessary being is incoherent often fall back on the notion of factually necessary being. Hick, for example, denies that God, as the adequate object of human worship, must be conceived in such a way that 'God exists' is a logically necessary truth. This is to be denied for precisely the reason offered by Findlay, namely, 'that the demand that "God exists" should be a necessary truth is, like the demand that a circle should be square, not a proper demand at all, but a misuse of language. Only, whereas Findlay concludes that the notion of an adequate object of religious attitudes is an absurdity, we shall conclude that that of which the idea is an absurdity cannot be an adequate object of religious attitudes; it would on the contrary be an unqualified inadequate object of worship' ('God as Necessary Being' _Journal of Philosophy_, Vol. 57, (1960) p.728). According to Hick, 'Findlay has only disproved the existence of God if we mean by God a being whose existence is a matter of logical necessity. Since, however, normative Christianity, both biblical and theological, has not meant this, Findlay's argument may instead be taken as emphasising that we must either abandon
the traditional phrase 'necessary being' or else be very clear that the necessary being of God is not be construed as logically necessary being' (op.cit.p.731f).

What is factual necessity? Rainer says that the factual necessity of God involves His complete actuality, indestructibility and aseitas or independence of limiting conditions ('Necessity and God' Mind 1949 Vol.58, p.75). Hick, who discusses the issue at length, traces the notion of factual necessity back to Anslem who, in his reply to Gaunilon, writes: 'All those objects and those alone can be conceived not to exist, which have a beginning or end or composition of parts: also ... whatever at any place or at any time does not exist as a whole. That being alone on the other hand cannot be conceived not to exist, in which any conception discovers neither beginning nor end nor composition of parts, and which any conception finds always and everywhere as a whole' (Quoted by Hick, op.cit.p.730).

Hick, indeed, credits Kant with first drawing the distinction between logical and factual necessity. In fact, the distinction is implicit in the Scholastics' contrast between "negative" and "positive" eternal truths, the former being eternally true because they express what is eternally the case, the latter being eternally true because they express what must, of necessity, be the case. Even if we cannot give Kant the credit for first drawing the distinction it is nevertheless true that the Kantian schema of necessity as existence throughout all time 'suggests the theological notion of a temporally unlimited being, and this is an important aspect (although not the whole) of the concept of God as a factually necessary being' (Hick, op.cit.p.726).
According to Hick, then, factually necessary being must include eternity, although eternity is not by itself sufficient to the concept of an adequate object of man's worship; 'For it is possible to conceive of something existing eternally ... but only because, although there are powers capable of abolishing it, they always refrain from doing so' (op.cit.p.732). We must, therefore, add that 'as the ultimate Lord of all, God is also incorruptible, in the sense of being incapable of ceasing to exist or to possess his divine characteristics by reason of a decay or discerption not due to external factors. God, then, can neither be destroyed from within nor suffer dissolution from without' (ibid.). In fact these essential characteristics follow from God's aseity. 'A self-existent being must be eternal, i.e., without temporal limitation. For, if he had begun to exist, or should cease to exist, he must have been caused to exist, by some power other than himself; and this would be inconsistent with his aseity. By the same token he must be indestructible, for to say that he exists in total ontic independence is to say that there is and could be no reality with the capacity to constitute or destroy him; and likewise he must be incorruptible, for otherwise his aseity would be qualified as regards its duration' (op.cit.p.733).

Such, then, is the notion of factually necessary being. The question arises whether it is adequate to the cosmological argument. Some writers reject it altogether. Barnes, for example, considers that it is perverse and 'a violation of English usage to take "necessary" to mean "independent and eternal"' (op.cit.p.31f). Others consider that it cannot be used by a proponent of the proof. Hick has
remarked, in *The Existence of God*, that the logical form of the cosmological argument 'is that of a dilemma: either there is a God or the world is ultimately unintelligible' (p.6). The dilemma becomes difficult to discern when God is interpreted as a factually necessary being. If the world does not depend on God then it is true that we have an ultimate but inexplicable fact; however, if the world is so dependent on a factually necessary God then we are no better off since we still have an ultimate but inexplicable fact. With a 'factually necessary being' we have no sufficient reason for its existence; and those versions of the cosmological proof that rely on the principle of sufficient reason cannot operate with the concept of a factually necessary being. As one writer says, '... the Cosmological Argument merely suggests that in a persistent search for explanation we must eventually reach a basic, ultimate fact, which is in itself therefore inexplicable. And this, viewed properly, in all likelihood is true'. But it has not 'the faintest tendency to show this ultimate is the existence of the theist's God' (Duff-Forbes, 'Hick, Necessary Being and the Cosmological Argument', *Canadian Journal of Philosophy* Vol.1 (1972), p.483).

In advancing the notion of factually necessary being, Hick denies that we can attach any sense to the statement that such a being might not have existed; nor, he argues, can we demand any explanation for its existence. Findlay says that a God that merely happened to exist would not be an adequate object of our worship. Hick remarks that here 'Findlay has made the very mistake for which he has criticised the theologians. Findlay should be the last
person to use [the] dichotomy [between existing necessarily and "merely happening to exist"] since he has himself rendered it inoperative by pointing out that one half of the dichotomy is meaningless ... Having concluded that the notion of necessary existence has no meaning, to continue to speak of things merely happening to exist, as though this stood in contrast to some other mode of existing, no longer has any validity' (op.cit.p.731). Hick's point emerges in his discussion of explanation. The existence of God as a factually necessary being 'is the ultimate given circumstance, behind which it is not possible to go with either question or explanation. For to explain something means either to assign a cause to it or to show its place within some wider context in relation to which it is no longer puzzling to us. But the idea of a self-existent Creator of everything other than himself is the idea of a reality which is beyond the scope of these explanatory procedures' (op.cit.p.733f).

The problem is, however, whether a factually necessary being provides an adequate foundation for the cosmological proof. There is no sufficient reason for the existence of such a being. It is one thing to say that we have reached the primordial being, a being that is ultimate in the sense that it has, within itself, the sufficient reason for its existence; it is quite another to say that something is, as a matter of fact, primordial or ultimate in the sense that it cannot, in principle, have been caused to exist. Hick says that since Findlay has robbed the phrase 'just happens to exist' of meaning he should not contrast something that 'just happens to exist' with something that has another type of
existence. But whereas we may say of something that has an explanation that it 'does not just happen to exist', to say this of something that cannot, in principle, be explained, seems more dubious. The one does not fail of explanation because it has one. The other does not fail of explanation because none in principle could be provided. But to argue, as Hick does, that the ultimate reality is factually necessary in this sense is to undermine the cosmological argument, which derives its force from the belief that there is an ultimate explanation of the world. If we allow that no such ultimate explanation can be given then there is no need to start on the cosmological regress.

These difficulties in Hick's position are discussed by Duff-Forbes who concludes that 'if such a [factually necessary] God exists that he exists, although he might not have done so, is inexplicable; it just happens that things are thus, if they are, and not otherwise. And this, it is perhaps worth adding, is what some people might very well want to call a "brute fact" ' (op.cit.p.480). Duff-Forbes objects strongly to Hick's argument, in The Existence of God and elsewhere, that either we accept the existence of God or we recognise that the universe is 'a mere unintelligible brute fact'. This will not do, writes Duff-Forbes, 'for belief in the existence of a factually necessary though logically contingent God ... is precisely belief in an ultimate and inexplicable 'brute fact'. If a logically contingent but ultimate, and hence unaccountable, state of affairs is a 'brute fact' then the existence of Hick's factually necessary God is ... a brute fact.' And if to suppose that explanations finally terminate in an ultimate
fact which cannot, being ultimate, in turn be explained is to render the universe unintelligible then it is unintelligible [if] that ultimate is the existence of God' (op.cit.p.482).

In fact Hick, in his reply to Duff-Forbes, concedes that 'the universe conceived of as matter beginninglessly in motion in accordance with certain fundamental physical laws, would likewise be a necessary (i.e. eternal and independent) being. Its existence would constitute an ultimate fact concerning which the question Why does it exist? has no purchase; for if the universe is defined as the totality of all that is, there can be nothing further in terms of which to explain its existence or character. Thus God and the universe both, and equally, satisfy the definition of a necessary being, the existence of which is an ultimate fact; and accordingly the movement of thought from the contingent to the necessary, or from the explicable to the ultimate, can equally well come to rest in the physical universe as in God, and hence cannot be presented as an argument for the existence of God' (Canadian Journal of Philosophy, Vol.1 (1972) p.488f).

Hick's concession here seems to render vain the hope that the cosmological argument can make use of the notion of factually necessary being. Hick, however, does not accept this, since he maintains that there are significant differences between the two possible 'stopping-points for the series of Why questions'. In the first place it is always possible to ask of the universe whether it is dependent upon anything else; whereas God cannot be God unless he is independent of all else. So, in this sense, the idea of God exceeds the idea of the physical universe in explanatory
ultimacy... The physical can function as a de facto terminus of explanations; but God can, in addition, function as a de iure or logical terminus' (op.cit.p.486). The problem remains, however, for any version of the cosmological argument that operates with the notion of factually necessary being, that there is no logical compulsion to go beyond the world to a God who may be an ultimate explanation of the world though inexplicable himself.

Hick says also that the human mind tends 'to find an explanatory finality in conscious acts of will which it does not find in the states or movements of unconscious matter'. This may be true, but Hick's argument gives no reason why we should embrace the theistic view with its explanatory ultimacy'. He presumably sees the cosmological argument as having a purely persuasive force derived from psychological considerations, that is from our desire for ultimate explanations. He concedes that his version of the proof, operating as it does with the concept of factually necessary being, is not logically compulsive, and succeeds only if we reject the view that the world is ultimately a sheer inexplicable 'brute fact'. Most proponents of the proof would reject the view that there are any inexplicable 'brute facts'. The weakness of Hick's version is, as we have seen, that he is driven back to such an inexplicable 'brute fact', although he attempts to mitigate the position by arguing that, if we reject logically necessary being, God must be considered as a factually necessary being whereas the world need not necessarily be so conceived.

The notion of factually necessary being is not merely inadequate to the cosmological argument but is inconsistent
with it. For the cosmological argument cannot allow that there may exist any being that does not either contain within itself the sufficient reason for its own existence or depend upon such a being. Factually necessary being cannot, therefore, be used to answer the criticism that the cosmological proof operates with an absurd notion, that of necessary being. We must, therefore, look more closely at this criticism to see how, if at all, it can be answered.

Many philosophers would insist that if we reject factually necessary being then we are driven back to the notion of logically necessary being. Kant's objection to the notion of logically necessary being is that no existential proposition can be analytic: 'if ... we admit, as every reasonable person must, that all existential propositions are synthetic, how can we profess to maintain that the predicate of existence cannot be rejected without contradiction?' (A598/B626). Many arguments for the contingency of all existential propositions turn on the Kantian claim that if existence is not a property at all it cannot be a defining property; so assertions of existence cannot be logically necessary or analytic. Thus Penelhum writes that existence cannot be held to be a quality that a perfect being would have to have. It is not a quality at all. The distinctive character of the concept of existence 'precludes our saying there can be a being whose existence follows from his essence' (Mind, Vol. 69, p.180). 'So there is no way in which the existence of any being could be held to be a fact explicable by reference to that being itself' (ibid.). The only alternative, according to Penelhum, is that 'God exists' is synthetic. However, 'to say that "God exists" is
synthetically necessary is to run counter to fashionable views about necessity in propositions ... The difficulty for our present purpose is the notorious one for believers in synthetic necessity of explaining the necessary character of the examples offered' (op.cit.p.180f).

Some say, with Aquinas, that although God exists necessarily we simply do not have the knowledge of the divine nature required to deduce God's existence from it. However, according to Penelhum, to argue from finite beings to a being whose existence does follow from his nature is to argue that 'if we knew God's nature we could deduce his existence from it - and this is the mistake ... It is not our ignorance that is the obstacle to explaining God's existence by his nature but the logical character of the concept of existence' (op.cit.p.181). R.W. Hepburn takes the same view of the supposed analyticity of 'God exists'. He writes: 'Those versions of the [Cosmological] Argument are invalid which entail that God logically necessarily exists: that is, that existence is a predicate' ('From World to God' Mind, Vol. 72 (1963), p.44).

It is significant that critics of the proof equate the alleged necessity of 'God exists' with analyticity and with the doctrine that existence is a property. J.F. Ross rejects altogether the view that the cosmological argument operates with the notion of logical necessity. He says that 'it is obviously unreasonable to so interpret the argument's claim to be one for logical necessity since such necessity is a formal property of propositions and not ... of things' ('God and Logical Necessity', Phil. Quarterly, Vol. II (1961), p.22). Some have, indeed, tried to avoid the objections to
necessary being by claiming that it is the proposition 'God exists' that is necessary thus resolving the difficulties of the de re in the de dicto. Thus, G.E. Hughes writes: 'Instead of saying "God is a necessary being" we can say "The proposition 'God exists' is necessary or necessarily true"; and I readily grant this formulation has great advantages' (Mind, vol.58, p.69). Hutchings rightly objects to Hughes that 'what the theist wants to talk about is God, not propositions about God' (op.cit.p.6). Hutchings goes on to argue that 'the necessity ascribed to God is not, for the theist, to be thought of as owing anything to the "necessity" of the proposition "God exists" (au contraire), so the objection that the usual sorts of necessary propositions are non-existent is, if true, not relevant' (op.cit.p.7). The truth of the matter, according to B.R. Reichenbach, is that the proponent of the proof does indeed hold that the proposition "God exists" is necessary; but this necessity is not to be thought of as analyticity. Reichenbach, having denied that all necessary propositions are analytic goes on to argue that 'there are propositions which derive their necessity, not from any analysis of the meanings of the terms contained within the proposition, but rather from being the conclusion of a valid argument. The proposition follows necessarily from its premisses' ('Divine Necessity and the Cosmological Argument' Monist, Vol. 54 (1970), p.409). This is in itself of little comfort to the proponent of the proof. Just as the conclusion of a valid argument may be false if its premises are false so it may be meaningless if it operates with a meaningless term. The objection that we are considering is that the proof does indeed operate with an
illegitimate notion, viz., necessary being. Thus we come back to our starting point. Before we can show the argument to be valid and the conclusion to be necessary we must defend the notion of necessary being itself.

Reichenbach himself acknowledges that the cosmological proof needs more than the conditional necessity that characterises the conclusion of a valid argument. For the proponent of the proof, God's existence is a "real" necessity, that is, it 'follows from the very nature of the existent. It is of God's very essence that, if he exists, he cannot not exist. It is of God's very nature that he is not dependent on any other being, that he cannot be brought into existence nor made to cease to exist. These characteristics ... derive from the very nature, the very being, of the divine being. Therefore the necessity is more than the result of verbal convention. God was a necessary being prior to and independent of any human verbalisation of such' (op.cit.p.415). The question is whether this notion of real necessity can be defended.

Some defence of 'real' necessity must be offered by the proponent of the proof since he cannot succeed in demonstrating that the concept of necessary being is legitimate merely by demonstrating that there may be existential propositions that are necessary or analytic, nor can the proof operate with the concept of factually necessary being. If we are to proceed, then, we must show that the simple dichotomy between logical necessity as analyticity and a formal property of propositions on the one hand, and factual necessity as eternity and independence on the other, does not exhaust the possibilities available to the proponent
of the proof.

What other interpretations of necessary being have been offered? Few proponents of the proof have attempted to elucidate this notion. Barnes approves the criticism of the advocates of necessary being offered by Kant, who 'complained that these men never gave any clear examples of what they meant, but contented themselves with what are plainly cases of "hypothetical" necessity. And of course a clear example would clinch the issue' (op.cit.p.34). In considering the examples of necessary being that have been offered, Barnes rejects the claim on behalf of universals made by Searle in Speech Acts, on the grounds that it is a contingent fact that there is language and that there are language users. The 'more promising' claimants to necessary being include 'such mathematical theorems as these: there exist two real solutions to every quadratic equation; there exists a prime between 12 and 15; there exists a number identical with every power of itself. These propositions are undeniably existential' (op.cit.p.36). They are also 'uncontroversially necessary' (ibid.). Presumably Barnes would deny that mathematical truths are contingent upon the existence of mathematicians in the way that the existence of universals is contingent upon there being language users.

It is unlikely that Barnes' mathematical examples would win universal acceptance as examples of necessary being. Flew, for example, has written that 'the so-called "existence theorems" of mathematics have recently been summoned [to revive the ontological proof]. In fact, of course, they bear if anywhere in the opposite direction; since as parts of pure mathematics they are not proofs of the actual existence of
anything, but only and properly of the freedom from contradiction of concepts' (God and Philosophy, p.79). This suggests that Flew considers that 'exist' is ambiguous, having different senses in different contexts. Even if we deny this, some might still wish to make the distinction urged by R.M. Adams who suggests that numbers and the like can be said to exist in some 'purely conceptual realm' without reality being determined thereby. 'But something which (like God) is conceived of as acting causally on real human beings and physical objects must presumably exist as a real thing if it exists at all' (American Philosophical Quarterly, Vol. 8 (1971), p.290). It could then be argued that the proponent of the proof must show that it makes sense to attribute necessary being, not merely in the 'conceptual realm' but in reality.

What is required of the proponent of the cosmological argument is that he should show that the concept of necessary being, existing and acting in the 'real world', is free of contradiction. As we have seen, many critics of the concept of necessary being assume that, if we reject factually necessary being, we are left with logically necessary being or the claim that 'God exists' is analytic. It is then claimed that necessity is a property of propositions; and that 'exists' is not a predicate. The proponent of the cosmological argument may, however, wish to argue that God's existence is necessary while denying that the proposition 'God exists' is necessary or analytic. To say that if we had the requisite knowledge of the divine nature we could deduce God's existence from it is not to say that God's essence includes existence. Our knowledge of the essence of a thing
may give rise to entailments that are not reducible to analytic statements about it.

It is by no means easy to meet Barnes' request for 'clear examples' of necessary being such as may be of assistance to the proponent of the cosmological proof. When Barnes himself reviews the 'more plausible candidates' for necessary being he considers examples drawn from the abstract sciences of mathematics and logic. It may, however, be possible to adduce examples which serve the proponent of the proof better. At this point we should note that, in Kant's view, if we reject transcendental idealism then we must hold space itself to be a necessary existent. Space, he writes, 'since it is the primary source and condition of all shapes, which are only so many limitations of itself ... is taken as something absolutely necessary, existing in its own right, and as an object given a priori in itself' (A619/B647). This is false, however, since space is only a 'principle of sensibility'.

For Kant, at the time he wrote the Critique, rejection of transcendental idealism must lead to the conclusion that space and time are absolute. In the Antinomies, he remarks that 'these two non-entities, empty space outside the world and empty time prior to it, have to be assumed if we are to assume a limit to the world in space and time' (A433/B461). In 'The First Ground of the Distinction of Regions in Space', Kant argues that the puzzle of incongruent counterparts can be resolved only in terms of the absolute theory of space (although he later concluded that it could be equally well resolved in terms of transcendental idealism). The difference between incongruent counterparts, such as a left
hand and a right hand, cannot lie in the internal relations between the parts of each object, which will be the same in both cases, nor can it lie in the relations between the hands and external objects, because '... if we conceive the first created thing to be a human hand, it is necessarily either a right hand or a left, and to produce the one a different act of the creating cause is required from that whereby its counterpart can come into being' (Kant's Inaugural Dissertation and Early Writing on Space, J. Handyside, P.27f). The distinction must, then, Kant argued, lie in the object's relation to absolute space.

While Kant himself, of course, came to the view that space and time were ideal he has, nevertheless, put forward arguments that lend support to the theory of absolute space and time. The arguments of the Aesthetic do not show space and time to be transcendentally ideal since it is there unresolved whether they do characterise things as they are in themselves. Kant's case for the transcendental idealism of space and time rests largely on the dubious arguments of the Antinomies. So there are grounds for holding, on Kant's own premisses, that space is an absolutely necessary being.

This discussion of the nature of space and time would seem to indicate that they could be the subject of a 'non-classical' cosmological proof. This possibility has been brought closer by the assimilation, in modern physics, of space and time to 'space-time', and in particular by the General Theory of Relativity in which fields of force become geometrical properties of space. Thus H.G. Alexander remarks that it is difficult to avoid the conclusion that 'in the General Theory of Relativity, space-time is given some sort
of reality. For part, if not all, of what is meant by calling a thing real is that one can ascribe properties to it' (Introduction to The Leibniz-Clarke Correspondence, p.IV). In some interpretations of the General Theory, the existence of matter itself is dependent upon the structure of space-time. As J.J.C. Smart says: 'relativistic cosmology often gives a picture of matter as consisting simply of regions of special curvature of space-time' (The Encyclopaedia of Philosophy, Vol.7, p.510).

While we may see here the materials for the construction of a 'non-classical' cosmological argument, this could only be controversial. It would involve philosophical difficulties, the universe being interpreted as a finite but necessary system; and it would be inconsistent with quantum mechanics which is essentially a particle physics. Nevertheless, it may still be possible to reject such a non-classical proof and simply to hold that absolute space exists necessarily.

