The Cosmological Argument

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ABSTRACT.

Part One - Historical.

We begin with an account of the Prime Mover argument. This originated in the "Laws" of Plato, where it is argued that a self-moving mover must exist as source of other motions, and that it must be a kind of soul. In Aristotle this Prime Mover is not itself moved, and elaborate proofs of its existence are offered in the "Physics"; all motion requires a mover, and the series cannot go on to infinity, but must end in one or more unmoved movers. His proofs, however, were far from watertight, and later Peripatetics like Theophrastus and Strato rejected them. The argument reappeared in Proclus, but only as subsidiary to a First Cause argument; moreover, the Prime Mover is only the second member of the Neoplatonic "trinity". John Philoponus' theory of "impetus" should have undermined the argument, but in fact did not, and it continued to be used by the Arabs (despite criticism by Avicenna) and the Jews (notably Maimonides). It was taken over by the Christian scholastics like Aquinas. But criticism also continued,

especially from Algazel in Islam and by Ockham and his followers in Christendom, and a detailed refutation was offered by the Jew Crescas. The arrival of non-Aristotelian physics was fatal to the argument; it is indeed still defended occasionally by neo-Scholastic philosophers, but none of their defences is adequate. Outside Scholasticism it has few supporters, though Samuel Clarke used it for the Platonic purpose of pointing out an analogy between the Prime Mover and mind. Lotze, however, advanced a quite different kind of argument, but based, like the Platonic and Aristotelian ones, on the existence of change; he argued that change ought always to be internal to that which changes, and hence that the universe must be in some sense a unity. The relationship between this unity and individual things would then be analogous to that between a mind and its states.

A second line of approach had its origins in patristic times, especially in John Philoponus, but was most highly developed in the "Kalam" - mediaeval Muslim theology (and Jewish theology under Muslim influences). This school concentrated on efforts to prove that the universe must have had a beginning in time; it also developed an argument

based on the fact that the constituent parts of the universe, and hence the universe itself, are merely"possible", and require a reason for their existence. The theologians of the Kalam were mot primarily philosophers, and their God is much more recognisably the God of monotheistic religion than the Unmoved Mover is.

Side by side with the Kalam there developed a school of pure philosophers, deriving their inspiration chiefly from Aristotle understood in a Neoplatonist way. A hint in Aristotle's "Metaphysics" was adapted by Proclus to form an argument for a First Cause of all things, and this approach was also used by al-Farabi and Avicenna. The former was apparently the first to introduce the distinction between possible or contingent being and Necessary Being, which is God's; the latter developed and elaborated the proof, introducing also another distinction,between causes "in esse" and causes "in fieri", though he made no great use of this. Finally Maimonides attempted a proof (later to become Aquinas' "Third Way") that there must be an eternally necessary being.

However, the God of the philosophers was not the God of Muslim orthodoxy, and the whole enterprise was subjected to fierce attck by Algazel in his "Incoherence of the Philosophers". It is not possible, he said, to prove that an eternal world (such as the

Aristotelians believed in) needs a Creator. Firstly, there might be an infinite regress of causes - indeed, if the world is eternal, there must be. (Averroes, in his detailed reply, uses the "esse/fieri" distinction.) Again, a "necessary" series might consist entirely of "possible" members; and the "necessary being" might be the universe itself, for it is not possible to prove either the unity or the uniqueness of such a being.

Meanwhile, the First Cause argument appeared among Christian thinkers. Early versions, such as those of St.Anselm and the Victorines, were rather crude; and those of St.Bonaventura are not so much detailed metaphysical proofs as a series of claims to a kind of "insight" that various qualities in created things imply the existence of a Creator not so qualified - a notion that is to be found in several modern writers, though perhaps in an inferior form. The Second and Third Ways of St.Thomas Aquinas have probably been given more prominence in the history of the Argument than they deserve. The latter, like that of Maimonides on which it is based, is seriously fallacious, and the former is so compressed that it is not easy to see exactly what Aquinas' argument is. There are other forms of the Argument

elsewhere in Aquinas' writings, but these are also defective. More important is Duns Scotus, whose version is far more detailed and attempts to deal with possible objections in advance. Instead of the"esse/fieri" distinction, he uses one between "essentially ordered" and "accidentally ordered" causes, seeking to show that there can be no infinite regress in the former, and none even in the latter unless there exists also a (finite) series essentially ordered. His argument was in turn criticized by William of Ockham, who preferred a distinction between "producing" and "conserving" causes; only in the latter can a First Cause be proved to exist, and it is not possible to prove that this is identical with God.

A note is here appended on theistic arguments found in the Nyāya and Vaiśesika schools of Hinduism. These are generally part-way between the Cosmological and Physico-theological Arguments, arguing for a First Cause but defending this with arguments from design. There were also criticisms of these proofs, both from an atheistic standpoint and from a fideistic; in particular, it was said that there is no way of proving an intelligent cause of the world rather than an inanimate one, nor that there is only one such. Indian natural theology did not in fact "catch on" outside these two schools, nor did

it develop the elaborate forms it did in the West.

After the Reformation, natural theology underwent a considerable decline; it was less important in the new philosophical systems and less subtle in its varieties. Descartes does not use the standard Cosmological Argument at all, preferring to argue for a cause of one particular item in the universe, namely, his idea of God, and doing so primarily by the aid of the principle that the cause must be at least as real and perfect as the effect. A second argument, based on his existence as a thinking being with an idea of God, is closer to the older pattern, and uses both the infinite regress and the idea of conserving causes,but is equally defective. Locke rejects Descartes' arguments, but his own is particularly crude; Clarke's is the best English version during these "years of decline". Spinoza has been claimed as an advocate of the Cosmological Argument, but is not really one at all; Leibniz, however, certainly is. His versions are based chiefly on the"Principle of Sufficient Reason"; the sufficient reasons of particular contingent beings are their causes, but there must also be a substance whose sufficient reason is absolute Necessity and which is outside even an infinite series of contingent beings.

Nearly all later writers have either rejected the Cosmological Argument altogether or felt themselves

obliged to defend it rather than use it. This is due largely to the attacks made on it by Hume, Kant and Mill. Hume's "Dialogues concerning Natural Religion" are aimed chiefly at the physico-theological argument, but Part IX does criticize the cosmological, on the grounds (a) that no matter of fact can be demonstrable *a priori*; (b) that if it could, matter might be the necessary being; (c) that there could be no cause of anything eternal; and (d) that there can be no cause of a whole as distinct from its constituents. Kant had already criticized the standard Cosmological Argument in his pre-critical works, though advancing a kind of Cosmological Argument himself, based on the possibility of things, not their actuality. In the "Critique of Pure Reason" he had abandoned the latter, and argued that the Cosmological Argument depends on the Ontological, as it if held good every *ens realissimum* would be perfect and *vice versa* - which is what the Ontological Argument claims. Moreover, causality cannot be used outside the phenomenal world. The former criticism was rightly rejected by Hegel, and is not now widely accepted. Mill's criticisms are more "scientific" than metaphysical. Change is of the outward form, not of the substance, and *must* go on to infinity; the real First Cause seems to be the total Force of the universe. And it is no use

suggesting that Mind is in some sense a privileged kind of Force; it is not unique, and itself requires a cause.

Among nineteenth-century "idealists" the Argument took on new forms. To Hegel, the finite is only an appearance, and consequently cannot serve as a premiss; the Argument is only trying to express the elevation of the soul to God. Bradley, on the other hand, does use a deductive form of the Argument- to prove, not the existence of a God, but the impossibility of separable facts. (It does not seem, however, that he has succeeded in proving the one rather than the other.) Another form, found in Rashdall and perhaps Newman, accepts Hume's account of causality in physical phenomena but not in those of the will. If, then, everything has a cause, everything must be the result of volition, and, the unity of the world implies, of <u>one</u> Will. (Many modern philosophers reject the idea of "volitions", but what is really vital is the undetermined nature of free acts, whether volitions or not.) Finally, C.A.Campbell has attempted a theistic proof based on the Law of Contradiction as analysed by Bradley. Ordinary explanations are always inadequate; reality must therefore be "supra-rational"; and as theism has also to be "supra-rational", it is likely that it and metaphysics

are talking about the same thing. The reference to the Law of Contradiction is unnecessary to this argument, which in fact comes somewhere between the Cosmological and the Physico-Theological.

Part Two - Discussion.

One form of Cosmological Argument denies the possibility of an infinite causal regress. There are various objections. If all things have a cause, must not God have one? Yes, unless-he is the First Cause allegedly proved.

Again, need all things have causes? This may mean "There are some things that may be uncaused"; or "Only events, not objects, have causes"; or "The Law of Causality, if it is to hold invariably, will be trivial". Answered: "No known events are totally uncaused"; "There might be a First Event; but there might well be an eternal substance to which events happened"; an answer to the third is postponed.

But why cannot causal series go back to infinity? It seems that "Did the universe begin?" is an empirical question; and the arguments against regresses are shaky. Furthermore, is causal language not simply a way of talking about certain cases within a pattern of law-governed events? and could not such a pattern be infinite? It will not do to bring in the "esse/fieri" distinction, for there might still be an infinite

series; besides, causes *in esse* are not of the same metaphysical type, and may be finite in number without leading to God. Nor is it enough to argue for a beginning of the universe. Most arguments *a priori* against this are invalid(the Second Law of Thermodynamics does apply to the universe as a whole,and,even if it expresses only a conceptual difficulty,still practically implies a "heat-birth") but there is no valid inference from a "beginning" to a First Cause unless there is also one from an infinite series. It is concluded that this form of argument is invalid.

What of the proofs based on the need for a cause of the *whole*? Is it possible to ask for a cause of the universe? the universe may be the "theatre" of causes, not itself causable. This is true if causation must be temporal (unless God is also temporal); or if "reality" and "the universe" have the same ~~dex~~ connotation; or if the universe is only a logical construction. None of these seems true. Some theists have admitted that God is not the cause of the universe in the ordinary sense; but this is dangerous and unnecessary.

But is it right to ask for the cause of a collection as well as those of its members? No, *unless* the members' causes are themselves all members.

"The'Stratonician presumption' is that all

things, including the universe, must be presumed to have their qualities naturally". This would render science impossible, and seems designed solely to avoid any theistic argument; it rests on an equivocal use of the word "naturally".

"The theist's principle of causality must be so certain as to be empty". But it need not be as certain as this. And he could admit some exceptions to the principle while denying that the universe's existence could be one.

"The theist's preference for personal explanations is only a preferance." But it can be justified.

"All explanations require some 'brute fact'; theistic facts are no better than others." This cannot be met by saying that God is a Necessary Being; but it can be said that He is a simpler explanation than a complete "brute fact" universe.

It is concluded that this sort of Cosmological Argument is not cogent, but is certainly probable.

What of the argument from Contingency to Necessity? It may be denied that "necessary being" makes sense. This may be true if "necessary" means "logically necessary". But some other necessity might be involved. Again, the "Necessary Being" might not

be the God of religion, but an Absolute, or the universe itself. The first involves the problems of monism. The second might be answered by claiming that the Necessary Being must be perfect, or simple (but these cannot be proved once we have admitted non-logical necessity) or that the universe had a beginning (but this, even if true, does not entail its contingency) or that it is too complex (which has some force). Finally, however, the real correlative of "contingent" is not "necessary" but "unconditioned" - i.e. either "necessary" or "brute fact". This seems correct. But theism still remains the best candidate for a way of adequately understanding the universe.

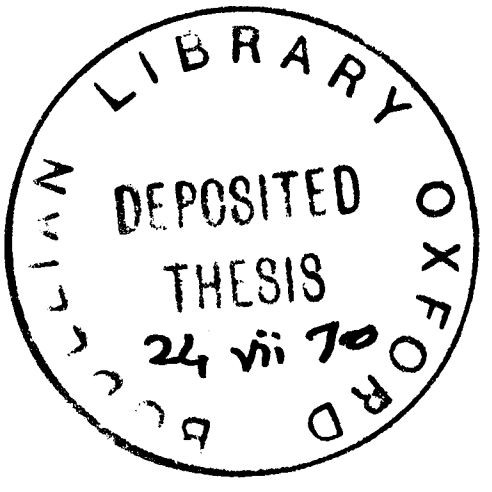
PART ONE - HISTORICAL

Prime Mover	Page 1
Kalam	59
Falsafa	84
Controversy	103
Christian Developments	121
Appended note - Indian Parallel	160
The Years of Decline	167
The Great Assaults	186
Later Developments	201

PART TWO - DISCUSSION

Page 219

BIBLIOGRAPHY Page 286



PRIME MOVER

"Plato is the creator of 'philosophical Theism'", wrote A.E. Taylor;[1] and more particularly of what was later to be called the First Way, the argument from the existence of motion to that of a Prime Mover from whom all other beings' motion is derived. This argument he "created" in his last dialogue, the "Laws". In portraying his ideal city, the disciple of Socrates proposes (among other things) to make religious disbelief a crime punishable, in cases of obduracy, by death. First, however, he proposes, mercifully enough, to argue the unbeliever into the right way; and in book X, 893b ff., gives his proof of the existence of gods.

We begin with a description of the various kinds of motion there are. Most of this is only preliminary; the main point comes when the last two kinds are described, namely, motion where the mover is able to move other things but not itself, and motion where the mover is able to move both itself and other things. This division is of fundamental importance; for the latter is superior to all other sorts of motion. Indeed, it should not have come tenth and last in the list, where the characters in the dialogue have put it; it should rather have come first of all. For if we have one thing changing another, and that a third, and so on, there will be no first source

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1. "Plato, the man and his work", p.493.

of change; each will have been moved by something else beforehand. (Plato is using "move" and "change" as equivalents). But in the case of something which moves itself and also changes some other thing, and through it thousands and myriads of others, we do have a first source - the self-mover. Again, suppose that all things were at rest. What sort of motion could then arise? Clearly only that of a self-mover. Self-motion is therefore the origin and beginning of all the motion that there is.

But we can go further than this. We do in fact observe self-moving things in the world - we call them "living". Indeed, motion that moves itself is actually the definition of "soul", that whose presence justifies us in calling things "living". (In the passage of the "Phaedrus"[1] which provided the nucleus of this argument, Plato was in fact concerned only with the soul as self-mover and therefore as immortal). It therefore follows that soul is the source of all change and motion, and the oldest of all things - in particular, that soul is prior to body. And, more especially, since the heavens are moved, they too must be ordered by a soul or souls. Souls, in fact, in the plural; there must be at least two, one good, responsible for regular movement, and one evil, responsible for irregular. The former, the "best soul", moves the heavens in their courses; indeed, circular motion, in that it revolves unchangingly in the same place, is the sort of motion most akin to that of mind.

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1. 245 c5 ff.

Just how the soul moves the heavens is not decided. Plato suggests three possible ways: it may stand in the same relation to the sun as our souls do to our bodies - i.e. inhabit it; or it may have its own body "of fire or air" and propel the sun from without; or it may be quite bodiless, and have some guiding power without analogy in our experience. Plato seems here to have shifted his position somewhat; the sun evidently has its own soul, as we learn later on the stars and moon and seasons do also. In fact, however, the number of souls, or gods, does not really interest him much. If the point were pressed, he would probably have said that the planets must certainly have their own souls, to account for the irregularities in their motions, and that therefore the sun, stars and moon may well have theirs too. (This would leave little room for the "best soul" that moves the whole heaven). Whether he would have said this or not, it is clear that the sort of God Plato believes he has shown to exist is basically similar to the human soul. (Perhaps we should rather say that the human soul is to Plato basically similar to the divine). The "best soul" which spins the heavens round is only one soul among many, though it is both better and more powerful than any of the others; there is no attempt to prove the existence of the Demiurge of the "Timaeus", or of any being who transcends the world in a sense other than that in which the human soul may be said to transcend its body. Nevertheless, the argument in the "Laws" is of quite basic importance for the history of natural theology; for three main reasons.

Firstly, it is the oldest version, as we have seen, of the Prime Mover argument, which was for many centuries of importance itself and on which most other forms of the Cosmological Argument were modelled. Secondly, it introduced, almost without noticing it, an objection to the infinite regress which will reappear time after time in the course of our survey: "When one thing moves another, and that another, will there be any primary changing element? Can there be, considering that what changes first will always have been changed by another?" Here we have in embryo both the much-criticized argument of St. Thomas, that if you extend a series of causes to infinity you "remove" the first cause and so make the whole chain out to be an impossibility, and the argument, basic to nearly all the versions of the Proof that we shall be considering, that it must be possible to "step outside" even an infinite series of causes if we are ever to get a really adequate explanation for the members of that series. Neither line of thought is developed by Plato; but the possibilities are there. And thirdly, we have in this passage stated quite explicitly what lies behind many uses of the Cosmological Proof (and the Physico-Theological too) but is seldom actually expressed, namely, the belief that the best sort of explanation, maybe the only one, is explanation in terms of mind (or soul) and mental (or spiritual) activity.

The next step was to shift from a self-moved mover to an unmoved; a step of immense importance in that it moved the "best soul" out of

the heavens and made room for the notion of transcendence.[1] The way was opened by Plato's third way for the heavens to be moved, "by some extraordinary and wonderful power". For this power might conceivably be exercised by a soul which was not itself moved with the heavens.

The step had evidently been taken when Aristotle wrote his lost dialogue "On Philosophy". In that, the stars were held to be gods, much on the lines of Plato's first possibility;[2] but there is also a God who is over the world, and rules and preserves its movement "by a sort of backward rotation".[3] (This peculiar expression may have no particular meaning; it is put by Cicero, our source for the fragment in question,[4] into the mouth of a speaker hostile to Aristotle. There is perhaps an allusion to the retrograde motion of the planets). Evidently already at this stage the "best soul" has become the extra-mundane Unmoved Mover, whether this was the invention of Aristotle himself or taken over from some other member of the Academy. What sort of proof was brought forward in support of this position cannot be said; besides some sort of proof from motion, the dialogue evidently included a good deal of "argument from design"[5] and a version of what

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1. In Plato the Forms are of course "transcendent" in a sense, but they are not gods!

2. Fr.23 Rose, 21 Ross.

3. Fr.26.

4. De nat.deor.I,xiii,33.

5. Cf.frs.10, 12, 17 Rose (12, 13, 17 Ross).

was later to become St. Thomas's Fourth Way.[1] But the most important Aristotelian proof of a God, and the only one that concerns us here, is that of the Unmoved Mover to be found in the "Physics", Books 7 and 8, and the "Metaphysics", Book 11.

The latter passage[2] is famous as an exposition of Aristotle's theology, of the life and nature of the Unmoved Mover (or Movers). It does not, however, contain a full argument to prove His existence; in effect, it assumes a good deal from the "Physics". There must be an eternal and imperishable substance: if there were not, all substance and therefore everything else, would be perishable, whereas time and motion are in fact eternal. Moreover, time is continuous, and since time is either identical with motion or an attribute (πάθος) of it, motion is continuous too; and the only form of motion that can be continuous is motion in a circle. And this we can actually see to be the case; the heavens <u>are</u> in unceasing circular motion. The first, outermost heaven must then be eternal: but it needs a mover. And since "that which moves and is moved is a middle term" its mover must itself be unmoved, an eternal, actual substance.

But <u>how</u> does it move the heaven? Well, the objects of desire and thought move without themselves being moved; in general, the final cause, and it alone, moves by being loved rather than moved. The Prime Mover therefore moves as an object of love does, not in the

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1. Fr.16.
2. 1071 b3 ff.

way a soul does its body; Aristotle is leaving the Plato of the "Laws" far behind.

All this, however, is only a sketchy outline; Aristotle's real efforts at a rigorous proof had already been set out in the "Physics".

In order to appreciate the "Physics"' proofs one needs first to appreciate just what his doctrine of motion was. In the first place, his use of the word - rather as we have already noticed with Plato - is considerably wider than ours. Aristotelian "motion" includes (a) coming into and going out of existence (b) growth and diminution (c) qualitative change and (d) motion in our sense, which is the primary sense of the word even to him.[1] There is also a second division into "natural" and "unnatural" movements. In the sublunar world, air and fire move upwards by nature, water and earth downwards; natural motion tends to increase in speed and then stop abruptly, unnatural to decrease in speed and stop only gradually.[2] Above the moon, however, there is only natural movement, and the natural movement of the fifth element there, the "Quintessence", is neither upwards nor downwards, but circular, and it does not increase or decrease either.

This means that as far as the sublunar world is concerned motion tends to run down. Both natural and unnatural movements will, if left

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1. Physics 208a31, 260a26ff.

2. Ibid. 230b10ff.

to themselves, stop. Inertia in the modern sense was not recognised (though in fact at one point, in discussing the possibility of a vacuum, Aristotle came quite close to it, denying the possibility on the grounds that in a vacuum a moving object would go on moving forever, unless obstructed;[1] unfortunately, he thought this absurd). But obviously motion continues to exist. Consequently Aristotle's universe requires some enduring source of motion; and he did in fact believe he could prove that such a source existed.

He begins[2] with the proposition "All that moves must be moved by something". Obviously this is true of a thing that is moved by something else, a stick held in the hand for instance; it is not obviously true of a stone thrown, or of an arrow that has left the bow. Aristotle's explanation[3] is that the hand or the bowstring not only begins the movement of the projectile, but also moves the surrounding air, and, what is more, gives that air itself a power to impart motion. It is this power that keeps the projectile going for a time. So there is no exception here. But what about things which appear to move themselves? Animals, for instance, or the celestial spheres which bear the stars and planets? Even here the same holds. We may disregard those cases where the "self-moved" really moves only

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1. Physics 215a19.
2. Ibid. 241b24ff.
3. Ibid. 266b15ff.

because something belonging to it (e.g. an animal's foot) is in motion; we are only concerned with things which are in motion essentially and of themselves. Now everything which moves is divisible. (A possible exception might be in the case of qualitative change,[1] but that is not relevant here). So let our essentially self-moved object AB be divided at C. Now if CB is not in motion, AB is not in motion either. (If it were, we should have AC moving and CB at rest; i.e. not AB, but only part of it, would be in motion essentially and of itself). But if a thing is at rest because something else is at rest, that thing is moved by something else. This can be proved quite simply. A thing which is in motion without <u>being</u> moved would not cease to move just because another thing did; this would only happen if the "other thing" were moving it. Consequently AB cannot after all be moved by itself "essentially and primarily". Therefore anything in motion must be moved by some mover other than itself.

Now if this is the case we have a series generated. And this series cannot go on to infinity, A being moved by B, B by C, and so on indefinitely. Suppose for the sake of argument that it did. In that case, since each mover in the series is causing motion <u>and</u> itself being caused to move, the motions of all are simultaneous. Now the motion of one member, A, will be a finite motion, taking a finite time. But what about the motion of the total series ABCD...?

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1. Ibid. 236b.

If the motions of B, C, D, and so on are equal to or greater than that of A, which obviously could be the case, the motion of the total series will be infinite. Yet this motion occupies the same time as the motion of A, which was finite - i.e. an infinite movement is accomplished in a finite time, which is impossible. (It is quite legitimate, Aristotle explains, to treat the whole series as a unity, for each member must be in contact with its successor, or continuous with it, in order to move it). It is true that this reasoning would not hold if the motions of B, C, D and so on were smaller than that of A; but this makes no difference, for our hypothetical case is clearly a possible one, and a possible case should not lead to an impossible result! There must therefore be an end to the series of movers, and there must be a Prime Mover which is itself unmoved.

There might, of course, be more than one Prime Mover. Indeed, in one passage[1] Aristotle definitely accepts a plurality of them, on astronomical grounds; there are probably 47 (or perhaps 55) required to produce the observed motions of the planets, though he recognises that there are serious difficulties in this. (How can one immaterial, extra-spatial prime mover be distinguished from another, for one thing?) Elsewhere, indeed, he argues for a single one.[2] In the first place, we ought to suppose the minimum needed: but, quite apart from

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1. Metaphysics, 1074a.

2. Physics, 259a.

this, the case for a single Prime Mover can be argued on its merits. Motion must always exist (for time only exists in virtue of motion, and time, as all save Plato in the "Timaeus" agree, is eternal). And if motion always exists, it must be continuous. (If it were not continuous, a gap would at least be possible, explained later commentators,[1] and that would mean that motion need not be eternal; but it need be.) And if motion is continuous, it is a unity; and that means there can only be one Prime Mover. This argument, however, seems to be valid only against the theory of a succession of unmoved movers, not against that of a co-existent plurality; it seems likely that the passage in the "Metaphysics" represents Aristotle's final position. He was, however, as we have seen, well aware of the problem of how to individuate these immaterial movers, when matter is the principle of individuation. Later followers of his were to resolve the difficulty with theories of Emanation, whereby the intelligences of the spheres, deriving from one another, and so from God, differ in "rank", though not in matter.

It will be noticed that already the whole argument is of much greater complexity and subtlety than is sometimes suggested. (The fact that Aquinas' version in the "Summa Theologiae", though not that in the "Summa contra Gentiles", is highly abbreviated may be partly responsible.) It is not simply asserted that the series of movers

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1. Philoponus and Simplicius ad loc. (Philoponus p. 888.5ff. Vitelli; Simplicius p.1255, 6 Diels).

cannot go on indefinitely, on the grounds that an infinite series with no first term is impossible;[1] there is a definite attempt to prove the impossibility. Technically, indeed, Aristotle is guilty of inconsistency. Even his own theory of missiles involves the assumption that air and water can receive the power to move something and actually exercise that power after an interval has elapsed; it therefore follows that in this case (and also, as we shall see, in certain others) members of a series need not in fact all move at the same time. But this is perhaps only a technicality: many things, perhaps most, do not come into these classes - certainly the spheres do not - and in any case we could always suppose the possibility that our series did not contain any such, just as we supposed the possibility that the motions did not diminish as we went back up the line.

But this argument is not Aristotle's only one. It is generally supposed that Book VII of the "Physics" is earlier in date than the surrounding material. It is certainly the case that a good deal of the same ground is covered again in Book VIII, though in a different (and often obscurer) way. First of all, in it Aristotle presents a new argument for the proposition that everything that moves is moved by something else.[2] He begins by dividing things that move into three

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1. As supposed, e.g., by Russell, "History of Western Philosophy", p.484.

2. Physics 254b7ff.

classes: those which derive their motion from themselves, those which move in accordance with their nature, and those which move "unnaturally" or "violently" (as, for instance, when a heavy body moves upwards). In this last case it is clear that the thing is moved by something else; and the same applies to the first. An animal's motion, for instance, derives from <u>part</u> of the animal; our only problem is to distinguish this part clearly. But in the case of inanimate objects moving in accordance with their nature we have a much harder problem. It is, however, clear that their motion cannot derive from themselves: For (a) that would make them alive; (b) they should equally have the power to stop their motion or reverse it; and (c) a thing can only move itself if part of it is active and part passive, which is not the case in natural movement of the sort we are considering. They <u>must</u> therefore be moved from without. And Aristotle's explanation is that they all have natural tendencies to be in certain positions, which they are at times prevented from occupying - e.g. when the roof of a building is held up by pillars. If this obstruction is removed, they are at liberty to move to their natural location, and do so. Whoever or whatever removes the obstruction is the accidental cause of the thing's movement; all that the thing itself provides is the "source of motion", the quality of being affected by the accidental cause. (We have here, by the way, another exception - and a bigger one than that of projectiles - to the rule that mover and move exist together.)

This argument replaces that of Book VII for the proposition that

everything that moves is moved by something else. There, Aristotle had continued by showing that an infinite regress of movers was impossible: here, he proceeds differently, by showing that a prime mover must, if it is moved at all, be moved by itself; that it is not the case that everything moving is moved by a mover that is in motion itself; and that the prime mover cannot be self-moved. From these it follows that there is an Unmoved Mover.

The argument is exceedingly obscure and hard to summarize. It begins with a distinction between those objects which move others as instruments of yet a third (e.g. the hand with which a man moves a stick) and those which cause movement themselves. Now a series of movers which contains one of the latter class can end with it. But a series containing only movers of the former class would be an impossibility, as each mover would be a mere instrument, and we should have an infinite series, with no first term. (Note that Aristotle does <u>not</u> say that an infinite series with no first term is impossible. On the contrary, he says that "in an infinite series there <u>is</u> no first term". His point evidently is that, as each mover would be purely instrumental, and the series is infinite, we have no origin for the motion. The point is made rather more clearly by Aquinas,[1] who splits the argument into two more definitely than Aristotle does.)

If, then, the Prime Mover is moved at all, it is moved by itself.

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1. SCG,I,xiii,14-5.

But perhaps every mover must be moved by something that is itself in motion - i.e. perhaps an unmoved mover is impossible. Let us suppose this to be the case. It may only be true per accidens; that is, it just happens to be the case, but there is nothing necessary about it: Or again, it may be a necessary truth. Let us suppose the first. In that case the Prime Mover could theoretically be at rest; and so could everything else. But that everything should be at rest is not only false, it is impossible, for motion is necessarily eternal (as Aristotle believes he has proved in the first part of Book VIII). And an impossible conclusion should not follow from a possible premiss, even if that premiss is in fact false. The premiss (that all movers are in motion, but only per accidens) is therefore an impossible one.

This argument is exceedingly shaky. It is not made at all clear just what is supposed to be true either per accidens or necessarily. Is it just that the mover is in motion? This seems to be ruled out (though Ross[1] favours it) by the fact that in that case the mover could be at rest and yet still cause motion. We should then have a universe in which everything was in fact in motion, but in which some things could theoretically have been unmoved movers; and this would not contradict the principle of eternal motion. It seems therefore more likely that the supposition is that the moved object depends for

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1. Comm. on "Physics", p.698, quoting 256b28, which seems rather to tell against his interpretation.

its motion on that of the mover. But how on earth could this be *per accidens*? It looks as if Aristotle has shifted from one meaning to the other without noticing it.

In point of fact, however, no-one was ever likely to maintain that all movers just happen to be in motion. As Aristotle adds in a kind of appendix to his argument[1], there are certainly things which move others and are moved, and things which are moved but do not move anything else, so it is reasonable, even necessary, to suppose that there are things which move without being moved. (There is a textual problem of some complexity in this passage, which affects the question of interpretation, but the above will, I think, do.) If, of course, there is a necessary link between moving and being a mover, so that only something which is in motion can possibly be a cause of motion, this "appendix" will not hold. But is such a necessary link a possibility? Aristotle thinks not.

For if there is, does it mean that the mover must move with the same sort of motion as that which it imparts, or can the sorts of motion be different? The former is ludicrous: it implies that someone teaching geometry must himself be in process of being taught the same lesson! For we are dealing with necessity, which presumably must apply to all sorts of motion - i.e. of change. Nor does it help to fall back on the second alternative. For the number of different

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1. 256b 14ff.

kinds of motion is limited, and eventually we shall reach the kind we started with; and in that case we have a thing moving with the same kind of motion as that which (indirectly and through instruments) it imparts. So either way it is impossible to maintain that the mover must of necessity be moved.

Once again it looks as if Aristotle has fallen into a certain confusion. Are the kinds of motion really limited in number? If by "kinds of motion" you mean the main subdivisions he gave earlier on (e.g. growth and diminution, qualitative change, and spatial motion), this is true, but it does not follow that the geometry teacher must be learning his own lesson - only that he must be undergoing some qualitative change. And if, on the other hand, you call even learning one particular geometry lesson a "kind of motion", there will be an unlimited number of kinds. For instance, space being infinitely divisible, there are an infinite number of possible spatial movements.

Supposing, however, that Aristotle has made out his case: we are still not certain whether the prime mover is in fact self-moved or unmoved. (The proof given earlier in Book VIII showed only that there can be no sublunar self-movers; its arguments could not be applied to the spheres.) The next step is to eliminate the former.

The supposed self-mover can hardly move itself as a single unity. If it did, it would both cause and undergo the same change; the same thing would be both hot and not-hot, hot as the cause of the change and not-hot as that which is heated. (This is fair enough where change

in temperature is concerned, but not at all obvious with change of position; since two objects cannot occupy the same space at the same time, a spatial mover is never actually in the same place as that which it moves, where the two are distinct; our supposed self-mover need not therefore be in act in the same place as it is in potency.) We must therefore suppose that part of the self-mover moves another part. Now it cannot be that each of these parts moves the other. For in the first place this would mean that neither part was really a prime mover: A would be the prime mover as moving B, but B would too, as moving A. Secondly, we have just proved that the Prime Mover, if it is moved at all, moves itself. Part A, then, which we are supposing to be moved by B, can at most only be accidentally moved by it; no necessity can be involved. It is therefore possible for it not to be moved by B; and in that case we have one part (B) which is moved, and another (A) which is an unmoved mover. And finally, since presumably A and B are moving each other in the same sort of way, we have not really escaped the difficulty met with in the case of a self-mover moving as a unit: A will both heat and be heated at the same time.

Nor can a thing which primarily moves itself contain a part, or parts, which move themselves. If it is moved by a part of itself, it is not a real self-mover; only the part is. But if it moves as a unit, the parts are only moved accidentally, and it is possible to suppose that they should not move themselves. (This is reminiscent of the argument in Book VII.) It follows that wherever we have what appears

to be a self-mover we shall find that in reality it consists of one part which is moved and one which imparts motion without itself being moved. And, this being so, all motion derives ultimately from an unmoved mover, or movers.

Aristotle's reasoning is, as I have said, a good deal subtler than some casual allusions would lead one to suspect. Even given his general physical theory as a background, however, it is far from watertight; we have noted several places where there seemed to be leaks, and as we survey the later developments of the Prime Mover argument, we shall see that Aristotle's successors were well aware of these defects. Indeed, in the period immediately after his death the argument virtually disappeared. From the accession of Lyco in 269 B.C. the Peripatetic school itself tended to concentrate on ethical matters (in which it was not much of a rival to the Stoics and Epicureans); and the scientific side, which bulked large under Aristotle's immediate successors Theophrastus and Strato, and which thereafter made its home in Alexandria, became steadily more naturalistic.

Theophrastus, for instance, is decidedly unhappy over the plurality of unmoved movers found in Metaphysics 11. Why is there harmony in the celestial mechanics, if there is more than one source of movement?[1] Nor is Aristotle's notion of the "best desire" which moves the first heaven, thus allowing the Prime Mover to move "as by being loved"

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1. Metaphysics II,5a14ff.

without being moved itself, satisfactory.[1] Indeed, is any explanation really needed for the movement of the celestial system? "Rotation is a sort of life of the universe"; without it the celestial system would be such only in name, like an animal or plant that did not move (i.e., presumably, was dead).[2] The point seems to be that Aristotle's "explanation" gives us two extra items - the Prime Mover, and the soul of the first heaven, which must <u>have</u> a soul if "desire" is to have any meaning - without getting us any further: We could just as simply have assumed that rotation was the ultimate nature of the heavens. Theophrastus' arguments are no doubt rather unsatisfactory; he has not really faced the full force of Aristotle's reasoning; but in fairness it should be noted that his "Metaphysics" seems to have been only the introduction to a larger work, projected but never actually written. And the alternative he proposes will be found to have many closely similar successors! Strato evidently went a good deal farther, and claimed to have "given the gods a holiday", holding that "nature, which is a power without shape or capacity to feel, contains in itself all the causes of coming to be, of growth, and of decay".[3] And about the same time some unknown Peripatetic was coming very close to the idea of inertia, having noticed that a body is

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1. Ibid.
2. Ibid. VIII,10a7ff.
3. Cicero, Acad. II, 38, 121; de Nat. Deor. I, 13, 35.

easier to move once it is in motion, and wondering just why an object that is thrown should come to rest.[1]

The Peripatetic school, therefore, was soon having doubts about its founder's natural theology; and if doubts existed even there, it was hardly likely that any of the other schools should take that natural theology up. The Stoa, indeed, developed a natural theology of its own; but it was based on the harmony and apparent design of the universe, not on any physical theory of motion, and must be classed with the physico-theological argument rather than the cosmological. Moreover, the Stoic God was neither transcendent nor unchanging.

The Neoplatonic One was both; the Aristotelian cosmology of the Quintessence and the unchanging world above the moon fitted well with Neoplatonic ideas; and it was in Neoplatonism that the Aristotelian arguments returned to the philosophical stage.

For example, in Proclus (410-485) (about whom we shall have more to say when we come to the causal form of the Argument) the proof from motion reappears, though stripped to its bare bones and given an unexpected twist. Proposition 14 of his "Elements of Theology" sets out to prove the co-existence of the unmoved, the self-moved and the extrinsically moved. The existence of the unmoved mover is proved by the fact that its non-existence would mean either a "circle of communicated movement" or an infinite regress. But the latter has been

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1. Ps.-Ar. "Mechanica" 858a. But the writer accepts Aristotle's theory of projectiles.

proved impossible in proposition 11, which (as we shall see) shows that there is a First Cause, and hence no infinite series of beings; and the former is equally impossible, as the mover is superior to the moved. (This is taken to be implied by proposition 7, which actually deals not with causes of motion but with "productive" causes, παρακτικά.) There is therefore an unmoved mover. And there is also a self-moved mover, since (as Plato had argued) if all things were at rest, only the self-moved could begin motion.

But these are not identical. The self-moved mover, we find in proposition 20, is Soul, Psyche, the third member of the Neoplatonic "Trinity"; the unmoved mover is the second member, Intelligence or Nous; and neither of these is to be identified with the First Cause, the One, which is above and beyond both of them. It would have been interesting to hear Proclus' comments on the celebrated conclusions of Aquinas' "five ways" - "this all men call God" etc.!

The argument from motion was now definitely back in favour, and destined to remain so for a long time to come. Oddly enough, it might well have disappeared almost immediately. For soon after Proclus' time we find the Alexandrian John Philoponus busily criticizing the Aristotelian doctrine of motion. In defending the existence of a vacuum against Aristotle, Philoponus propounded a new theory of projectile movement. Aristotle's view (that they are propelled by the air or water through which they are travelling) will not do, he says;[1]

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1. In Ar.phys.lib.IV,8,215a14ff. (Vitelli, p.643. 21ff.)

for when the stone leaves the hand, or the arrow the bow, there is at that moment no air between them. There must therefore be an immediate impulse from the hand or bowstring which moves the missile even though contact with it has ceased. Motion thus does not depend on contact with the mover, and is therefore possible even in a vacuum.

Philoponus, however, never drew the full consequences of this theory so as to discover the principle of inertia. For one thing, he agreed that all motion does require a mover,[1] though not one that exists at the same time as the moved; for another, he thought that the impetus given to a missile would eventually die down, just as would the moving power Aristotle had ascribed to the air.[2] It is rather a pity, though, that his commentary on Books VII and VIII of the "Physics" is lost, save for fragments.

Generally speaking, the mediaeval Arabs did not add much to the Prime Mover argument. Their chief contribution lay in the combination of Neoplatonic and Aristotelian elements, working down from God to the world we know rather than up from the world to God. And this was fascinating work, combining an indisputable monotheism with an orderly structure of the universe in a way Aristotle and his plurality of unmoved movers had never done. The Prime Mover argument, however, was accepted by then more or less as it stood. Some refined it further; others over-simplified it.

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1. De aet. mundi VII 3 (Rabe p.250, 4).

2. In Ar.phys., loc.cit.

To take an example of the latter first: Ibn Miskawaih, an older[1] contemporary of Avicenna (who did not think much of him), devotes two chapters out of thirty in his "Shorter Theology"[2] to the proof from motion. The first (chapter 3 of the first part) is preliminary only, explaining why the proof from motion is clearer and plainer than others, and listing the various sorts of motion. Chapter 4 gives the proof itself. This is said to require two propositions: firstly, that everything moved has a mover other than itself, and secondly, that "the mover of all things is not itself moved". The first is easily proved in the case of an animal or vegetable, since we can prevent its moving by cutting off an appropriate part of it, whereas if its motion had been essential it should have continued in both parts "because a part is in nature and quiddity similar to the whole". As regards inanimate objects, if these moved essentially they would continue to move after reaching their "centre and proper place", which clearly they do not do.

Now if everything that is moved has a mover, we may ask whether this mover is itself in motion, and so on; and so we must come at last to some mover which has no motion at all, for otherwise we should have an infinite series, which is impossible. Furthermore, every body must possess motion (proved in the previous chapter, to ibn

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1. Died 1030.

2. ET in Sweetman, "Islam and Christian Theology", I,1, pp.93ff.

Miskawaih's satisfaction anyway, by the fact that it has a nature which moves it towards its final perfection). The Prime Mover cannot therefore be a body. "Thus it is learned", we are told, "that this mover is the first cause and cause of causes of the existence of all things, and by this every existing substance comes to be in the world of phenomena". (This is not quite so startling a jump as might seem at first, as "generation" is itself one sort of movement, and the Prime Mover must therefore be the source of generation just as much as of spatial movement.)

This degenerate sort of argument should not be taken as typical of the Arab philosophers. Avicenna, for instance, has more than one interesting comment to make on the proof from motion. Movement, according to him[1] has three possible causes: nature, will, and force. Natural movement is always from a state unsuitable for the thing moved to one that is suitable (e.g. downward motion for earth). It therefore requires that the thing moved should be in an "unsuitable" state first. And so "nature by itself cannot be a source of motion"; it requires something else to enable it to produce motion. Force can be reduced in the end either to nature or to the will of the mover. This leaves us with will; all motion depends on the will of the soul of the First Heaven. (It should be noted that the separate intellect cannot by itself move anything except in the sense of being

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1. "Metaphysices compendium" I, 2, tr.ii, cap.4. (Part of the "Kitab al-Najat".)

an example, or the object of desire: it needs the assistance of the soul, where will resides.)

More interesting was a logical objection[1] which Avicenna raised to some of Aristotle's attempts to prove the impossibility of a self-moved mover. These, it will be remembered, involved dividing the supposed self-mover in two, and then pointing out that if one of these were at rest, the whole would be. Since, however, the whole is supposed to be essentially, not accidentally, self-moved, it is intolerable to suppose it would ever conceivably be at rest as the result of the rest of something other than (even though a part of) itself. The idea of a self-mover was thus self-contradictory.

But, Avicenna points out, if the self-mover really is essentially self-moved, to suppose that part of it is at rest is to suppose an impossibility. And of course impossibilities can be shown to follow from an impossible premiss. If, for instance, you begin by supposing that a hundred is part of ten, why, then it follows that ten is a hundred <u>plus</u> something extra! It is, of course, true that the body of the first heaven, or whatever we suppose the self-mover to be, is capable of being at rest in so far as it is a body; but then so is a man capable of being a bird, in so far as he is an animal. Avicenna, therefore, is not very keen on the Prime Mover argument; his preferred proof of God's existence is, as we shall see, based on the notions of

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1. Sufficientia, II.1.fol.24 M ff. (Part of "Kitab al-Shifa".)

necessity and possibility instead.[1]

But the major contribution to the development of this argument in the Muslim world came from a Jew, the great Maimonides (1135-1204), who set out to make it both watertight and coherent. He gives[2] as his basis 26 propositions, all of which he regarded as true except the last, which states that time and motion are eternal; this last he thought could be neither proved nor disproved, but was shown to be false by revelation.

Not all 26 propositions are used in the proof itself. This begins with prop.25, which states:

> "Each compound substance consists of matter and form, and requires an agent for its existence, viz. a force which sets the substance in motion[3] and thereby enables it to receive a certain form. This force is called the immediate mover."

This applies to all transient things. Now the immediate mover is itself moving (this appears to be assumed without proof, except that as far as corporeal movers are concerned, prop.9 tells us that these set themselves in motion at the time they cause others to move). As prop.3 tells us that

> "The existence of an infinite number of causes and effects is impossible",

the series of movers cannot go on to infinity. In fact, it can only

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1. See below, pp.91ff.
2. "Guide for the Perplexed", part II, intro. (Friedländer, pp.145 ff.
3. i.e. "change"; see prop.4.

take us as far as the movement of the Quintessence, which is the source of all other moving forces. Now by prop.17 we have

> "When an object moves, there must be some agent that moves it, from without or within";

so the sphere or spheres of the Quintessence must have their own motion effected by an agent. This must take one of four forms: (a) a corporeal body external to the sphere; (b) an incorporeal agent external to it (or rather separate from it); (c) a force spread throughout the sphere; or (d) an indivisible force within it (such as the soul is in a living body). (Theoretically there might be a fifth, a force spread through <u>part</u> of the sphere, but this we can ignore.)

Now the first of these simply leads to the whole question's arising again with regard to the new body, and unless you have an infinite series of such bodies, all existing at once, this gets us nowhere. But prop.2 states:

> "The co-existence of an infinite number of finite magnitudes is impossible":

so (a) can be ruled out. So can (c), the force distributed throughout the sphere. For the sphere itself is corporeal, and since by prop.1

> "The existence of an infinite magnitude is impossible"

it must be finite. And further, by prop.12

> "A force which occupies all parts of a corporeal object is finite, that object itself being finite",

so that this force we are positing must also be finite. But by

Prop.26, assumed for the sake of argument to be true, as it is certainly possible,

> "Time and motion are eternal, constant and in actual existence",

so that a finite force is required to produce an infinite motion, which is impossible.