If we allow that space exists necessarily how do we account for that necessity? It is certainly not analytically true that that space exists. Presumably we could argue that we cannot think space away: as Kant says, 'we can never represent to ourselves the absence of space, though we can quite well think it empty of objects' (A24/B38). So in this case at least we can challenge Hume's statement that, 'whatever we conceive as existent, we can conceive as non-existent' (Dialogues on Natural Religion, Section IX). To prove that space can only be 'empty' and never 'absent' is not, of course, the whole of the argument designed to prove the reality of space; as we have seen, arguments are not
wanting that are claimed to prove space to be 'real' in the sense of having characteristics that condition any thing which may occupy it.

Much of the resistance to the concept of necessary being comes from a misunderstanding of the nature of the cosmological proof. The critics of the proof treat its first stage as asserting that the world must be grounded in necessary being in order to satisfy the demand for a sufficient reason for the existence of the world. It must be admitted that the proponents of the proof have frequently argued in this way. In fact, however, the movement of the argument is from sufficient reason to necessity rather than the reverse. The critic's view is that the proponent of the proof is looking for necessary being from the start, that only necessary being will provide an adequate ground for contingent things. It is here that the greatest weight of his criticism falls. It is objected that necessity is a property of propositions and that it is a category mistake to talk of necessary being. At this stage it may be suggested that necessity and contingency are polar concepts so that the notion of contingent being itself, the very starting point of the proof, becomes suspect. Considerations of this kind drive the proponent of the proof back to the aetiolated notion of factual necessity. This notion, as we have seen, is not adequate to the cosmological proof. These difficulties, however, can be avoided.

As we have observed, the movement of the argument is from the demand for a sufficient reason for the world to necessary being rather than the reverse. What the proponent of the proof demands is a ground for the existence of the
world that will have a reason for its existence; and as this ground must be ultimate that reason must be a sufficient reason and not one that commits us to a regress. It may be true that a being for the existence of which there is a sufficient reason will be *ipso facto* a necessary being. But this does not mean that we are looking for a being whose essence includes existence. A sufficient reason or ground for the existence of the world will be provided by a being whose existence involves 'real' necessity in the sense outlined by Reichenbach. The critic suggests that we are looking for an essentially necessary being from the start. In fact we shall be satisfied with one from which necessity is inferred on other grounds, i.e., one for whose existence a sufficient reason may be given other than its necessity. It would not be an analytic truth that such a being existed.

The critic of the proof is not likely to be satisfied with the bare assertion that the proof is concerned with 'real' rather than logical necessity. He will wish to know how the proponent of the proof proposes to defend this notion. What, he will ask, is real necessity? At this point the proponent of the proof will return to the principle of sufficient reason. The necessary being of the first part of the proof is simply one for the existence of which a sufficient reason can be given. In general we understand well enough what is meant by giving a reason for the existence of something. A mountain range is formed by the folding of geological strata; a lake is formed when the natural flow of a river is impeded. These causal explanations, however, are not ultimate and complete in the sense of providing a sufficient reason for the existence of
their objects. The point behind the cosmological proof is that the regress of causal explanations must come to an end in what Spinoza calls the *causa sui*. Thus causal explanations are of little help; and we may still be asked how we can justify employing the notion of a being whose existence would be inferred from its essence. This, it might be held, is no less a paradox than the notion of a being whose essence includes existence.

In answer to the critic of the proof we may return to his challenge to provide examples of necessary being, although it should now be clear that we are not construing necessity in terms of analyticity. We have already touched on the questions whether absolute space could be considered a necessary existent and whether this would serve to answer the objections raised to the notion of necessary being. To accept that absolute space is a necessary being is not to hold that its existence is a matter of logical necessity, as will be seen when we consider the process of argument that might be employed to establish its necessity. We could, in such an argument, start by arguing, with Kant, that it is inconceivable that space should not exist, that 'we can never represent to ourselves the absence of space, though we can quite well think it as empty of objects' (A24/B38). In a world in which space did not exist, not only would all actual things be cancelled but all possibility would be cancelled also. Kant, for whom space is ideal, says merely that it 'necessarily underlies outer appearances' (A24/B39). For anyone who rejects Kantian idealism, the absence of space would cancel not merely possible appearances but all possibility, or at least all possible extended things. What
reality could there be that cancelled or diminished the province of the possible? It could not be that space was absent since the absence of space implies not merely the absence of objects but the cancelling of all possibility of objects. It might, of course, be said that on the relativistic view of space a world empty of extended objects would have no space. But Kant himself holds that if we reject the doctrine of the ideality of space then we must embrace the theory of absolute space. So long as the possibility of objects in general is not cancelled, then, on Kant's arguments, the possibility of incongruent particulars can be appealed to to establish that space must be absolute.

It thus appears that, on the Kantian view, if we reject transcendental idealism, we must embrace the absolute theory of space. The only way left for the realist to deny that this absolute space is a necessary being would be to accept that it is an entity and yet to assert that its existence is contingent. This Kant would deny. For Kant, as we have seen, it is inconceivable, on realist presuppositions, that space should not exist. The realist, then, has to admit space into his ontology as 'eternal, infinite and self-subsistent' (A40/B57).

We have now outlined an argument, using Kantian materials, that could be used to show space to be a necessary existent in the sense required by the proponent of the proof. The critic might object that, for the argument to be complete, we would have to show that the properties of space are themselves necessary, since a space having different properties would be a different entity. To counter this objection we could argue that the properties of absolute
space are in part determined by what it contains, the fundamental reality being in all cases the same.

Our discussion of the ontological status of space has been designed to answer the critic who demands that the proponent of the proof should elucidate the notion of necessary being. It has appeared that absolute space can be regarded as a necessary existant without this involving us in the controversial notion of logically necessary being. A critic, however, might deny significance to this argument from absolute space on the grounds that we are no nearer understanding God's necessity. The point of the argument has, of course, been to justify the use of the notion of 'real' necessity as outlined by Reichenbach. The proponent of the proof may point out that our argument concerning the necessity of absolute space is possible only given our experience of space. We have no experience of the divine properties or essence and it is thus impossible for us to demonstrate the 'real' necessity of God's existence. It is for this very reason that Aquinas maintains that we simply lack the knowledge to deduce God's existence from his essence. Without experience of space it would be be similarly impossible for us to demonstrate its necessity.

We can, then, I believe, grant to the proponent of the proof the point that the difficulties said to have been discovered in the concept of necessary being are inconclusive; and we may thus proceed to examine the argument by which the existence of such a being is said to be established. It must be admitted that certain accounts of necessity that have been offered are unsatisfactory. The notion of factual necessity is inadequate to the cosmological
proof, as is the notion of logically necessary existence interpreted in terms of analyticity. The proponent of the proof cannot allow that the ultimate reality of the world can be merely 'factually necessary'; and the claim that 'God exists' is analytic is vulnerable to the objection that analyticity is distinguishable from truth. As we have seen, however, these unsatisfactory accounts of necessity can be dismissed without prejudicing the cosmological proof. We now turn to consider the claim that there are rational grounds for asserting the existence of a necessary being that is the source of the world.
Chapter 6

If we allow that the concept of necessary being is free from contradiction then we ought to examine the arguments that have been advanced to establish the existence of such a being. The ontological argument, which we have already examined, is not directly relevant to our purpose. The type of argument with which we are here concerned is designed to complete the first stage of the cosmological proof and concludes simply to the existence of a necessary being or first cause, the nature of which is left undetermined. The arguments that have been employed to establish this first stage of the cosmological proof fall broadly into two categories. In the first, we have those arguments that take as their starting point the alleged contingency of the world and, in the second, those arguments that seek to establish to existence of a 'first cause'. Kant, in the Dialectic, treats the first type under rational theology as the cosmological argument proper and the second in the antinomies as part of rational cosmology.

The argument from the contingency of the world or the argumentum a contingentia mundi moves from the premiss that the world exists contingently, and is therefore dependent, to the conclusion that it derives its existence from a necessary being. In Leibniz's statement, it is the argument that the sufficient reason for the existence of the world 'must needs be outside [the] sequence of contingent things and must be in a substance which is the cause of this sequence, [a substance] which is a necessary being, bearing in itself the reason of its own existence' (Principles of Nature and Grace,
This argument is closely related to those versions of the first cause argument that also appeal to the principle of sufficient reason. The distinction between the two proofs is sometimes difficult to draw, since elements of both may be present in a single statement of the cosmological argument, but it may perhaps be made by pointing out that whereas the argumentum a contingentia mundi argues directly from the contingency of the world to the necessary being in which it must be grounded, the causal argument starts from some admittedly causal explanatory relation in the world that, it is held, commits us to a regress of causes. It is then held that this regress of causes is impotent to explain that which it was invoked to explain and demands support from outside the series. The nature of the conclusion varies with the nature of the causal relation in question.

Kant's criticism of the argument from contingency, which we shall now examine, is not fully developed in his discussion of rational theology where he is principally concerned with its dependence on the ontological proof. With regard to the inference from contingent to necessary being he is content to say that it involves an illegitimate appeal to 'the transcendental principle whereby from the contingent we infer a cause. This principle is applicable only in the sensible world; outside that world it has no meaning whatsoever' (A609/B637). Elsewhere in the Critique, however, we find views expressed that are very damaging to the argument from contingency. In the first place, Kant rejects the principle of sufficient reason on which the classical version of the proof is based; and in the second place, he rejects the fundamental premiss of the proof,
i.e., that the world is or can be known to be contingent.

According to Kant something is apprehended as contingent when it is something 'the not-being of which can be thought' (B290). This, however, is inadequate to prove contingency. It appears that, at least in the experienced world, when something is caused it can be known to be contingent for 'We cannot ... deny that the proposition, that everything contingent must have a cause, is patent to everyone from mere concepts' (B289f). On Kant's view, the proponent of the proof begs the question of the world's causal dependence. For 'we recognise contingency in and through the fact that something can exist only as the effect of a cause; and if, therefore, a thing is assumed to be contingent, it is an analytic proposition to say that it has a cause' (B291). On this account, we can hardly appeal to the contingency of the world to prove that the world is causally dependent; because we require to show that the world can exist 'only as the effect of a cause' before we can assert its contingency.

While Kant does not use this argument explicitly, a somewhat similar argument is used by T. McPherson to refute the argument from contingency. The proponent of the proof, according to McPherson, argues that 'the way to see that God exists is first to consider the fact the world is finite where "finite" means "not able to account for its own existence"; when a man has seen the world is finite he may come to see that there must be a God' (Mind, Vol. 66 (1957), p.379). This, in McPherson's view, is not an argument at all, but simply a disguised statement of the existence of God. 'The argument', he says, 'is made to run like this: look at the finiteness of the world; then take the next step
to seeing that there must be a God. This ... is no argument at all, for there is no step here; seeing the world as finite is not really anything different from seeing that God exists' (op.cit.p.381f). A similar view is taken by I.D. Braine (Proceedings of the Aristotelian Society, Supp.Vol.(1972), p.167f).

The crucial step in the argument, in McPherson's account, is taken when we accept that the world is "finite". But how, he asks, is it to be made? Only by a change in a man's whole outlook. For McPherson 'the whole value of the Cosmological Argument lies not in its efficacy as a proof of the existence of God, but in its bringing out the point that the believer is just the man who sees the world to be "finite", or "sees the things of the world to be not capable of accounting for their own occurrence" (op.cit.p.382). Once a man has seen the world is finite he is 'not merely on the first step of the journey to belief in God; he is a believer already' (ibid.).

At this stage the proponent of the proof might well reply, in accordance with the Kantian dictum that we find all our examples of contingency in the changes undergone by the individual objects of our everyday experience, that the world is composed of contingent or dependent beings and as such is itself contingent. However, as Rowe points out, a collection of dependent beings is not itself necessarily a dependent being: '... the proponents of the argument never saw clearly that the collection of dependent beings is not itself a dependent being. They tended to confuse the question of why a collection of dependent beings has members (rather than not having any) with the altogether different question of why a
certain being exists' (Nous, Vol. 5, p. 56). It is true that the existence of a certain dependent being could be derived from a sequence of dependent beings, yet all could be but limitations of some independent substance. Faced with this difficulty the proponent of the proof might reply with a dilemma. Either the underlying substance has, within itself, the sufficient reason for its existence or it has not. If it has not then the sufficient reason for its existence must be sought outside it in some necessarily existing thing. In either case we can rest satisfied only with necessary being.

A thinker like Leibniz, for whom the material world was contingent, might demand of the sceptic why there should be a world at all. In both The Ultimate Origination of Things and the Principles of Nature and Grace Leibniz himself puts the question 'why does something exist rather than nothing?' The question, however, is itself controversial quite apart from McPherson's objection that it cannot be asked unless we already believe in the existence of God. The Leibnizian approach here has been attacked on the grounds that 'nothing' is a purely relative term. Thus Hartshorne says that 'both atheists and theists have argued that "there might have been nothing" is either mere verbiage or a contradiction. The term "nothing" has a use only in a relative sense, nothing of some specified sort or for a given purpose. Apart from this relativity the word is meaningless' (Monist, Vol. 54 (1970), P.187).

I see no reason why we should accept Hartshorne's embargo on the absolute Leibnizian sense of the term 'nothing'. We can envisage a physical theory of the running down of the universe and eventual evanescence of all energy
that forecasts that the world must finally sink into nothingness. It might not, however, be essential for the proponent of the proof to dispute Hartshorne's point here. We may appeal to the principle of sufficient reason, not to account for the existence of matter but to account for its nature or even for its distribution. On the first point Leibniz writes: 'granting that things must exist, we must be able to give a reason why they should exist thus and not otherwise' (Principles of Nature and Grace 7). On the second point he argued against the Newtonian doctrine of absolute space that it lands us in contradiction since there would have to be a sufficient reason for the distribution of matter in space, and yet, as all points of absolute space must be similar, God would have had no sufficient reason to place the world in one part of absolute space rather than another (Leibniz Clarke Correspondence L.III.5).

While the proponent of the proof would, no doubt, hold that there must be a sufficient reason for the various determining characteristics of the world, it must be admitted that, in view of the cosmological argument's emphasis on existential dependence, it is the demand for a sufficient reason for the existence of the world that is fundamental. Even here, however, we may not need the premiss that there might have been nothing. Would it not be sufficient for the proponent of the cosmological proof here if he could establish that there might have been more (or less) matter in the world that in fact exists? Certainly Leibniz would insist that there must be a sufficient reason why the quantity of matter in the world, if finite, should be as it is and not otherwise.
Here, however, we encounter a difficulty which involves questions of meaning. What does it mean to say that there might have been more (or less) matter in the world? That there might have been, for example, on the atomic theory, only half the number of atoms that in fact exist in the world does not necessarily mean the world might have contained less matter. We could equally well explain the smaller number of atoms of the grounds of there being the same quantity of matter subject to different laws or ordered in a different fashion.

At this point we could appeal to the semantics of possible worlds. For Kripke and others, who have revived it, the Leibnizian notion of possible worlds provides semantic content for modal statements. In terms of possible worlds, we can give meaning to the statement that there might have been less matter in the world than in fact exists, since there is a possible world containing only a certain subset of the atoms or elementary particles making up the actual world. This involves our being able to re-identify certain individual atoms in other possible worlds and it is worth noting that it is at this notion of 'trans-world identity' that some of the most serious criticisms of the semantics of possible worlds have been directed (Vide R. Chisholm's 'Identity Through Possible Worlds: Some Questions' Nous, 1967). Those who have used the apparatus of possible worlds, however, have generally treated this as a pseudo-problem.

Another way of giving meaning to the statement that there might have been more (or less) matter in the world would be to invoke the theory of absolute space. If we hold that absolute space, as independent of matter, is the same in
all possible worlds, then it is open to us to hold that the
volume of matter could have been different in that it could
have occupied more or less of the whole of absolute space.
Against this, however, it may be urged that we are here
confusing volume with quantum; and the suggestion is, of
course, entirely dependent on the theory of absolute space.

If we accept that these problems can be solved and that
we can give meaning to the proposition that things might have
been different in the sense required by the cosmological
argument, we must face another problem that was first
outlined by Hume in the *Dialogues Concerning Natural
Religion*. McPherson, as we have seen, holds that only if we
believe in a creator can we maintain that the world is
contingent. Thus he appears at least to allow that if there
is a God, then the world is contingent. Hume, however,
implies that even if there is a God, the world cannot be
contingent unless it had a beginning in time. Thus he
writes, 'How can anything that exists from eternity have a
cause since that relation implies a priority in time and a
beginning of existence' (op.cit.section IX). In the same
vein Munitz writes: 'To say "X might not have been" implies
that there was a time at which X came into existence, and
that prior to the moment at which X began, other initial
conditions or choices existed as possible alternatives' (The
*Mystery of Existence* p.154). In Munitz's view 'the element
of conditionality present in the use of the phrase "might not
have been" implies (1) what did happen is the consequence of
some particular set of antecedent conditions; (2) the actual
antecedent conditions belong to a range of alternative
conditions compatible with either an explanatory law, or the
freedom of choice of some agent' (ibid.).

It might be thought that Kant's view of this matter would resemble Hume's. After all, according to Kant, we recognise contingency through causal dependence; and causality involves a temporal relationship. In the Kantian analysis of causation a cause is an event and is always prior to its effect. Kant was, however, unwilling to rule out the possibility that the world depended on God. Other thinkers had argued that not all causes or effects need be events. Aristotle held that motion in the universe was eternal but was an effect which could be explained only by the action of a prime mover. Just as Aristotle held that God caused and sustained eternal motion in the world so some philosophers, notably Descartes, have held that God is not only the creator but the sustainer of the world, which is itself eternal. The objection to this view of God's causality is, as Kant points out, that it appears to be an internal contradiction to say that God created the world from eternity. 'For then the world would have to be eternal like God; and yet it is supposed to be dependent on him' (Lectures on Philosophical Theology p.144).

It does seem contradictory to assert that there could be two eternal substances, one of which is the cause of the other. However, God's causality is supposed to be unique and this is recognised by Kant. He says that we learn from experience that things in the world can be the cause of something else but 'the causality by which God is supposed to be the author of the world must be of a wholly different kind. For it is impossible to think of God's causality, his faculty of actualizing things external to himself, as
anything different from his understanding. ... And it is just this causality of God's understanding, his actualisation of the objects of his representation, which is called will' (Lectures on Philosophical Theology p.97). Further, Kant holds that 'in God only one infinite act can be thought, a single, lasting' power which created the whole world instantaneously and which maintains it in eternity' (op.cit.p.136). On the evidence of the Lectures it seems that Kant should allow that an eternal world could be dependent on God. For God is eternal and he from all eternity has willed the best of all possible worlds. Whatever God wills comes to be. Whatever he wills eternally is the case from eternity. This may mean that the world is not contingent in the Kantian sense that it could have been different, if God is such that he cannot but will the best of all possible worlds. But the world, on this interpretation, would be contingent, in the sense of dependent.

Kant's own discussion of these issues is complicated by his view that the noumenal realm is non-temporal, and by his belief that even if reality were temporal the temporal series of events cannot be infinite. With regard to the second point the proponent of the cosmological argument may wish to assert that the world was created by God and that the world did indeed have a beginning of existence. But he may not wish to concede that to say the world might not have existed or that it might have been different entails, as Munitz suggests, that there must have been a time when the world did not exist.

Munitz's reference to antecedent conditions, however, may not be essential to the objection. He would presumably
hold that if the material world were eternal it could have been different, in the sense required by the cosmological argument, only if it were either dependent on God as McPherson argued or on the presence or absence of inhibiting factors within the material world itself. In the first case, things could have been different because God is free to choose what will exist; and in the second case, that things could have been different would no doubt be explained on the basis of some physical indeterminism.

It appears, then, that even if he waives the objections regarding the Humean analysis of causation, the empiricist would maintain that we can hold the world could have been different only if we presuppose the existence of God or the purely physical dependence of some aspect of the world on conditions that are themselves indeterministic. The second alternative is of little assistance to the proponent of the proof; and he can hardly appeal to the first to establish his premiss without flagrantly begging the question.

The proponent of the cosmological proof wishes to establish that the world could have been different, that it is 'contingent' or lacks 'self-sufficiency'. Only having established this can he proceed to the next stage of his argument, which is to show that such a world requires to be grounded in necessary being or the self-sufficient. His critics, however, reject his first move. How, then, is the proponent of the proof to proceed? He wishes to establish that things could have been different, in order to justify his appeal to the principle of sufficient reason. He argues against the empiricist that the world, being contingent, is only one of a number of possible worlds. There must,
therefore, be a sufficient reason why this world should exist rather than any other. This reason can, he believes, reside only in a necessary being which is the omnipotent source of the actual world. His critic, on the other hand, argues that it is only if we presuppose the existence of such an omnipotent being that we can hold there are other possible worlds. In this regard, then, the argument from contingency is question-begging.

To reject the argument from contingency is to reject the principle of sufficient reason as employed by Leibniz. Kant does, of course, specifically reject it as part of the metaphysician's apparatus of a priori principles. This may seem like the end of the matter for the Kantian. However, Kant himself, in his Beweisgrund essay, formulates another highly general principle that the proponent of the proof could well substitute for that of sufficient reason. This is his principle that the possible presupposes the actual. Kant's whole argument in the Beweisgrund proof is of considerable interest for the proponent of the argument from contingency and it will be worthwhile to assess relationship between the two proofs.

Kant's thesis in the Beweisgrund is that nothing is possible unless it is thinkable, although it is not immediately obvious whether thinkability is here identified with possibility or whether it is merely a test of possibility. In any event, Kant argues that for the concept of a thing to be thinkable it must meet two conditions. In the first place, it must not contain a contradiction for then it would be 'formally' impossible. In the second place, the realities must themselves be available or given to enable
us to form the concept since for Kant 'to think a possibility
... is to form a concept whose "material" or content
consists in certain realities (or their negations)' (Wood,
op.cit.p.66). If they were not so available the concept would
be 'materially impossible'. Kant, in accordance with his
dictum that the possible must be thinkable, holds that the
possibility both of things and of concepts must be grounded
in the actual. In the Lectures he says that 'we have no
concept of real possibility except through existence, and in
the case of every possibility which we think realiter we
always presuppose some existence; if not the actuality of the
thing itself, then at least an actuality in general
containing the data for everything possible. Hence every
possibility presupposes something actually given. For if
everything were merely possible, then the possible itself
would have no ground. Consequently this ground of
possibility must itself be given not merely as possible, but
also as actual' (op.cit.p.68).

What is presupposed, then, in our thinking of possible
things, is the material or total reality that furnishes the
material or data for our concepts of such possible things.
This sum-total of reality Kant identified with the ens
realissimum. Even after rejecting the Beweisgrund proof,
Kant says that 'we are justified in assuming and presupposing
an ens originarium which is at the same time an ens
realissimum as a necessary transcendental hypothesis. For
to cancel a being which contains the data for everything
possible is to cancel all possibility. And therefore a most
real original being is a necessary presupposition, on account
of its relationship to the possibility of all things'
That the possibility of any thing presupposes, not merely the realities which compose it but the whole of reality or the ens realissimum, brings out the Kantian view that the concept of any individual thing must be completely determined, either positively or negatively, with respect to all possible predicates. The Beweisgrund proof is thus closely bound up with Kant's deduction of the Ideal of pure reason.

Kant's association of possibility with thinkability may have been influenced by Leibniz who held that without God nothing would be possible. God actualises those possibilities or essences that are the objects of his understanding, and produces the best of all possible worlds. Kant himself cannot, of course, hold that there is a God and therefore a mind to which the criteria of thinkability may be referred, in an argument that in fact seeks to prove the existence of God. So it seems that his argument is not that possibility is to be identified in Leibnizian fashion with God's thinking, but that if something is possible then it must be eo ipso thinkable for a mind. Many would be sympathetic to Kant's view that thinkability is a necessary condition for the possibility of any thing, for it does seem true that if a concept is 'formally' impossible, such as the round square, then it is unthinkable. It certainly cannot be distinctly conceived. Kant, however, goes on to claim that thinkability is a sufficient condition of possibility because thinkability includes both the formal and material elements of possibility.

Kant's view that the possible must be thinkable does not entail the conclusion that there can be no possibilities
without mind. The question is nevertheless sometimes raised, by Wood for example, whether there would be possibilities in a world where there was no mind to contemplate them. Kant seems, in fact, to hold that for every possible thing there is a possible, completely determined concept whether or not that concept is entertained by a mind. In any case he could point out that on his argument the existence of any limited being implies the existence of the ens realissimum since every thing must be completely determined with respect to all possible predicates. The difficulty here is that the Beweisgrund proof is said to be a pure a priori demonstration of the existence of God whereas this appeals to the empirical fact that some limited being exists.

Kant himself seemed to see the Beweisgrund proof as analogous to the ontological proof. Indeed, in the Beweisgrund, he calls it the ontological proof in contradistinction to the ontological proof proper which he refers to as the 'Cartesian proof'. In the Lectures on Philosophical Theology Kant says that 'in addition to the logical concept of the necessity of a thing (where something is said to be absolutely necessary if its nonexistence would be a contradiction, and consequently impossible) we have yet another rational concept of real necessity. This is where a thing is eo ipso necessary if its nonexistence would cancel all possibility' (op.cit.p.68). There seems, however, to be here an assumption that the possible must exist in some absolute sense, for we cannot demonstrate the necessity of the ens realissimum as the ground of all possibility if possibility is itself dependent on contingent matter, for example. However, how can we show that there are these
absolute possibilities? When Kant claims the impossibility of any state of affairs through which 'all possibility in general' is cancelled, Wood suggests he is trading on an ambiguity. 'This claim is easy enough to accept if 'all possibility' means something like 'all possible states of affairs'. But, in the Kantian argument, 'all possibility' must instead refer to something of the order of 'all possible things'. For the argument thus far has been that a completely empty world would be one in which all particular things would be impossible, because none of the realities needed to think them would be present as data for the corresponding thoughts. But even granting this argument, it looks as if one possible state of affairs might be that in which nothing exists (and thus, according to the argument, in which nothing is possible). The cancelling of all possible things does not obviously involve the cancelling of all possible alternative states of affairs unless it is shown that an empty (and thus, on the argument, a necessarily empty) world is not a possible state of affairs' (op.cit.p.69f).

Clearly, there must be some 'state of affairs' in Wood's general sense. It seems to be a necessary truth that 'either there is something material in existence or there is not'. So it follows that we cannot entertain a possibility in which all possible states of affairs are cancelled. But, as there appears to be no conceptual difficulty in the notion of a world in which nothing exists, how can Kant show that an empty world is not a possible state of affairs? Wood says that 'the actual existence of things suffices to show it impossible that there should be a necessarily empty world'
(op.cit.p.70). But this is a 'cosmological' and not an 'ontological' inference. We require the premiss that something exists before we can argue that there must be a ground or source of possibility. That there must be such a ground or source cannot be proved a priori.

For Kant, then, possible things presuppose the actual because otherwise their possibility would be unthinkable. It seems obvious enough that both things and our concepts of things must conform to the formal conditions of possibility. The connection between them has a material foundation as well because it is the matter of which things are composed that acts causally on our senses to produce the sense impressions from which our concepts are derived. This gives Kant's argument an empirical character. It is only through those concepts that we can 'think' possible things so that we can represent the possibility of a thing to ourselves only on condition that the matter exists to form it and, through experience, to form the concepts through which that possibility is represented. This, of course, is merely a circuitous way of saying that if some thing is possible then there must exist the realities that are sufficient to produce it. Kant's reference to thinkability, however, emphasises his point that to "think" the concept of any thing we need to know what it is not as well as what it is. Thus we need the concepts of the realities that do not characterise the thing before we can determine it with respect to those realities. It is only in this way that it can be completely determined.

Many would accept as plausible some general form of Kant's principle that the possible presupposes the actual. The argument of the possibility proof, however, rests also on
the principle of complete determination, the application of which is said to lead us to the concept of the ens realissimum. Limited things are determined negatively with respect to some realities; but the very denial that those realities characterise a particular thing implies their existence elsewhere since all concepts of negations are derivative. 'No one can think a negation determinately, save by basing it upon the opposed affirmation. Those born blind cannot have the least notion of darkness, since they have none of light' (A575/B603). So Kant regards the concept of an ens realissimum as being at the same time the concept of an ens logice originarium, that is, of a logically original being whose concept cannot be derived from any other concept because all other concepts are derived from it' (Lectures p.45). The ens realissimum then, like Spinoza's God, is conceived through itself and without it nothing can be conceived (Ethics I props. XIV and XV).

There are many difficulties in Kant's argument. To begin with, the notion of complete determination is obscure. For Kant, as for Leibniz and Wolff, to be an individual is to be completely determined. One of each pair of contradictory predicates must apply to it. Even allowing this, however, it is difficult to see how the ens realissimum can be the source of all the predicates of individual things. The ens realissimum may be the source of all those predicates that express reality, but this seems insufficient to produce an individual. It seems that relational predicates are excluded. However, cannot two individuals differ solo numero? If not, is Kant tacitly assuming the principle of the identity of indiscernibles? In any case it seems
possible that individuals should differ in form without differing in their degrees or kinds of reality. Kant's assumption that an exhaustive list of non-relational predicates would be sufficient to identify an individual implies that he thought that each individual, like a Leibnizian monad, should differ qualitatively from every other.

In the Critique he says that 'all manifoldness of things is only a correspondingly varied mode of limiting the concept of the highest reality which forms their common substratum, just as all figures are only possible as so many different modes of limiting infinite space' (A578/B606). This spatial analogy does not help since two congruent spatial figures can be distinguished only in terms of relations.

Another problem is that to determine an individual completely we should need to know all realities. Kant admits that "the universal concept of reality" which human reason holds to be a precondition of the thorough determination of individual things 'cannot be divided a priori, because without experience we do not know any determinate kinds of reality which would be contained under that genus' (A577/B605). Wood says that it is here that the "traditional ontology" comes to our rescue. 'For this ontology tells us that the concept of reality is the concept of an intensive magnitude (and) if, in our attempt to conceive the thorough determination of objects a priori by pure reason we permit ourselves to conceive of reality as having such a maximum, then we will be able to see the way clear to a solution of our problem. For if we form the conception of a "sum" comprehending all possible reality within it, then we can represent a priori the division of the universal concept of
reality into different species by representing the division of this "sum" into mutually exclusive parts' (Wood, op.cit.p.41).

The "traditional ontology" to which Wood refers allows us to talk of degrees of reality. Thus, in the Third Meditation, Descartes says that the degree of reality possessed by an efficient cause must be at least as great as that possessed by the effect; and Spinoza holds that the more reality a thing has, the more attributes it will have (Ethics I prop. IX). These ontological views do not, however, seem to carry us much further forward, since presumably, in any given individual, degrees of species of reality rather than a degree of reality in general, will be found; and they still imply that every individual has, like a Leibnizian monad, its own unique degree of reality. In any case, it remains to be explained how particular things lead us to the concept of the ens realissimum. The fact that particular things have different degrees of reality does not entail that they are limitations of an ens realissimum; and it is still obscure how an exhaustive list of predicates limiting the concept of reality in general can uniquely identify an individual.

What, then, is the significance of Kant's argument to his criticism of rational theology? In the Critique he denied objective validity to the possibility proof on the grounds that what it really proves is not 'the objective relation of an actual object to other things, but of an idea to concepts' (A579/B607). Kant holds that empirical possibility presupposes the ens realissimum because objects of the senses 'can be completely determined only when compared with all the predicates that are possible in the
field of appearance (so) the material for the possibility of all objects of the senses must be presupposed as given in one whole' (A581f/B609f). We are led into error, however, when we treat the proof as valid of things in themselves.

Kant denies significance to the possibility proof on the grounds of his idealism. The proof is valid only of "objects of the senses" since modal concepts, including possibility, have no place in the noumenal world. In one place he suggests that 'the distinction of possible from actual things is one that is merely valid subjectively for human understanding' (Critique of Teleological Judgement p.56). Modal concepts express a relation of things to the mind that considers them. But, apart from the consideration that we cannot "think" noumenal reality, why should modal concepts not have a place in the noumenal world? After all, that world may be accessible to a non-human mind. Kant, of course, holds that modal concepts can only be employed or "schematised" in temporal terms and that he has proved noumenal reality to be non-temporal. His argument here, however, is open to question on both counts.

Our interest in the possibility proof comes from the fact that here Kant has himself provided a species of cosmological argument. The argument itself, however, can hardly be regarded as convincing. Certainly insofar as it has been considered by the commentators it has won little sympathy. Thus T.E. England objects that 'Kant passes in bewildering fashion from the proposition that all negations are limitations, implying a positive reality, to the assertion that all the manifoldness of things consists only of so many ways of limiting the concept of the highest
reality, which forms their common substratum' (Kant's Conception of God, p.120). W.H. Walsh attacks the concept of the ens realissimum that Kant here employs holding that 'the very notion of such an entity is logically suspect, since it would not so much possess its predicates as consist of them' (Kant's Criticism of Metaphysics, p.219).

Even if he rejects the Beweisgrund proof, however, the proponent of the classical cosmological argument will study it with interest. He wishes to show that the existence of the world would be impossible if it were not grounded in necessary being. The existence of any contingent thing is possible only in relation to God. So here, as in the Beweisgrund, the possible implies the existence of the necessary. In the argument of the Beweisgrund, however, the existence of the ens realissimum is inferred not so much as an explanation of the existence of contingent things as an essential ground of their possibility, their own share of being or reality presupposing the sum-total of all reality. In spite of these differences the cosmological proof and the Beweisgrund proof seem to be closely related. For the proponent of the cosmological argument there are many 'possible worlds' including, no doubt, the one in which nothing material exists. Even if we reject his appeal to the principle of sufficient reason, he may argue that things could have been different, that other possible worlds could have existed. If we grant him this, he can argue that these possibilities must have a source or ground; and that this source or ground must be a necessarily existing being of supreme reality or ens realissimum. In view of the close relationship between the two arguments it is surprising that
Kant did not treat the cosmological proof with the sympathy he clearly retained for the Beweisgrund proof. Behind both we can sense the principle ex nihilo nihil fit. In the classical cosmological proof the contingent world presupposes the necessary as its transcendent cause; and in the Beweisgrund proof possible things presuppose the existence of the ens realissimum as the source of their possibility.

Kant's principle that the possible presupposes the actual may be less problematic than the principle of sufficient reason. But to employ Kant's principle in the cosmological proof we need to show that there are other possible worlds without presupposing the existence of God. In Kant's argument any existent thing presupposes the ens realissimum as the ground of its complete determination. But if we reject this argument how can we show that there are other possible worlds? We have to show that there are these other possible worlds before we can appeal to the principle that the possible presupposes the actual. This is no use to us if the two are co-extensive.

Are there, then, other possible worlds? Could things have been different in the sense required by the cosmological proof? Could, for example, there have been more or less matter than in fact exists or perhaps nothing material at all? As a first move, the proponent of the proof might argue ad hominem that if there is no reason for the existence of the world then the existence of matter no more requires an explanation and is no more remarkable than the existence of nothing. In the same way, it might be argued that the external motion of one elementary particle round another no more requires an explanation than their being eternally at
rest relative to each other. If in that case we could argue that the moving particles could in fact have been relatively at rest rather than in relative motion, both being natural and nothing determining what is the case, could we not argue, on similar grounds, that there could have been nothing? The critic of the proof would, no doubt, argue that the two cases are not on a par, the one concerning the behaviour of matter, the other its existence or the framework to which all questions of possibility have reference. Nevertheless, it still seems to follow on the premisses of the critic of the proof that the existence of the actual world is one of a number of possible, mutually exclusive, states of affairs natural in that none of them would require explanation.

The proponent of the proof, then, may argue ad hominem that, on his critic's premiss that matter exists without a cause, there could have been matter other than that which in fact exists, or indeed a world devoid of matter altogether. If this point be conceded to him he may then appeal to the Kantian principle that the possible presupposes the actual and thus these other possible states of affairs presuppose a source which can only be found in necessary being. Against this argument, his critic would presumably reply that these other states of affairs would indeed require a source and it is for this very reason that they are impossible.

Kant holds that the possible presupposes the actual. On Munitz's view, things could not have been different in the sense required by the cosmological proof unless we presuppose a source on which the material world depends. So this hardly seems an issue between them. The real issue is whether there are in fact other possible worlds or alternatives to the
actual world. The critic holds that the proponent of the proof begs the question, since to say there are alternatives to the actual world is to presuppose a source of these possibilities. The proponent of the proof holds that on the critic's own argument there are alternatives to the actual world because that argument includes the premiss that there is in fact no source for what exists. The critic's denial that this is entailed by his premisses brings us to a distinction between what we may call internal and external possibilities. The proponent of the proof holds, in effect, that there are possibilities external to the material world whereas his critic holds that all possibilities are determined by that world.

How can the proponent of the proof demonstrate that there are these 'external' possibilities? At this point it may be helpful to employ the idea of such possibilities being entertained by a mind. Let us, for the sake of argument, suppose an ontological proof valid, and as proving the existence of an omniscient being but not proving that any material world must be dependent upon him. Let us suppose that such a being exists but has no powers of creation. It does not follow that nothing material exists. For, on the premisses of the critic of the proof, the material world does not require a source. We can imagine such an omniscient being, like Leibniz's God, reviewing all possible worlds. In order to know which possible world was actual, since this could not be known a priori, we may regard him as employing some faculty analogous to perception. Such a being would surely regard the various possible worlds that could exist as real possibilities. They cannot be merely logical
possibilities since one of them is actual.

The omniscient being, in reviewing the possible worlds, would no doubt consider the world in which nothing material exists. Suppose it proved that there is in fact nothing material in existence. Would he then hold that the existence of matter was, after all, impossible? Presumably he would not since, on the critic's premisses, matter requires no source and nothing determines it to exist. That it exists or does not exist is a brute fact and thus both these states of affairs are possible. But if this is so then there are external possibilities as is required by the proponent of the proof.

The mere possibility of the existence of matter demands a source or ground. This source or ground cannot be contingent for, as Kant points out, 'if everything were merely possible, then the possible itself would have no ground' (Lectures on Philosophical Theology, p.68). For the omniscient mind to hold that the existence of matter was possible he would have to know there was a necessarily existing source from which it could derive. He could not know a priori if there were a contingent source for it; and in any case a contingent source would not be sufficient because its possibility would require to be grounded also. In the absence of a necessary ground we are led to an infinite regress.

The omniscient mind, when reviewing possible worlds, accords them all the same status. According to the critic of the proof, only the actual world is possible. The impossibility of any alternative to the actual world is a logical impossibility and is knowable a priori. To the
omniscient mind, however, unless all the 'formally' possible worlds are real possibilities then none is possible. As at least one is possible, i.e., the actual world, then all are possible. If there are these possible worlds then there must be a source or ground of their possibility. If the existence of such a source or ground is denied then the omniscient mind would hold that it was necessarily true that no matter existed.

One problem for the type of critic whose views we have been considering is indeed that on his premisses an empty world would appear to be a necessary state of affairs. For the critic, the actual material world is contingent; and indeed the existence of any other material world would also be contingent. For no such possible world would there be a sufficient reason why it should exist. An empty world on the other hand, a world in which nothing whatever existed, would appear to be a necessary state of affairs on the critic's own premisses. That an empty world would be a necessarily empty world is a corollary of the cosmological proof, for if all contingent being is dependent on necessary being, then, if there were no necessary being, since it cannot be contingently true that there is no necessary being, there is necessarily no contingent being.

This line of argument may be extended to produce an indirect form of cosmological proof. The principle underlying this indirect proof is that the contradictory of a statement has the same modal status as the statement itself. Thus, where something can only necessarily be the case, given that it is not the case, it is necessarily not the case. Examples of the application of this principle are easy enough
to provide. If 5 were the cube root of 145, then it would be necessarily so. Given that it is not so, it is necessarily not so. If the area of a triangle were given by halving the square of its base, then it would necessarily be so given. Since this is not the case, it is necessarily not the case. If water is H₂O then, according to Putnam and other recent writers on essentialism, it is necessarily H₂O or H₂O in all possible worlds. If it is not H₂O, then it is necessarily not H₂O.

If we accept the general principle underlying these arguments, there appears to be no reason why we should not apply it to the world in general. On the views of both the proponent of the cosmological argument and the critic who holds that existential possibilities are no wider than the actual, an empty world, or a world in which there was nothing whatever, could exist only necessarily. Since it is not the case that nothing exists, there is necessarily not nothing. In other words, necessarily something exists. The fact that we require the premiss that it is not the case that nothing exists, i.e., that something exists, shows that this is a cosmological and not an ontological argument.

This argument is, of course, insufficient to prove the existence of a necessary being. We cannot infer that some specific thing exists necessarily from the fact that necessarily something exists. To argue thus would be to commit a quantifier shift fallacy. We shall, nevertheless, try to show that only necessary being can satisfy the demand that that something must exist.

We may, perhaps, begin by pointing out that, for the proponent of the proof, to hold that something must exist is
to hold that there must be a sufficient reason for its existence. To hold that contingent being could satisfy the demand that something must exist is to imply that its sufficient reason must lie outside that contingent being, presumably in some abstract logical principle. The sufficient reason for the existence of contingent being certainly cannot be found in any contingently existing thing without raising the problem of the infinite regress. It is, however, very difficult to see how an abstract logical principle can provide the sufficient reason for the existence of things. It cannot be analytic that something contingent should exist because, apart from the objections reviewed in our discussion of the ontological proof, analyticity would lead us to necessary rather than to contingent being. Unless the logical principle could ground matter other than that which in fact exists, the actual could only be regarded as necessary. If, however, it can ground other matter then it follows that there is no sufficient reason for the existing world.