This leaves us with (b) and (d). But (d) too can be eliminated. If it were the case, the mover of the sphere would move with it, as the soul of a man does when his body moves. ("Accidental" motion, to use the technical term.) But (prop.8)

> "A thing that moves accidentally must come to rest, because it does not move of its own accord; hence accidental motion cannot continue for ever."

The sphere could not, therefore, move for ever, as required if prop.26 is to be possible. This leaves us with (b), an incorporeal mover, separate from the sphere, which is not itself moved, either essentially or accidentally, but is indivisible and unchanging; and this is God.

There are one or two points that need clarification before we can appreciate the force of Maimonides' argument. He appears to have abandoned the elaborate Aristotelian proof that no infinite series of movers is possible: but it would really be fairer to say that he presupposes it. The "Guide for the Perplexed" is not primarily a work of philosophy, and Maimonides fully recognised that his 26 propositions, or some of them, needed proof. (Later commentators on his book did indeed set out to provide such.[1]) Of course, since nearly

1. See Wolfson, "Crescas' Critique of Aristotle", intro., for an account of some of these.

all movers coexist with that which they move, it could be said that an infinite regress of causes would almost certainly entail a simultaneous infinity of co-existent beings, which everyone in Maimonides' time would agree was impossible - as in prop.2.

A second point that needs clarification is the argument that, if the force moving a sphere is itself within that sphere and so is moved accidentally, it must therefore come to rest in the end. This is by no means self-evident, and, was explicity denied by Crescas in his criticism of the 26 propositions.[1] What seems to lie behind Maimonides' reasoning is the behaviour of sublunar instances of such motion - e.g. the souls of animals and human beings. These are indivisible forces within bodies; they do move bodies, and they are accidentally moved by them; but they themselves need some external stimulus - a desire, an aversion, an ideal - and only move the body when such a stimulus is present. When the desire is achieved, or whatever it may have been, they stop moving. If we apply this to the case of the sphere, we arrive at the same sort of conclusion that Aristotle did - the sphere can only move eternally if there is an eternal stimulus, namely, the Prime Mover. Strictly speaking, Maimonides <u>is</u> inconsistent, for the angelic intelligences in the spheres are subject to accidental motion which (so far as philosophy can tell) could be eternal. But this is only true in virtue of the eternal existence of God; were it not for

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1. He argued that if a body can move eternally at all (as Maimonides supposed) all its accidents, and any force within it, <u>must</u> move eternally with it.

that, prop.8 would be true absolutely. The inconsistency is more apparent than real.

Maimonides adds a much simpler (and much less plausible) argument for a Prime Mover: that if a thing composed of two elements exists, and one of these elements is known to exist on its own without the other, then that other will also exist on its own. Since there are things which are both mover and moved, namely, all the intermediate members of a series of movers, and also a thing which is moved without moving anything else, namely the last member of such a series, there must also exist something that moves other things without itself being moved. This argument made some sense in Aristotle, where it was directed against any opponent who claimed that all movers were (accidentally) in motion: in its Maimonidean context it is most unconvincing.

By the time of Maimonides Aristotelianism, and specifically the proof from motion, was beginning to make its influence felt in Christendom. It is found, for instance, in the 12th century in Adelard of Bath, and in the 13th in St. Albert, who puts it as a contribution of his own after other proofs derived from Ambrose and Augustine.[1] (He acknowledges, of course, its origin in Aristotle, but evidently regards its introduction into Christian theology as his own.) But its most famous appearance is in the "Summa contra Gentiles"

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1. Summa theologiae I, 3, q.18, i. (Opera, vol.31, p.119.)

of St. Thomas Aquinas.[1] It is not given any new twists there, but is stated, in its Aristotelian form, with great fullness and clarity. This is, one might say, not only the fullest flowering of the argument but its last, before it began to wilt under criticism.

Aquinas begins by stating the two propositions to be proved: "Everything that is moved is moved by something else" and "It is impossible to proceed to infinity in the series of movers and things moved". The first proposition is proved as in Book VII of the "Physics": a self-mover would be at rest if part of it were at rest, but this is impossible if it is moved by itself primarily and essentially. (Here Aquinas inserts a comment of his own. He is aware of the objection raised by Avicenna to this reasoning, and has in effect two answers.[2] Firstly, that the real force of Aristotle's argument does not lie in the supposition that part of the self-mover is at rest: it lies in the facts that anything which moves must be divisible, and that the motion of anything divisible, like its existence, depends on the motion of its parts. Secondly, that even as Aristotle's argument stands, it needs to show, not that a part of the supposed self-mover actually is at rest, but that <u>if</u> it were at rest the whole would be at rest too. And this is true, even though the antecedent is not strictly possible; just as "If a man is an ass,

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1. I, 13, 3-28.

2. For a closely similar dispute, cf. Aquinas' commentary on Aristotle's "Physics" VIII, lectio 21, sect.3.

he is irrational" is true, though here too we have an impossible antecedent. Now of these two answers, the second is surely invalid. There is perhaps a sense in which "If a man is an ass, he is irrational" may be called true; unfortunately, it is equally true that "If a man is an ass, he is still rational": it depends which term in the antecedent you are trying to reason from. If you can use the first proposition to prove that a man's rationality depends on his not being an ass, you can equally use the latter to prove that it does not so depend. From a self-contradictory proposition anything can be "proved". And similarly, Aristotle's supposed case could be countered with "If a part of a self-mover were at rest, the whole would be in motion". Both propositions are equally "true" and equally pointless. But St. Thomas' first answer to Avicenna is much more serious. Indeed, as an argumentum ad hominem it is unanswerable; for Avicenna did hold that the totality of being depended for its existence on the existence of its parts, and why should this not also hold of a totality of motion? (Hence, in fact, one presumes, Aquinas' parenthetic "like its existence"!) It is not so certain that the answer is valid in itself. Given the Aristotelian view of the universe as composed of elements with heavy downward-tending natures and the like, there seems to be no reason for ruling out the possibility of self-moving elements; and if every part of the Primum Mobile were self-moving, it would not matter that the motion of the whole was (logically) dependent on that of its parts. This point had in effect already

been made by Algazel, and was to be made again - as we shall see.)

Next, Aquinas cites Aristotle's proof (in "Physics" VIII) by "induction" - i.e. exhausting the possibilities; everything is moved either accidentally, by violence, per se from within (as with animals), or per se by nature, and in each case there is a mover not identical with the thing moved. And finally (again from Physics VIII) nothing can be at the same time and in the same respect both in act and in potency; but a self-mover would have to be this.[1]

(Here Aquinas inserts another digression, seeking to reconcile Aristotle and Plato by suggesting that they meant different things by "motion".)

The next step is to prove the impossibility of an infinite regress of movers. Once again we have three proofs. Firstly (Physics VII) such a regress would entail the simultaneous motion of all its members - i.e. an infinite motion - in a finite time; indeed, since all the members must be in contact, we should have one infinite object so moving. Secondly (Physics VIII), in an ordered series of movers and moved motion ceases if the first mover ceases to move; but in an infinite series there would be no first mover, and therefore no motion.[1] And thirdly (again Physics VIII) in an infinite series all would be instrumental movers only; but an instrumental mover needs a principal mover.

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1. Cf. also S.Th.I, ii, 3.

This first version of the proof is followed by a second, drawn entirely from Physics VIII, and indirect in its nature. There must be a Prime Mover. Otherwise, "Whatever is a mover is itself moved" is true. But it is not true per accidens (for (a) it would then be possible for there to be no motion at all, which is not possible, and (b) moved things which move nothing exist, so probably the converse is true) nor per se (for then either a mover would receive motion of the same kind as it imparts, which is absurd, or of a different sort, which, the varieties of motion being finite, ends up by reducing to the first case). There is therefore a Prime Mover: but it is not self-moved, for the whole cannot move the whole without being the same thing both potentially and actually, which is absurd, while if part moves the rest the moving part is itself unmoved and the Prime Mover proper.

These arguments have already been discussed in dealing with Aristotle himself. Aquinas has, however, one more point of his own to make. Aristotle had believed in the eternity of the universe. But this is known by revelation to be false. Does this not invalidate the argument?[1] To this, Aquinas replies in the negative; if there must be a Prime Mover even in an eternal universe, then a fortiori there must be one in a non-eternal one. For nothing brings itself

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1. Apparently the Renaissance Aristotelian Zabarella held that it did; the world has not always existed, and therefore the proof from motion will not do. (Copleston, "History of Philosophy", III, 2, p.32.)

from potentiality to act, from not-being to being. Much the same reply was given earlier by Maimonides. It should, however, be noted that this is a perfectly valid objection to at least part of St. Thomas' argument (the proof that "Whatever is a mover is itself moved" is not true per accidens). It is just as serious, or more so, where Maimonides is concerned. For though his argument seems at first only to require that the eternity of motion should be possible, in point of fact I think it requires it to be actual. Otherwise there would be no reason to deny the existence of a finite force distributed throughout the Primum Mobile, as opposed to an infinite force external to it (or residing in it and accidentally moved with it). Maimonides' actual argument takes the form "If X were the case, eternal motion would be impossible; but it is possible; therefore X is not the case". Now this is quite all right where Aristotle or Averroes is concerned; they think it possible to prove that eternal motion is actual, and therefore a fortiori possible. But the only way Maimonides can prove that eternal motion is possible without proving it actual is by eliminating all the objections to it. Unless, therefore, we can eliminate the possibility of a force within the Primum Mobile by some other means, without bringing in the eternity of motion, the Maimonidean proof becomes circular. (There is a God. Why? Because, among other things, there is no moving force in the Primum Mobile. Why not? Because eternal motion is possible. Why must it be possible? Because there is a God,

and He might have made it so.)[1] St. Thomas' proof, however, has several strands to it, and can still hold up even if this particular one is unreliable.

Unfortunately, the other strands came increasingly under criticism as the Middle Ages wore on. The attack developed on several fronts. Was it really true that all motion required a mover? Was it even true of spatial motion and physical objects? Was it necessary that the Primum Mobile should be animate? (Aquinas was aware of this objection, but considered that the only alternative was an inanimate sphere moved directly by God.)[2] Was an infinite series of movers really impossible? And was it possible to prove such things as the uniqueness of the Prime Mover, even if He could be shown to exist?

The odd thing is that the starting-point for some of these criticisms is to be found in Aristotle himself, who in the De Caelo[3] treats of the circular motion of the Quintessence without any reference to a Prime Mover. There are elements whose natural motion is upwards or downwards; there must therefore also be an element whose natural motion is circular. The personal position of Aristotle is not made any easier to determine by the facts that in later passages[4] he describes

1. In any case, this type of argument is formally invalid: see below, pp. 101-2.

2. S.C.G.I, 13, 31-2.

3. A2, 269a-b.

4. 285 a 30, 286 a 9.

the heavens as animate and says, as his reason for saying that the heavens are composed of this circling element, that they are divine, and the movement of that which is divine is eternal (and therefore circular). Probably the doctrine of the "Physics" represents his final opinion. For though no doubt the natural movement of the heavens is circular, just as that of earth is downward, not all earth does in fact move downward, as some has already done so as far as it can, and some is prevented from doing so; and similarly the heavens may move naturally in a circle, yet still require a mover to make them do so. Indeed, according to the theory of the "De Caelo" and of "Metaphysics" XII, there are heavenly spheres moving in different directions (not to mention different speeds), so that some factor other than nature would seem to be required. Nevertheless, Aristotle had provided a starting-point for the criticism of his own theory. We have already noticed that this starting-point was in fact used by his successors at the Lyceum. Here, however, our concern is with later developments; we may begin with Algazel (1058-1111) where the criticisms are fairly mild and tentative.

The Fourteenth Discussion in his "Incoherence of the Philosophers"[1] is entitled "To refute their" (sc. the philosophers') "proof that heaven is a living thing moving in a circle in obedience to God", and the argument is continued in the fifteenth "To refute the theory of

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1. Averroes, "Tahafut al-Tahafut", ed. van den Bergh, vol.1, pp.285 ff

the philosophers about the aim which moves heaven". Algazel does not claim to refute the former theory, only the supposed proof of its truth. This, in the form he gives, is by elimination. The heavens must be moved by constraint, by nature or by will; and motion by constraint is reducible to motion by nature or by will (as we have seen in Avicenna). Now nature yields only motion to the natural place of a body, and the heavens move in a circle. The heavens therefore move as the result of will (not that of God directly so much as that of the first Intelligence).

But Algazel suggests three other possible explanations. Firstly, that some other body, not itself a heavenly sphere, is responsible. (This, as Averroes pointed out, would lead to an infinite regress; and in any case the philosophers have shown that there is no body outside the heavens.) Secondly, that God's will is directly responsible. (The philosophers reject this on the grounds that bodies only differ in their acts - motion, for instance, and that if God directly confers these acts there would be no distinction between one body and another whereby He could choose to give them different forms of motion; but to Algazel this line of argument has no force.) And thirdly, the heavens may move in virtue of their own nature after all. There is no reason why the movement, not the seeking of a place, should not be the goal of the celestial Nature.

And indeed Averroes' first attempt to answer this is not convincing. What he says is that the argument "Natural motion seeks

the natural place" is only used by the philosophers ad hominem, to anyone who tries to assimilate heavenly movements to sublunar. Actually, the circular movement is sought for its own sake; but it is sought by a soul and not by nature. This does not seem an adequate reply. Algazel had not denied that the heavens might be animate (though he thinks absurd the motives ascribed by the philosophers to the Intelligences); he had only said that they need not be, that nature would suffice. Averroes adds that "what is moved towards movement in so far as it is movement must desire this movement", but does not explain why this should not apply equally to what is moved towards a place.

However, he does append the argument mentioned above when we were considering the views of Aristotle. The heavenly bodies move in different directions, and their motion cannot therefore be due to nature alone: if it were, they would all move the same way. This is much more serious, though not (I think) unanswerable. Algazel, had he known of it, might have answered either that the retrograde spheres are moved by constraint from the others, or that they are upside-down: that there are poles to the spheres is common ground to both sides in the dispute, and there would be nothing to stop Algazel from saying "The spheres' motions are the same but their poles are reversed", rather than (with Averroes) "Their poles are the same but their motions reversed."

This line of criticism did not disappear with Algazel. But it

was reinforced by others. A belief in incorporeal angels is not easy to square with the principle "quidquid movetur ab alio movetur". Aristotle's proof of this, in so far as it depends on the divisibility of all that moves, would not apply, for an angel is not divisible except in the sense that he can apply his power to that which is divisible; yet an angel can move in space.[1]

But even if this argument did not hold (if, for instance, angels did not exist, or were corporeal) there were still difficulties. We have already noted the suggestion of Philoponus that missiles are not moved by the medium through which they pass but possess a quality of "impetus" and move without the need of a co-existing mover. This theory was taken up in the Middle Ages by a number of thinkers, beginning, it seems, with Olivi (died 1298) and continuing with Ockham (d.ca.1349-50), John Buridan (fl.ca.1340), Albert of Saxony (d.1390) and the Jewish thinker Hasdai Crescas (d.1410).

The problem had indeed been discussed earlier within Islam, where Philoponus was better known. Avicenna,[2] after rejecting two forms of the Aristotelian theory, mentions a third, according to which the moved acquires a force from the mover which persists until it is overcome by friction and natural movement downwards. His own preference is for a view very like this, except that instead of a "force" we have

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1. Cf.S.Th.I, 53, lad 1.

2. Al-Shifā, vol.1, 154-5, ap. Clagett, "The Science of Mechanics in the Middle Ages", pp.510 ff.

an "inclination". (A force grows weaker, as in Philoponus; an inclination, like the natural inclination of heavy or light objects, continues until destroyed by some other cause.)

This part of Avicenna's work, however, was unknown in mediaeval Christendom, and the Christian philosophers came to their conclusions independently. Aquinas is already alluding to a theory of "impressed force" in the projectile, and rejecting it[1] on the grounds that if it were so, violent motion would arise from an intrinsic source, which is absurd, and also, more obscurely, that a stone would be altered when it was moved violently, which is not the case. Olivi's theory[2] seems similar, except that what he thought was "impressed" was a kind of copy ("similitudo vel impressio") of the moving force.

Ockham's view[3] is quite different from this or any later theory. He rejects first of all the view that projectiles are moved by the projecting body; for that can be destroyed while the motion continues. Nor can they be moved by the surrounding air; for an arrow might pass a stone travelling in the opposite direction, and what would the air be doing then? Nor can it even be a power in the stone itself. For what causes that power? Not the projecting body: for if I bring my

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1. In Ar. de caelo, 3,2, lect.7,6.

2. In II lib. Sententiarum, qu.29 (Jansen, pp.499ff.); it is not clear that Olivi himself accepted this view (see Clagett, op.cit. p.519).

3. Reportatio II, q.26, N. sqq. (Boehner, p.139).

hand into contact with a body slowly the results are very different from those that follow if I do so quickly; yet in both cases the projecting body, my hand, is equally near. Nor can the cause of this supposed power be the motion of my hand; motion's only effect is to bring agents near the objects they act upon, and it does this equally in slow motion and in fast. The moving agent must therefore be the projectile itself; mover and moved are indistinguishable.

This very radical view did not catch on. More influential was that of John Buridan,[1] which was much the same as that of Avicenna; like him, but unlike Philoponus (and one or two others) Buridan regarded impetus as a permanency, failing the intervention of some other cause. He also regarded impetus as proportionate to the speed of and quantity of matter in the body moved. But his importance for us lies in the fact that he specifically applied his theory to the movement of the heavens, which Avicenna had not done. When God created the world, He might have given the necessary impetus to the celestial spheres and then left them to turn (except in so far as He exercises a perpetual influence on everything, "sine qua etiam Sortes non ambularet").[2] There is no need to postulate Intelligences in the spheres; for there is nothing to resist their motion and so destroy the impetus given them at their creation, nor any inclination to

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1. In Ar.phys.VIII,q.12; cf. in Ar.Met.XII, q.10.

2. Buridan quotes in support the Scriptural account of God's rest on the seventh day.

deflect them.

Buridan was rather uncertain about this. "This may be a silly idea", he begins in one statement of the theory, and hopes for enlightenment from the theologians. Albert of Saxony[1] is more definite (though, oddly, rather more hesitant in his acceptance of the impetus theory as a whole). Even here, however, the application of this principle to the Prime Mover argument had still to wait.

Meanwhile, there was yet another line of thought to undermine the argument. Maimonides had argued that any force residing in a finite sphere must itself be finite, and that since time either is or could be infinite, this force would have to produce an infinite motion, which is absurd. Hence the force that moves the outermost sphere must be external to it, and derive from the Prime Mover.

Unfortunately, "infinite" is a word with more than one meaning. There are, as Averroes pointed out,[2] two senses in which a force may be called infinite: in one, we mean a force whose effect is finite in speed and strength, but spread over an infinite length of time; in the other, we mean one infinite in itself. The latter cannot exist in any body, heavenly or earthly; but the former, though impossible in bodies that come to be and pass away, is positively <u>necessary</u> in the heavenlies.

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1. Super 8vum lib.phys.Arist., q.13.

2. Sermo de substantia orbis, cap.3 (de Ianduno, p.100 A ff.)

Add all these points together, and you will find it much harder to move from the Primum Mobile to God. And the inevitable step was at last taken - that of denying that such a move was possible at all.

One is inclined to wonder why it had not been taken earlier. Even in the Aristotelian physics, there were two classes of motion where the moving agent was separated from the body moved by an interval of time - projectile motion, where the ultimate source is the projector, however the motion may be transmitted, and the natural motion of inanimate objects, where the generating cause could well be no longer existent when the motion began, and the cause removing an impediment could well cease to exist while it was going on. And, given that the mover may be in the past (which is or could be infinite in extent) a lot of the proofs that an infinite regress of movers is impossible lose their force.

The proof from motion was not in favour with a number of post-Thomist thinkers - neither Duns Scotus nor Ockham, to mention the most famous, thought much of it. But for a detailed attempt at refutation we must turn to the Jew Crescas, and his criticism of Maimonides in the "Or Adonai".[1] His system is to go steadily through all but the last of Maimonides' 26 propositions, contradicting where necessary; we need not go through them all with him, but simply note how his criticisms affect the actual proof.

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1. Partly translated in Wolfson, "Crescas' Critique of Aristotle"; cf. also Waxman, "The Philosophy of Don Hasdai Crescas".

Prop.25, which began the proof, and asserted the need of an agent to set a substance in motion, is not criticized; nor is 3, which denies the possibility of an infinite series of causes and effects. Crescas does believe that God, if He chose, could create an infinite series of secondary causes and effects; but the main point of prop.3, that there must be a First Cause, be its effects finite or infinite, he accepts. So also prop.17 - that everything moved has a mover, external or internal. But then the trouble begins.

Maimonides had next argued that there cannot be an infinite number of separate magnitudes (each moving another) nor a single infinite body (which might have an infinite force residing in it). Both of these are denied by Crescas. Instead of the finite Aristotelian universe, he pictures one nearer the Newtonian, infinite in extent; and, space being infinite, there could well be an infinite body, or an infinite number of finite bodies, within it. Crescas' arguments are closely tied to the Aristotelian attempts to disprove infinity, and would take us rather far from our theme: but even if we concede Maimonides these propositions, he still cannot prove the existence of God. For this he requires prop.12: "A force which occupies all parts of a corporeal object is finite, that object itself being finite". And this is false. Firstly, because the arguments adduced to prove it are invalid. (These relied on the absurdity of an infinite force's moving the object in the same time as a finite one would, which is necessary unless the infinite force

moved it instantaneously, which is impossible. But Crescas sees no impossibility; the difference between the two forces lies in the fact that if the size of the object is increased, the finite force will take longer to move it a given distance, whereas the infinite will not.)[1] And even if this point be conceded, a force residing in a finite body might well produce motion of finite intensity but infinite duration, if there is no resistance to it (the point we have already notedin Averroes); and yet again, circular motion might be natural to the celestial substance (as in the "De Caelo" and Algazel).

Crescas, for all his radical views about physics, did not develop a general theory of "impetus", and the 14th-century physicists did not try to demolish the proof from motion. But the proof did lose its importance with great rapidity. It was tied in too closely with Aristotelian physics, and could not survive on its own. Once given that motion does not of itself die down, or that the First Sphere can spin for ever without any renewing force, and the proof disintegrates.