There are grounds other than those provided by the principle of sufficient reason on which the proponent of the proof may rest his argument here. It would be necessary that something contingent should exist only if there were a contradiction in the notion of an empty world. This is not the case for, as Kant pointed out, in such a situation 'nothing is left that can be contradicted' (A594/B623). The impossibility of an empty world can be inferred only from the notion of necessary being.

It might be objected here that our argument cannot lead to necessary being because we begin with a contingent premiss
viz. that something exists. Russell argued in this way against the cosmological proof which, he said, 'has a formal vice, in that it starts from finite existence as its datum, and admitting this to be contingent, ...proceeds to infer an existent which is not contingent' (The Philosophy of Leibniz, P.175). The conclusion of the proof certainly is contingent for it is only if something exists that we can assert the existence of necessary being. It is true, however, that although the necessity of the conclusion is only the necessity of entailment that conclusion is held to be true in all possible worlds. Nevertheless, the cosmological proof does not claim that it accounts for the necessity of the necessary being on which the world is said to depend. It starts from the contingent premiss that something exists and appeals to principles that are held to be necessary, e.g., that all contingent existence must be grounded. In any case, the formal vice of which Russell complains would apply only to those versions of the proof that seek to prove the existence of logically necessary being. It does not affect the argument to an existent conceived as having 'real' necessity in the sense that we have discussed.

If we accept, then, that something must exist, it seems to follow that there is necessary being. It cannot be necessary that something contingent exists. It is only on the grounds that something exists necessarily that we can argue that an empty world is not a possible state of affairs. It is perhaps worth noting that Sommers, when he attempts to show that something contingent must exist, relies on a form of the proof from possibility (v. Analysis, vol. 26, pp.177ff). This, however, merely takes us back to our
starting point.

The critic of the proof, then, cannot allow that if there were no necessary being there would necessarily be nothing. He would no doubt argue that if there were nothing then there could not indeed have been anything, or things could not have been different, but this would not be necessarily so, the impossibility in question deriving from the contingent fact that there are no antecedent conditions determining what should or should not be the case. But this is really to say that there would have to have been a source for contingent existence; and, as we have seen, if that source were contingent, we are launched on an infinite regress.

If it indeed follows from the critic's premisses that an empty world would exist necessarily we must demand of him why such a world does not exist. We cannot say of a necessary state of affairs that it would obtain if something were the case. To show that it must obtain all we have to do is to show that it is logically possible. We cannot say that a necessary truth holds only in one possible world and yet define 'necessarily true' as 'true in all possible worlds'. The critic may say that the necessity with which we are here concerned, viz., that an empty world is necessarily an empty world, is the necessity of entailment. He may argue that from the concept of an empty world we can infer the impossibility of anything whatsoever having existed, but hold that this does not exclude other possible worlds in which contingent existence is exemplified. Thus it would appear that the critic must, after all, admit that there are 'external' possibilities or existential possibilities not
determined by the actual world. It may be tempting for the critic to concede that the material world could have been different ab initio but to deny this any significance as it does not imply that in the world there are various existential possibilities as the proof requires. If, however, the critic does concede that the material world could have been different ab initio then he has conceded external possibilities.

To sum up, we may say that Kant's criticism of the cosmological proof in the Critique may be offset by what he says in the Beweisgrund essay and elsewhere. His principal criticism of the argument from contingency in the Critique is that the contingency of the world cannot be proved. It is even doubtful whether we can legitimately apply the concept of contingency in a metaphysical context. For Kant, the contingent is something the not-being of which is possible. It is for this reason that the concept of contingency is bound up with the concept of causality. If something is caused to exist then we infer that it is contingent since had the cause not operated it would not have existed. We cannot, however, know that the world is contingent in this sense.

In answer to Kant, the proponent of the argument from contingency may argue that by 'contingent' he means 'dependent' rather than 'could have been different'. While most critics of the proof would find an appeal to the dependency of the world no more acceptable than, and indeed indistinguishable, from the argument from contingency Kant himself, on the evidence of the Beweisgrund essay and the Lectures on Philosophical Theology, holds that all that is possible is dependent on a source of possibility in general.
This source of all possibility he identifies with the ens realissimum.

Attractive though Kant's argument is for the proponent of the cosmological argument it faces the problem that his critics tend to restrict the essential concepts employed in the proof to the actual world. J. Laird, for example, writes: 'Take the statement that the world is an effect. If so, it must have a cause or set of causes, but how could we show that it is an effect? Might it not be the theatre in which all causes and effects occur, but itself is neither cause nor effect?' (Theism and Cosmology, p.95). The same would no doubt be urged with regard to possibility and dependency, for it is this restriction of possibility to the actual world that constitutes the principal difficulty in constructing a version of the cosmological proof on Kantian principles.

To try to show that there may be 'external' possibilities we have employed the Leibnizian notion of an omniscient mind contemplating possible worlds. On the premisses of the critic who holds that matter can exist without a source, it would appear that many worlds are possible including that in which nothing material existed. The omniscient mind could not know a priori whether there was matter or not. On the critic's argument that we have considered, however, it seems that if nothing material existed then the world would be necessarily devoid of matter; and that a world in which nothing whatsoever existed would be a necessary state of affairs. Wood denies that an empty world is eo ipso a necessarily empty world on the grounds that it involves 'an exclusion out of hand of the prima facie
possibility that the world might have been empty simply because nothing happened to exist in it' (op.cit.p.68). This is, however, to concede too much to critics of the proof who, like Munitz, wish to exclude the notion of different possible worlds which would give purchase either to the principle of sufficient reason or to the Kantian principle that the possible presupposes the actual.

The critic of the proof cannot say of an empty world that it could have contained matter or indeed that the actual world could have contained matter other than in fact exists, for there is, by hypothesis, no source for it and external possibilities are denied. He cannot say that in an empty world it would be a contingent matter that nothing existed; for it is only if there were a source for them that there would be such external possibilities. For such a critic, that which exists merely happens to exist; but that which does not exist necessarily does not exist. This distinction cannot be sustained. For the proponent of the proof, if the actual merely happens to exist then that which does not exist, given that it is possible, merely happens not to exist. Once such external possibilities are admitted the proponent of the proof can move from the ad hominem argument to the proof proper and invoke the Kantian principle that the possible presupposes the actual. Whatever we may think of the status of this principle it is one that is implicit in the arguments employed by some of the most influential critics of the proof from contingency.
Chapter 7

We now turn to the second route by which the proponent of the cosmological argument seeks to establish the first stage of the proof, that is, to the so-called 'first cause' argument. The origins of this type of argument can be traced back to Aristotle's argument to the Prime Mover. Arguments of this kind centre on the notion of a causal regress. In some versions, while the cosmological regress is allowed to be infinite, it is still held to be inadequate to account for the existence and nature of the world. In other versions, the regress is rejected either because of some difficulty in the notion of an infinite series or because it is held that the type of regress in question cannot, by its very nature, be infinite. Before considering Kant's contribution to the subject it will be useful to review the history of causal proof.

Not all causal versions of the proof deal with regressive series of events. Aristotle's argument to the Prime Mover involves the rejection, not of an infinite series of events, but of an infinite series of simultaneous movers. It appears that this point escapes Kant, who remarks in the 'Observation' on the thesis of the Third Antinomy that 'all the philosophers of antiquity with the sole exception of the Epicurean School, felt themselves obliged, when explaining cosmical movements, to assume a prime mover, that is, a freely acting cause, which first and of itself began this series of states' (A450/B478).

Aristotle's argument here is now regarded as of purely historical interest, since it is founded on antiquated
astronomy and dynamics. He took the geocentric view, and assumed that the 'first heaven' or outer sphere of the universe, containing the fixed stars, is in motion around the earth. The 'first heaven' he believed to be eternal and to have been eternally in motion. How was this motion to be explained? According to Aristotelian dynamics, whatever is in motion is moved by something. We must, then, postulate the existence of a mover to account for the motion of the heavens.

Having established, to his own satisfaction, that there must be a mover to sustain the motion of the heavens, Aristotle goes on to reject a regress of movers. If something in motion is moved by a mover that is itself in motion then we have to postulate another mover to account for the movement of the original mover, and so on ad infinitum. Thus we are led to the conclusion that there must be a first and unmoved mover: 'since that which is moved and moves is intermediate there is something which moves without being moved, being eternal, substance and actuality' (Metaphysics 1072 15). Because he rejects action at a distance, Aristotle held that the unmoved mover was situated in the outer heavens whose motion it sustains. Finally, the Prime Mover is identified with God.

Aristotle's argument here strongly influenced Aquinas, whose First Way is also an argument to an unmoved mover. Indeed the Five Ways of Aquinas, the first two of which are in effect causal versions of the cosmological proof, are all dependent on Aristotelian elements.

The First Way, then, is in essentials the same as Aristotle's argument to a Prime Mover. Aquinas, like
Aristotle, appears to be concerned to exclude the possibility of an infinite series of simultaneous movers, and, like Aristotle, bases his argument on the proposition that everything in motion is moved by something else. He did not, however, reject the notion of an infinite series any more than did Aristotle. In the passage quoted above from the Metaphysics, Aristotle appears to rule out the possibility of an infinite series of movers on the ground that a regress that involves merely the transmission of motion from one thing to another is vicious. This point, on which Aquinas also relies, is dealt with more fully in the Physics (256a 13ff). In Aquinas's version of this argument, he maintains that in an ordered series of moving and moved objects, where each is in turn moved by another, then 'if the first mover is removed or ceases from moving, none of the others will move or be moved: because the first is the cause of the movement of all the others ... But if there is an infinite series of movers and moved, there will be no first mover, but all will be as it were intermediate movers' (Quoted by Kenny, The Five Ways, p.25f).

Kenny and others have maintained that, in the first step of the argument, the reference to 'first mover' either means 'earlier mover' or it begs the question. If, however, it does mean 'earlier' rather than 'that with no earlier mover' then the argument is invalid. Kenny quotes with approval Cajetan's criticism of this passage, in which it is argued that 'an intermediate cause as such needs only to be a middle causal link between an earlier cause and its effect; therefore an intermediate cause as such needs to be dependent not on a first cause but on an earlier cause' (Quoted by
Kenny, op.cit.p.25). While this criticism is persuasive, it does not deal with the question of whether a regress of movers such as Aristotle and Aquinas reject would indeed be vicious.

In fact, the first stage of the First Way is vulnerable to criticism founded on Newtonian dynamics. The First Way and its Aristotelian original are grounded on the belief that whatever is in motion is moved by something; and, indeed, moved by something whose continuing activity is required to sustain that motion, since both Aristotle and Aquinas reject the impetus theory. As Kenny says, Newton's first law of motion wrecks the argument of the First Way. 'For at any given time, the rectilinear uniform motion of a body can be explained by the principle of inertia in terms of the body's own previous motion without appeal to any other agent. And there seems no a priori reason why this explanatory process should not go backwards for ever. Newton's law will not explain how motion began; but how do we know that motion had a beginning? Aristotle himself, after all, thought all motion was eternal. At the very least, on Newton's principles, there would be no more difficulty about motion ab aeterno than about the immobility ab aeterno of an unmoved mover' (Kenny, op.cit.p.28).

These objections appear to be compelling, but Aquinas will not allow us to leave the matter there; for in the Second Way he provides a further version of the causal argument. Here, Aquinas argues that nothing that requires a cause of its existence can cause itself, for then it would have to exist before itself, which is impossible. Again, he rules out an infinite series of efficient causes. 'For in
every ordered series of efficient causes, the first member of the series causes the intermediate member or members, which in turn cause the final member. If you eliminate a cause you eliminate its effect, so there will not be final or intermediate members in the series unless there is a first member. But if the series goes on forever, then there will be no first efficient cause; and so there will be no final effect and no intermediate efficient cause, which is obviously false. Therefore it is necessary to posit some first efficient cause, to which everyone gives the name "God" (Quoted by Kenny, op.cit.34).

Here, as in the First Way, Aquinas rules out an infinite regress of efficient causes. He does not, however, rule out the regress on the grounds that the very notion of an infinite regress is contradictory, and to clarify the matter he goes on to make an important distinction between the series per accidens and the series per se. He allows that a series of efficient causes per accidens, such as the series of begetters in generation, may be infinite. It is only when we are dealing with a series of efficient causes per se that the infinite regress is ruled out. In the series per se we have a series of causes essentially required for the production of the effect, as where we have a block shifted by a crowbar, which is in turn levered by a hand, and so on. The series per accidens may be infinite, 'so long as all the causes thus multiplied are grouped as one cause, and their multiplication is incidental to the causality at work. For instance a blacksmith may work with many hammers because one after another breaks in his hand, but that one particular hammer is used after another particular one is incidental.
Similarly that in begetting a child a man was himself begotten by another man; for he is father as man, not as son. In a genealogy of efficient causes all men have the same status of particular generator. Hence, for such a line to stretch back to infinity is not unthinkable' (St. Thomas Aquinas, Philosophical Texts, T. Gilby, p.55f).

Here, as in the First Way, Aquinas appears to be ruling out the possibility that an effect can be essentially dependent on an infinite series of causes, so that to explain the effect it would be necessary to invoke the entire series. But it is not clear why Aquinas holds that there must be an order of simultaneous causes such as is required by his argument. According to Kenny, Aquinas thinks that the generation of a man depends on another, on an element, on the sun and so on to infinity. So, in Kenny's view, 'the series of causes from which the second way starts is a series whose existence is vouched for only by mediaeval astrology' (op.cit.p.44). As Kenny says, in Aquinas' own examples, such as the block and the lever, we do have a series of active efficient causes 'whose causing is caused by a simultaneously acting further cause. But such series cease with the human agent who is using the tool' (op.cit.p.45).

If this interpretation is sound the Second Way is no more convincing than the first. The First Way fails because its scientific basis has been destroyed; the Second Way fails because no convincing example of a series per se of efficient causes has been given. Geach, however, in his sympathetic account holds that what is essential to the Five Ways 'is something tantamount to treating the world as a great big object' (Three Philosophers, p.112). In the first two Ways,
Aquinas asserts that there are processes of change and that there are things which come to be. The argument, according to Geach, then proceeds as follows: 'If B is the cause of a process going on in A, or of A's coming to be, then it may be that this happens because of a process in B that is caused by a further thing C; and C in turn may act because of a process in C caused by D; and so on. But now let us lump together the chain of things B, C, D ... and call it X. We may predicate of each one of the causes B, C, D, ... and also of X as a whole, that it causes a process in A (or the coming-to-be of A) in virtue of being itself in process of change. But what is it that maintains this process of change in X? Something that cannot itself be in process of change: for if it were, it would just be one of the things in process of change that causes the process in A (or the coming to be of A); i.e., it would after all be just part of the changeable system of causes we call X, and not the cause of the process in X. Thus we are led to a changeless cause of the change and coming-to-be in the world' (op. cit. p. 117f).

Geach's account appears to misrepresent Aquinas' argument. The argument is not that the whole series itself requires a cause, but that the series per se is insufficient to account for the effect as each member of it is merely transmitting an effect for which there is within the series no efficient cause. Geach may be right in his contention that there must nevertheless be a cause of the whole series. It is in fact implied by Geach that Aquinas does not need to demonstrate that he is dealing with a causal series per se. But unless he can demonstrate that he is dealing with a causal series per se Aquinas has to face the objection that
we can regard the world as a closed system whose own resources are sufficient to account for the causal series per accidens. Geach's demand that there must be a cause of the whole series of causes looks like a version of the argument from contingency whereas the argument from causality is supposed to be an independent proof.

This problem of keeping the proofs separate is evident in Leibniz's version. There are in fact other difficulties in Leibniz's statement of the causal proof, which is grounded, as we might expect, on the principle of sufficient reason. It runs as follows: 'the sufficient reason of existence cannot be found either in any particular thing or in the whole aggregate and series of things. Let us suppose that a book of the elements of geometry existed from all eternity and that in succession one copy of it was made from another, it is evident that although we can account for the present book by the book from which it was copied, nevertheless, going back through as many books as we like, we could never reach a complete reason for it, because we can always ask why such books have at all times existed ... What is true of books is also true of the different states of the world; for, in spite of certain laws of change, the succeeding state is, in some sort, a copy of that which precedes it. Therefore, to whatever earlier state you go back, you never find in it the complete reason of things, that is to say, the reason why there exists any world and why this world rather than some others' (On the Ultimate Origination of Things, Latta, op.cit.p.338).

Leibniz's example of the book of the elements of geometry suggest that he is about to raise teleological
considerations. This does not, however, appear to be his point. The question he raises is why there should be a world at all and in what the sufficient reason for its existence can reside. There seems to be little difference between this argument and the *argumentum a contingentia mundi*. What is essential to causal versions of the proof is that, given that an aspect of the world demands a causal explanation, they should attempt to show that natural causality is ultimately inadequate. The *argumentum a contingentia mundi*, on the other hand, moves directly from the contingency of the world to necessary being.

Leibniz's statement of the causal proof proper starts from a cosmological regress of causes, which it argues is not an adequate explanation of either the existence or the present state of the world. One problem for the proponent of the causal proof is that a particular series of events can often be explained by reference to some more comprehensive frame of reference. Leibniz avoids this problem by appealing, in his argument, to the series of states of the world as a whole. It is not, however, obvious why Leibniz should think it necessary to embark on the regress to lead us to the sufficient reason for the existence of the world. Particular causes do not even begin to explain the existence of the world. Why, then, does Leibniz not simply employ the argument from contingency? It may be that he is seeking a sufficient reason for the world in its present state and that he requires a sufficient reason not merely for the existence of the world but for its present characteristics. Another possibility is that Leibniz wished to point out that, although each state of the world has all the necessary
conditions to produce the succeeding state of the world, the regressive series of events cannot provide us with a complete explanation of the present state of the world. If this is the point of the argument then it is the notion of the series *per accidens* that is under attack.

We have already considered Aquinas's attempts to provide a causal proof founded on the rejection of the causal series *per se*. We have seen reason to reject Aquinas's argument. The question we have now to consider is whether the causal series *per accidens* can be shown to be ultimately inadequate. This question Kant deals with in the third and fourth antinomies.

The four antinomies are *reductiones ad absurdum* of various fundamental theses of philosophical cosmology. Kant wishes to show that rational cosmology, when pursued on the presupposition of transcendental realism, i.e., that the world as it appears is real and independent of us, is confounded by the contradictions that inevitably arise. Thus, if we assume that the world as it appears to us is 'transcendentally real' then we shall be able to prove that there must have been a free first cause of the world and that there must belong to the world an absolutely necessary being. But we shall also be able to prove that there can have been no such first cause and that there can be no such necessary being. This result, according to Kant, can only be avoided by treating the world as transcendentally ideal and is, in fact, regarded by him as providing an indirect proof of transcendental idealism. Kant nevertheless holds that valid proofs of the propositions that there was a free first cause of the world and that there belongs to the world an
absolutely necessary being can be given if we assume the transcendental reality of the world. We shall now examine his arguments.

In the Thesis of the third antinomy, Kant seeks to prove that natural laws are inadequate to account for the 'appearances of the world' and that we must 'admit another causality, that of freedom' if we are to account for these appearances. Kant starts his proof by saying that if there is no other causality than that according to the laws of nature then everything that takes place presupposes an anterior state, on which it inevitably follows according to a rule. We are thus committed to an infinite regress. But, Kant goes on, 'if ... everything takes place solely in accordance with laws of nature, there will always be only a relative never a first beginning, and consequently no completeness of the series, on the side of the causes that arise the one from the other. But the law of nature is just this, that nothing takes place without a cause sufficiently determined a priori' (A446/B474).

There are, unfortunately, difficulties of interpretation here. According to Kemp Smith the point of the thesis is that the principle of causality calls for a sufficient cause for each event, and this is not to be found in derivative and conditioned causes. Unless the antecedent series of causes for an event can be traced back to a first cause, it can never be completed, and can never be sufficient to account for the event in question. This was also Schopenhauer's interpretation, and Kemp Smith quotes with approval Schopenhauer's refutation of the argument: 'state A is a sufficient cause of state B just so long as it has the
properties which are sufficient to guarantee that B will ensue. In this way my demand that it be a sufficient cause is entirely satisfied. It matters not how state A is arrived at' (World as Will and Idea, Vol. 1, pp.497f., quoted by Kemp Smith: Commentary, p.493). Both Kemp Smith and Schopenhauer take Kant to be rejecting a causal series per accidens on the grounds that it gives no sufficient explanation of the event that forms its latest member. Bennett, however, feels that Kant's text does not support this interpretation.

Bennett himself makes it clear that he has no alternative to Schopenhauer's interpretation of the third antinomy to offer. He points out, however, that Kant says not than an event requires a sufficient cause, but that it requires a cause that is sufficiently determined a priori. The key phrase, then, is not 'sufficient cause' but 'cause (that is) sufficiently determined. Bennett says: 'I do do not know what that means, but it cannot mean the same as 'sufficient cause' - for this latter points rather to the idea of an effect which is sufficiently determined' (op.cit.p.185). So Bennett concludes that Kant means the cause must be 'sufficiently determined' in advance or independently of the effect and that this also 'goes against the Schopenhauer reading, according to which the argument turns upon a point not about what the cause must be like independently of the effect, but on the contrary about how the cause must relate to the effect' (op.cit.p.186).

While Kant's argument may be unclear, there seems little doubt that he regards the proposition that everything takes place solely in accordance with laws of nature as contradictory. For laws of nature both demand that nothing
takes place without being 'sufficiently determined' and preclude the possibility that any event could be sufficiently determined. An event, it appears, can only be 'sufficiently determined' if the series of its conditions is complete. Presumably, then, if an event is to be accounted for by natural law its immediate cause must be the latest of a causal series which is complete in itself and does not involve an infinite regress. The conditioned thus points beyond the series of its conditions to the unconditioned. When Kant says that an event requires a cause which is sufficiently determined a priori he presumably means that the cause is itself completely conditioned or sufficiently accounted for by the causal series that precedes it.

Some commentators say that the thesis of the third antinomy derives what force it has from the assumption of a beginning of the world. Thus Ewing argues that 'the thesis, as in the other antinomies, is based on the impossibility of a completed infinite for the argument is that any event presupposes for its occurrence the fulfilment of all its causal conditions and the number of these is infinite' (A Short Commentary on Kant's Critique of Pure Reason, pp.218f). Strawson takes a similar view. As Bennett points out, however, this is misleading: 'The thesis-argument does involve the thought of a world-beginning ... but only because it supposedly uncovers a reason for thinking that the world must have begun, not because of any "assumption" that the world began' (op.cit.p.186). Could we not argue that although the causal series per accidens is infinite there is a sufficient reason, i.e., God, outside the series? Kant will not allow this. In his discussion of the issue in the
'Observation on the Thesis of the Fourth Antinomy he writes: 'If we begin our proof cosmologically, resting it upon the series of appearances and the regress therein according to empirical laws of causality, we must not afterwards suddenly deviate from this mode of argument, passing over to something that is not a member of the series' (A456/B484).

For Kant, then, if we argue from the conditioned or causally dependent to the unconditioned we must regard the unconditioned as belonging to the series. As Kant says in the 'Observation on the Thesis of the Fourth Antinomy', where we are dealing with necessary being, 'the necessary being must ... be regarded as the highest member of the cosmical series' (A458/B486). (The argument for the thesis of the third antinomy does not, then, appear to involve a direct appeal to the principle of sufficient reason, as do Leibnizian versions of the cosmological argument). Kant says that 'the proposition that no causality is possible save in accordance with laws of nature, when taken in unlimited universality is ... self-contradictory; and this cannot, therefore, be regarded as the sole kind of causality' (A446/B474). Thus Kant claims to have discovered a difficulty in the notion of the causal series per accidens, in the notion of a causal series in which each member is accounted for by its predecessor, although the precise nature of the difficulty is not clear. We are left with the statement that no event can occur unless its causal conditions are complete.

The fourth antinomy adds little to the material of the third. Here the argument is to necessary being rather than to a first cause, but the two proofs are similar. Kant's
argument is that the sensible world contains a series of alterations, 'but every alteration stands under its condition, which precedes it in time and renders it necessary. Now every conditioned that is given presupposes, in respect of its existence, a complete series of conditions up to the unconditioned, which alone is absolutely necessary. Alteration thus existing as a consequence of the absolutely necessary, the existence of something absolutely necessary must be granted' (A452/B480). As in the third antinomy, the point is that the conditioned points to the unconditioned as its ground. Unfortunately Kant again fails to explain why this should be so. Let us, however, re-examine the case for the theses of the dynamical antinomies.

In the causal versions of the cosmological argument that we have reviewed, those that reject the regress involved in a causal series per se, e.g., Aristotle's argument to the Prime Mover, fail for lack of a convincing argument to show why we should embark on such a regress. Other causal versions of the proof depend, as does Leibniz's, on the principle of sufficient reason, consideration of which we shall set aside for the moment. In examining the dynamical antinomies we shall thus be considering the remaining form of the proof, which is dependent on the rejection of the causal series per accidens.

As we have seen, neither Aristotle nor Aquinas sees any difficulty in an infinite temporal regress of causes. Neither does Hume, who, as we have already noted, writes, 'in such a chain, too, or succession of objects, each part is caused by that which preceded it, and causes that which succeeds it. Where then is the difficulty?'. Geach too
takes this view: 'if a man had parents and they had parents and so on ad infinitum, wouldn't this regress be vicious? Not at all. If the meaning of the original answer "John was generated by his parents" depended on our ability to say who their parents were, then the supposition of a chain of ancestors going back ad infinitum would involve the absurdity that we could not understand the original answer without completing the whole infinite series of answers. But on the contrary the original answer is understandable without raising the question of grandparents' (Three Philosophers, p.111).

Notwithstanding this weight of authority there is a number of ways of attacking the view that the causal series per accidens is self-sufficient. In the first place, there is the principle of sufficient reason interpreted as demanding an unconditioned ground for the existence of the series; and this, it should be observed, does not rule out the infinity of such a series. Then, it is possible to attack the notion of an infinite series itself, as Kant does in the thesis of the first antinomy. Finally the causal regress per accidens may be rejected on the grounds that it cannot fulfil the explanatory function for which it is invoked, e.g., in Kant's statement in the third antinomy, where we read that: 'The proposition that no causality is possible save in accordance with laws of nature, when taken in unlimited universality is ... self-contradictory'.

In what way, however, is the explanatory force of the causal regress said to be limited? Schopenhauer holds that since state A is a sufficient cause of state B when it has the properties that are sufficient to guarantee that B will
ensue, 'it matters not how state A was arrived at'. In this view, then, each event in the causal series is in itself sufficient to account for its successor. The existence of an infinite causal series is explained when we accept that each member of the series has, in its predecessor, an adequate explanation. When each member of the series can thus be accounted for, Hume denies that the causal series as a whole requires an explanation: 'But the whole, you say, wants a cause ... Did I show you the particular causes of each individual in a collection of twenty particles of matter, I should think it very unreasonable should you afterwards ask me what was the cause of the whole twenty' (Dialogues Concerning Natural Religion, IX).

The challenge to the proponent of the causal proof is that he should make clear the nature of the difficulty that he considers limits the explanatory force of the regressive causal series. In Hume's dialogue, Cleanthes demands that the proponent of the proof, Demea, should state the difficulty; and no answer is returned. One writer suggests that the difficulty derives from the quasi-legalistic sense of 'cause', according to which a cause is 'responsible' for and not simply a concomitant of its effect (P. Brown 'Infinite Causal Regression' Phil. Review 75, p.524). The difficulty, however, leaving aside the question of the principle of sufficient reason, is that a causal series may be seen as accounting for the transmission and not for the existence of the properties for which an ultimate explanation is sought. Thus a causal series per accidens may be seen as self-perpetuating; but this does not account for its existence.
Whether such a regress provides an adequate explanation depends on what it is called upon to explain. Hume says that if we account for the existence of the members of a series we also account for the series itself, where 'the uniting of these parts into a whole, like the uniting of several distinct countries into one kingdom, or several distinct members into one body, is performed merely by an arbitrary act of the mind, and has no influence on the nature of things' (Dialogues Concerning Natural Religion IX). The proponent of the causal proof, however, would hold that although we may explain the existence of any individual member of the series by reference to its predecessor we cannot explain the existence of the series as a whole by reference to the regress of causes.

Let us, with Geach, take the series of begetters in generation as an example of a causal series per accidens, a series where each member generates its successor. It may be urged, in spite of Hume, that we have failed to account for the existence of the series. For what the series involves essentially is the incorporating of a form in matter to produce successive members of the series. The form is transmitted from one member of the series to the next. But this merely accounts for the transmission and not for the existence of the form in question. Given the existence of the series we can account for the generation of new members in terms of the incorporation of form in pre-existing matter. But we cannot account for the existence of the form itself. If we are restricted for explanations to the series itself the existence of the form involved becomes something which cannot in principle be explained; and we are committed to an
infinite regress. However, the opponents of the causal proof would no longer argue that the causal regress, in cases of this kind, involves the transmission in an infinite series of an absolutely unaltered form. Leibniz's example of the series of books of the elements of geometry is no longer persuasive; and his statement that any state of the world is 'in some sort, a copy of that which precedes it' is open to serious objections. As Hepburn remarks, in a slightly different context, since Leibniz, 'our thinking about nature has become progressively less mechanistic and anthropocentric and more deeply evolutionary. The task of the apologist ... has become correspondingly more arduous' (Encyclopaedia of Philosophy, Vol. 2, p.234).

It appears, nevertheless, that Hume is wrong to dismiss the causal proof. Its rejection of the causal regress as an inadequate or incomplete account of the existence of the conditioned or causally dependent is sound. The causal regress would certainly be vicious if it were held that each member of the series were entirely dependent on its predecessor and nothing else, not even pre-existing matter, for its existence. Aquinas could, on Geach's interpretation, argue that such a series could itself be viewed as a dependent object that points beyond itself to an independent ground. This may be so, but the main point behind the causal proof may be more clearly expressed.

It is impossible, according to the proponent of the proof, to explain the existence of an individual or property simply by appealing to a regress in which each member of the series derives from its predecessor and transmits to its successor existence or such properties as we may wish to
explain. We may here use an analogy. One object may lean on another which supports it; and that second object may lean against a third which is in turn supported by a fourth, and so on. But this regress cannot proceed ad infinitum. Somewhere in the series there must be support which is underivative. Similarly there must exist an independent source or explanation for the series of dependent things and for the existence of properties transmitted in a series per accidens.

Perhaps the most persuasive version of the causal argument is the one that deals with the regress of causes involved in the generation of individuals that can be classed as members of a natural kind. If we are restricted to the series of causes we cannot account for the form exemplified by the members of the series. Indeed, if the series is held to be infinite, the form in question cannot have been causally produced because there can have been no time prior to its manifestation that would have allowed causal processes to operate. This type of proof is, however, as we have seen, no longer tenable in view of the evolutionary account of the existence of natural kinds.

The proponent of the causal proof may, in view of these difficulties, appeal simply to the causal series per accidens arguing, as Kant does in the Third Antinomy, that the conditions required for the occurrence of an event must be complete. He will then attempt to show that, if we are restricted to natural causes, the conditions for the occurrence of an event cannot be complete. This argument also fails. Here, too, as we try to trace the series backwards it loses itself in the general matrix of change in
the world.

It is still open to the proponent of the proof to appeal, not to the particular series, but to the series of states of the world as a whole, as Leibniz does, and as Kant does in the Fourth Antinomy. The difficulty here is that the argument can hardly be distinguished from the argument from contingency. This is recognised by Kant who remarks, in the Observation on the Fourth Antinomy, that 'In proving the existence of a necessary being I ought not, in this connection, to employ any but the cosmological argument' (A456/B484).

The difficulties that we have reviewed are formidable obstacles to the production of a convincing causal proof. Before we leave the subject we have, however, to consider the argument to a first cause founded on the rejection of an infinite series, an argument with which Kant deals in the First Antinomy.
Chapter 8

The argument to a creator from the premiss that the world must have had a beginning in time is not a common one in western philosophy but versions of such a cosmological proof have been advanced, for example by St. Bonaventure. According to W.L. Craig this type of argument 'originated in the minds of [the] mediaeval Arabic theologians [Al-Kindi and Al-Ghazali], who bequeathed it to the West' (Preface to The Kalam Cosmological Argument). That Kant himself was aware of the theological implications of there being a beginning of the world appears from the Antinomy of Pure Reason, where he writes: 'In the determination of the cosmological ideas, we find on the side of dogmatism, that is, of the thesis ... a certain practical interest in which every well-disposed man, if he has understanding of what truly concerns him, heartily shares. That the world has a beginning, that my thinking self is of simple and therefore indestructible nature, that it is free in its voluntary actions and raised above the compulsion of nature, and finally that all order in the things constituting the world is due to a primordial being, from which everything derives its unity and purposive connection, these are so many foundation stones of morals and religion' (A466/B494).

Kant considers the arguments for and against the proposition that the world must have a beginning in time in the first antinomy. The antinomy was of great importance to Kant, who believed that it constituted an 'indirect proof' of transcendental idealism. When we pursue rationalist cosmology on realist presuppositions we are inevitably
involved in contradictions. Reason is confounded because, while proofs can be provided demonstrating that the world had a beginning in time, that reality is composed of simple parts and that there is freedom and necessary being, equally convincing proofs of the contradictories of all these propositions can also be established. The only way to resolve these contradictions is to embrace transcendental idealism or the view that the world as it appears to us in space and time is ideal, space and time being merely forms of appearance. The first antinomy contains what is, in effect, Kant's only argument to show that space and time cannot characterise things in themselves, since on the arguments of the Aesthetic we simply have to leave this question unsettled. As Walsh says, to suppose that if space and time are forms of intuition then we are justified in calling a percept an appearance, 'assumes that we have independent knowledge of the situation, which on Kant's assumptions we do not' (Kant's Criticism of Metaphysics, p.164).

For the moment we are concerned less with the significance of the antinomy for Kant's transcendental idealism than with the arguments by which the contradictory propositions are said to be established. In the thesis of the first antinomy Kant, arguing on realist presuppositions, seeks to prove that the world has a beginning in time and is also limited in space. In the antithesis, in which again the reality of the space/time world is presupposed, he argues that it must be infinite in both space and time.

The temporal half of the thesis of the antinomy is established by the following argument: if the world had no beginning in time then 'there has passed away in the world an
infinite series of successive states of things. Now the infinity of a series consists in the fact that it can never be completed through successive synthesis. It thus follows that it is impossible for an infinite world series to have passed away and that a beginning of the world is therefore a necessary condition of the world's existence' (B454).

Some commentators have assumed that Kant's argument here depends on the supposed impossibility of infinite collections. The difficulty, they believe, is solved when we show that these contradictions are illusory. Thus Russell dismisses the antinomy: 'Now, however, owing to the labours of the mathematicians, notably George Cantor, it has appeared that the impossibility of infinite collections was a mistake' (Problems of Philosophy, p.147). It is not immediately clear, however, that Russell's point disposes of Kant's argument, which rules out not the possibility of infinite collections but the possibility of completing the successive synthesis that would be involved in the enumeration of the members of such a collection.

In fact, many philosophers have accepted the existence of infinite collections while rejecting the notion of infinite number or the possibility of enumerating such collections. Aristotle maintained that the temporal series of events was without beginning and would be without end, yet he denied that there could be an infinite number for '... in the direction of largeness it is always possible to think of a larger number' (Physics 207 b.10). Leibniz also denied the possibility of infinite number on grounds which he explained in a letter of 1698 to Bernouilli: '... the number or sum of all numbers involves a contradiction (the whole would equal
the part). The same is true of an absolutely greatest number and of an absolutely smallest number (or smallest fraction)' (Leibniz Selections, Weiner p.99). Leibniz, like Aristotle, did not feel that his rejection of infinite number entailed the conclusion that there could be no infinite collections. It seems certain he believed that there could be multiplicities that were infinite in the sense that they were beyond all number. (v. Reply to M. Foucher, Journal des Savans, ibid.).

While neither Aristotle nor Leibniz made any inference from the paradoxes implicit in the notion of infinite number to the temporal finitude of the world, St. Bonaventure argued in exactly this way. His argument uses the Aristotelian point that no number capable of being added to can be infinite. 'In the first place, the eternity of the world contradicts the principle that it is impossible to add to the infinite; for if the world had no beginning, it has already experienced an infinite duration; now every day which passes adds a unit to the infinite number of days already gone; the eternity of the world supposes, therefore an infinite capable of being augmented' (The Philosophy of St. Bonaventure, E. Gilson p.190). It is also evident that, if the world is eternal, it has passed through an infinite number of solar revolutions. But there are always twelve lunar revolutions to one solar '... so that the moon would have accomplished a number of revolutions in excess of the infinite [and] we end by supposing a number larger than the infinite, which is absurd' (ibid.).

It is now widely held that developments in modern mathematics have disposed of the alleged contradictions in
the concept of infinite number on which St. Bonaventure here relies. Infinite numbers are said to differ from finite numbers in two fundamental ways. Infinite numbers are 'non-inductive', whereas finite numbers are 'inductive'. The property of inductiveness Russell explains as being 'hereditary' in a series. That is, if a property is hereditary and belongs to 100 (e.g. the property of being greater than 99) it will belong to all finite numbers greater than 100. These properties of numbers, which are proved by a step-by-step process from one number to another, fail when we come to infinite numbers, since the first infinite number has no immediate predecessor, there being no greatest finite number. The property of non-inductiveness is held to dispose of Aristotle's objection to infinite number, and of St. Bonaventure's proof of the finitude of the world-series of past events, since the property of being increased by the addition of a finite number of units belongs to finite numbers only.

Infinite numbers are said also to be 'reflexive'. A class is said to be reflexive if it is 'equivalent' to one of its own proper sub-classes, that is, can be put in a one-to-one relationship with it. Thus, Leibniz's objection, that the contradictory nature of infinite number can be seen from the fact that the whole would be equal to the part, is dealt with by assimilating the property of reflexiveness into the concept of infinite number. The same property of reflexiveness may be invoked to deal with St. Bonaventure's objection that if the world has existed for an infinite time, there would be twelve lunar revolutions to every one of the infinite number of solar revolutions. In this case it would
be argued that the series are 'equivalent' and that both are infinite.

Whatever our views may be on the theory of transfinite numbers advocated by Russell it is very doubtful that it can be employed to refute the argument of the thesis of the antinomy. Kant himself specifically rejects the view that since every number can be increased no number can be infinite, as being dependent on 'a defective concept of the infinity of a given magnitude' (B458). He does not say that an infinite quantum is contradictory in that it implies infinite number but that 'the successive synthesis of units required for the enumeration of [such] a quantum can never be completed' (ibid.). On Russell's account of a non-inductive property, we begin the infinite numbers by postulating that the first such number has no predecessor. There is, accordingly, no way that we can count from finite to infinite numbers. 'And this is precisely what Kant is claiming when he says that you cannot start a series of finite numbers and generate an infinite series' (M.S. Gram, Monist, Vol. 51, p.514). Gram concludes that the theory of transfinite numbers cannot be used against the antinomy. I believe this is correct. It is not to infinite collections that Kant objects but to the generation of an infinite series by successive synthesis.

It may be true that we cannot count from finite to infinite numbers; and it may be true that an infinite collection cannot be generated 'by successive synthesis'. However, as Kemp Smith argues, 'if it be really correct to define the infinite as that which can never be completed, the conclusion to be drawn is that the temporal series is always
actually infinite, and that no point or event in it is nearer to or further from either its beginning or its end (Commentary, pp. 483ff).

Russell, in commenting on the antinomy, says Kant was wrong to assert that an infinite series can 'never' be completed by successive synthesis, since 'all he has ever conceivably a right to say is that it cannot be completed in a finite time. Thus what he really proves is, at most, that if the world had no beginning, it must have already existed for an infinite time' (Our Knowledge of the External World, p. 161).

Russell, then, implies that an infinite series could be generated in an infinite time. Here, however, we have a further objection to consider, an objection also raised by St. Bonaventure in his rejection of the possibility that past time should be infinite. 'The third property of the infinite which is irreconcilable with the eternity of the world is that the infinite cannot be bridged; now if the universe had no beginning, an infinite number of celestial revolutions must have taken place, and therefore the present day could not have been reached' (Gilson, op. cit.).

He argues that 'we must necessarily be able to fix a day infinitely anterior to [the present] or else we cannot fix any one; if no anterior day precedes the present day by an infinite duration then all the anterior days precede it by a finite duration and therefore the duration of the world had a beginning' (ibid.). The same argument has been advanced by G.J. Whitrow. He writes that 'if the chain of events forming the past of [a given event] E is infinite there must have occurred events that are separated from E by an infinite
number of intermediate events. For, if not, then any event in the past of E would be separated from E by only a finite number of intermediate events. This would mean that the set of past events would, like the set of future events, constitute only a potential infinity, whereas it must constitute an actual infinity' (The Voices of Time, J.T. Fraser ed. p.568).

These arguments hold, in effect, that the series of past events cannot be infinite because, in that case there would be events separated from the present by an infinite series of intermediate events and that series would have had to be completed or to be generated by successive synthesis in order for the present to have been reached. This does not rely on the proposition that there must have been an earliest event infinitely remote from us. It is here argued that within the series of past events there must have been, if the series be infinite, events separated from the present by an infinite series of intermediate events. So, on this argument, Kant is correct. The series of past events cannot be infinite because, in that case, there would have been events infinitely remote from us in the past; and, as Kant argues, 'the infinity of a series consists in the fact that it can never be completed through successive synthesis', that is, the present could never have been reached from an event infinitely remote in time. We cannot evade the conclusion by employing Russell's argument that an infinite series could be generated in an infinite time because, as Russell himself accepted, there is no way of counting from finite to infinite numbers.