It is interesting to note that one modern defence of the argument, that of Mr. Brian Wicker,[2] uses the analogy of an electric refrigerator, where a circular system of changes, which could (were no other factors

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1. Duns Scotus (Op.Oxon. I, dist.ii, q, i, ad iv) (Wolter, pp.79ff) has a rather better solution to the same problem: an infinite power acting necessarily might have to move in an instant, but one that acts contingently and freely can act in time or an instant as it chooses.

2. "God and Modern Philosophy", pp.27-31. He is not, of course, trying to argue from analogy alone.

involved) go on for ever, none the less requires a motor to keep it going. Now the electric refrigerator is undeniably an "Aristotelian" system; it would run down at once if the motor were switched off. In fact any system within the universe will behave like this, not because of the nature of motion, but because of the second law of thermodynamics. And, as we shall see, this law has itself been used as the basis of a proof of the existence of God. It is however a different argument from that of Aristotle, Maimonides and Aquinas. It depends on the fact that entropy is not a constant, but increases; theirs depended on the fact (as they supposed) that motion was not constant, but decreased. In reality, unfortunately, motion is constant.

Nevertheless, certain Scholastic philosophers do still defend the proof from motion. This has been tried in more than one way. One is to argue that "we are concerned here with metaphysical and not with purely physical and mathematical concepts".[1] Now to some extent this is justified. Motion is, to the Aristotelian, just one category of motion in the wider sense - i.e. change (though the first of them), and the "proof from motion" could be called the "proof from change". But it is not as simple as that. Spatial movement is still one sort of change: and if in this one case motion can occur without a mover, then the general proposition "Whatever changes, is changed by something" is false. It may still be advisable, as Professor Mascall says, to

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1. Mascall, "He Who Is", p.43.

use the language of "potentiality" and "act"; but it will not be possible to use it to prove there is a God.

A second possibility would be to take the line that <u>despite</u> the principle of inertia the Aristotelian principle still holds good. This requires a good deal of perversity, but it has been tried.[1] As far as I can see there are only two ways of doing this. One is to say that the "mover" of a projectile (or rather of anything, since the laws of inertia apply to all matter) is that which originally set it in motion. (This is suggested, on the basis of "ordinary usage", by Albert of Saxony,[2] but eventually rejected.) The trouble with this is that the mover will now be in the past - may indeed have ceased to exist even while the motion it imparted continues. This was tolerable in the Aristotelian system when it only applied to the generating cause of things which later moved according to their nature; but now it must apply to the whole universe. It means that an infinite regress of movers no longer implies a simultaneous infinity of existents, and that it is impossible to prove the existence of a Prime Mover unless the world had a beginning in time.

It might be argued "Very well, we have merely proved more than we thought we had. Everything moved has a mover preceding it in time; this cannot go on to infinity (we have other arguments to prove this,

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1. e.g. Garrigou-Lagrange, "Dieu", pp.249 ff.

2. Super octavum lib.Physicorum, q.13, fol.83.

which do not bring in the "simultaneous infinity" difficulty); therefore we have shown both that the world had a beginning and that there is a Prime Mover." But even this will not do. Quite apart from the theological point that we have now made it impossible for God to create an eternal, unbeginning universe, there is also the snag that there need not be an original mover for the thing moved. At any moment whatever of a moving object's history, its motion, provided that it is not accelerated, is adequately explained by its previous motion. A universe composed of two stars for ever revolving around one another requires no more (though no less) explanation than one composed of a single star with no motion, except perhaps in so far as the laws governing the stars' motion in the first case might require explanation on the lines of the Physico-Theological Argument.[1]

An alternative, espoused by Garrigou-Lagrange and, more recently, Hawkins,[2] is to say that the impetus of the moving object can itself be regarded as a "mover". This seems very odd, for "impetus" certainly does not resemble an Aristotelian mover: and one is driven to ask "Does the impetus of a moving object travel with it?" If so, then it requires an impetus of its own, and so ad infinitum. If not, if the impetus is in effect extra-spatial, then we have either a separate Prime Mover for each particle in the universe, or a Prime

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1. Strictly, of course, the first case does involve acceleration; but the explanation of it lies in the laws of motion and the existence of the stars.

2. "Essentials of Theism", p.56.

Mover consisting of the total momentum in the universe. We have only saved the principles "quidquid movetur ab alio movetur" by denying that anything is ever moved except by the Prime Mover, directly - which is neither Aristotelian nor plausible.

Anscombe and Geach,[1] however, have a different line of defence altogether, which they think expresses the real reasoning of Aquinas himself. "If B is the cause of a process going on in A... 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... in virtue of being itself in process of change. But what is it that maintains this process of change in X?" Presumably an "unchanging changer" outside X.

Now whether this is or is not a correct interpretation of Aquinas it will not do as it stands. There is no doubt a sense in which X can be said to cause the change in A. But there is no sense in which X can be said to be in process of change. It is a collection of things that change; it does not change itself. There is perhaps a sense (a peculiar one) in which the election of Bertrand Russell to the Royal Society was caused by the total Society from its foundation to the

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1. "Three Philosophers", pp.111-114.

date of his election; but this total Society cannot change. The ordinary Society does, of course, from day to day; but that consists only of the Fellows living at a given moment, and corresponds to B,C or D, not X. We can of course ask "Why is X the sort of thing it is?" (including its quality of containing changing things), and get a physico-theological argument; or we can ask "Why does X exist?" and get the normal Cosmological Argument; but we cannot ask "Why does X change?" - it doesn't.

Finally, we may note the suggestion of Maritain[1] that in Newtonian dynamics the axiom "Everything that moves is moved by another" should read "Every body which undergoes a change <u>in regard to its state of rest or of motion</u> changes under the action of another thing". God would thus be the Prime Accelerator rather than the Prime Mover. Once again, this will not do. An Aristotelian universe, in which everything stays in its proper place (unless moved), has no need of motion at all; that it <u>has</u> motion is something needing explanation. But in the Newtonian universe motion entails acceleration; no two particles can be isolated from one another. (And if they could - if, say, acceleration were always by contact - each individual acceleration would be caused by contact with an hitherto <u>unaccelerated</u> particle, and no series, finite or infinite, would be involved.)

Outside Scholasticism, the proof from motion has disappeared since

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1. "Approaches to God", p.26.

the end of the Middle Ages.[1] Modern physics has produced some corresponding arguments which we shall have to look at later - e.g. from thermodynamics - but that is a different matter. We should, however, note two pieces of reasoning that do bear a certain resemblance to the proof from motion. Samuel Clarke (1675-1729) does not indeed use motion to prove the existence of God but does use it to prove His intelligence ("the main question between us and the Atheists"). He argues[2] that motion either began at some particular time (in which case the point is conceded, for unintelligent matter could never of itself change from rest into movement) or is eternal. If the latter, it was either (a) eternally caused by an eternal intelligent being - i.e. the point is conceded again - or (b) it is of itself necessary and self-existent, or (c) it has existed from eternity by "an Endless Successive Communication". If (b), it follows that it must be a contradiction to suppose any matter to be at rest (exactly why, Clarke does not say); yet since this self-existent motion could hardly be determined to be this motion rather than that, its effect ought to be complete universal rest! Again, this view implies that there could not possibly be either more or less motion in the world than there actually is; and Clarke professes to detect qualms over this idea even in Spinoza.[3] Spinoza,

1. There is a passing reference in Leibniz, 'Principles of Nature and Grace', sect.8 (see below, p.183).

2. "Demonstration of the Being and Attributes of God", 5th edition, p.6

3. Citing Ethics, I, 33 and II, 13, lemma 3.

though regarding all things as necessary, had, when he came to motion, described it in terms of (c); but (c) Clarke believes himself to have already proved impossible in the section dealing with causes generally, not just causes of motion.[1]

This is an interesting reversion to Plato's form of the argument; and if Clarke had really shown (c) to be impossible (which I fear I doubt) he would have had a very strong argument indeed. It can, however, be at best a supplement to a Cosmological Proof already devised, and so indeed Clarke himself presents it; it has none of the status of the old Prime Mover argument.

The other more recent example of argument from change is the work of Hermann Lotze (1817-1881); it appears both in the "Outlines of a Philosophy of Religion"[2] and in the "Metaphysic".[3] It is quite different in its whole method of approach, yet it is certainly based on the existence of change, and is classified by Taylor[4] and Pfleiderer[5] as a form of the Cosmological Argument, despite its variation from more usual forms.

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1. For a discussion of Clarke's argument, see below pp.178ff.
2. Ch.1, sects. 14-21 (E.V. pp.27-42.)
3. I, chs. 4-6 (E.V. pp.76-144).
4. H.E.R.E., vol.12, s.v. "Theism", p.281.
5. "The Philosophy of Religion", vol.3, pp.258-9.

Lotze begins by accepting, so far as it goes, the natural scientist's view of the world. Change is real, and also grounded; that is to say, when a change occurs, there is a reason for it. Natural science holds that there are an undefinable number of real elements or things, and also universal laws of nature "which determine what results shall flow from the relations which these elements from time to time enter into with one another". Now these laws cannot be regarded as "properly real beings" alongside actual things. (Here Lotze is certainly correct; if they could be so regarded we should find ourselves in the situation of Lewis Carroll's "What the Tortoise said to Achilles".) They must be either "finger-posts of the mind", mere methods for discovering the truth, or (a much more interesting possibility) the intrinsic nature of things. But in this latter case how do we explain the interconnexion between things? That a thing A should develop according to a certain pattern is understandable if the laws of its development are grounded in its intrinsic nature: but how can it affect B? The laws of B's development are presumably grounded in <u>its</u> nature, not in A's. Certainly they might include the law that when change X occurs in A, change Y occurs in B; but B must still be affected by A in order to "be informed" of this change X and so itself undergo Y.

One possible way out of this difficulty would be to regard such a notion of "being informed" as unnecessary. This is the case if we accept Leibniz' theory of "pre-established harmony". Now Lotze

dislikes this theory because of its determinism; but dislike, as he himself says, is not the same thing as disproof. And the only actual argument against Leibniz which he brings forward is that a pre-established harmony would be perfectly possible without general laws of nature. This, however, is not fatal; Lotze admits that the answer might well be that such laws were necessary for the perfection of the world, and hence, given Leibnizian optimism, for its existence.

If, however, we do not accept Leibniz' view, there <u>is</u> interconnexion between things, and the universe cannot be an ultimate plurality. It must be in some sense one being. This, which Lotze calls "M", is the ground and basis of all the individual things A,B,C, and so on. Now if one of these elements into which the unity of M somehow resolves itself should change - if, for instance, A becomes <u>a</u> - then, whereas the sum of these elements (which Lotze calls "ABR") previously exhibited the whole nature of M, the new sum, <u>a</u>BR, would <u>not</u> do so. The original situation can only be re-established if the other elements alter so that we have <u>ab</u>R(1). M is thus a unity perpetually maintaining itself unchanged while its elements alter. (The "compensating change" might, of course, take place within A itself, or in B alone without R.) "The only mediation which causes the changes of B and R to follow on those of A consists in the identity of M with itself, and in its susceptibility which does not admit a change '<u>a</u>' without again restoring the same nature M by production of

the compensatory change 'b' and 'R(1)'".[1] We might perhaps illustrate Lotze's point with the analogy of a man on a tightrope, who, if he moves his right arm outwards, must also move his left arm to balance it.

This Absolute Unity, Lotze proceeds to argue, cannot be identified with matter, but can be identified with spirit. For a spirit, alone of the things we are acquainted with, has changing states which nevertheless do not "remove its identity"; it is aware both of its own unity and of these changing states, and only allows the latter to be states of itself, no more; it "refers them to its identical core of being". And this is similar to the relationship between M and the individual things ABR. On the other hand, not only is this not true of matter, but moreover it is impossible to account for consciousness on a materialist basis, whereas to account for matter on an idealist basis presents no great difficulty. M is therefore spiritual, and (Lotze goes on later) there is no reason not to suppose it personal - i.e. God.

This argument, which obviously can be regarded as a new kind of Prime Mover argument, has not aroused as much support as its predecessors; Pfleiderer evidently approved of it, but no-one else that I know of. Its flaws are obvious enough. Lotze is too apt to assume that because theory A explains a situation and theory B does

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1. Metaphysic, I, 6, 70 (E.T. p.126).

not, therefore A must be true, and to overlook the possibility that there may also be a theory C somewhere about the place. Laws of nature cannot be treated as things on a level with physical objects, agreed; but it does not follow that they must then be either the intrinsic natures of individual things or mere "finger-posts of the mind". They might, after all, simply be laws of nature, not reducible to anything else; indeed, the natural scientist from whose views Lotze professes to begin might well say that natures should be reduced to laws, not vice versa. (It is, however, true that if "nature" rather than "law" is the ultimate concept, something like Lotze's picture might be necessary.) Again, the same sort of jump in reasoning is made when the existence of a self-adjusting M is suggested as the solution to our difficulty; something vaguely on these lines may be needed, but Lotze himself has actually admitted an alternative solution, the Leibnizian "harmony", and has not claimed to be able to refute it. And a third is made in the argument for the spiritual nature of M. This, however, one must admit is in better case, as Lotze does have a reason for it, recommending his conclusion by the analogy of finite spirits. We have already observed this analogy at work in Plato and Clarke; and when we leave the Prime Mover for other versions of the Cosmological Argument we shall find it recurring several times.

KALAM

Side by side with the main stream of scholastic thought there existed, during the Middle Ages, a movement which cannot quite be called "philosophic", yet which began and ended in philosophy and never quite lost touch with it. It is generally known as the "Kalam", the Arabic word for "an assertion" and a fairly close equivalent to the Greek " λόγος ", and those who practised it as "Mutakallims". (This word is sometimes rendered "theologians", sometimes "dialecticians" in mediaeval Latin "loquentes in lege Maurorum"; I propose to leave it untranslated.)

The Kalam was above all a Muslim movement, but it had its origins within Christendom and boasted a good many very able Jewish practitioners; here the name will be applied regardless of religion. In all cases the basis was the same. Whereas the "philosophers" of the great monotheistic religions thought out their philosophic systems almost independently of their religious convictions, and then sought to show that the two were quite compatible with one another, the Mutakallims took their religious data as fundamental and sought to devise a philosophic system which would suit them, and provide an adequate framework and terminology for the exposition of theological truth. Almost invariably - perhaps indeed without any exception[1] -

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1. Al-Iskāfī did regard the eternity of the world as possible (to God) though false.

this included the theological truth of creation at a point of time in the past, which led to a series of arguments for the existence of God differing widely from the Prime Mover argument. Although most of the particular arguments found in the Kalam have long since disappeared from the philosophic scene, their general stress on the instability of the world, its "contingency", to use the word that was later to become so important in natural theology, had an immense effect, invading and eventually dominating the arguments of the philosophers proper.

The Kalam, in its fully developed form, was a full-scale theology covering a great range of subjects. Here, however, we are concerned only with its efforts to prove the existence of God; and these had their roots in Christianity and in the later philosophical schools of antiquity. We may take as forerunners of the later Mutakallims three men, separated from one another by intervals of about two centuries: Diodore of Tarsus (d.ca.390), John Philoponus (d.ca.570), and John of Damascus (d.ca.749). It should be emphasized that these men are not typical of the full-grown Kalam; they represent only a kind of proto-Kalam which (especially through the writings of the two latter) had great influence on the movement proper.

Diodore of Tarsus is, of course, chiefly known to history as a leading representative of the Antiochene school of Christology and biblical studies. He wrote also, however, a book against fatalism which contains in germ what was later to become the general pattern

of the Mutakallims' natural theology.[1] He is not arguing against atheism as such, but endeavouring to prove the doctrine of Creation by a personal God; some of his arguments are therefore not our concern here: but others quite clearly are. For instance, two arguments which recur in later writers are those from the transiency of things and from their composite nature; and both these are found in Diodore.

Thus he argues that all individual things are liable to destruction and generation. The same therefore applies to their nature, which has permanence only in virtue of these individuals' succession. But the Uncreated is indestructible in itself and in its own substance (ὑπόστασις). Again, even the four elements are destroyed and generated; and how can that which changes be uncreated? If it is said that their changing is itself uncreated, this too is incredible; change has to have a beginning, or we could not even speak of it.

Also, the world is composite, consisting of heaven, earth and that which lies between. It is therefore created. Admittedly the heavens are more precious than the rest; they stand to the universe as a whole much as the eyes or the head to the body as a whole; but they are subject to the same processes as the rest, including destruction. Nor can it be said that the stars, their nature and position, these alone are uncreated. For what created the elements?

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1. Now lost; but summarized in Photius, "Bibliotheca", cod. 223 (pp.209-10 Bekker, vol.iv pp.9-13 Henry).

Something did; for how could that which did not exist come into being without a cause? And what sense is there in denying God the power to create ex nihilo and ascribing to the stars the power to create themselves?

It is not suggested that these arguments of Diodore are of much importance in themselves. There are obvious flaws in them as they stand (though we must remember, in fairness to their author, that we do not have his complete text, but only an epitome). But they do show the sort of pattern of thought that could be used by a monotheist to defend his beliefs; and this was just what the later Mutakallims needed.

Much more important is John Philoponus. He may have been a convert from paganism; he certainly was well up in pagan philosophy, and his commentaries on Aristotle were used in the mediaeval West, though his other philosophical writings were better known in Islam than in Christendom, and his theology (he was reckoned a "tritheist") is only known from refutations.[1] He knew his Aristotle well, and his extensive criticisms of the Aristotelian system (especially its physics) were the more serious. He denied the theory of the Quintessence, the 'fifth element' of which the heavens were supposed to be made, assimilating the heavens and the earth;[2] he denied the eternity of the

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1. In the original, that is; some survive in Syriac.

2. Ap. Simplicium, in Ar.phys.lib.viii.10 (Diels p.1329.38ff).

universe, writing two books on this theme (one criticizing Aristotle and one Proclus); and, as we have seen, he modified the principle that whatever moves is moved by something else, proffering instead a theory of "impetus" with a strong resemblance to the "inertia" of later theories.[1] His influence reached out to Ockham and Buridan in the Christian world, to Saadia and Crescas in the Jewish, and to Algazel and the Kalam generally in the Muslim. Incidentally, he well deserved his nickname "Philoponus"; his criticism of Proclus extends to 646 pages, of which only about 34 represent Proclus' original arguments.

Philoponus, like Diodore, is not concerned with arguing for the existence of God. His importance lies simply in the fact that he provided some of the materials for an alternative world-view to that of Aristotle, using philosophical weapons against the "philosophical" position, and that these materials were extensively used. This was especially the case with regard to his arguments against the possibility of infinite time; many of these reappear virtually unchanged in the later Kalam. For instance, he argues[2] that, just as, by common consent, the creation of an infinite number of things existing together is impossible, as an infinity in act cannot be allowed, so the world cannot have co-existed with God from eternity, as that too would mean

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1. In Ar.phys.lib.iv, 8, 215a14 ff. (Vitelli, pp.643.21 ff.)

2. De aet, mundi c. Proclum I, 3 (Rabe p.8.27 ff.)

ascribing actual existence to the infinite. (And, given the premiss, he would seem to be right, if God is outside time as well as space.) This argument reappears just as it stands five hundred years later in ibn Hazm, and is still being echoed as late as Gersonides. Again, Philoponus is the source of the argument from "traversing".[1] The infinite cannot be traversed, or it would not be infinite; but if the world is eternal, the "succession of the genus", which progresses along the line of the genus' successive members, arrives at those now existing through infinitely many individuals - i.e. the infinite <u>has</u> been traversed, which is impossible. (This will reappear in Saadia.) And yet again, if the world has no beginning, and the number of those who existed before Socrates is infinite, then, if you add the number between Socrates and the present time you have something greater than the infinite, which is impossible too.[2] And so on: several times, as we discuss the Mutakallims' attempts to prove the existence of the Creator, we shall have to note their ultimate derivation from John Philoponus.

St. John of Damascus, the last of the Greek "Fathers of the Church", is of particular interest inasmuch as he actually lived under Muslim rule; indeed, his works include a dialogue, apologetic in intent, between a Christian and a Muslim. His writings were soon translated

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1. Ibid., p.10.20 ff.

2. Ibid., p.11.2 ff. Cf. also De aet.mundi c. Aristotelem, ap. Simplicium, in Ar.phys.lib.viii.1 (Diels, 1179.15-27).

into Arabic for the benefit of Christians speaking that language; and it has even been suggested that they had a direct influence upon the Muslim Kalam, or upon some of its representatives. However that may be, in his "The Source of Knowledge" we find what is in effect a work of Christian Kalam. It has a philosophical element (the first part is indeed devoted to an exposition of philosophical method and terminology) but there is no attempt to develop a metaphysical system; philosophy is quite definitely subordinated to theology.

However, he finds it necessary to deal briefly[1] with the actual existence of God, since the devil has even succeeded in drawing some into denying it, and since the miraculous powers of the Apostles, which could have convinced them, have been lost by man's sin. And he advances three arguments to prove that God does indeed exist. One is from the order in the world, a form of the physico-theological proof, and one is based on the preservation of the world in spite of its composite nature; things as opposed to one another as fire and water, earth and air, are held together to form a single world, and how could this be without some power binding them together? But the first is the nearest to the standard Cosmological Argument, albeit put, so to speak, in reverse order.

All things, says Damascene, are either created or uncreated. But created things must be subject to change; for it is in change

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1. "De fide orthodoxa", bk.I, ch.3.

that their substance originated. It follows that anything that is uncreated must be the opposite, immutable; for "things which are opposed to one another in the nature of their existence must also be opposed to one another in the mode of their existence", i.e. in the properties which accompany that existence. Now created things require a creator, and this creator cannot himself be created - or rather, if he was, his creator's existence gives rise to the same question, and so on; and we must stop somewhere, at a Creator who is uncreated, and also utterly immutable. And what could this be but Deity?

No doubt Damascene did not realize it, but in arranging his proof in this rather peculiar order he was in effect anticipating a great deal of the controversy that was to arise in later centuries over more carefully formulated versions of the Cosmological Argument. For, as we shall see in due course, in many criticisms of the Argument, from Algazel through Kant to a modern analytical philosopher like J.J.C. Smart, it is conceded (perhaps only for the moment) that the first part of the Argument is prima facie valid, that we do seem to be able to reason to the existence of a Necessary Being, and the main weight of the criticism falls on the attempt to "unpack" this notion of a Necessary Being. (Thus Algazel maintains that this Being need not be divine; Kant, that the unpacking reveals the invalid Ontological Argument; and Smart, that it reveals a logical impossibility.) What Damascene has done is to begin with the notion of the Uncreated, "unpack" it to reveal the Immutable, and then go back to show that

there must be an Uncreated which is itself the source of creation; as if he were trying to disarm his unborn antagonists before the fight began.