Similar arguments have been used to show that the world
in space must be finite. Thus, P.M. Huby writes that 'any object in space, however far distant, is a finite distance only from every other object. But between any object and any other there can be only a finite number of objects, and therefore, however vast the total number of objects may be, in will still be finite' (Philosophy 1971, p.127). Bennett firmly rejects this line of argument. 'Granted that there are only finitely many bodies between any two bodies, there may be infinitely many bodies altogether; just as there are only finitely many natural numbers between any two natural numbers, even though there are infinitely many natural numbers altogether' (Kant's Dialectic p.131). The same objection can be urged in respect of St. Bonaventure's argument regarding the temporal series, on the grounds that there may be an infinite number of past events even though there is only a finite number between any two in the series.

The central point at issue then, is whether, on the premiss that past time is infinite, there must be events infinitely remote from us in time, and from which the present could never have been reached. In Bennett's argument, only a finite number of past events separates any given past event from the present although there may be an infinite number of past events altogether. This entails that every past event has a finite number of successors and yet, if the series be infinite, an infinite number of predecessors. If the series be infinite, then every event has predecessors; and, since every event has predecessors, there are predecessors that are common to every event and thus infinitely remote from the present. Since the set of past events can change only by
addition to its membership, it follows that members have belonged to the set for as long as the set itself has existed. If the set has existed for an infinite time then there are members that have belonged to it for an infinite time. These events, being infinitely remote from us in time, are events from which the present could not be reached because, as Kant argues, an infinite series cannot be generated by 'successive synthesis'.

The contradiction inherent in the notion of an infinite series of past events is that it entails the conclusion that some members of that series must always have been past. It will, I think, be readily allowed that every past event, if we except an absolutely first event, must have been successively future, present and past. An event that has always been past is simply an event that has never occurred and thus a contradiction in terms. In order to avoid the conclusion that this contradiction is entailed by the notion of an infinite past time, it might be claimed that an infinite series of annual events could be put into a one-to-one relationship with the infinite series of natural members. If this is so we could say that the number correlated with any such event represents the number of years by which that event is separated from the present. So, although there have always been past events, no individual event has always been past, because, given any event, we can, by referring to the number correlated with it, determine when it was present, and when it was future.

This objection fails. As we have already seen, for as long as there have been past events certain particular events have been past. If there have always been more than x past
events then there is a set of x events that has always been past. To make the matter clearer let us imagine an eternal hour-glass. From all eternity sand has been running from the upper to the lower globe. So, the lower globe has always contained grains of sand, indeed an infinite number. But for as long as it has contained grains it has contained certain individual grains. That is, the set of grains contained in the lower globe includes a sub-set that has always been there. We can see that this must be the case when we consider the case where all but a finite number of grains are removed from the lower globe. It would then contain fewer grains than it ever had contained and thus we would have removed grains that had always been there.

We can even regard the hour-glass in our example as representing the history of the world. The upper globe can represent the future whilst the lower globe represents the past. An event is represented by the falling of a grain of sand. Thus we see that there have always been past events, so some events have always been past, which is contrary to their definition. We do not, of course, need to regard the hour-glass example as a metaphor, since we have already seen that it can be used as an example of an actual infinite temporal process.

Before going on to discuss what follows from the rejection of the infinity of the world-series of events, we ought to pause to consider Kant's proof that this series cannot be finite - a proof that he provides in the interests of his transcendental idealism. Kant's argument here, in the antithesis, is a reductio ad absurdum of the thesis: 'Since the beginning is an existence which is preceded by a time in
which the thing is not, there must have been a preceding time in which the world was not, i.e., an empty time. Now, no coming to be of a thing is possible in an empty time, because no part of such a time possesses, as compared with any other, a distinguishing condition of existence rather than of non-existence' (B455). As Broad comments, Kant here 'tacitly assumes Leibniz's Principle of Sufficient Reason. Since there would be no sufficient reason why the world should not have begun at one rather than at another moment of time, it cannot have begun at any' (P.A.S., 1954/5, p.7).

The argument that Broad outlines here had in fact been used by Leibniz, in his correspondence with Clarke, against the Newtonian conception of absolute time. The argument, however, fails on a relational theory of time, as Leibniz showed. On the relational theory of time, 'tis manifest, that if any one should say that this same world, which has been actually created, might have been created sooner, without any other change; he would say nothing that is intelligible. For there is no mark or difference whereby it would be possible to know that this world was created sooner' (Leibniz/Clarke Correspondence L.V.55). Kant, when he came to write the Critique, believed that space and time were ideal. But he believed, nevertheless, that on realist presuppositions 'these two non-entities, empty space outside the world and empty time prior to it, have to be assumed if we are to assume a limit to the world in space and in time' (B461). Although Kant does not say why this is the case, he is presumably influenced by his belief that the apodeictic certainty of mathematics cannot be accounted for on the relational theory of space and time. He held also that the
puzzle of incongruent counterparts could be solved on the
theory of absolute space but not on any theory that treats
space as relational.

It is doubtful whether Kant's claim that the necessity
of mathematical propositions rules out the relational theory
of space and time can be sustained. In any case, if we
reject Kant's theory that space and time are forms of our
intuition we can hardly fall back on the absolute theory to
account for the apodeictic certainty of mathematics since we
shall thereby have failed to explain the a priori nature of
such knowledge. In fact, since Kant's day non-Euclidean
mathematics have been worked out and indeed the geometry of
space itself is said to be non-Euclidean. So, as Russell
expresses it, geometry appears as an empirical science 'in
which the axioms are inferred from measurements, and are
found to differ from Euclid's' (A History of Western
Philosophy p.743). This, as an empirical science, is
'synthetic but not a priori' (ibid.).

We can, I believe, accept the argument of the thesis and
reject that of the antithesis as invalid. Kant holds that
the argument of the thesis entails that the world must have
come into existence 'since the beginning is an existence
which is preceded by a time in which the thing is not'
(A427/B455). This is not the case, however, since we may
regard the beginning of the world as the beginning of change
and thus of time itself. What, then, are the consequences
for the cosmological proof? Once again, we have to reject
any appeal to the principle of sufficient reason, which we
have for the moment set to one side. The critic of the proof
will no doubt contend that an absolutely first event can only
have been an uncaused physical event with no theological implications. Thus Whitrow, acknowledging that on the relational theory the first moment of time may be defined as the first event that happened, gives as an example of such an event 'the spontaneous decay of an elementary particle in a static universe' (The Natural Philosophy of Time, p.33). If such possibilities are allowed, then it is very difficult to see how the argument to an absolutely first event could be used by the proponent of the cosmological argument.

It is, of course, possible to attack Whitrow's argument. One way in which this could be done is by showing that an original spontaneous event is dynamically impossible, or at least inconsistent with contemporary physics. If such an argument were provided then the proponent of the proof could challenge his opponent to account for the origin of change within the world without recourse to a theological explanation.

The occurrence of a first uncaused event would certainly have been ruled out by the mechanical theory of the world, in which the essential elements of the world are matter and motion neither of which can be created or destroyed by any physical process. According to the mechanical theory, matter, or the elementary units of mass, is absolutely inert and incapable of causing motion or any form of change in the world. All change, all diversity of matter, depends on motion. Thus, Descartes writes: 'All the properties we distinctly perceive to belong to [matter] are reducible to its capacity of being divided and moved according to its parts; and accordingly it is capable of all those affections which we perceive can arise from the motion of its parts'
(The Principles of Philosophy, Pt. II, XXIII). Similar views were held by Leibniz, Wolf and Huygens. The classical physicists of the nineteenth century still held this view. Thus, Helmholtz on one occasion remarked: 'The object of the natural sciences is to find the motions upon which all other changes are based and their corresponding motive forces - to resolve themselves, therefore, into mechanics' (Quoted by J.B. Stallo, Concepts of Modern Physics p.52).

One problem for the mechanical theory was the notion of gravitational force. Newton himself appeared to deviate from the strict mechanical view in his theory of gravitation, which in its original form seems to allow action at a distance rather than a mechanical action by impact. In fact, however, he came to regard action at a distance as a manifest absurdity, and, in the 'Opticks', he did tentatively sketch out a mechanical explanation of gravitation. Other such explanations were produced by the classical physicists, one notable example being that of Le Sage who suggested gravitational force was to be accounted for by the impact of streams of particles travelling at high velocity and in all directions, the particles being too minute to collide with each other.

Contemporary science has completely rejected the kind of mechanical models of the world suggested by classical physics. In the mechanical theory, 'motion, like mass, is indestructible and unchangeable; it cannot vanish and reappear. Any change in its rate results from its distribution among a greater or less number of units of mass. And, motion and mass being mutually inconvertible, nothing but motion can be the cause of motion. There is, therefore,
no potential energy; all energy is really kinetic' (Stallo, op.cit.p.95). In modern physics, by contrast, there is no absolute distinction between matter and energy. As Russell pointed out, if mass is only a form of energy 'there is no reason why matter should not be dissolved into other forms of energy' (Human Knowledge: Its Scope and Limits, p.309).

In classical physics, then, there could be no first uncaused physical event because no change can be initiated among the inert elements of mass. Motion can come only from other motion; and there is no potential or stored energy which could give rise to change in a static world, all energy being ultimately kinetic. Contemporary physics, on the other hand, regards mass as a form of energy that may be released to initiate change. That there should be an absolutely first event or a 'beginning' of the world does not, then, imply that this event was caused or produced by the act of will or a supernatural agent. In Whitrow's example, the first event, if such there be, could be the spontaneous decay of an elementary particle.

There is, then, no insuperable difficulty for the modern physicist in the notion of an absolutely first event causing the breakdown of an equilibrium. Whether there could be an initial equilibrium in which there was absolutely no change, and therefore no time, is another matter. As S.E. Toulmin remarks, 'physicists today ... consider matter essentially active rather than passive' (Encyclopaedia of Philosophy, Vol. 5, p.217). E. Whittaker, in Space and Spirit, refers to the contemporary 'kinetic theory of matter'. If the elementary particles of matter be conceived as units of activity in constant relative motion then it seems reasonable
to assert that a world composed of such elements would be a
world subject to temporal passage even if, at the macroscopic
level, there were a changeless equilibrium. The possibility
of an initial state of the world in which absolutely no
change occurred is, then, a highly problematic one.

Physicists have constructed cosmological models in which
an initial super-dense state of matter is posited to account
for the expansion of the known universe. While this may
appear to lend empirical support to the view that there was a
beginning to the cosmical series of events, the speculations
regarding the nature of such a super-dense state of matter
leave considerable doubts as to whether it could be regarded
as an absolute beginning. G. Gamow, for example, points out
that in this state matter would be subjected to extremely
high temperatures, atoms and their nuclei being broken up
into the elementary particles of which they are composed.
Gamow himself feels that the super-dense state of matter if
most likely to have been the result of a collapse that took
place at an earlier era (v. The Creation of the Universe,
pp.28ff). If this leads us ultimately to the notion of a
cyclical history of the world, in which there are successive
contractions and expansions of matter, then it implies the
infinity of the world series of events, the possibility of
which we have rejected.

According to H. Bondi, if the question of the beginning
of the world is a proper one for physics at all then the
physicist must view the initial state of the universe as
having been 'a particularly simple state, the simplest, most
harmonious and most permanent we can imagine. It contained
within itself, though, the seeds of growth and evolution which
at some indefinite moment started off a chain of complicated processes which have by now changed this to our present universe' (Cosmology, p.9). The most satisfactory way of conceiving such an initial state of the universe is as an equilibrium of forces. J. McMurray has tried to rule out the possibility of such an initial changeless state. Thus, he writes: 'It might be [held] that such a world without change might ... be a world of energy, conceived as an equilibrium of forces, yielding as its result a whole that merely endured. But in that case all the forces present would exhaust themselves in maintaining equilibrium, and the whole would be without energy. Such an equilibrium of forces would provide no principle of persistence. If, on the other hand, the whole has an energy which is not merely the energy of its parts, then the energy of the whole is free energy and must therefore be effective energy, i.e., it must produce change' (P.A.S. Supp., Vol. 8, p.147f). If McMurray's thesis could be proved, then it would be open to the proponent of the cosmological proof to argue that we must look to a supernatural cause to account for a beginning of change in the world: for an initially changeless world would be one without energy. There are, however, difficulties in McMurray's argument. While it is true that free energy, i.e., energy surplus to that required to maintain equilibrium, would prevent the forming of an equilibrium, modern physics provides no grounds for his assertion that the forces involved in maintaining an equilibrium would exhaust themselves. It is, perhaps, worth noting that if energy were gradually exhausted in maintaining an equilibrium then the system as a whole would not be changeless. Further, if such
a system were eternal an infinite quantity of energy would have already been exhausted in maintaining equilibrium.

Even if, however, we accept that there are no insuperable difficulties in physics in the notion of an initial changeless equilibrium there remains the problem of accounting for its existence. The equilibrium itself must have been unstable. In a stable equilibrium the system is so constituted that any move to disequilibrium is counteracted, as when a ball situated at the bottom of a steep sided vessel and moved up the side of the vessel returns to its original position. In an unstable equilibrium, on the other hand, any change to disequilibrium is irreversible within the system, as when a hanging weight is dislodged from its support. The idea the universe originally constituted a vast unstable equilibrium is a difficult one to accept. But there are yet more formidable difficulties to consider.

Kenny has revived the scholastic's refutation of the thesis that causation implies temporal priority. It is claimed that an eternal foot could cause an everlasting print in everlasting sand. This seems fundamentally mistaken. To cause the print the foot would need to displace the grains of sand. If the disposition of the grains has from all eternity been such and such then it has not been caused, in any intelligible sense, by the presence of the foot. The foot might be regarded as maintaining the position of certain of the grains in that they would fall into the resultant depression were the foot removed; but this would not mean the depression itself was caused by the foot.

The same considerations arise with regard to an equilibrium of forces, such as may be held to have
constituted the initial state of the world. We can imagine such a cosmical equilibrium where, for example, disruptive forces are balanced by gravitational forces. There is a tendency to regard such an equilibrium as perfectly natural since the one set of forces tends to disperse, the other to concentrate, the matter involved, equilibrium being reached when the masses are at certain critical distances from one another. Such a stable system, however, is explicable only where the forces involved have already operated on the masses thus producing the equilibrium. An original equilibrium in which all the forces present are perfectly balanced cannot have been produced by these forces, since their operation cannot have been temporally prior to the equilibrium itself. The stable initial state that appears to be implied by those physical theories of the evolution of the universe that hold that the universe had a beginning in time cannot, then, be accounted for by physical laws. It is thus open to the proponent of the cosmological proof to argue that either there was no initial equilibrium, matter having been created by God, or that the equilibrium was produced by God, whose causality is not in time.

It is, perhaps, worthwhile pointing out that any theory that held matter was both eternal and essentially atomic would be open to the same kind of objections as we have urged against an original equilibrium. The objection to the theory that matter has always existed as discrete fundamental particles that are identical in form is independent of the proof of the temporal finitude of the world. It is, however, a causal argument since it demands that a causal explanation of this identity of form should be provided. The most
convincing way to account for such an identity of form would, no doubt, be in terms of the operation of physical processes on some kind of prime matter. Natural causality, however, is ruled out because *ex hypothesi* there was no time prior to the existence of the fundamental particles during which natural causes could have operated.

This argument is, of course, effective only against the theory that matter is essentially atomic. Recent cosmology tends to reject the view that the fundamental particles of matter have always existed although it has yet been unable to give any account of the state of matter from which such particles have derived. Whatever the initial state of matter, it must, on a purely physical account, have been quite different from its present state, which involves change at every level. The initial state of the world, on such an account, can only have been an uncaused equilibrium disturbed by some uncaused event. It is here that the rationalist theologian will concentrate his attack.

Thus, in spite of Whitrow's argument that a spontaneous physical origin of change in the world is possible, the proposition that the world had a beginning in time does have implications for the cosmological proof. The most favoured current cosmological model is that in which the evolution of the universe is traced back to an explosion of the original 'cosmic atom' or dense accumulation of matter. Here, however, the physicists are somewhat at a loss. Bondi talks of the 'beginning' being 'a singular point on the border of the realm of physical science. Any question which refers to antecedents of the beginning or its nature can no longer be answered by physics, and is not a proper question for it'
(op. cit. p. 9). Whitrow writes that 'despite the powerful tools supplied to him by modern physics, the theoretical cosmologist unlike most of his scientific colleagues cannot easily cast off the shackles of metaphysics' (The Structure and Evolution of the Universe, p. 195). The question for the proponent of the cosmological argument, however, is how he is to make use of the conclusion that the world had a beginning in time and how he can exploit the difficulties in which the physicist finds himself when confronted by the notion of an absolute beginning. This brings us to a general consideration of the second stage of the proof.
We must now consider what is in effect Kant's principal criticism of the cosmological argument, his criticism of the second stage of the proof, which seeks to identify the necessary being of the first stage with God. How is this identification to be made? Kant believes that reason, in searching for a concept adequate to necessary being, must have recourse to the ontological proof from pure concepts. The cosmological proof does involve an appeal to experience, the minimal experience that something exists. 'But [it] uses this experience only for a single step in the argument, namely to conclude the existence of a necessary being. What properties this being may have, the empirical premiss cannot tell us. Reason therefore abandons experience altogether, and endeavours to discover from mere concepts what properties an absolutely necessary being must have, that is, which among all possible things contains in itself the conditions essential to absolute necessity. Now these, it is supposed, are nowhere to be found save in the concept of an _ens realissimum_; and the conclusion is therefore drawn, that the _ens realissimum_ is the absolutely necessary being. But it is evident that we are here presupposing that the concept of the highest reality is completely adequate to the concept of absolute necessity of existence; that is, that the latter can be inferred from the former. Now this is the proposition maintained by the ontological proof' (A607/B635).

As we have already seen, not all proponents of the proof have held the second stage to be essential to it. There is,
for example, no second stage in Aquinas' version of the proof. For Spinoza, who maintained that there is no absolute distinction between God and the world, the proof of God's existence is grounded on the definition of substance as that which exists necessarily. There is thus no question of a second stage of the proof in Spinoza's account. From a philosopher like Leibniz, however, who argued that 'the sufficient reason of the existence of the universe cannot be found in the sequence of contingent things' we can demand an argument to establish that the necessary being on whom the world is said to depend is to be identified with God. In fact Leibniz does supply such an argument, although it is very different from the ontological proof that Kant suggests is essentially involved here.

The Leibnizian second stage uses the scholastic doctrine that a cause must have at least as much reality or perfection as its effect. In fact, Leibniz states that the cause or ground of the world must have all the perfections found in the world in a supreme degree. 'This primary simple substance must include eminently the perfections contained in the derivative substances which are its effects. Thus it will have power, knowledge and will in perfection, that is to say, it will have supreme omnipotence, omniscience and goodness' (Principles of Nature and of Grace 9). At this point, then, Leibniz goes beyond the bare fact that something exists in order to establish his conclusion; but his inference may still be held to be 'cosmological', in that he is here concerned to account for certain general features of the world rather than to raise teleological considerations. It is, however, doubtful, even if we accept the principle
that a cause must contain at least as much reality as its effect, that it would license Leibniz's inference to a being omnipotent, omniscient and supremely good, since all that would seem to be justified is the conclusion that, given that power, wisdom and goodness exist in the world, whatever produced the world must have these perfections or attributes to at least the same degree as in fact is manifested in the world.

It is quite likely that Leibniz regards the principle that a cause must have at least as much reality as the effect as a special application of the principle of sufficient reason. He might argue that, in completing the first stage of the proof, he has demonstrated not only the existence of a necessary being, having within itself the sufficient reason for its existence, but also the existence of a necessary being that is the sufficient reason for the existence of the contingent things of the world. For the first stage of the proof starts from the premiss that the contingent world requires to be grounded in necessary being. Thus, the necessary being must be the ground of all the perfections found in the contingent world. In this way the second stage of the proof might be based, like the first, on the principle of sufficient reason.

It is perhaps time to look at Leibniz's 'great principle', to which he so often appeals in his metaphysics. It is the principle 'in virtue of which we hold that there can be no fact real or existing, no statement true, unless there be a sufficient reason, why it should be so and not otherwise' (Monadology 32). While Leibniz was the first to formulate the principle it was implicit in the work of his
rationalist predecessors. It is fundamental in his system, in which, he says, it supplements the principle of contradiction. The principle of contradiction guarantees truths of reason, the principle of sufficient reason guarantees truths of fact.

Leibniz attaches great importance to the principle of sufficient reason in his statement of the cosmological argument. However, there appears to be a problem involved in the application of that principle to any theistic proof. Leibniz relies upon it to prove the first stage of the cosmological argument: 'the sufficient reason [of the existence of the world] must needs be outside of [the] sequence of contingent things and must be in a substance which is the cause of this sequence, or which is a necessary being, bearing in itself the reason of its own existence, otherwise we should not yet have a sufficient reason with which we would stop' (Principles of Nature and of Grace 8). We should observe, however, that the principle itself, unlike that of contradiction, is not a necessary truth. Whereas the principle of contradiction applies to all possible worlds, that of sufficient reason applies only to the actual world, because God actualises the best of all possible worlds, all other worlds containing some gratuitous imperfections. His creation of this world is guaranteed only by his goodness, which brings about the best of all possible worlds. 'God makes this choice because being omnipotent, His choice is unlimited, He may create any possible world; being omniscient, He contains all possible worlds in His understanding and perceives that which is the best; and, being perfect in goodness of will, He chooses the best.' Thus
the Divine Nature is ultimately the sufficient reason of all particular things, since it is the ground both of the essence and of the existence of the actual universe' (Latta, op.cit.p.66).