Among the Jewish Mutakallims far the most important name is that of Saadia Gaon (Sa'id ibn Yusuf, 882-942); but he, and the other Jewish representatives of this school (which was especially strong among the Qaraites), were contemporaries of their opposite numbers among the Muslims, and are best treated together with them. Christians in the Islamic world seem never to have developed the full Kalam; there were of course Christian theologians and philosophers, but no real growth of a school on the same lines as those of the Muslim and Jewish Mutakallims. Ibn 'Adi is indeed reckoned by Maimonides as a spiritual ancestor of the Kalam; but in fact his dates (893-974) were later than those of the first Mutakallims, and, except that he believed in a temporal creation, his philosophical views were Aristotelian.

The history of the Kalam in its chief home, the Muslim world, is generally reckoned to have begun with the Mu'tazila, the "separators", whose founder, Wāsil ibn'Ata', died in 748, and whose last great name was that of al-Jubbā'ī (died in 933). It was dominated, however, for most of the time by the followers of the ex-Mu'tazilite al-Ash'arī (873-935). Most of the points over which the Mu'tazila and the Ash'arites quarrelled were purely theological (e.g. the eternity of the Koran, the nature of God's Attributes, the freedom of the will, and the possibility of the beatific vision), and do not concern us

here (though we shall see that the question of the divine Attributes was to crop up later in connexion with the Cosmological Argument's second stage). Generally speaking, the Mu'tazila were the more liberal of the two schools (more liberal in speculation, that is; on the comparatively rare occasions that they had the opportunity they were just as willing to persecute as their opponents) and the more rationalist. As far as Islam was concerned, the Ash'arites became the more influential of the two, eventually ousting Mu'tazilite views altogether; the Mu'tazila did, however, influence the tradition of the Kalam in Judaism, and many of their teachings reappear in those of the Philosophers. (Al-Kindi, in particular, seems to have been associated with them, and to have lost his place and favour at court when the Caliph Mutawakkil turned against them.)

The Mu'tazilite proofs of the existence of God seem to have formed a group of their own.[1] Abu al-Hudhail (died in 849) used a form of the Prime Mover argument, and his pupil al-Nazzām (died in 845) developed this; but it is not the usual Aristotelian form of the argument. For the Mutakallims' theories were dominated by the need to have a picture of the world that would be consistent with the teachings of Islam. The world could not be allowed co-existence with God and His eternity, nor could it be some sort of emanation from Him; compared with Him it was utterly transient. Hence two of the most

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1. See Nader, "Le système philosophique des Mu'tazila" (Beirut, 1956) pp. 119 ff. Almost no actual Mu'tazilite writings survive.

famous teachings of the Kalam - its atomism and its occasionalism. Nothing in the world is permanent; it consists of atoms, constantly recreated by God from moment to moment (for time itself is atomic) and equally impermanent accidents. Nor has anything in the world any causal power of its own; the only true cause is God. In the traditional instance, that of a man writing, God creates first the will to write, then the faculty of writing, then the movement of the hand, and finally that of the pen. He does indeed act according to a pattern (except when He chooses to work what we call a "miracle"), but that is only out of His compassion, and there is no other basis for our belief in causality. (This, by the way, is an Ash'arite doctrine, not a Mu'tazilite.)

More important, however, for our immediate purpose is the insistence of the Mutakallims on creation at a particular point in time, both because this was taught in Scripture and because the alternative left the universe co-eternal with God and so infringed His uniqueness. This was the starting point of their natural theology, and their proofs of the existence and unity of God either depended upon proving creation first or incorporated a proof of it as well as one of God. Accordingly, we find that the Prime Mover argument of Abu al-Hudhail asserts not only the existence of a mover who is not himself moved, but also that all movement must have a beginning (and incidentally, an end). Al-Nazzām, amplifying this, reasons that if the space covered in a movement is infinite, it has no beginning, and therefore cannot be

completely covered after all; space and movement must therefore be finite. (We shall notice a similar argument recurring later in other writers.)

Contemporary with Abu-al-Hudhail and Al-Nazzām was Al-Iskāfī (died 854), who developed a proof based purely on the existence of things. All things must begin to exist, or they would not exist at all. But this means that they pass from non-being to being, which is a change and requires a cause. Since you cannot go back to infinity with such causes, there must be a First, namely God. (Oddly enough, al-Iskāfī admitted that God could, had He chosen, have created an eternal universe; he seems to have been alone in this.) This proof, again, will recur, improved, in later writers, in the form of the "proof from determination".

Al-Ash'arī himself does not seem to have contributed much to natural theology. He does have an argument of a sort.[1] Man grows, from "a drop of water" as the Koran puts it; and clearly he does not himself bring this transformation about. It is done by external forces. This is also true of other things (a palm-tree, say, would have done just as well) and by analogy, of the universe as a whole. It is not a very convincing argument: it is chiefly noteworthy for its attempt to kill two birds with one stone, and prove both the temporal creation

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1. Kitab al-Luma ed. McCarthy, pp.6-8; Fakhry, Muslim World XLVII, p.140; Maimonides, Guide for the Perplexed, I, lxxiv (Friedlander, pp.133 ff.)

of the universe and the existence of a Creator by a single analogy. (And perhaps, for the scorn with which Maimonides treats it, only a few pages after having himself drawn an elaborate parallel between the universe and man the microcosm.)

An argument which (in slightly different forms) played a rather larger part is that from Composition, which we have already seen in Diodore of Tarsus.[1] As expressed by the Atomists, this urges that clearly atoms are sometimes joined together and sometimes separated. It cannot therefore be part of their essential nature either to be joined or to be separate. There must therefore be an agent responsible for joining and separation.

This argument was also taken (according to Maimonides)[2] to prove the temporal creation of the universe, although in fact it seems to go directly to the existence of God without any intervening stage. Saadia, who was not an atomist, and accordingly uses a variant form of the argument, uses it solely in order to prove that the world is created, and only later proceeds to prove creation ex nihilo, by different methods. His co-religionist Bachya (11th century) however, attempts the double proof.[3] Every compound has, obviously, more than

1. Maimonides, op.cit. p.134; Saadia Gaon, "Book of Beliefs and Opinions", treatise I, ch.1 (Rosenblatt, pp.42-3); Bachya ibn Paquda "Duties of the Heart", pt.1, chs.5-6 (Hyamson, I, pp.71-79).

2. Loc.cit.

3. Bachya was not strictly a Mutakallim, but a moralist with Neoplatonist leanings; his proof of God, however, is essentially Kalam. Cf. Guttmann, "Philosophies of Judaism", pp.104 ff.

one constituent; and these must have preceded it, as must the agent responsible for their combination. Everything, therefore, which is a compound (and this includes even the elements, which are composed of Matter and Form, Substance and Accident) has been brought into existence by some external and preceding cause; this applies to the universe, which is composite too; and this leads us (an infinite regress being impossible) to a First Cause.

The argument from Composition is not so important in Islam. It was, however, to play a very important part in the arguments about the attributes of God, and hence, as we shall see, in the criticisms of the Cosmological Argument brought forward by Algazel.

A third argument was that from transiency. This again we have seen in embryo in Diodore; and it is interesting to trace the changes in this argument as it moves through history from Diodore through Saadia (882-942), through al-Bāqilānī (died 1013), through ibn Hazm (died 1064), to the Mutakallims whose theories are discussed by Maimonides (1135-1204). In Saadia[1] it is called "the proof from the accidents". All things (even the earth, even the heavenly bodies) have accidents; nor can they precede these accidents in time. Moreover, the presence of such accidents is included in the definition of the substances possessing them; the substances must therefore be like the accidents in nature. That is, presumably (Saadia does not explicitly state his conclusion), they

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1. Op.cit., pp.43-4.

are temporal, and therefore created.

Saadia, though under the influence of the Kalam, was not completely committed to it. Al-Baqilani,[1] being more deeply committed, bases his argument directly on the atomic theory. All reality (other than God) consists of atoms and their accidents; and time consists of indivisible "time-atoms". Accidents only endure for one such instant; they need constant re-creation by God: and since the atoms themselves only persist in being by reason of the accident of Duration, which, like other accidents, needs re-creation, the whole system, accidents and atoms alike, is continually being re-created. Now clearly this implies a Creator; and also, since the Mutakallims denied the possibility of any sort of actual infinity, whether successive or simultaneous, the temporal nature of the whole universe.

Ibn Hazm,[2] instead of arguing from the transiency of accidents to that of substances, does the exact reverse. Substances are finite in their dimensions; they are therefore also finite absolutely, and that means finite in duration. Accidents therefore are also finite, for they depend on the substances in which they inhere. And time also is finite, for it is composed of transitory units.

The first part of this argument appears in Saadia too,[3] though

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1. Fakhry, art. cit., p.137.
2. Fakhry, art.cit. p.138.
3. Op.cit. p.41.

he applies it to the heavens rather than to substances in general. He is perhaps on stronger ground than ibn Hazm, for the heavens (according to received physical theory) are in continual motion and require a continual force to move them. This force cannot be infinite and yet reside in a finite body. But if this force is finite, it cannot move the heavens for an infinite time; they must therefore have a beginning and an end. This (which derives from Philoponus[1]) is turning the tables on the Aristotelians with a vengeance: for it was of course precisely this line of reasoning that led Aristotle to the theory of an Unmoved Mover who is <u>not</u> finite, and outside the heavens altogether.

The version described by Maimonides[2] is nearest to Saadia's "proof from the accidents", but refined somewhat in the face of criticism. The objection has been raised that an eternal substance might have an infinite series of transient accidents. (The Mutakallims, however, deny the possibility of any infinity.) Furthermore, are all accidents really transient? According to the Aristotelians, the motion of the spheres (which is of course an accident) is eternal; and the Mutakallims must prove that it isn't before they can claim to have established their point. And finally, the argument depends on the Mutakallims' atomic theory. If in reality material objects

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1. De aet. mundi c. Proclum, vi.29 (Rabe, p.235).

2. Op.cit., p.135.

are composed of matter and form then the Mutakallims must prove that prime matter and the primal form are transient.

It would seem that in actual fact the Mutakallims could cope with these objections if their denial of the infinite were once conceded.[1] For even if the motion of the spheres could not be shown to be transient, still it would remain true that all other accidents were transient, and therefore all substances too other than the spheres. It would follow therefore that all these other substances were created, even if the spheres were not, so that at least part of the universe must require a Creator. Furthermore, as Saadia points out,[2] though motion is the principal accident of the heavenly bodies, they have others as well - e.g. colour, and the shedding or reflecting of light between one another. If these are transient, so are the bodies themselves.

As for the matter/form division, the eternity of matter surely implies an infinite succession of forms: so that once again, if a successive infinity is impossible, matter too, even prime matter, must be transient. But, of course, the problem is whether this impossibility can be proved.

Certain sorts of infinity were agreed to be impossible - the existence of an infinite body for instance, or an infinite number of bodies existing simultaneously. So also with an infinite causal

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1. As Maimonides in effect admits: op.cit. p.132.

2. Op.cit. p.43.

series, unless (the Aristotelians would add) that series depends on another cause external to the series. (The Mutakallims, of course, would refuse to add this qualification; Algazel argues at some length against it.) On the other hand, an infinite division of time and space was theoretically possible, according to the philosophers, impossible according to the atomists of the Kalam. But the real problem arises over "successive" or "accidental" infinity.

Saadia[1] has a proof of the creatureliness of the world "from time", again derived from Philoponus, which evidently embodies the Mutakallima' arguments against such an infinity. (Not all Mutakallims, as a matter of fact used such arguments; some evidently held that the impossibility was self-evident.)[2] If time is infinite, no-one can successfully "think back" over the whole of it; what is infinite cannot be completely traversed mentally. But it equally follows that existence could never have traversed infinity "in descending fashion" to reach us. Yet we do exist. Time must therefore be finite.

This argument expresses in words what has probably been felt by many, before and since, contemplating the possibility that the universe has no beginning. It was destined to reappear every now and then in later philosophy, sometimes affirmed (as by St. Bonaventura)[3]

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1. Op.cit. pp.44-5.
2. Maimonides, p.132.
3. II Sent.1, 1, 1, 2.

sometimes criticized (as by St. Thomas)[1] sometimes both at once (as by Kant in the First Antinomy). Perhaps this would be the place to mention St. Thomas' criticism and to discuss the argument generally.

St. Thomas has perhaps two criticisms. One, which appears in both Summae,[2] is to the effect that "traversing" necessarily implies both a point of departure and a point of arrival. If there were supposed to be a first moment of the history of the universe, and an infinite stretch of time between it and the present, that would indeed be an impossibility. But there is no such first moment in an eternal universe. Any talk of "traversing" is therefore ruled out.

The other, which is not found in the Summa Theologiae, is possibly found in a very obscure passage of the SCG, and is much less convincing. It seems to depend on an equivocal use of the word "finite". The history of an eternal universe up to now, despite its eternity, has an end, "finis", and is therefore finite. (At least, this is how Gibson interprets the passage in question.[3] It seems to me much more likely that what Aquinas is really saying is that any part of the eternal history is finite; this would then be simply an introduction to his main point, that while it is legitimate to talk of traversing such parts of eternity, to talk of traversing the whole,

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1. S.Th. 1, 46, 2; SCG 2, 38.

2. Also in Averroes, Al Kashf'an Manāhij, tr. by Sweetman, "Islam and Christian Theology", II, ii, p.90.

3. "The philosophy of St. Thomas Aquinas", p.123.

from no starting-point, is not.)

It should be added that Saadia is himself aware of one possible criticism of his own argument, namely, that we do traverse infinity every time we walk a mile - or a yard for that matter. For, as Zeno's paradox had shown, any distance can be divided indefinitely. This, however, is (according to Saadia) only a virtual divisibility, not a real one. You cannot actually divide a distance into infinitely many parts. But existence has really and actually traversed the past to meet us. There is no need, therefore, to appeal to a doctrine of atoms like other Mutakallims; the criticism can be shown to be invalid without that. And here he seems to be right.

Saadia's argument, however, does seem far too dependent on a metaphor of doubtful value. If one speaks of existence traversing the past to reach us, it does indeed appear impossible that there should have been an infinite past; but can existence traverse anything? Indeed, even his preliminary remark, that it is impossible mentally to traverse infinite time backwards, is true only if we understand "in a finite time". Given an infinite time to perform this peculiar feat, it could be done, in the sense that the time in the future at which any point in the past would be "traversed" could be calculated.

Several other arguments were used by the Mutakallims to demonstrate the impossibility of an infinite past. Some have little plausibility: e.g. ibn Hazm's argument[1] that if the universe were without beginning

1. Fakhry, art.cit., p.138.

or end we could never speak of "first" "second" or "third" in speaking of existing things - presumably because there would always be, or at least could always be, earlier specimens than the one we had chosen. Certainly it is true that we could never be sure we were right to describe a thing as the first of its kind (absolutely, that is - we could of course always use, for instance, "the first solar eclipse since I was born"), but we could still use the words quite intelligibly if no earlier specimen were known to exist.

Other arguments of ibn Hazm (and also of Fakhr al-Din al-Razi (d.1209))[1] turn upon the glaring paradoxes which arise when our ordinary notions of "greater" "less" and "equal" are applied to the infinite. (These arguments derive ultimately from Philoponus.) Thus, a planet which goes round the earth once every thirty years will have completed exactly the same number of revolutions as the upper heaven (which completes, not one, but 11,000 revolutions in thirty years); exactly as many years had elapsed when Muhammad fled to Medina as had when ibn Hazm was writing four centuries later; and so on. The only satisfactory answer that could be given to this (until the Cantorian theory of the transfinite gave some sort of coherence to talk about equality and inequality on this level) would be to deny that infinity is a number at all. No doubt this is not strictly correct; but the result of applying Cantorian theory to ibn Hazm's and al-Razi's

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1. Ibid., p.144; Maimonides, op.cit. p.138.

paradoxes is to resolve them, and show that these apparently unequal infinities really are equal, however odd this may seem.

There remains one other argument involving the problem of infinity which (according to Maimonides)[1] was found among the writers of the Kalam. This is what we might call the standard Cosmological Argument applied to a succession of causes through time. A man, let us say, has as cause his father, and he his, and so on. Perhaps the series ends with Adam; but Adam was made out of earth; and where did the earth come from? You cannot proceed to an infinite regress; to the Mutakallims all infinities are impossible, and to anyone a regress among things causally dependent on their predecessors in the series is impossible too. You must therefore end with a something that came into existence from absolute non-existence.

This form of argument, however, played only a small part in the natural theology of the Mutakallims, except perhaps as an argumentum ad hominem: for this school, as has already been said, tended to deny secondary causes altogether. There is not much point, therefore, in dealing with it here (especially as its principles recur over and over in the history of the Argument). Much more important to the Mutakallims were the arguments from Determination.[2]

"Possibility", to them, meant much the same as "logical possibility"

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1. Op.cit., p.134.

2. Op.cit., pp.135-7; Fakhry, art.cit. pp.141-4.

nowadays. Anything was possible that could be imagined. The Aristotelian physics, therefore, with its "natural tendency" of earth to sink or fire to rise, and so on, was rejected (the rejection of causality being, indeed, a corollary of this more basic rejection). If you apply fire to cotton it sets it alight (as a rule); but there is no reason in the nature of fire or cotton which makes this necessary. It could perfectly well be otherwise. There must therefore be some principle which determines that the cotton is set alight, that this flower is red, not yellow, and that one yellow, not red. And this principle is God. Here, therefore, we have an argument from the possibility, or contingency, of the qualities of things. But the argument could be, and was, developed to hinge on the possibility or contingency of the universe as a whole. Al-Razi begins by defining the possible (or, strictly, the temporal) as "that whose essence is equally susceptible of not-being and of being". The universe itself could, as far as its nature is concerned, either exist or not exist. It therefore requires a Creator.

These arguments do not settle the question of the eternity of the universe in themselves; some Mutakallims evidently regarded "determine" as obviously equivalent in meaning to "create in time", but there were many adherents of the eternity theory who accepted these arguments (in some form or other) without accepting any such equivalence. Maimonides, incidentally, treats these arguments with much more respect than the other ones adduced by the Mutakallims;

and their relation to later forms of the proof a contingentia mundi is close. He does, however, express doubts about the second argument, which claims that the universe itself is "possible". Where qualities are concerned, we can clearly see that there is more than one possibility: a piece of copper, to take his example, could be equally well in the shape of a lamp or of a kettle, and we know this because we can see it before and after becoming either. But you cannot ask who decided in favour of the existence of a thing and rejected its non-existence when the whole point at issue is whether the thing ever did pass from non-existence to existence at all. The argument will not therefore serve to prove the creation ex nihilo; nor indeed will it prove anything unless we accept the Mutakallims' theory of possibility and determination.

Al-Razi indeed has an argument (adapted from one put forward by Avicenna) to prove that the universe must be possible, though it will not prove that it is also temporal. It is quite simply this, that a whole requires each of its parts. If, therefore, the universe as a whole is necessary but the individual objects within it only possible, we have the absurd result that a necessary thing is dependent for its existence on a number of possible things. The universe is therefore possible.

This is an extremely ingenious argument. Is it, however, actually valid? Suppose Smith is in a room with just one door and one window. Then the statement "Smith came in either by the door or by the window"

is necessarily true. Yet it requires that one of the statements "Smith came in by the door" or "Smith came in by the window" should be true; and these are not necessary but only possible. It is certainly true that if this universe is necessary, then everything in it is necessary, for if anything were other than it is the universe would not be this one but another; but al-Razi's argument does not of itself remove the possibility that some universe was necessary, though not the form which in fact it took.[1]

It may be said that the Mutakallims' real importance in the history of natural theology was twofold. Firstly, they helped to shift the basis of the Cosmological Argument from motion and change to contingent or possible existence. Secondly, they made a determined effort to show that it was possible for reason to reach out towards a God who was not the "Dieu des philosophes et des savants" but the God of Abraham, Isaac and Jacob - and Jesus, and Muhammad; not a God who is continuous with the universe, a cause and a mover much like other causes and other movers, nor a God from whom the worlds emanate by a kind of inevitable process, but a God who transcends and creates, whom it is possible not only to contemplate and to admire but also to serve, and perhaps to love.

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1. A similar position is taken with regard to God by Charles Hartshorne. "The full concrete reality or actuality of God cannot be necessary. But....it may very well be necessary that God have some factual existence or other." ("The Logic of Perfection",p.115).

FALSAFA

It would be pleasant to be able to draw up a kind of dialectical scheme for the development of the Cosmological Argument in which the thesis would be the Aristotelian argument for a Prime Mover, the antithesis the Mutakallims' arguments for a temporal creation of the world, and the synthesis the developed arguments of the Schoolmen (Christian or Muslim) for the contingency of even an eternal universe: pleasant, but not, alas, permitted by chronology. "Kalam" and "falsafa", theology and philosophy, ran side by side in the Islamic world. Al-Kindī (796-873), the first pure philosopher in Islam, was a younger contemporary of the chief Mu'tazilite theologians (he was himself clearly a Mu'tazilite as far as his theological views were concerned) and died in the year al-Ash'arī was born. The life of al-Fārābī was long (872-950) and included the whole of the lives of al-Ash'arī and Saadia in its span. Al-Bāqilānī was an older, ibn Hazm a younger contemporary of Avicenna; al-Rāzī a contemporary of Averroes and Maimonides. And each school was very much influenced by the other, if only because the rivalry necessitated a good deal of sharpening of wits.

In the case of al-Kindī the two schools have not yet become separated to the point of opposition. He is certainly a philosopher, an Aristotelian, and not a theologian; but he is not willing to subordinate theology to philosophy in the way his successors were.

Prophets to him are not philosophers with a gift for vivid symbolic language, but men to whom God has given a special knowledge without need of research, study or time for application to work.[1] And the creation in time is demonstrable[2] as well as revealed; it is neither "demythologized" as it was by the later "falasifa" nor made a matter of revelation alone, as it was by Maimonides and Aquinas. In this al-Kindī was almost unique. The next Muslim (if he can be called that) philosopher of note, Rhazes (864-925 or 932), believed in eternal matter given shape and order by God, and later ones, save for the Christian ibn Adi, in a completely eternal universe.

The first step towards the standard Cosmological Argument was in fact taken by Aristotle; but it <u>was</u> only a first step. In <u>Metaphysics</u> Ia (994a1) he argues that no series of causes can be infinite, whether material, efficient, formal or final causes are under consideration. When actually dealing with the efficient cause, he speaks as if causes of motion were all he was concerned with ("man being moved by air, air by the sun, the sun by Strife, and so on without limit"), but his reasoning would naturally apply to causes of existence too. This could, no doubt, have led to the idea of a God who was the cause of all things, as well as of all change; in fact, it did not. Book Ia of the <u>Metaphysics</u> is an independent essay, not really part of the

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1. "On the number of the books of Aristotle", VI (Guidi and Walzer pp.395 and 409).

2. Ib.VI, 8 (pp.397 and 411); see also below.

Metaphysics proper (indeed, its Aristotelian origin has been doubted), and this line of thought found in it was not pursued elsewhere in Aristotle's writings.

Or, indeed, elsewhere in other people's writings for a very long time. Monotheism was, of course, widespread in the ensuing centuries, and natural theology with it, but not a natural theology bases on causality any more than on motion. (It is fascinating to note that in Sextus Empiricus' catalogue of arguments for the existence of God[1] no cosmological argument, whether causal or from motion, is even mentioned.) We do not seem to get a developed causal proof until Proclus - and then one may doubt whether "God" is the right word for what is being proved to exist! However, Proclus' argument is clearly the cosmological. It may be summarized as follows:[2] There are only four alternatives. There may be no cause at all; there may be a circular chain of causes; there may be an infinite series of them; and there may be a finite series. The first is clearly out of the question. Causes certainly exist; if they did not, there would be no order in anything, and no knowledge. The second is no better. If causation went in a circle, "the same causes would be both prior and ulterior, and more potent and less efficient". But Proclus has already proved[3] that a cause is always superior to its effect. As for the

1. Adv.Phys.i, 60ff.

2. "Elements of Theology", prop.xi. Similar arguments are found elsewhere in Proclus' writings.

3. Ib., prop.7.

third, the infinite regress, this too is impossible. Once again, there could be no knowledge if this were so: for if we do not understand the causes (and plainly we could not, if they stretched back for ever) we cannot understand their effects either. There must therefore be a limit to the ascent; and the first cause must be One, for Oneness is superior to plurality.[1]

It is not difficult to pick holes in this argument: how (for example) could Proclus of all people, who as a good Neoplatonist held firmly that the One is beyond thought, say that we cannot understand its effects without understanding their Cause? But its importance is considerable. It is the first appearance of the causal argument proper; it is the first attempt at a systematic - scholastic, one might say - setting out of the argument as part of a detailed metaphysics; and it was of some considerable historical importance because of the influence Proclus had in the Arabic world, not only under his own name but also under that of Aristotle, the "De Causis" attributed to whom was in fact excerpted from Proclus' "Elements".

Proclus marks a very considerable move forward in the development of the Argument for another reason as well. He represents (as was said earlier in the section on the proof from motion (pp.21)) a new tendency in ancient philosophy to stress transcendence in God, or the One; a tendency which had virtually gone underground since the days

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1. But the First is other than, and above, the Prime Mover.

of Aristotle. There was no great danger of its going underground again in Christianity or Islam.

The entry of Aristotelianism into Islam is usually dated to al-Kindī; but as regards the relationship between God and His creation he is neither an Aristotelian nor a Neoplatonist but a Muslim, and his arguments[1] for the existence of God are more like those of the Kalam than those of the philosophers. Everything created in time must have a Creator; but the universe must have been created in time, for time and motion can be shown (by the "argument from traversing") not to be eternal. Similarly, he resembles the Mutakallims in his use of the argument from Composition. The word "one" can be applied to God and individual single objects, when it is used purely as a number: but when it refers to simplicity it cannot be attributed to anything except God. All other beings are in themselves composite. But multiplicity is necessarily a group-formation of singles, and where there is no oneness there is no multiplicity. The One is the cause of all other "ones". Al-Kindī also spent some pains on a proof that nothing can be its own cause; as far as I know he never developed a theory of the nature of God to complement this proof.

Al-Fārābī is of greater importance, and may even be regarded as the most important figure in the development of the Cosmological

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1. Atiyeh, "Al-Kindi", pp.54-61.

Argument between Aristotle and the first great criticism by Algazel. For it looks as if he were the first to introduce the notions of "possible" and "necessary" being into the Aristotelian scheme - if indeed he was not their actual inventor. In his "The Sources of Questions"[1] he affirms that all existents come under one or other of these headings. Possible beings are such that their nature does not of itself imply their existence. To imagine the non-existence of a possible being is not necessarily to imagine an absurdity; such a being needs a cause for its existence, and, if it becomes necessary, does so through some other thing. As far as its own nature is concerned it is always possible, and no more than that. Now the possible cannot go on indefinitely in a sequence of cause and effect; it must terminate in something that is necessary in itself; and this latter will be the First Existent. On the other hand, absurdity does follow from supposing a necessary being not to exist. Such a being then has no cause, nor does it possess existence through anything else; rather, it is itself the first cause of the existence of things, and in every way free of defect.

"Possibility" is thus to al-Fārābī primarily an attribute of natures rather than of things. A thing which is possible by its nature is, if it actually exists, necessary through a cause. This position Averroes was to criticize as thoroughly erroneous.[2] If a

1. "Philosophische Abhandlungen", pp.93 ff.

2. "Al Kashf 'an Manāhij" (Sweetman II,2, p.92). He is specifically criticizing Avicenna, but his remarks apply to al-Fārābī as well.

thing really is possible in itself and through its substance, it cannot change its nature and become necessary. His own preferred division is, as we shall see, into the "really possible", which comes to be and passes away, the "necessary but caused" (i.e. eternal created beings, such as the heavenly spheres), and the "necessary-in-itself", that is, God. On the whole, al-Fārābī's position seems the more reasonable. He is quite clear that by a "possible being" he means one which, when you consider its nature, is not necessary, but when you consider its cause, is. That is, our judgment as to whether a thing is necessary or possible depends on the information available to us. If, of course, possibility and necessity are mutually exclusive qualities, and of things rather than natures or propositions, Averroes is right. But while there may be a quality of "absolute metaphysical necessity" (a disputed matter!) the "possibility" which al-Fārābī and Avicenna ascribe to beings other than God is not of this sort. Averroes' version of possibility is, for it is simply the characteristic of being subject to generation or corruption. But al-Fārābī's "possibility" says nothing about the thing to which it is ascribed except that its essential nature does not entail its existence (or, presumably, its non-existence either, as would be the case with an "impossible being" whose nature could only be described in self-contradictory terms). And this is quite compatible with its being necessary in some sense other than the absolute metaphysical one.

To Averroes, "X is a possible being" means "There is a time A at which X has not yet come to exist and/or a time B at which X has ceased to exist" and "X is a necessary being" means "X exists at all times" - and these are plainly incompatible, whether X is caused or not. But to al-Fārābī "X is a possible being" means "The essential nature of X does not entail its existence"; and though this is incompatible with "X is necessary in itself" it is not with "X is necessary through Y" (i.e. "Y exists, and if Y exists, X exists"). For this latter is not a statement about natures at all. We may, of course, reject all talk of "essential natures", or, alternatively, insist that there is no talk that is <u>not</u> of "essential natures"; but if we do both allow such talk and limit it (as both al-Fārābī and Averroes did) al-Fārābī is right.

The fullest development of the Cosmological Argument in Islam before the great controversy over its validity began is to be found in Avicenna (980-1037). His proof, as given in the "Kitāb al-Najāt",[1] begins with an analysis of the notions of necessary and possible being, on the same lines as al-Fārābī's. The former is such that to suppose it non-existent results in an impossibility; the latter, such that no impossibility results whether it is supposed to exist or not to exist. Now a necessary being may be such either through its essence or because of something else, the latter being necessary only if the something

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1. "Metaphysices compendium" (Lat.version by Carame), I,ii,tract.1 and 2, cap.1 (pp. 66 ff.)

else is postulated. Thus "four" is not necessary in itself, but only if two and two are added; and burning is not necessary in itself, but becomes such if fire and something inflammable are brought together. Furthermore, anything which is necessary because of something else is in its essence possible; and conversely, anything which is possible in itself is (if it exists) necessary because of something else.

Now there certainly are beings, and these must be either possible or necessary. If the latter, the existence of a necessary being is proved: if the former, it can be shown that the existence of a necessary being is still required. The proof has three main stages.

Firstly, it is not possible to have an infinite series of possible beings each caused by another. If there is no necessary being in the series, and the series is itself necessary, we have something necessary (the series) existing in virtue of something possible (its members) which is absurd. But if the series is only possible, it requires something to give it being. If this something is within the series, one member of the series is evidently a necessary being after all, contrary to our original supposition. (If it were a possible being, then, being the cause of the whole series, it would be the cause of itself, and so a necessary being again!) The series must therefore be given being by something exterior to itself. Now this cannot be a possible being, for all such are already in the series. It must therefore be necessary.

Secondly, we cannot have a finite series of possible beings which

are necessary because of one another, in a circle so to speak. Taking the case of two such (which could be generalized to cover any number): if A is necessary because of B, and B necessary because of A, both are in themselves possible. Now any being which is possible in itself must have a cause anterior to it. But neither of these beings is anterior to the other; so our original supposition is an impossible one. They must have an external cause anterior to both. (I think Avicenna must mean by this that there are certain cases which do appear to be "circular" in this way. An example might be two playing-cards leaning against each other, each holding the other up; the external cause would be the person who originally put them together.) Also, such a state of affairs would mean that each member of the pair or series would be both cause and effect of its own existence, which is absurd.

Thirdly, all possible beings need a cause. Given a product and its cause, either the product ceases to be at the moment of its production, or at a later moment, or it persists. The first is absurd. So is the second (which is evidently meant in the sense that the product might cease to exist in the second moment of its existence); for it implies that moments follow one another discontinuously, which is not the case. (The Mutakallims would not have agreed.) All beings therefore both exist and persist, and need a cause both for their original being and for their persistence. These may be one and the same (a mould both gives and maintains the shape of a liquid inside it)

or distinct (a statue's shape is given by the sculptor but preserved by the solidity of matter). A product does not endure just because it is a product, but because of a certain condition of its preserving cause; while this persists, it (the product) necessarily endures. There is no such thing as the possible really; everything that is is, while it exists, necessary, and,conversely, everything that does not exist, necessarily does not exist.

We can now put these three together. Possible beings need causes (from our third proposition) which cannot form an infinite regress (from the first) nor return back on themselves (from the second). They must therefore end in a necessary being.

And we can say more about this Necessary Being. It cannot be composite. If each part had existence independently, the whole would have its existence dependent on the parts, and would not therefore be necessary; if some parts only existed independently, the same would apply, and the other parts would not be necessary either: in general, parts are anterior in essence to the whole, and the cause which makes the whole necessary must first make necessary the parts. Moreover, the Necessary Being must be the perfect Good. Goodness generally is what a thing desires, that which completes its existence. Evil has no essence; it is only a privation. Existence is itself good, and an existence which has nothing lacking (as is the case with the Necessary Being) must be pure Good. It can also be shown that He is pure Truth, and that He is unique.

Avicenna also made use of a proof resembling those of the Mutakallims. In the "Risālat al-Arshīya"[1] he says that a possible being cannot come to exist except for some reason which sways the scales in favour of its being and against its non-being. If this reason is also possible, and we have a chain of possible beings, our original being cannot come to be without being preceded by an infinite series of beings, which is absurd. Possible beings must therefore end in a Necessary Being.

Avicenna's arguments raise a number of interesting points. One is his reason for denying that the totality of the universe could be the necessary being, namely, that it would then be dependent on possible beings (its parts) and so not necessary after all. A version of this argument has already been discussed in the section on the Kalam (see p.82), where we saw reason to think it invalid. But in that version "possible" and "necessary" were used in the sense of "logically possible" and "logically necessary"; and this is not the sense in which Avicenna is using the words here: or rather, he has added to the notion of possibility that of <u>dependent</u> necessity. A possible being is indeed one which could be or not-be without any contradiction. But all possible beings which actually exist are in fact necessary through other beings; a <u>purely</u> possible being (i.e. one that exists, but neither through itself nor through anything else)

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1. In Arberry, "Avicenna on Theology", pp. 25 ff.

is not contemplated.

Now if we keep this distinction in mind Avicenna's argument looks a good deal more convincing than its later adaptation by al-Razi. For we now have to assert that the totality is both necessary through itself and necessary only because of its members, which are, incidentally, not necessary through themselves but only because of one another. Contradiction does therefore seem to arise.

Nevertheless I suspect fallacy still remains. As the argument stands there seems to be an equivocation in the use of the notion "because of"; whereas the dependence of individual things within the universe is a causal dependence, that of the universe upon its components is nearer <u>logical</u> dependence. Or, to use the sort of terminology Avicenna was accustomed to, he has confused the material and efficient causes. The members of the totality depend on one another as effects of efficient causes; but the dependence of the totality on its members is more (to use the classical example) like the dependence a statue bears to the stone it is made of.

This fallacy has already turned up in Aristotle's argument for a Prime Mover, where, it will be remembered, he said that a self-moved mover moving by its own nature was impossible as its motion would be dependent on that of its parts. The interesting thing is that Avicenna himself saw there was a catch in this, pointing out (as we have seen) that if the self-mover really does move by its own nature it is not possible that any of its parts should cease to move; and from an

impossibility no inferences can be drawn. Similarly, if the universe itself is a necessary being, it follows either that its members are in fact necessary too, or that (as was suggested when we were discussing al-Razi) it is necessary that there should be some universe, but its exact nature is undetermined. Avicenna, who did not hold the Kalamic views about possibility, could hardly be expected to accept the latter position; and he had in fact already ruled out the former too by beginning with the belief that all the ordinary things we meet with are in themselves only possible, not necessary. He might, of course, have defended this by arguing that a necessary being must clearly be eternal, and that the components of the universe (below the Moon, at least) are not eternal. And this is valid, if "necessity" is a quality of things. But it may be that to say "X is a necessary being" is properly only a shorthand way of saying "The proposition 'X exists' is a necessary one". And if there are any necessary existential propositions at all (which a good many would deny nowadays) there seems no obvious reason to deny the possibility of a necessary temporal existential proposition (e.g. "Shakespeare existed from 1564 to 1614"). Some metaphysicians have indeed supposed this to be so.[1] In any case, it does seem clear that Avicenna's argument, as he himself states it, does contain a formal fallacy.

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1. Cf. Le Roy, "Le problème de Dieu", p.28 (ad hominem): "An object is not equally possible at every moment of time. Its date forms part of its essence."

Of course, Avicenna is not finished yet. Even if he were to concede the point just made, he would certainly hold that there are other ways of demonstrating that the Necessary Being cannot be identified with the total series of possible beings.[1] The Necessary Being cannot have a material cause any more than an efficient: if He did, He would derive perfection from it; but the Necessary Being is perfect in Himself. Furthermore, there cannot be more than one Necessary Being (as would be required if there were necessary temporal propositions). If there were two such, then there must be some essential difference between them (an accidental difference would need a cause, which is impossible in a Necessary Being). But in that case the two would each be a compound, and compounds are caused; or, alternatively, one would be a compound and the other not, and only the latter would really be necessary. It is this last point, the question of composition in God, that is crucial, as Algazel saw when he came to attack the Argument. If Avicenna is right, it is doubtless impossible for there to be any necessary being other than God. The only problem that remains is whether God Himself can be a necessary being either - whether the notion of an absolutely simple being makes sense, and whether (if it does) such a being can be called "God".

Another rather interesting feature of Avicenna's main argument is its introduction of what was later to be called the distinction

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1. "Avicenna on Theology", loc.cit.

between causes *in fieri* and causes *in esse*. Oddly enough, it is not clear just *why* he introduced the distinction. It is not necessary to his argument; if the infinite regress and the circle are impossible without an external cause, that is enough to prove his case, whatever sort of cause we have in mind. It is indeed true that causes *in esse* must exist if the world is (as Avicenna thought) eternal, for God can only be the cause of such a universe *in esse*, not *in fieri*: but the eternity of the universe is not in question here. However that may be, the distinction was later to become of great importance.

The next stage in the development of the Cosmological Argument in the Islamic world should be its criticism by Algazel. This criticism, and the replies made to it by the last great Muslim philosopher, Averroes, deserve a section to themselves; here we may pass to Averroes' contemporary Maimonides, for he evidently wrote without reference to Algazel. We have already discussed his version of the Prime Mover argument, which he, like ibn Miskawaih and Aquinas, held to be much the most convincing; he has also, however, an argument[1] based on the possible/necessary distinction, which reappears in the "Summa Theologiae" as the Third Way.

Clearly not all things are eternal. Nor can they all be temporal, coming to be and passing away; for "if everything had but a temporary existence all things might be destroyed, and that which is enunciated

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1. "Guide for the Perplexed", part II, ch.1 (E.T. p.152).

of a whole class of things as possible is necessarily actual". But in that case everything would end, and nothing exist, for there would be nothing to produce anything. There must therefore be something that is eternal and not subject to destruction. This may be necessary in itself, or on account of something else whose being is absolutely independent. Such a being has no cause and no composition (Maimonides agrees with Avicenna on the priority of parts to the whole); it is in fact God.

This argument, as it stands (here and in Aquinas), begins with a glaring fallacy. From the fact that, for any temporal thing, there is some point at which it does not exist, you cannot infer that there must be one particular point at which no temporal thing exists, any more than from "For every man, there is some woman he has never met" you can infer "There is some woman whom no man has ever met"! It is all the more odd in that both Maimonides and Aquinas thought one could not prove creation in time - yet this argument, if valid, proves that at some time in the past nothing, or rather no temporal thing, existed. It might be replied that eternal but uncreated things could still exist - such as the heavens, or perhaps prime matter; but the argument certainly implies the possibility of proving a temporal creation of the sublunar world, or at least a temporal imposition of form on it. But even if we set this aside, the original fallacy remains.

What seems to have misled such able philosophers is the following

argument: If everything is temporal, it is at least possible that at some point nothing should exist. But if there is always, and has always been, something temporal in existence, it is not possible that at some point nothing should exist. Therefore if everything is temporal, there has actually been a time at which nothing existed. But this would mean nothing existed now, which is false. Therefore not everything is temporal. (We may compare Maimonides' illustration: If writing is possible for man, at least one man somewhere must actually have written. If total non-existence is possible for the universe, it must actually at some point not-exist.)

The last part of this argument is valid: but the first is of the "If A, then B is possible, but C implies that B is not possible" type which we have met before in the Proof from Motion, and seen reason to reject. Possibility is not a quality propositions have in themselves (except as distinct from self-contradiction or necessity); it has a hidden implication "given that X". If we aren't given any X, the only test is to see if the proposition is self-contradictory or not. But a proposition (say, "There is a unicorn in my garden") may be free from self-contradiction and yet impossible given a certain X (e.g. "I have no garden"); or it may be possible given one X ("I have a garden") and impossible given another ("There are no such things as unicorns").[1] In the particular case we are considering, "At one time

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1. Cf. Avicenna's remarks quoted on p.26 above.

nothing existed" is possible, given that "All things are temporal", but impossible, given that "Something exists now". But this does not show that "Something exists now" is incompatible with "All things are temporal", any more than "There are no such things as unicorns" is incompatible with "I have a garden".

This last form of the Argument to appear in the Muslim world was thus invalid; but the legacy of that world to future natural theologians was of vast importance. Summed up as briefly as possible, that legacy consisted of two sets of technical concepts - those of possible and necessary being, and those of causes *in esse* and *in fieri*. One more set might be added - that of essential and accidental cause, to emerge in the controversy between Algazel and Averroes - but is as stated there really only a variant of this last.[1] In any case, the whole was soon transferred bodily into Christendom, to dominate future forms of cosmological argument for centuries, and to be still important today.

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1. It is arguable that the adaptation of this pair in Aquinas really *is* a third pair, distinct from the other two. See below, pp. 137 ff.

CONTROVERSY

Islamic orthodoxy did not take very kindly to Greek philosophy. It was willing to use philosophically based arguments where they supported orthodox positions, but it distrusted anything that seemed to put reason above revelation, especially when, as happened with Aristotle, the philosopher's views contradicted the Koran. On the whole, however, the philosophers of Islam do not seem to have been too much distressed by this (except when it led to persecution, as did sometimes happen): it was always possible to regard the complaints of the orthodox as the unwitting compliments bigotry and ignorance pay to free enquiry and the use of the intellect.

It was rather a different matter when the attack on "philosophy" came from someone who was himself thoroughly versed in what he was attacking. Al-Ghazali (1059-1111), known in the West as Algazel, was not only an eminent lawyer and Islam's greatest mystical theologian but also the author of a Compendium of Philosophy and treatises on logic. (The former, he claimed, was written purely to summarize the teachings of the philosophers with a view to their subsequent refutation, though it was quoted occasionally by the Latin scholastics, who did not realize its background, as his own.) These were evidently fairly early works, and the great refutation, the "Tahafut al-Falasifa", also seems to date from the first part of his life,[1] before he

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1. De Boer, p.157.

abandoned his academic career and devoted himself to seeking God rather than merely writing about Him.

Algazel's opposition to the philosophers is that of a Mutakallim to Aristotelians, not that of, shall we say, a Barthian to natural theology in general. The ordinary arguments of the Mutakallims for the existence of God, based on the claim that the universe had not existed from eternity, he accepted and used himself;[1] he is neither a sceptic nor a fideist. He objected first and foremost to the philosophers' claim to prove the eternity of the universe, as being contrary to revelation, and also to their denial of God's knowledge of particulars and of the resurrection of the body, for the same reason; though the arguments he brings forward are philosophical, the motives for bringing them forward are religious. In the course of his criticism, however, he had occasion also to attack the philosophers' attempts to prove the existence of God, simply because these were so closely bound up with the rest of their system.

He begins[2] with the remark that the followers of truth acknowledge that the world has come into being, and therefore needs a Creator. Materialists hold that the world is eternal and so needs no Creator, and this, though inane, is intelligible. But the

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1. Fakhry, 'The Classical Islamic Arguments for the Existence of God', 'Muslim World' vol.47 (1957) p.141.

2. Averroes, "Tahafut al-Tahafut" pp. 156 ff.

philosophers believe the world to be eternal and yet created; and this theory really requires no refutation, for it is self-contradictory.