If the principle of sufficient reason is not a necessary truth it is difficult to see with what justification Leibniz can appeal to it in order to establish the first part of the proof. Kant, in a letter to Eberhard, remarked that Leibniz's distinction between the truths guaranteed by the principle of contradiction and the truths guaranteed by the principle of sufficient reason was equivalent to his own distinction between analytic and synthetic judgements (v. Latta, op.cit.pp.208f). We thus have, in Leibniz's argument, an attempt to derive a necessary conclusion from a premiss that is essentially synthetic. It would appear possible that God could have created a world in which the principle of sufficient reason would have been false. In order to know that the principle can be universally applied, we need to know that the world is dependent, not merely on necessary being, but on a perfect, omnipotent and omniscient being. If this is so, then we may be led to suppose that there is some justification in Kant's criticism that the cosmological proof, in its second stage, has to fall back on the ontological proof. Leibniz himself seems to base the second stage of his proof on the principle that a cause must have at least as much reality or perfection as the effect, this principle being an application of the principle of sufficient reason. The difficulty here is that he ought not to hold God's goodness to be the ultimate ground for the principle of sufficient reason when that principle is used to demonstrate
the existence of God.

It would seem that the principle is justified on different grounds in different circumstances. How it may be justified prior to any proof of the existence of a perfectly good creator is a difficult question. The principle should perhaps be regarded as an expression of the rationalist's faith in the ultimate intelligibility of the world rather than as a self-evident truth. Kant notes that 'all attempts to prove the principle of sufficient reason have, by the universal admission of those concerned, been fruitless; and it was considered better, since that principle could not be surrendered, boldly to appeal to the common sense of mankind — an expedient which always is a sign that the cause of reason is in desperate straits — rather than to attempt new dogmatic proofs' (A783/B811f).

There are reasons to suppose that Kant believed the principle to be not merely of doubtful status but also fundamentally ambiguous. According to Al Azm the ambiguities in the principle of sufficient reason underlie the antinomies, which, he believes, Kant derived from the controversy between Leibniz and Samuel Clarke (v. The Origins of Kant's Arguments in the Antinomies). It is true that one source of disagreement between the two men was their differing interpretations of the principle of sufficient reason, a principle both claimed to accept. Leibniz, who interpreted the principle strictly and as determining even God's will, wrote that it was wrong to say, as Clarke did, 'that God created things in what particular [absolute] space, and at what particular [absolute] time he pleased. For, all time and all spaces being in themselves
perfectly uniform and indiscernible from each other, one of them cannot please more than the other" (Leibniz/Clarke Correspondence, L.V.60). Clarke replied that the principle 'is of an equivocal signification; and may either be so understood as to mean necessity only, or so as to include likewise will and choice. That in general there is a sufficient reason why everything is, which is; is undoubtedly true and agreed on all hands. But the question is, whether, in some cases, when it be highly reasonable to act, yet different possible ways of acting may not possibly be equally reasonable; and whether, in such cases, the bare will of God be not itself a sufficient reason for acting in this or the other particular manner' (op.cit., C.V. 124/130).

It is possible, then, as Al Azm suggests, that the ambiguities in the principle of sufficient reason, as employed by the metaphysicians, led Kant to the view that in rational cosmology reason was bound to become involved in contradictions. We have already seen the importance of the principle for the first antinomy. The arguments of the thesis seek to establish Clarke's Newtonian view that the world is limited in time and space. In the antithesis, by contrast, this possibility is ruled out, on the strict Leibnizian interpretation of the principle of sufficient reason. Walsh, who is sympathetic to the view that the principle underlies the antinomies, suggests that it is self-defeating because '[it] can be seen as at once demanding and precluding that there be in the universe some fact, event or existent which is ultimate and self-explanatory. It demands such an item because it claims that whatever exists or occurs has a sufficient reason; the implication here is that the
chain of reasons can be brought to an end. But at the same time it precludes it, since it also insists that there must be some further reason for whatever is put forward as sufficient' (Kant's Criticism of Metaphysics p.204).

There is certainly evidence that some such ambiguity as Walsh outlines lies behind the Leibniz/Clarke controversy. We have already noted Clarke's remark that the principle is of "equivocal signification". Clarke held that God could have created the world in any part of absolute space and at any moment of absolute time. Leibniz held that God could not have created the world at all in absolute time and space as there would have been no sufficient reason to incline his will. Clarke claims to accept the principle of sufficient reason, but, as Leibniz points out, 'he adds that this sufficient reason is often the simple or mere will of God: as, when it is asked why matter was not placed otherwise in space; the same situations of bodies among themselves being preserved. But this is plainly maintaining, that God wills something, without any sufficient reason for his will: against the axiom, or general rule of whatever happens. This is falling back into the loose indifference, which I have confuted at large and showed to be ... contrary to the wisdom of God, as if he could operate without acting by reason' (The Leibniz/Clarke Correspondence L III 7).

The principle of sufficient reason, then, does underlie much of the controversy between Leibniz and Clarke. It does not, however, lie at the root of the antinomies. The antithesis of the First Antinomy is indeed based on the strict, Leibnizian, version of the principle. The thesis, however, is based on the principle of contradiction. It is
curious that the arguments of the Antinomy, which are supposed to be logically compelling, rest on principles of different logical status. The principle of sufficient reason is synthetic, and, in Kant's view, false. It is thus difficult to see how the Antinomy can be used to discredit metaphysics unless the principle is regarded as essential to all metaphysical thought. It is much more difficult to see how the so-called "indirect proof" to establish the ideality of space and time can succeed.

For Leibniz the principle of sufficient reason was fundamental. It enabled him to argue that the world must be grounded in necessary being, and thus to complete the first stage of the proof. As we have seen, the principle may also be appealed to in the second stage, where the proponent of the proof will insist that the first stage establishes not merely the existence of a necessary being but the existence of a being sufficient to account for the existence of the contingent world in all its aspects. If, however, the principle is rejected, then the proponent of the proof must look elsewhere for the materials to construct it in both its stages. We have already reviewed ways in which this can be done to complete the first stage of the proof and must now consider how it can be done in respect of the second stage.

Kant's own account of the second stage, as we have seen, is that it is a version of the ontological proof. Reason, he says, at this stage in the proof 'abandons experience altogether, and endeavours to discover from concepts what properties an absolutely necessary being must have, that is, which among all possible things contains in itself the conditions essential to absolute necessity. Now these, it is
supposed, are nowhere to be found save in the concept of an *ens realissimum*; and the conclusion is therefore drawn, that the *ens realissimum* is the absolutely necessary being' (A606/B634f). It is this appeal to the ontological proof that, for Kant, makes the first stage of the cosmological proof superfluous. However, apart from the reasons we have discovered for doubting Kant's claim here, there seems to be no reason why the proponent of the proof should not appeal at this stage, not to the ontological proof, but to the proof from possibility.

Kant himself, of course, refers to the proof from possibility as the ontological proof. This is misleading because, as we have seen, the proof from possibility does require a 'cosmological inference', i.e., an inference from the existence of the actual to the existence of a ground for all possibility, since what is actual is *a fortiori* possible. The proof from possibility is well suited to provide the second stage of the proof. Once we establish the existence of the actual yet contingent world we may, with Leibniz, hold that this is one of a number (in Leibniz's view, an infinite number) of possible worlds. The ground of these possibilities must then be sought in the necessary being whose existence is regarded as having been established by the first part of the proof, and which is regarded as the ground of the existence of the actual world. As the ground of all possibilities the necessary being is identified with God as the *ens realissimum*.

One problem for the proponent of the cosmological proof is that his first stage may be allowed and yet any theological implications denied on the grounds that some
'non-classical' version of the proof may be provided. Thus, Kant says, once we introduce the concept of necessary being, we are entirely free to hold that any limited beings whatsoever, notwithstanding their being limited, may also be unconditionally necessary, although we cannot infer their necessity from the universal concepts which we have of them' (A588/B616). Hume, too, cautions the theist against introducing the idea of necessity into debates about the existence of God, because we may then hold that necessity, not divine providence, is responsible for ordering the world. This point is made by Philo in the Dialogues, where he suggests that 'instead of admiring the order of natural beings, may it not happen that, could we penetrate into the intimate nature of bodies, we should clearly see why it was absolutely impossible they could ever admit of any other dispositions?' (op. cit. Part IX).

In answer to Kant here we may point out the difficulties in comprehending how independent particulars could be necessary beings. Relations would presumably subsist between them, those relations themselves being necessary and external to the individuals but internal to the whole system, which would thus take on the monistic aspect of Spinozism. Further, if any finite individual be necessary then it would appear that the pattern of necessity that it incorporates must be repeated in an infinite number of other individuals. If there were a finite number only of such individuals then there must be some principle external to the individuals that accounts for this limitation. On this account, the individuals could not be regarded as absolutely necessary. The only way out of the difficulty would be to regard the
system as a whole as infinite, as Spinoza does (v. Ethics, Props. VII and VIII). Against this, however, we have already argued that there are reasons to suppose the world to be finite in space and time.

It seems doubtful that any 'non-'classical' cosmological proof could be sustained. Nevertheless, critics of the proof are often quick to point out that the first stage of the proof falls short of providing grounds for asserting the existence of God. It is, however, open to the proponent of the proof to rely on more than one argument or on more than one version of the first stage of the proof. The various attempts to provide a first stage may be seen not as separate arguments, whose implications must be followed through without reference to one another, but as a group to which reference is made in the second stage of the proof. His refusal to regard the various versions of the first stage as a group allows the critic of the proof to make the most of the difficulties involved in making the move to the second stage of the proof.

The proponent of the proof, then, is not restricted to the simple premiss that something exists when he comes to construct his argument. He can, of course, use this premiss and conclude from it that something necessary exists. He may also, as Kant suggests in the Lectures on Philosophical Theology, use observed facts about the world to conclude that the necessary being is distinct from the world; and these arguments may be strengthened by reference to the refutation, outlined above, of the thesis that the world itself, or the particulars that compose it, may exist necessarily.

Keeping before him the proof that the world is dependent
upon necessary being, the proponent of the proof may go on to argue that the world must have had a beginning in time, and that there must have been a unique uncaused event that at least initiated change within the world even if it were not a creation of the world. It is open to him to argue that such an uncaused event cannot have been a physical event and must be the free act of an agent, as Kant argues in the thesis of the third antinomy. To the objection that his premisses do not justify his identification of this agent with the necessary being, he may reasonably reply that what he proposes is the best hypothesis.

The argument from causality, or the argument that there is no completeness in the conditions regarding the transmission of properties, is more dubious in view of the evolutionary account that may be given of the origin of such properties. However, while relinquishing this argument, the proponent of the proof may well turn to teleology. Kant argues that the physico-theological proof depends on the cosmological argument. 'The physico-theological argument can indeed lead us to the point of admiring the greatness, wisdom, power, etc., of the Author of the world, but can take us no further. Accordingly, we can abandon the argument from empirical grounds of proof, and fall back upon the contingency which, in the first steps of the argument, we had inferred from the order and purposiveness of the world. With this contingency as our sole premiss, we then advance by means of transcendental concepts alone, to the existence of an absolute necessity of the first cause to the completely determinate or determinable concept of that necessary being, namely, to the concept of an all-embracing reality. Thus the
physico-theological proof, failing in its undertaking, has in the face of this difficulty suddenly fallen back upon the cosmological proof' (A629/B657).

Kant's view appears to be that the physico-theological proof is limited, and these limitations lead the rational theologian to the cosmological proof. The 'order and purposiveness' of the world are themselves sufficient grounds, in his view, for asserting the contingency of the world. We require, however, the cosmological proof to move from the contingency of the world to the necessary being that is its ground. Kant, of course, rejects the cosmological proof as invalid. However, if Kant rejects the physico-theological proof because it depends on the cosmological proof, there appears no reason why the proponent of the cosmological proof, who is satisfied as to its validity, should not appeal to the physico-theological proof in the second stage of his argument. Kant, in fact, makes it appear that the cosmological proof as a whole is necessary to the physico-theological proof. We move, he says, from order and purposiveness to contingency; then from contingency to necessary being; and finally 'from the concept of the absolute necessity of the first cause to the completely determinate or determinable concept of that necessary being, namely, to the concept of an all embracing reality'. There seems, however, no reason why, if the two proofs are as closely related as Kant suggests, the physico-theological proof should not itself help to prove the materials for the second stage of the proof. If, from order and purposiveness, we may infer contingency, from which in turn we may infer necessary being, then that necessary being may be regarded as
the cause and source, not only of the contingent world, but of the order and purposiveness that it displays. While this may fall short of a proof of the omnipotence and omniscience of the necessary being, it does serve to endow it in some degree with the divine attributes, which the first stage proper of the proof Kant regards as impotent to do.

At this point it may be instructive to consider what is probably the most comprehensive attempt to provide a second stage for the cosmological proof. This argument, which occurs in Samuel Clarke's, A Demonstration of the Being and Attributes of God proves to have the diversity of approach that we have advocated. Clarke, in the second stage of his proof, set out to demonstrate that the necessary being, whose existence he claimed to have proved in the first part of the argument, had the essential attributes of God. These include eternity, infinity, omniscience, omnipotence and infinite goodness, characteristics whose existence Kant said could be established only by the moral proof.

Of the attributes regarded as essential to our concept of God, eternity seems most clearly to characterise the necessary being of the first part of the proof. A necessarily existing thing must be eternal. Thus Clarke says that 'that being, therefore, which has no other cause of its existence but the absolute necessity of its own nature, must of necessity have existed from everlasting, without beginning, and must of necessity exist to everlasting without end' (op.cit.p.42).

Clarke holds that the infinity of the necessary being can also be inferred from its necessity. 'To be self-existent ... is to exist by an absolute necessity in the
nature of the thing itself. Now this necessity being absolute in itself, and not depending on any outward cause, it is evident that it must be everywhere, as well as always, unalterably the same. For a necessity which is not everywhere the same, is plainly a consequential necessity only, depending upon some external cause, and not an absolute one in its nature ... Whatever, therefore exists by an absolute necessity in its own nature must needs be infinite as well as eternal' (op.cit.p.44).

This concept of spatial infinity is not adequate to the theistic concept of the infinity of God, according to which God is everywhere fully present. On this point Clarke gets into difficulties and acknowledges that 'the particular manner of his being infinite and everywhere present, in opposition to the manner of created things being present in such or such finite places; this is as impossible for our finite understandings, to comprehend or explain as it is for us to form an adequate idea of infinity' (op.cit.p.46).

The spatial infinity of the necessary being does follow 'given Clarke's assumption that if a being exists it exists somewhere or everywhere' (Rowe The Cosmological Proof p.233). We could, as Rowe says, question Clarke's assumption that everything exists in space and time. However, the question then is: how do we account for God's omnipresence with respect to those things that are spatial? Kant avoided these puzzles by his doctrine of the ideality of time and space. He objects to our making time and space 'conditions of all existence in general [since then] they must be conditions of the existence of God' (B71). Rather than resort to idealism we could interpret God's omnipresence with respect to finite
spatial things in terms of their being objects of his infinite knowledge and subject to his infinite power.

When Clarke sets out to prove that the necessary being is omniscient, he abandons the a priori analytic method that he has used hitherto. So far, he believes that he has established that there is one necessarily existing and infinite being. He now argues that 'the self-existing being, whatever that be supposed to be, must of necessity (being the original of all things) contain in itself the sum and highest degree of all the perfections of all things. Now because that which is self-existent must therefore have all possible perfections (for this, though most certainly true in itself, yet cannot be so easily demonstrated a priori). But because it is impossible that any effect should have any perfection which was not in the cause. For if it had, then that perfection would be caused by nothing; which is a plain contradiction' (op. cit. pp. 51-2).

This argument depends on a distinction between perfections, or positive features of the world, and imperfections, which are merely negations. God, as the source of all positive features of the world, has all perfections in a supreme degree. Intelligence is manifested in the world. It is a perfection. Therefore God possesses intelligence in a supreme degree.

The argument is open to question. It is no longer regarded as self-evident that a cause must contain all the positive features or 'perfections' that are produced in the effect. In particular, mind is often said to be the result of the fortuitous organisation of material parts. It is also dubious whether we could dismiss all features that cannot be
sensibly said to characterise God as 'negative'. Clarke classes figure and motion as imperfections or negations. They certainly could not exist unless the particulars that possessed them were finite and limited; but, in themselves, figure and motion cannot be regarded simply as negations.

It might have been better for Clarke, if he is going to argue a posteriori, to appeal, as we have already suggested, to teleology. We have seen that this does not lead us to the concept of an omniscient being, but neither does Clarke's argument. Clarke, in fact, argues that 'the supreme being because he is infinite must be everywhere present. And because he is an infinite mind or intelligence, therefore wherever he is, his knowledge is, which is inseparable from his being, and must therefore be infinite likewise' (op. cit. p. 109). As Rowe says, 'all that follows is that whatever degree of wisdom the self-existing being has is everywhere present' (op. cit. p. 248).

When it comes to the question of power, Clarke is on firmer ground. The necessary being of the cosmological proof, unlike that of the ontological argument, cannot be other than the source of the world. It is from the existence of the world that the existence of the necessary being is inferred. The self-existing or necessary being must have power, since it produced the world. Clarke argues that the self-existing being must be, not merely powerful, but omnipotent, since 'all the powers of all things are derived from him, and must therefore be perfectly subject and subordinate to him [so] nothing can make any difficulty or resistance to the execution of his will, but he must of necessity have absolute power to do everything he pleases,
with the perfectest ease, and in the perfectest manner, at once and in a moment, whenever he wills it' (op. cit. p. 73).

All that this argument really proves is that the necessary or self-existent being has power that is unlimited by anything outside it. It does not prove that the power of the necessary being is absolutely unlimited, since it may be limited in itself.

Clarke's argument, like the argument we suggested above, departs from the analytic method to which Kant assumes the proponent of the cosmological proof ought to adhere. There is, however, no reason, apart from that supplied by the interests of classification, why the theistic proofs should be regarded as totally separate. If, for example, we can infer the existence of a necessarily existing source of the world by employing the cosmological proof and the existence of a cosmic designer by employing the teleological proof, then it seems reasonable to identify the necessary being with the cosmic designer even though no formal demonstration of their identity can be given.

Even if we are restricted to the cosmological proof proper, given that the first stage of the proof is valid, we can still infer that the necessary being is eternal, powerful and distinct from the world. It is true, however, that to progress beyond this to a more satisfying or complete demonstration of the existence of God we require to go beyond the cosmological proof itself.

Whatever may be said against Kant's disproof of the cosmological argument, it remains true that he has attacked it at its weakest point. There may indeed be valid proofs of the existence of a necessary being or of a first cause. But
the problem of how such a necessary being or first cause may be identified with God is one that tends to direct the argument away from the fundamental simplicity of the cosmological argument proper and to raise other considerations bearing on the nature of the world, of teleology or even of scientific cosmology.
Kant's criticism of the cosmological proof has proved very influential but is, I believe, inconclusive. To reject his argument here, however, is not to answer the whole of his case against the proof; for, in his view, metaphysics is a pseudo-science and cannot yield knowledge. Any attempt to attain knowledge of super-sensible reality or of things as they are in themselves is bound to fail. If this be so then it may be argued that there is no need for detailed criticism of the argument, for the whole metaphysical enterprise is misguided. Wood has suggested that a criticism of the ontological proof founded straightforwardly on Kant's epistemology 'would have been far more compelling than the famous but badly under-argued one actually presented in the Critique' (op.cit.p.123). If this be true of the ontological proof it may also be true of the cosmological proof. This suggestion we shall now examine.

In the Critique, Kant seeks to prove that all necessary knowledge is necessary only relative to our cognition. The necessary propositions of mathematics are said to be connected with the fact that space and time are the forms of our sensuous intuition, through which objects are given to us. We can thus have a priori knowledge of the form of experience in that, for example, extended objects must conform to the Euclidean space in terms of which they are given to us. Our non-mathematical necessary knowledge relates to the formal principles or categories under which the 'sensuous manifold' is reduced to order by the understanding. Thus all appearances, because they have to
conform to the formal conditions of space and time in which they are intuited, must have 'extensive magnitude' and 'intensive magnitude' or degree. The metaphysical doctrines of the permanance of substance and of universal causality are transmuted by Kant into principles necessary for our apprehension of a single time-stream and thus for experience itself. None of these principles relates to things as they are in themselves but rather to the conditions necessary for our experience of objects.

Having surveyed the extent of our necessary knowledge, Kant turns, in the Postulates of Empirical Thought, to consider the categories of modality themselves: the possible, the actual and the necessary. '(1) That which agrees with the formal conditions of experience, that is, with conditions of intuition and of concepts, is possible. (2) That which is bound up with the material conditions of experience, that is, with sensation, is actual. (3) That which in its connection with the actual is determined in accordance with universal conditions of experience is [that is, exists as] necessary' (A218/B265f).

Here, Kant makes it explicit that the categories of modality concern, not possibility, actuality or necessity in any absolute sense, but only what is possible, actual or necessary relative to our cognition. Thus, he says that 'the principles of modality are nothing but explanations of the concepts of possibility, actuality, and necessity, in their empirical employment; at the same time they restrict all categories to their merely empirical employment, and do not approve or allow their transcendental employment. For if they are not to have a purely logical significance,
analytically expressing the form of thought, but are to refer to the possibility, actuality, or necessity of things, they must concern possible experience and its synthetic unity, in which alone objects of knowledge can be given' (F219/B266f).

On this account, the categories of modality can have only empirical employment and can apply only to objects of the senses or phenomena. So there is simply no place in Kant's scheme for the concept of necessary being. As Walsh says, in commenting on the Postulates, 'the old metaphysical concept of necessity has here all but disappeared' (op. cit. p. 153). It is not, however, only necessity with which Kant is here concerned. We can have no concept of possibility either, other than that which is provided by the formal conditions of experience. So the possible, no less than the necessary, belongs only to the phenomenal world.

Kant holds that the concept of possibility 'in its empirical employment' includes analytically all the conditions included in the Aesthetic and Analytic as necessary for our experience of things. The concept of actuality in its empirical employment he holds to be 'bound up with the material conditions of experience, that is with sensation'. It is, however, wrong to suggest, as Kant does, that these concepts admit of empirical employment only. On Kant's account, we know that there are noumena. These must be actual and thus a fortiori possible. We may not indeed know in what their possibility consists. But it is not necessary to know the conditions that must be satisfied for this possibility to exist before we can hold that possibility and actuality characterise noumenal reality.

It appears, then, that even on Kant's own premisses our
concepts of possibility and actuality cannot be restricted to the experienced world. Can the same be said of necessity? Kant argues that 'necessity concerns only the relations of appearances in conformity with the dynamical law of causality and the possibility grounded upon it of inferring a priori from a given existence (a cause) to another existence (the effect)' (A227/B280). Thus, all necessity is hypothetical and we can 'know the necessity only of those effects in nature the causes of which are given to us, and the character of necessity in existence extends no further than the field of possible experience, and even in this field is not applicable to the existence of things as substances' (ibid.).

Thus, while Kant at least allows that possibility and actuality characterise things in the experienced or phenomenal world, this is not so with regard to necessity. In the phenomenal world, necessity of existence is merely hypothetical. Given that one thing exists, another may be inferred as a necessary consequence. But it is absolute necessity of existence which the proponent of the cosmological proof requires.

If necessity of existence has no place even in the phenomenal world, with what justification can it be imported into reality or the noumenal world? If we do not derive the concept from experience it must presumably derive from our faculty of reason. 'The concept of necessity is only to be found in our reason, as a formal condition of thought; it does not allow of being hypostatised as a material condition of existence' (A620/B648). However, Kant believes that we do come to regard it as a 'material condition of existence', because reason 'directs us to look upon all connection in the
world as if it originated from an all-sufficient necessary cause' (A619/B647).

Kant recognises that the fact we cannot, even in the phenomenal world, specify the conditions of necessity does not mean that necessity cannot characterise things in themselves. Thus, in the solution of the fourth antinomy he writes: 'All things in the world of sense may be contingent, and so have only an empirically conditioned existence, while yet there may be a non-empirical condition of the whole series; that is there may exist an unconditionally necessary being' (A560/B588). He goes on to point out that he has here 'no intention of proving the unconditionally necessary existence of such a being, or even of establishing the possibility of a purely intelligible condition of the existence of appearances in the sensible world. Just as, on the one hand, we limit reason, lest in leaving the guiding-thread of the empirical conditions it should go straying into the transcendent, adopting grounds of explanation that are incapable of any representation in concreto, so, on the other hand, we limit the law of the purely empirical employment of the understanding, lest it should presume to decide as to the possibility of things in general, and should declare the intelligible to be impossible, merely on the ground that it is not of any use in explaining appearances. Thus all that we have shown is that the thoroughgoing contingency of all natural things, and of their empirical conditions, is quite consistent with the optional assumption of a necessary, though purely intelligible, condition; and that as there is no real contradiction between the two assertions, both may be true' (A562/B590).
Here, Kant leaves open the possibility that the world may be grounded in necessary being, asserting that this can be neither proved nor disproved. We can, however, form no concept of such a being. 'The supposition which reason makes of a supreme being, as the highest cause, is, therefore relative only; it is devised solely for the sake of systematic unity in the world of sense, and is a mere something in idea, of which, as it may be in itself, we have no concept. This explains why, in relation to what is given to the senses as existing, we require the idea of a primordial being necessary in itself, and yet can never form the slightest concept of it or of its absolute necessity' (A679/B707).

Kant's assertion that, while there may be in fact a necessary being, we can form no concept of such a being, is the ground of his attack on the second stage of the proof. Nevertheless, if, despite his discussion of modality in the Postulates, Kant allows that the world may be grounded in necessary being then it would appear to be open to the proponent of the cosmological proof to argue that he has been conceded all that he requires to justify his pursuing the argument of the first stage of proof. We must, however, take account of the fact that Kant does derive material from the Analytic to construct a refutation of the arguments of the first stage of the proof.

His principal criticism, here, concerns the employment by the proponent of 'the transcendental principle whereby from the contingent we infer a cause. This principle is applicable only in the sensible world; outside that world it has no meaning whatsoever. For the mere intellectual concept
of the contingent cannot give rise to any synthetic proposition, such as that of causality. The principle of causality has no meaning and no criterion for its application save only in the sensible world. But in the cosmological proof it is precisely in order to enable us to advance beyond the sensible world that it is employed' (A609/B637). R.W. Hepburn writes of this passage that 'Kant [argues] that if we are talking of causality, then our discourse must remain within the sphere in which alone the concept of cause has been given its meaning and role, that is to say, the relating of event to event in the spatio-temporal world of experience. If the concept is used outside that context which confers meaning upon it, we shall utter mystifying nonsense' (Encyclopaedia of Philosophy Vol. 2, p.235).

One problem, here, is that while Kant does indeed restrict the scope of the concept of cause to the 'spatio-temporal world of experience' this is not for him the real world. The realm of the real or noumenal is beyond our experience and one to which the concept of causality simply has no application. If we reject Kant's proof of the unreality of space and time, and the consequent restriction of the categories to the purely phenomenal world of sense experience, then one ground for his refusal to allow the concept of causality application as is required by the proponent of the cosmological proof has gone. Kant himself holds that the necessity of the principle of causality shows that it applies to phenomena, because if the relata falling under the principle were things in themselves 'it would be altogether impossible to know anything of them synthetically a priori. They are, however, nothing but appearances; and
complete knowledge of them, in the furtherance of which the sole function of *a priori* principles must ultimately consist, is simply our possible experience of them' (A81/B223).

If the principle of causality has application only in the phenomenal world, as a principle of the synthesis of appearances presupposed by experience, it can hardly be appealed to by the proponent of the proof who wishes to use the principle to carry him from the contingent world of experience to the super-sensible reality that is its source. Leaving aside the problems of the relationship Kant supposed to subsist between the phenomenal and noumenal worlds, it is clear from the evidence of the fourth antinomy that, even if things in themselves were temporal and subject to the principle of causality, the cosmological argument could not be employed to prove the dependence of the world on a God outside the world. He argues, in the thesis of the fourth antinomy, on the grounds of transcendental realism, that there must be an unconditioned or necessary being as the source of the series of alterations. But this source must belong to the series. This again looks like Hepburn's objection to the employment of the principle of causality to take us outside the sensible world. However, Kant's grounds for rejecting the possibility that the unconditioned source of the series should be outside the series are that the unconditioned cause must begin to act and thus must be in time. 'Accordingly the causality of the necessary cause of alterations, and therefore of the cause itself, must belong to time and so to appearance time being possible only as the form of appearance' (A454/B482).

There are difficulties in interpreting Kant's point
here. We need not accept that the causality of the first cause must be in time if it is regarded as the source of a finite series of alterations; for it is open to us to argue that the first cause is the source, not only of the series of alterations, but of time itself. If, however, we accept that the first cause must be in time, then we have to deal with Kant's doctrine that there are orders of being and that to be in time is to belong to the world of appearance rather than to reality. He holds that the synthetic a priori principles of time determination embodied in the Analogies are necessary for the empirical determination of time and thus for the existence of time itself. If, however, we reject this, there seems no reason why the first cause or unconditioned source of the world should not be temporal. Bennett, who finds the thesis of the fourth antinomy 'contrived and implausible', attributes Kant's desire to show that the necessary being is in the world to no more important a motive than his wish to distinguish the fourth antinomy's thesis-argument from the cosmological argument in the theology chapter (Kant's Dialectic p.243).

Kant's grounds, then, for rejecting the appeal to causality in the first stage of the proof depend on his transcendental idealism, according to which time and space are ideal. Kant's arguments for the ideality of time are, we have argued, inadequate; many critics would nevertheless be sympathetic to his attempt to rule out the appeal to the principle of causality outside the experienced world. To this the proponent of the proof may reply that the rejection of the infinite series of events and the argument to a beginning of the world-series of events does require that
there must have been an uncaused event. This uncaused event must be either inexplicable in principle or it must involve the voluntary act of some agent.

There is no doubt, however, that there remain considerable difficulties for the proponent of the proof here. It is, as R.W. Hepburn remarks, 'very hard, if not impossible, to see how the eternal and nontemporal God can act upon the temporal and noneternal world' (Encyclopaedia of Philosophy Vol. 2, p.253). For some thinkers, the notion of the creation of the world by a nontemporal God is incoherent; for, in this case, we 'ascribe to God a timeless, and therefore impersonal pre-existence' (J.R. Lucas, A Treatise on Time and Space p.309). In such an existence, Lucas argues, consciousness would be impossible.

While these difficulties may be admitted, it must be remembered that Kant himself believed that God's existence was nontemporal. Time is, for Kant, merely the form of our inner sense and does not apply to things as they are in themselves. So, for Kant, God did not create the world in time. The realm of reality is non-temporal. In the Lectures on Philosophical Theology, Kant addresses the 'cosmological problem' of whether God created the world within time or from eternity. 'Now would it not be an internal contradiction to say that God created the world from eternity? For then the world would have to be eternal, like God; and yet it is also supposed to be dependent on him. Yet if eternity here means the same as infinite time, then I become guilty of a regressus in infinitum and fall into absurdity. But then can we think of the creation of the world only as within time? No, not this either. For when I say that the world had a
beginning, I am thereby asserting that there was a time before the origin of the world; because every beginning of something is the end of a time just past, and the first moment of a subsequent time. But if there was a time before the world existed, then it must have been an empty time. And this is once again an absurdity. And God himself must have been in time.

'Now how can reason emerge from this conflict between its ideas? What is the cause of this dialectical illusion? It lies in the fact that I am regarding time, a mere form of sensibility, a mere formal condition, and a phenomenon, as a determination of the mundi noumenon' (op. cit. p. 144).

It might be thought that the central doctrines of the Critique render the problem of creation intractable. Kant, however, is far from holding that they rule out the divine creation of the world. The principles of the Analytic concerning the necessity of the permanent substratum or substance underlying all change and the necessity of the causal nexus are principles valid only in the phenomenal realm. In any case Kant believes that our empirical concept of causality is inadequate to comprehend the notion of creation. In the Lectures he says: 'We see very well that things in the world can be the cause of something else. Yet this quality does not refer to the things themselves; it refers rather only to their determinations: not to their substance, but only to their form. It follows that the causality by which God is supposed to be the author of the world must be of a wholly different kind. For it is impossible to think of God's causality, his faculty of actualising things external to himself, as anything
different from his understanding' (op.cit.p.97). Kant goes on to deal briefly with the problem of a creation that is outside time, remarking that 'God's creation has to have been complete at once and instantaneously. For in God only one infinite act can be thought, a simple lasting power which created the whole world instantaneously and which maintains it in eternity' (op.cit.p.136).

For Kant, then, on the evidence of the Lectures, there is no insuperable difficulty in the notion of a creation of the world by a God who is outside time. Kant allows the doctrine of the creation and dependence of the world on God. Why, then, does he reject the cosmological proof? His principal arguments against the cosmological proof concern its supposed confusion of the phenomenal world with the noumenal. Thus, the proponent of the proof uses such principles as that from the contingent we may infer the existence of a cause; and that there must have been a beginning of the world and thus a first cause. These, he argues, are valid only of the phenomenal world and cannot be appealed to in order to establish the existence of a necessary being or first cause. If, however, we reject Kant's transcendental idealism, with its contrast between the phenomenal and the noumenal, his criticisms become much less persuasive.

To reject Kantian idealism is not, of course, to restore to the principle of causality or to the more general principle of sufficient reason the status of analytic propositions. As we have seen, however, it may be possible for the proponent of the proof to use the proposition that
necessary existent, without asserting the analyticity of the principle that from the contingent we may infer a cause. He may proceed by appealing to the Kantian principle that the possible presupposes the actual; and thus that the existence of the world proves the existence of a ground of possibility in general. To reject Kantian idealism also leaves it open to the proponent of the proof to argue that the world had a beginning in time and that the unique uncaused event which was the beginning of the world must have theological implications. These two strands may, of course, be followed together.

Kant's criticism of the proof is, as we have seen, principally directed against its second stage. Even here, however, there are Kantian elements from which the argument could be constructed. The possibility proof is, contrary to Kant's own description, essentially cosmological. From the existence of something in general we infer a ground of all possibility, something supremely actual. This supremely actual ground of all possibility Kant equates with the ens realissimum. Kant denies 'objective validity' to the possibility proof, in the Lectures, on the grounds that whereas the only ground for the possibility of things in general that we can conceive is the ens realissimum, we cannot know that possibility has to be grounded in this way. As Wood points out, 'if it is really true that the existence of a most real being is the only hypothesis by which we can account for the absolute possibility of things in general, then the existence of such possibilities must count as evidence confirming that hypothesis' (Kant's Rational Theology, p.77). The question remains, of course, whether it
is legitimate to talk of 'evidence' and 'hypotheses' in this kind of metaphysical debate.

Much of Kant's criticism of the cosmological proof, and indeed much of his criticism of the possibility proof, depends on his transcendental idealism. If we reject his transcendental idealism, as I believe we must, then it follows that many of his criticisms are undermined. It could be argued, however, that in rejecting Kantian idealism the theist raises more problems than he solves. Kant was certainly not antagonistic to theism. He thought that the problems of God's relationship with the world were best solved in terms of his transcendental idealism and indeed he seems to have thought that his theory of knowledge afforded protection to theism against philosophical speculation in that we are thereby enabled 'to deny knowledge in order to make room for faith' (BXXX). Once we reject his theory of knowledge the problems of God's relationship with the world must be faced anew.

Perhaps the most intractable problems for the theist are those that are associated with the alleged dependence of the world on God. For some thinkers, God is merely the architect of the world. In this account, God acted on pre-existing matter. The difficulty for the theist here is that once we accept that matter is eternal and independent we may be tempted to ascribe the form of the world to natural law. Other philosophers have, like Spinoza, viewed the divine being as the immanent cause of the world, there being no absolute distinction between God and nature. For others again, God is the transcendent cause of the world. In this debate, there is little room for choice for the proponent of
the classical cosmological proof or argument from contingency. He must take the view that God is the transcendent creator of the world because his argument rests on the premiss that the world is finite and dependent.

We have seen that Kant defended the notion of divine creation in the Lectures. But he defended this notion in terms of his idealism. If this is rejected then we must resolve what Kant calls the conflicts between the ideas of reason. These conflicts arise when we regard space and time as conditions of the existence of God and of the world instead of forms of our sensibility.

In the Lectures, Kant concentrates on the problems that arise for the theologian when the real world is regarded as temporal. We have suggested that God could be the source not only of the contingent world but also of time itself. This is not without its difficulties. It seems to imply that God was, at least prior to creation, unchanging. I do not think that this implies, as Lucas suggests, that God's existence would be impersonal and without consciousness. It seems possible that God should be conscious and yet unchanging. Our consciousness involves change as our finite understanding ranges over the various objects that claim our attention. God's infinite understanding, by contrast, may comprehend any number of objects simultaneously. It does not seem to follow from the fact that God's understanding does not involve change essentially that he is incapable of action and therefore of creation. Once he created the world he would be in time, since he would be in some kind of relationship with his creation.

The difficulties that arise for the rational theologian
when the world is regarded as spatial are also serious. If God himself is spatial then he presumably is to be regarded as the infinite immanent 'cause' of the world. The distinction between God and the world then becomes untenable and we are involved in Spinozism. This position has been undermined by the difficulties discovered in the notion of infinity. If, however, God is regarded as the transcendent creator of the world it becomes difficult to comprehend how creation was effected. In Spinoza's view, God cannot be separate from his creation because different substances have nothing in common, and, 'of two things having nothing in common between them, one cannot be the cause of the other (Ethics I prop. III). To say that the notion of creation ex nihilo is beyond our finite understanding is to invite the rejoinder that this is simply because it is unintelligible.

Kant often refers to God as the ens realissimum. The world is said to be derived from the ens realissimum, i.e., it derives its share of reality from the sum total of all reality. In the Critique we read that 'all manifoldness of things is only a correspondingly varied mode of limiting the concept of the highest reality which forms their common substratum'—(A578/B606). There would appear, on this account, to be no absolute distinction between God and the world. For Kant, of course, the precise nature of the relationship of God to the world is veiled by transcendental idealism.

The problems raised by the doctrine of creation become more acute once we reject idealism. If God is the immanent cause of material substance then it may be argued that that substance cannot be finite. But the world is finite in space
and time. On the other hand it is difficult to comprehend how a transcendent God could bring into being a substance having nothing in common with the divine essence.

One way out of the difficulty in which the rational theologian finds himself may be provided by the monadism that informed much of the metaphysics of Kant's day. Creation can be understood as the bringing into being of monads that are simple, irreducible entities without the distinction in substance that separates God from the material world. The monads may be conceived as unextended and yet as endowed with force. Some such notion lies behind the dynamism of Boscovich's *Theoria Philosophiae Naturalis* of 1763 where unextended point-atoms are centres of fields of force. Space, in these circumstances, may be regarded as ontologically dependent on the inter-reaction of the monads. God, since he is not in inter-reaction with the monads, may be regarded as non-spatial.

In spite of the fact that it seems to provide a way out of the difficulties that beset the doctrine of creation, Kant rejects monadism. In the thesis of the Second Antinomy he argues that the discrete monadic nature of matter can be demonstrated on the grounds that 'if all composition [of composite substances] be removed in thought, no composite part will remain' (A439/B467). In the antithesis of the antinomy, however, he argues that this monadology is inconsistent with the infinite divisibility of matter. According to Kant, the monadists have raised objections 'against the doctrine of the infinite divisibility of matter' (A439/B467). He goes on to object that 'were we to give heed to them, then beside the mathematical point, which, while
simple, is not a part but only the limit of a space, we should have to conceive physical points as being likewise simple, and yet as having the distinguishing characteristic of being able, as parts of space, to fill space through their mere aggregation' (ibid.).

Kant sought, in this antinomy, to provide a further demonstration of the contradictions that arise when we regard the space/time world as real. The contradiction here is only apparent, however, since the concept of the extensionless monad is entirely compatible with the infinite divisibility of extended matter.

We have argued that Kant's claim to have established transcendental idealism cannot be sustained, and that his criticisms of the cosmological argument are inconclusive. The arguments of the Critique do, however, present two hurdles that the proponent of the proof must clear. He can no longer place absolute reliance on synthetic a priori principles such as those of causality and sufficient reason. He must therefore widen the scope of the proof if it is to be convincing. Further, most versions of the proof complete only the first stage of the argument. Kant insists that the proponent of the proof provide an argument to identify the necessary being or first cause of the first stage with God. In insisting on this point Kant brings out the formidable difficulties involved in the second stage of the proof.

In view of his severe criticisms it may seem paradoxical that Kant provides much material in the antinomies, in the possibility proof and elsewhere, that is useful to the proponent of the cosmological proof. What makes Kant's treatment of the proof particularly interesting is his
sympathy with it and with the aims of the rational theologian. Kant wished to undermine rational theology only in order to make way for his moral theology. He appears at least to allow a certain persuasive force to the proof. The argument, he writes, 'continues to have a certain importance and to be endowed with an authority of which we cannot, simply on the ground of ... objective insufficiency, at once proceed to divest it' (A588f/B616f). How much 'persuasive force' we allow to the proof will depend on our metaphysical presuppositions. I believe, however, that the tendency to cosmological speculation, which Kant depicts, requires a stronger corrective than is provided by the epistemology of the Critique; and it is in his epistemology that he seeks to provide his real disproof of the possibility, not merely of rational theology, but of metaphysics in general.