The philosophers have, of course, what they claim to be a proof of the existence of God as a First Principle which is the cause of the existence of other things, yet has no cause for its own existence. The proof, as Algazel summarizes it, runs thus: Either the world has a cause, or it has not. If it has, the same point can be made about this cause itself: and so either we go on to infinity in this way, which is absurd, or we arrive at a last term, a First Principle which has no cause itself. If, on the other hand, the world has no cause, it would <u>be</u> the First Principle (which is defined simply as an eternal and uncaused existent). In fact, however, it can be proved that the First Principle is a unity, which is not true of the world or the heavens, nor even of a single body in the world, for that would be composite (of matter and form) and this too does not apply to the First Principle.

There are two crucial points to this argument - the impossibility of an infinite regress, and the impossibility of identifying the First Principle with the world or any part of it; and both of these Algazel is willing to criticize. Most of his criticism is in fact directed at the latter, in later sections of his book; here he says simply that the philosophers say the material bodies of the world are eternal, and surely they ought also to say they are uncaused. Their only reason for not doing so is the fact that bodies are necessarily

composite; but since God has attributes - Life, Power, Knowledge and so on - He must be composite too, and (on the philosophers' principles) can no more be the First Principle than the heavens can.

The proper answer to the philosophers, however, is that an infinite series is not impossible - at least, not according to them. For they hold that the revolutions of the heavens form an infinite series. It is true that they might reply "The past revolutions of the heavens no longer exist, and therefore do not constitute a simultaneous infinity, which is what we object to". (Averroes, it should be noted, repudiates the idea that the past should be described as non-existent.) However, the eternity of the universe implies at least the possibility of even a simultaneous infinity: suppose, for instance, each day one new human soul has been born? In that case, an infinite number of souls now exists. Since the philosophers admit the possibility of an eternal temporal sequence, how can they deny the possibility of an infinite series of causes and effects, or indeed of an infinite spatial superposition of bodies?

In the "Tahafut al-Tahafut" Averroes (1126-1198) set out to meet all Algazel's arguments point by point. (As the original work was not laid out in a very orderly manner, the reply isn't either.) Algazel's first point - that God Himself is composite - is postponed for treatment later, when the divine attributes are being discussed; it can (Averroes thinks) be proved that God is not composite in any sense whatever. As for the second, the claim that infinite regresses

are possible, Averroes agrees. The trouble was that Algazel had not given full details of the philosophers' teaching on this point. A regress is indeed impossible where the regress is essential and "in a straight line", where the prior cause is a condition of the existence of the posterior. But there are also regresses which are accidental and circular - e.g. the cycle whereby rain originates from a cloud, the cloud from vapour, and the vapours from rain. Here the prior cause is not a condition for the posterior, and an essential first cause is needed as well. (It seems clear that by "the prior cause is a condition for the posterior" Averroes means that its continued existence is such a condition, not its existence at some point in, perhaps, the past, which obviously is always such a condition. In the particular instance cited, one stage of the cycle could - and sometimes does - exist without its predecessor. This is, of course, closely related to the distinction between causes in esse and causes in fieri.) Materialists, indeed, regard an infinite series of essential causes as possible, though no-one else does; but "he who concedes this does not understand the efficient cause". A simultaneous infinity is not possible. (Both sides to the dispute, of course, believed the universe to be finite in extent, though naturally very large.) This applies to souls just as much as to anything else; either souls are not individually immortal, notoriously the Averroist doctrine, or they transmigrate, as for instance the Neo-Platonists

tended to believe.[1]

Algazel had in effect seized on the two points most often seized on by modern critics of the Cosmological Argument (until the very notion of a necessary being was called in question): namely, May not the universe itself be the necessary being (or First Principle)? And, Why can't we have an infinite regress? It should, however, be noted that he is not asking this second question with quite the same intention as a modern philosopher might have. He did not in fact believe that an infinite regress was possible. He is arguing purely ad hominem, urging that the philosophers did believe in such regresses. And to this Averroes' answer is sufficient. The philosophers do not believe that you can have an endless series in which each term depends on the existence of the previous one for its own existence; but they do believe that a single being may be the cause of an endless series in which each member generates the next. And this, while it will not satisfy anyone who believes that an essential and "straight line" regress might be possible, is enough to acquit the philosophers of the inconsistency with which they had been charged by Algazel.

The latter, however, died before Averroes was born, and naturally enough could not defend his criticism. He proceeded instead to assume that the philosophers shifted their ground and used a different terminology, that of "possible" and "necessary" beings. Each single

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1. Avicenna had in fact thought an infinity of non-human souls possible. (van den Bergh, vol.II, p.13).

cause in a series is either possible in itself or necessary; if it is necessary, it needs no cause (which ex hypothesi it has), and if it is only possible, then the whole series needs a cause additional to its essence, a cause standing outside the series.

But what, asks Algazel, do "possible" and "necessary" mean here? If "possible" simply means "that which has a cause for its existence" and "necessary" "that which has none", the series as a whole may be necessary though all its members are merely possible. Thus, according to the philosophers, time is eternal, though the individual revolutions of the heavens into which it is divided are temporal.

The argument presented here as that of "the philosophers" is particularly that of Avicenna, and is basically sound, says Averroes, but needs improvement, for the meaning of the terms "possible" and "necessary" is not altogether clear. Avicenna and Algazel both took "possible" simply as meaning "caused" and "necessary" as meaning "without a cause". But this will not do, for as it stands we should have to count as "possible" beings which are caused but necessary. (Averroes presumably has the celestial spheres in mind, which are necessary in the sense of being eternal: unlike other things, they are certain to exist at any point in time you choose.) And it has still to be shown that what applies to the total series of "truly possible" entities applies to the series of necessary entities as well. However, this can be done, and the proof given a demonstrative form, as follows: Possible beings (i.e. "truly possible" ones,

subject to generation and corruption) must of necessity have causes that precede them; if these too are possible, they too have causes, and an infinite regress results. But in that case "there is no cause". Now the possible cannot exist without a cause; there must therefore be a necessary cause in which the series ends. (That is what Averroes says; in view of what he has said earlier about the possibility of an infinite regress of accidental causes, I think he has slipped in expressing himself.) If this necessary cause has a cause itself, once again we are landed with a regress, and if this is infinite it follows that our first necessary cause, which we have just said had a cause, does not. This is impossible. The regress must therefore end in a cause which is necessary in itself: and expressed like this, the argument is valid.

This reshaping of Avicenna's argument has not yet met Algazel's objection that the necessary being might consist of possible ones, just as (according to the philosophers) time is eternal yet consists of finite, temporal parts. Averroes' reply is in point of fact rather difficult to follow, but seems to run roughly as follows: The philosophers most emphatically deny that an eternal being can consist of temporal parts, if by"eternal" is meant that eternity which is ascribed to God. In the case of a totality the number of whose members is finite, the totality itself must be finite. But if there are an infinite number of members, then the philosophers (though not the materialists) believe that any such totality, precisely because

it contains only transitory elements, stands in need of an external and eternal cause. There are indeed genera whose members are transitory but which are themselves eternal; but this is only because there is a being which is wholly eternal. (Averroes is not thinking here of God but of the body of the heavens, the "Primum Mobile" whose single eternal motion is the cause of all other motions.)

This adequately meets the particular example adduced by Algazel, but hardly his general point, that a whole may have a characteristic which none of its parts have. Averroes does, however, discuss the instance really at issue: can the whole (infinite, according to the philosophers) causal series be necessary while each of its parts is only possible? And here his refinement of Avicenna's argument comes in. The series as a whole falls into the intermediate class of beings, those which are necessary but caused. In that sense it <u>is</u> necessary and yet composed of possible parts. Presumably it can only be shown that the whole is caused, rather than necessary in itself, by means of the proofs that there can only be one being necessary in itself, and that this being cannot be composite. There are the subjects of the next two sections of Algazel's book (and therefore of Averroes' too).

The philosophers' proofs of the unity of God are two, according to Algazel. The first argues that a necessary being must have this quality of necessary existence either through a cause or through itself. The first is clearly absurd, since (Averroes' distinction

between the truly possible and the necessary-possible not yet having been made) a necessary being can by definition have no cause. But in the latter case the necessary being must have this quality exclusively, and there cannot be more than one of it. (For instance, if Zaid were a man through himself, and not as the result of a cause, Amr could not be a man; in fact, of course, both are men through a cause.)

One's first reaction is to wonder why Zaid and Amr could not both be men through their own essences. Algazel, however, does not dispute this (though one of his arguments has much the same effect). Instead, he objects in the first place to treating "necessary existence" as a positive quality; it is (in so far as it has a clear meaning at all) simply the absence of a cause. And a negation cannot be said to exist either by its own essence or not by its own essence. (Algazel in fact did not regard "necessary existence" as part of God's essence at all. To say that a thing is caused by something else is to describe what is only an accidental characteristic; a fortiori to deny that it is so caused is even more so.)[1] This theory of negation is not discussed by Averroes. It certainly does not look very plausible. One would feel inclined to say that a cause could be found for the fact that a cabbage has no legs; and even, perhaps, that it was through

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1. F. Shehadi, "Ghazali's Unique Unknowable God" (Leiden, 1964) p.41, quoting Algazel's "al-Maqsad ul-Asnā, " pp.19-20.

its essence that a cabbage had no prime factors! though this would clearly be using "through its essence" in a different way from that in which Algazel and the philosophers used it.

Algazel has, however, a second and much more powerful argument. He denies the philosophers' dichotomy altogether, even in the case of positive qualities. Is black, for instance, a colour through its own essence or through a cause? If the former, then, by the philosophers' reasoning, red could not be a colour too. But if the latter, we ought at least to be able to imagine what black would be like if the cause ceased to apply - i.e. to imagine a black which was not a colour. And both of these are ludicrous. (By using this argument he avoids the question raised above, whether the fact that a thing has a quality through its essence really does preclude any other thing's having that quality. For if "through its essence" and "through a cause" do not exhaust the possibilities, we can cheerfully allow the term "through its essence" to be used only where a quality really does only belong to one thing.)

This is a formidable argument, but Averroes believes that the philosophers are still in the right, provided once again that we tidy their proof up a little. The trouble is that the phrases "in itself" (or "through its essence") and "through a cause" are somewhat ambiguous. If by "through its essence" we mean the opposite of "by accident" ("accident", of course, in the technical sense) there is no reason why black and red should not both be colours through their essences. And

if by "cause" is meant something additional to the essence, still it does not follow that we ought to be able to imagine blackness without colouredness. A species cannot be represented without its genus, even though the generic quality is something additional to the specific. Black can therefore presumably be described equally correctly as "coloured through its essence" or "coloured because of something additional to its essence", depending on the way in which the word "essence" is used (i.e. whether it is used to refer to all the qualities involved or only to the specific differentiae). But in either case the dichotomy is justified, and Algazel's counter-example fails.

The philosophers' argument still needs tidying up, though. The two supposed necessary beings could not indeed share a common species or genus, for they would then have to be compound. But there <u>are</u> beings which are different, though simple and differing neither as individuals within a species nor as species within a genus, namely, the "separate intellects" (sc. of the spheres). These must differ in rank - no other differentiation can be imagined in them. But this will not help Algazel; difference in rank would still mean that the necessary existent was one, and the cause of the other or others. (It would thus seem that by "rank" Averroes means a causal relationship.)

It might appear at first glance that Averroes has the worst of this argument. In so far as he has argued that black could be a colour through its essence without thereby preventing red from being

one too, has he not conceded all that Algazel wants? God might now be a necessary being through His essence, and yet another necessary being exist alongside Him. In point of fact, however, things are not quite as simple as that. There could only be two or more necessary beings if their essences were related, as in the case of red and black, as species within a genus, or particulars within a species. And both of these Averroes regards as impossible where God is concerned. If he can prove the unity and simplicity of God's nature (as he believes he can) all will be well.

Moreover, the philosophers have, according to Algazel, a second proof that there is only one First Principle. If we assume two necessary beings to exist, are they exactly similar in every way? Clearly not, or they would be identical. They must therefore differ in some way. (So far, Algazel agrees.) But they cannot be <u>totally</u> dissimilar, with nothing in common, or they would not participate in existence itself, nor in necessary existence! They are therefore similar in some respect and different in another. But in that case they must be composite; and a necessary being cannot be composite.

This argument is not replied to at once. In fact, the rest of the Fifth Discussion is taken up with a full account of what the philosophers do in fact teach about the unity and attributes of God. In particular, Algazel lists five sorts of "plurality" which they distinguish, all of which they deny to belong to God: (a) quantitative divisibility (b) conceptual divisibility (as with the division of body

into matter and form) (c) plurality of attributes (d) "the rational plurality which results from the composition of genus and species" (as with the combination of the genus "animal" and the species "rational" in man)[1] and (e) the duality of quiddity and existence. Of these, it is (c) that most interests Algazel. For Muslim orthodoxy had regarded a group of seven attributes as belonging to God, yet distinct from Him (Wisdom, Power, Life, Will, Speech - embodied in the Koran - Sight and Hearing), and the philosophers' attempts to reduce these to the single divine Essence seemed heretical. As Algazel points out, among Muslims only the unorthodox Mu'tazilites had ever denied these attributes. It is, therefore, (c) that he proceeds to deal with next, in the Sixth Discussion. (He does also discuss the others later on, more briefly.)

The philosophers rest their denial of the attributes on a disjunction.[2] If a subject and its attributes are not identical, then either (a) they can exist independently of each other or (b) they need each other or (c) one needs the other but not vice versa. But in the case of a necessary being (a) would imply two necessary beings, and (b) none at all, since both God and His attributes would depend on something (each other) for existence; while (c) would mean

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1. Averroes agrees, however, that God can share a genus with other things, provided that the word denoting the genus is being used analogically.

2. Algazel quotes this proof in two forms, but says, correctly, that they are really identical.

that the divine attributes were not necessary but caused, although they are of the essence of a necessary being.

To this Algazel replies that he has already shown that there can be more than one necessary being, so that in theory (a) is possible. But (c) is, of course, the one he himself holds to be true. The divine attributes are caused, if you will, but only in the sense that they have a "receptive cause", the divine essence; they have no agent or efficient cause. If, on the other hand, the philosophers by "necessary being" mean a being without any efficient or receptive cause, they have no proof that such a being exists. Their proof related only to a being without an efficient cause. Of course, it might be argued that a series of receptive causes must also have an end; but this can cheerfully be accepted. The attributes of God have a receptive cause, namely, His essence, but this has no receptive cause itself; and neither attributes nor essence have any efficient cause.

There are other possible arguments on the philosophers' behalf, stated and dismissed with great brevity: An essence and an attribute inhering in it form a compound, and need a principle to compose that compound, which is not possible in the case of God. Furthermore, that God is not composite is necessary if we are to prove that He is not a body. To these Algazel replies that the proposition "every compound needs a composing principle" is on a level with "every existent needs a cause for its existence" - true for all things except God. God's incorporeality can indeed be proved, but not the way the

philosophers say it can. (This is dealt with in more detail in the Ninth Discussion.) The real proof is based on the fact that all bodies are temporal, which God is not; but the philosophers cannot use this, for they believe that there are eternal bodies.

There is also, adds Algazel, a particular difficulty over the divine knowledge. If (as most of the philosophers believe) God's only knowledge is of His own essence, He is inferior to many of His creatures, who know both themselves and other things; but if (as Avicenna believed) He knows other things, this knowledge differs from His knowledge of Himself, and plurality of a sort has to be admitted after all.

Averroes begins with a recognition that there are difficulties in both views. If the different attributes are reduced to a single essence, it means that God's knowledge, will and power are identical, and indeed that He, the Knower, is identical with His own knowledge, and so on. On the other hand, if the attributes are additional to the essence, the essence is a condition for their existence and they for its perfection, although ex hypothesi the two combined form a Necessary Being. Can an eternal compound exist without a cause for its composition? especially if you take the view (as Algazel's Ash'arite predecessors did) that all accidents are temporal? The real dispute arises over one point: Can a thing which has a receptive cause be without an agent? and this question he and the philosophers answer in the negative. Anything for the existence of which there is

a condition (e.g. a receptive cause) can only be connected with that condition through an external cause. The cases of composition and existence are not really parallel, as Algazel had suggested, for composition, like motion, is a passive quality, which is not true of existence. You can divide the existent into that which exists by itself and that which exists because of something else, and arrive at an eternal existent, but this cannot be done with composition: there is no eternal compound. If there were such a thing as a self-compounding compounder, there would also be a self-moved mover, and even a self-originating privation! But this does not apply where existence is concerned: "existence", says Averroes,"is not an attribute additional to the essence". In conclusion, however, he admits that he cannot prove his points here; he has done enough in showing that Algazel had not proved his points either. "Proofs are very rare, and they stand in relation to other arguments as unalloyed gold to the other minerals and the pure pearl to the other jewels".

It would take us too far from our subject to discuss fully what Averroes says about the problem of God's knowledge. Briefly, he argues (A) that God's knowledge of His own essence could well be identical with His knowledge of other things. This is in fact true also of man, whose essence is in fact the knowledge of other things. When therefore a man knows his own essence, he knows other things, and if he knew it completely, he would know all other things. (This very peculiar argument is evidently based on the theory that "thought

and the object of thought are identical". I doubt if it would have convinced Algazel.) (B) There is no reason to deny God knowledge of other things; this would not involve plurality. All that the philosophers deny is that His knowledge can be caused by other things inferior to Himself, in the way that our knowledge is. (C) Nevertheless, there is in fact no plurality of things known in the Eternal Knowledge, as there is in ours. God's knowledge is utterly unlike ours; it is neither knowledge of the universal nor knowledge of the particular (though it is more like the latter than the former, since it is knowledge in act, not in potency).

We have perhaps said enough to show the general pattern of Algazel's attack on the Cosmological Argument. It would probably be true to say that most modern critics of the argument (Kant being a notable exception) have concentrated their attacks on the efforts of its defenders to get to a "Necessary Being" in the first place. Algazel, though he does not altogether ignore this first stage, concentrates nearly all his attacks on the second stage, the attempt to identify this "Necessary Being" with God. If he can crack the arguments by which the philosophers seek to prove the unity and simplicity of the Necessary Being, then the universe, or even a part of it, might well be that Being, and the philosophers will stand revealed for the materialists they really are, or ought to be.

But the driving force behind Algazel's criticism is, one suspects, his different conception of God. To him God is indeed just as indescribable as to Averroes; the literalism (in respect of the divine attributes) which Algazel here defends is abandoned in other works.[1] But this is not because God is the "Dieu des philosophes et des savants" so much as because of His unique glory. Any theory of God which makes Him "Being itself" or "the pure act of Being" is likely to make the devout believer feel restless; there must be more to God than that if He is to be worshipped, loved or feared. One can see why Algazel disliked the philosophers' view of God as well as their view of the universe.

Whether he has succeeded in "beating them at their own game" is another matter. One feels that it all really hinges on the problem of the divine attributes. Perhaps some utter metaphysical Necessity which we can detect but not understand does make it impossible that there should be no First Principle. But can it also ensure that this First Principle has such qualities as knowledge, will, and the like? or, for that matter, permit us to say that He is Love? The philosophers' position seems to be the stronger here; their proofs that he <u>cannot</u> be composite may not be watertight, yet they carry a certain conviction with them. The problem will require more consideration later.

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1. Shehadi, op.cit.

CHRISTIAN DEVELOPMENTS

St. Anselm of Canterbury (1033-1109) was born during the lifetime of Avicenna - just - and was a rather older contemporary of Algazel: in other words, just as Muslim scholasticism began to collapse (for Averroes was really a kind of last outpost) Christian scholasticism began to grow. Anselm's name is above all associated with the Ontological Argument of the "Proslogion"; but he had earlier on produced a version of the Cosmological[1] which seems to be the first in Western Christendom. It is not a very good version, and Anselm himself passed on to look for better proofs; but there it is.

Everything that exists, exists because of something ("per aliquid"). There must therefore be either one thing or a number of things because of which all things exist. Now if there are a number, either these go back to a single unity through which they exist, or each exists per se, or they cause one another. In the first case there was really only one cause all along. In the second, each has the power or nature of existing per se; and in that case they exist because of this power or nature, and it is again truer to say that there is only one cause. The third is clearly untenable. Even correlatives, such as master and slave, do not exist because of one another; much less can one of our supposed causes exist because of something of which it is itself

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1. Monologium, iii.

the source of existence. There can therefore only be one ultimate source of being for all things; and this clearly must exist because of itself. Furthermore, anything existing because of something else must clearly be less than this self-existent source of all, which (it follows) must be the greatest of all beings.

The catch, of course, lies in the second possibility, that several "ultimate causes" exist, each in virtue of some power or nature of existing per se; for though this power may be one, it is not obvious that it is God! In fairness to St. Anselm, however, one should add that he has also provided proofs of the existence of a sovereign Platonic Good and a most perfect being, and it is the combination of the three that proves the existence of God. It is no more fair to Anselm to take his "cosmological" argument alone than it is to (for instance) Aquinas to take one of his Five Ways alone. If the other arguments are valid, there is at least a presumption that the ultimate cause is a perfect being and not just a "power or nature". (Though admittedly Anselm ought really to have made this clear, if such was his meaning.)

From now on, a variety of cosmological arguments appear, usually in rather unsophisticated forms like this last one. That used by Hugh of St. Victor (1096-1141)[1] begins with the mind's certainty of its own existence and of the fact that it began to exist. It must therefore

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1. "De Sacramentis" I,iii,10 (PL 176,cols.219 ff.)

have been made by something else which already existed. And this cannot have had its origin from something else, for if it had it could not be the source of all things' being. An enormous jump, but one sees what Hugh is getting at; he has missed out all the conventional middle stages and gone straight to the First Principle. This Principle, he goes on, can have had no beginning, for everything that does have a beginning owes that beginning to something else. And it is this Principle that piety venerates, and faith declares is to be adored as God.

The mind can also, Hugh goes on,[1] see this in the world outside itself: all things have a beginning and an end, and without an Author could neither come nor continue to be. There can be no doubt that there was a beginning to all things: every day things come to be that had not existed and things cease to be that had existed; and if a thing that does now exist cannot maintain its own existence, there must have been a time before it came to be. Everything changeable must have a beginning. So the exterior world answers the interior, and nature hails her Author and shows that she was made by Him.

It is wildly improbable that Hugh's argument was known to Maimonides; yet there is a certain resemblance between the two. Both take as their starting-point not causality, nor even contingency, but temporality, the fact that things have a beginning and an end; and

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1. Ib., sect.11.

both argue - unconvincingly - to the existence of something eternal, though Maimonides, being the more sophisticated of the two, proceeds further to the idea of a God who is not only eternal but also self-existent. But one would like to know more about what Hugh's actual views on causality were. That strange leap from the temporal mind, and again from the temporal things of the external world, direct to the Creator - it rather suggests a belief in God as the only true Cause, on the same sort of lines as the Mutakallims thought. In neither part of Hugh's argument do secondary causes play any part at all; in both the step is straight to an "Auctor" without any beginning.

Hugh's "successor", Richard of St. Victor (ca.1123-1173), used yet another pattern of cosmological argument.[1] Existents, whether actual or potential, can be divided (a) into those which are from eternity and those which have a beginning in time and (b) into those which have their being from themselves and those which have it from some other source. This gives us four classes, of which one (temporal yet self-existent) is empty, for as long as a thing does not exist (and obviously there is such a time for everything temporal) it is incapable of doing anything, and that includes imparting existence, to itself or to anything else. Of the others, that of the temporal and non-self-existent is clearly large; but it cannot include <u>all</u> existents. If nothing were self-existent, there would be no source

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1. "De Trinitate" I,6f. (P.L.196, cols. 893-4.)

for the existence of the other classes. The eternal and self-existent is therefore real.

This argument shows a good deal of advance over those of Anselm and Hugh. Temporality is still brought in, but it is clearly not necessary to the point Richard is making; the crucial idea is simply that of self-existence.

Contemporary with Richard (1128-1202) was Alan of Lille, to whom is attributed the "De arte seu articulis catholicae fidei",[1] the first attempt to set out Christian doctrine in Euclidean form. It is interesting for the frankness and honesty with which the writer makes his initial postulates ("petitiones"),[2] which he asks to be allowed in order to make his proofs, although, he admits, they cannot themselves be proved. The two that concern us are: that anything compound has a cause of its composition; and that the causes of a thing cannot go back to infinity. The proposition that a supreme cause exists for everything (I,ix) follows directly from the second of these; and that there is only one of it is proved a little later (I,xii). If, as a Manichee might say, there are two or more supreme causes, they must either differ or cause a difference. The latter is the case with properties and forms, but since the supreme cause or

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1. P.L.210, cols.595ff.

2. Not to be confused with "communes conceptiones", which anyone can see to be true when he hears them - e.g. that all causes are higher and more worthy than their effects.

causes are neither of these it can be ignored. (If they were properties or forms they would be combined with something, and so need a combining cause themselves, according to postulate 1.) They therefore differ; but in that case they themselves have properties or forms. And all compounds have a supreme cause; therefore these are not supreme causes. The argument is familiar enough; the method of exposition is unusual. It would clearly not convince an atheist, or even a Manichee, as it simply postulates that they are wrong; but Alan presumably had Jews, Muslims and heretics principally in mind, who would find his postulates quite acceptable.

William of Auvergne (1180-1249) is sometimes presented as much more of an a priori reasoner than he really was.[1] He does indeed point out that certain features of the finite world have, so to speak, their opposite complements in God: they are caused, derived, compound, and so on, while He is uncaused, underived, simple, and so on. But this is only said after a fairly normal cosmological proof that there is a God. Being, William argues,[2] is either "secundum essentiam" or "secundum participationem". Now if all beings were the latter, being would be unintelligible. Suppose, for instance, goodness were always goodness by participation, there would be no meaning to the word "good". For if A is good because it has B, then either B is good in

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1. E.g. de Wulf, History of Mediaeval Philosophy, I, p.341; Copleston, History of Philosophy, II, i, pp.250-1.

2. "De Trinitate", 1.

virtue of having C, and so on for ever, in which case there is no possibility of ever understanding what this "goodness" means; or B in turn is good because it has A, in which case A's goodness is the cause of its own cause, which is clearly "impossibile et frivolum". Now the same reasoning applies to existence as to goodness. Existence cannot therefore be predicated of <u>everything</u> "secundum participationem"; there must be something of which it is predicated "secundum essentiam". It is only after this has been established that William feels entitled to list other qualities of secondary being,[1] and add the generalization that from each of these there is a secure route to lead the enquiring mind to the First Being.

What is perhaps more interesting in William's exposition is his treatment of infinite series, a paragraph later. He imagines an opponent saying that possibly one contingent ("indigens") being may require another, and this a third, and so on for ever: and his comment is that it makes no difference whether this series has a first member or not; it is no more self-sufficient than any of its members, is still contingent, and still requires another being beyond itself. "For if you add equals to equals, the results are still equal" - i.e. if you add one contingent being to another, the result is still contingent. Technically, this is doubtless fallacious; but the point is that apparently William of Auvergne was the first Christian philosopher

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1. Ibid., 6.

explicitly to frame his argument so that an infinite series could still provide a basis for inferring the existence of a God.

A similar recognition - much briefer - is found in the "Summa Theologica" ascribed to William's contemporary Alexander of Hales (ca.1185-1245). (The work is in fact a compilation put together after Alexander's death, and not all his composition.) Here we find,[1] sandwiched in between the arguments of the Victorines and John Damascene, the statement that the universe must be caused, whether it is finite or infinite. But the point is not much elaborated: we are simply told that nothing can be its own cause, and that we cannot posit a circle of efficient causes either, as each of them would then be prior to itself.

Albert the Great (1206-1280), on the other hand, definitely wants to argue against the possibility of an infinite regress. There are many ways, he tells us,[2] of proving that there is the one First Principle, but the strongest is this: In every sort of cause, or indeed any series of things which are composed of two "extremes" (e.g. cause and caused, or mover and moved), the "extremes" must exist by themselves. In a supposedly infinite series of "middle terms", it will be agreed that each member is in fact composed of mover and moved (or cause and caused, as the case may be). It

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1. I, q.i, 1, sect.2.

2. "De causis et processu universitatis", I,vii. (Works, vol. 10, pp. 374 ff.)

therefore leads us to that which is before it, as being its cause, and to that which is after it, as being caused by it. But this means that our supposedly infinite series must similarly point us to that which was before it - which is impossible if the series really has no beginning. The same also applies in the other direction. There can therefore be no such thing as an infinite series of caused causes.

Furthermore, an infinite series could have no power to be either active or passive. If it did, this power would be of some determinate - i.e. limited - form of causality; yet the series is ex hypothesi unlimited. So that if there were an infinite series of caused causes, neither cause nor caused would exist! And again, the power to cause flows from one thing to another. But anything that flows must have a beginning, or (an argument that reminds one of Philoponus) it will never reach any individual.

St. Albert fails to say anywhere whether he is thinking of causes in fieri or in esse, contemporary causes or causes in temporal sequence. But on the whole it looks as if he must mean contemporary, in esse causes. Firstly, because he is explicitly drawing an analogy between causality and motion, and the latter, in the Aristotelian scheme of things, involves a contemporaneous series; and secondly, because, like Maimonides and Aquinas, he denied the possibility of proving that the world began in time. Yet it would seem that if his arguments were valid they would apply perfectly well to a temporal series of

causes - at least in the case of the first and third. The second, admittedly, is on a different footing; we should hardly expect a temporal series to be active or passive, whereas a non-temporal series, such as the emanation-series of the Muslims (which Albert inclined to accept), might be so qualified. The difficulty still remains with the other arguments, and reappears with Albert's pupil Thomas Aquinas.

In the writings of St. Bonaventura (1221-74) we find an approach to the cosmological argument that is totally different from that of any philosopher we have so far considered (with the possible exception of William of Auvergne). Indeed, one is tempted to say that what concerns him is not so much a cosmological argument as a cosmological insight. There are all sorts of features of finite, created being which point to the necessity of the infinite, uncreated being we call "God"; it does not much matter which we take as our starting-point (Bonaventura's lists[1] differ, and at one point even conclude "et sic de aliis"). Not only is the cosmological argument proper treated in this way; the teleological and Prime Mover arguments yield what are just two more features of created being and two more correlative features of Deity. Nor is there any need for elaborate argument; a few words to drive home the connexion are enough.

What are these features of created being that give rise to such

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1. "In Hexaëmeron" V, 28-30; "De Mysterio Trinitatis", I,1,11-20.

insight? The list in the "Hexaëmeron" is as follows: caused being is (a) produced, (b) from and for something else, (c) composite, (d) mixed, (e) moved, (f) relative, and (g) "diminished" - i.e. imperfect. To these the "De Mysterio Trinitatis" adds (h) posterior, (i) possible, (j) by participation, (k) in potentiality, and (l) changeable. The former work begins with a series of terse statements: "If there is a being that is produced, there is a first being", and so on. This particular example is indeed followed by a miniature amplification ("for an effect demands a cause"); the next has not even got that. (C) has "For being leaves simplicity and passes into composition"; (D) the comment that nothing created is pure. (E), a Bonaventuran version of the Prime Mover, has more space allotted it. There must be some fixed being, "quia mobile reducitur ad immobile": a hand can only be moved relatively to the arm, the arm to the shoulder, and so on. (F) has more of technical philosophy about it, and is much harder to follow. All creatures are attached to some genus; but this means that they cannot give being to others, and there must therefore be some absolute being from which they derive their existence. I am not clear what this highly compressed argument is trying to say: is it that nothing in a genus can give being to anything else at all, or the more reasonable (though still, I suspect, false) proposition that it can only give being to other members of the same genus? (Bonaventura does indeed say elsewhere that "being" properly applies only to God, so that presumably no creature can give it to another - but this can

hardly be assumed in advance.)

In each of these pairs of complementaries, adds Bonaventura, the creaturely quality is defective when compared with the divine; privation is involved in them all. But privation, as the Commentator says[1] cannot be known except through the positive quality. The intelligence thus realizes that it has a built-in light by which it may know the First Being.

The corresponding section in the "De Mysterio Trinitatis" is scarcely more elaborated. We are given a brief statement of the nature of possible being - it is equally capable of existence and non-existence; but no such being can in fact exist except through one being which is definitely on the side of existence, i.e. necessary. The Prime Mover argument is split into two: if there is a being in potentiality, there is one in act, for potentiality can only be reduced to act by a being already in act, and there cannot be any such thing as potentiality unless it <u>is</u> reducible to act. And secondly, if there is changeable being, there is also unchangeable; for the Philosopher has proved that all motion is caused by an "ens quietum", both as efficient cause and as final. And so it is that all beings imply and proclaim the existence of God.

The idea that the Cosmological Argument - and indeed other arguments for God's existence - is not so much a rational demonstration

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1. In Ar. de Anima III, text 25.

as the expression of an insight is one that has appeared more than once in recent philosophical theology. "What is being argued is that if we look about us at the world in which we live, or if, for that matter, we look within ourselves, what will strike us is the finitude of things.... What the reflective man is likely to need most persuasion about is the finiteness of the world, in the sense that the Thomist understands it. Such persuasion is just what Aquinas himself was offering in the Five Ways."[1] I am not sure that Aquinas actually was trying to do this (though it might still of course be the best use that could be made of his ways); but it does look very much as if Bonaventura was. There is, however, this difference. The modern writers see the theist's problem as one of arousing in his hearers a recognition of certain peculiar qualities in things, qualities which (when recognised) lead at once to the recognition that there is a God. Bonaventura, on the other hand, seems to have no doubt that people recognise the qualities (unless they are very unreflective); the problem is to get them to realize what those qualities imply.[2] Anyone can see that there are, say, composite beings in the world; the trouble is to get them to see that there must therefore be a simple Being too.

I must say that on the whole I think Bonaventura is nearer the

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1. T. McPherson, "The Philosophy of Religion", pp.59 and 61.

2. See I.M. Crombie in Mitchell, "Faith and Logic", for a modern view closer to Bonaventura's.

truth. Most versions of the Cosmological Argument begin with qualities that really do exist in things, whether obviously, like composition or motion, or not so obviously, like possibility or potentiality. The problem then lies in trying to get the sceptic either to attribute these qualities to the cosmos as a whole[1] or to agree that not everything that there is can have these qualities. (The latter is what Bonaventura has in mind; there is no mention of "the cosmos as a whole" in his treatment of the question.) But I doubt whether the "insight" theory will really do in either version. It makes sense if one accepts Bonaventura's general position - his view, that is, of the natural knowledge of God latent in every man. But without that we need argument if we are to get the sceptic round to our way of looking at things; the whole point of natural theology is the claim that we are not reduced to saying "I can see that this is so: if you can't, that's your bad luck - take it or leave it." The "persuasion" that Aquinas is supposed to have offered in the Five Ways must be rational persuasion and not just psychological! What is true about the "insight" theory is this: that if a man believes in God (whether as a result of argument or not) he will certainly then see the world and everything in it as dependent on Him - that is, he will acquire this insight into a peculiar quality of things (or rather, a peculiar relation in which they are terms). Of course, anyone who

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1. What McPherson says about the finiteness of the world may be a recognition of this.

accepts the Cosmological Argument will clearly have this insight (if it is an insight and not a delusion). But so will lots of people who explicitly reject that argument, and believe in God on faith or through some other argument. "Insight" may come as the result of belief; or, as Bonaventura thought, as the result of man's natural faculties properly used; or even as the result of natural theology. But it is not fair to regard such theology as simply a bringing this insight out more sharply. Bonaventura did not so regard it; his arguments are designed to bring a universal (though latent) insight out into the open; and therefore it is fair to see them as genuinely more psychological than rational. (He speaks of the intelligence as being "brought into this light",[1] not as discovering or deducing.) Hence he can afford extreme brevity; those who do not share his other views cannot.

We may next proceed to St. Thomas Aquinas (1224-74), who is generally regarded as the outstanding exponent of the Cosmological Argument. This is, one suspects, due more to his general philosophical importance, and perhaps to the prominent position occupied by the Argument in his "Summae", than to any particular originality in his presentation of it. We have already looked at his First Way, the Prime Mover argument;[2] there are two others, versions of the

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1. "In Hexaëmeron", V, 29.

2. V.sup., pp.31 ff.

Cosmological Argument proper, in the "Summae",[1] a third in the "De Esse et Essentia",[2] and perhaps a fourth in the "De Potentia".[3] One of these, the Third Way of the "Summa Theologiae", we have already discussed in its use by Maimonides,[4] with whom St. Thomas shares a fallacious attempt to prove that there must be some necessary (i.e. eternal) being. The next stage is to distinguish among necessary beings between those which owe their necessity to something else and those which do not. It is not possible to proceed to infinity in a series of beings which owe their necessity to something else; consequently there must be something necessary in itself, without a cause.

One might have expected that this would be proved by the impossibility of there existing a simultaneous infinity. Aquinas did incline to think that this <u>was</u> an impossibility,[5] but the point is not raised in his statements of the Third Way. In both statements he says that the infinite regress has already been shown to be impossible in efficient causes, and that the same reasoning applies to causes of a necessary being's necessity; so that the Third Way is, as he states it, dependent on the Second, or rather on the arguments used in the

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1. S.Th.I, 2,3; S.C.G.I, 13,33 and I,15,5.
2. IV,22 (Opuscula philosophica, p.41).
3. Q.7, art.2.
4. V.sup. pp.99 ff.
5. S.Th.I,7,4; though in S.C.G.II,81 he is less certain, and still less in "De aet. mundi" ch.20.

course of the Second.

But what are the arguments used in the Second Way? The form in the "Summa contra Gentiles" runs as follows: In all ordered efficient causes, the first is the cause of the intermediate, and this of the last. But if you suppress the first cause, you suppress its effect, which cannot therefore be a cause. Now if there were an infinite regress, no cause would be first, and so all other causes would be suppressed, which is absurd. There must therefore be a first efficient cause, God.

But what sort of efficient cause is being considered? As we saw,[1] the Muslims had bequeathed to their successors two distinctions within such causes: between causes in esse and causes in fieri, and between essential and accidental causes. Aquinas speaks of "ordered" causes only: but the distinction is an obscure one, and there are times when it seems to be equivalent to the "esse/fieri" one, and times when it doesn't.

For instance, in the "Summa Theologiae" (I,46,2 ad 7) Aquinas distinguishes ordered and accidental causes in a way that certainly looks at first as if it were the same as the "esse/fieri" distinction. A human genealogy could go back to infinity as far as one can tell, for each father is such in virtue of being a man, and not in virtue of being the son of his father. On the other hand, if a son's being

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1. P.102.

begotten depended on his father, and on the elements, and on the sun, and so on, this series does require an end. We may compare Averroes' distinction between "straight-line" and "circular" series of causes.[1] Now this distinction, though not actually an "esse/fieri" one, at least resembles it in so far as the second series all co-exist and the first do not.

Yet if this is the distinction there are serious confusions in Aquinas' argument as it stands. Which of the causes of a man's generation is (relatively) first and which intermediate - his father, the elements, or the sun? It is not just a question of one unfortunate example, another,[2] evidently meant to illustrate a similar point, is that of the hammer, the hand to wield it, and the skill of the wielder, all involved in a work of carpentry; and exactly the same point arises. A third[3] does have a definite "intermediate" - the case of a hand moving a stick and the stick a stone - but this is not only a case of the cause of motion, not existence, but also merely one out of three. In the second instance there is undoubtedly instrumentality, but not intermediacy; all three are required for the existence of the chair or whatever is being made, but none for the existence of any of the others: in the first there is not even instrumentality,

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1. P.107.
2. S.Th.I,7,4.
3. Ib.,I,46,2 ad 7.

for the sun can hardly be said to be using the father, nor vice versa, in the production of the child. There is therefore no relatively first cause involved in these ordered causes: suppress any of the causes, and you suppress the causal power, but not necessarily the existence, of the others. Duns Scotus, as we shall see, bases his version of the Cosmological Argument on the causation of causal power, not of existence, and perhaps this was his reason; but Aquinas is not doing this.

It has been suggested[1] that the crucial point of Aquinas' argument lies in the fact that he is talking, not of "homogeneous" causes, but of "heterogeneous" or "hierarchical". Now this again is certainly true of Duns Scotus; but there is no hint of it in Aquinas. (And it is a weak point in Scotus himself, as we shall see - and as Ockham saw soon after.) In neither "Summa" is there a word about heterogeneity or hierarchy; and though the examples given include some whose members are heterogeneous, they also include some (e.g. hand and stick) which it would be very hard to describe as such, and none that could be described as hierarchical. This may be the best way to set about proving the existence of the First Cause, but I doubt if it was Aquinas' way.

There are at least two other difficulties in understanding the

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1. E.g. Maritain, "Approaches to God", pp.29ff. (admittedly restating Aquinas rather than expounding); Gilson,"The Philosophy of St. Thomas Aquinas", p.62.

Second Way. Firstly, in the version in the "Summa Theologiae" (though not in that in the "Summa contra Gentiles") St. Thomas argues that a thing cannot cause itself, as this would mean it preceded itself. Now one would naturally take this to refer to precedence in time, in which case he cannot mean causes *in esse*, and the common interpretation of this Way,[1] that it deals with causes *in esse* alone, must be mistaken. He may, of course, mean precedence in "rank"; but he does not say so, and one might point out *ad hominem* that this would lead to difficulties for one who held that God wills His own willing.[2]

Secondly, the way in which Aquinas proves that there must be a First Cause applies, surely, just as much to non-ordered causes as to ordered (and, indeed, to causes *in fieri* just as much as to causes *in esse*). If it really is the case that (a) to suppress the first cause is to suppress its effects and (b) to say that there is no first cause is equivalent to saying that it is suppressed, then the existence of effects implies that of a first cause in time just as much as "vertically". There is, indeed, one way to combine a universe that is, or may be, unbeginning with the use of the Second Way. This would be to argue "vertically", via causes *in esse*, to the existence of a First Cause, and *then* use the powers of the First Cause

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1. E.g. Mascall, "He Who Is", p.46; Copleston, "Aquinas", p.118.
2. S.C.G.I,74,7.

to show that He could have created a world with no beginning. This may well have been what Aquinas had in the back of his mind; something very like it appears quite explicitly in Duns Scotus' argument that if there is no "vertical" series than any "horizontal" series must be finite.[1] But if this is so, does it not lead to occasionalism on the lines of the Kalam? For it implies that God can suppress the first temporal cause, in the sense of creating an infinite series of temporal causes, and yet not suppress the effects; and the natural conclusion is surely that He is the direct cause of every member of the series. (This criticism does not, I think, apply to Scotus' version, as in his scheme God is the source of the members' causal power, not directly of their existence.) It seems to me, therefore, that the Second Way as it stands is not as straightforward a proof as it looks, and that if it is valid it proves more than Aquinas thought it did. This is not, of course, a defect in the argument itself; if it proves not only creation but temporal creation, this is gratifying rather than disturbing!

If the Second, or causal, Way should be valid, the Third, which concerns itself with one special set of causal relations, namely, those obtaining between necessary beings, will also be valid, provided (a) that Aquinas' argument about causes' preceding themselves applies to non-temporal precedence and (b) that there are such things as

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1. "De primo principio", 3,14 and 15; v.inf.pp.148ff.

necessary beings. We have however seen that the attempts of St. Thomas and Maimonides to prove this last were invalid. It does not therefore seem worth while discussing the Third Way on its own; indeed, St. Thomas himself does not use it to prove the existence of God in the "Summa contra Gentiles". The concepts of necessary and possible being are, I think, important for the natural theologian, but not as St. Thomas uses them just here.

There is also, as I have said, a third form of Cosmological Argument in the "De Ente et Essentia". It does not reappear in St. Thomas' later writings, but is nevertheless worth mention. Certain features of a thing are, we are told, derived from the principles of its nature - e.g. the ability to laugh in human beings; the rest are derived from some external principle - e.g. light in the air, derived from the sun's shining. Now Being itself cannot be caused by a thing's form or "quiddity" itself (not, that is, in the sense of efficient causality), or we should have the impossible situation of a thing's producing itself. It follows that wherever we have a thing whose being is distinct from its nature, that thing exists because of something else. Now something that exists because of something else leads back to a First Cause that exists <u>per se</u>; so there must be something which is Being itself and the source of all other things' existence. Otherwise we should go on to infinity. And this First Cause is God.

Like this last, but more so, the argument in the "De Potentia"

is concerned with the relation of God to being in general. In it, Aquinas says that when two things of different kinds have the same effect, it is in virtue of some superior cause which has that effect by its own nature. For instance, pepper and ginger have their own particular effects, caused by their respective natures, but they also have in common the effect of Heat. And this effect can be traced back to a prior cause of which heat is the proper effect - namely, fire. A similar case would be that of the motions of the planetary spheres, which all lead back to that of a sphere which revolves once a day.

Now <u>all</u> causes have one effect in common, that of being itself. Heat brings the quality of hotness into being, a builder brings a house into being, and so on. There must therefore be a higher cause whose proper effect is being itself and through which all other things come to be causes of being; and this cause is God.

As arguments, both of these are doubtless defective. The first evidently needs actual proof that we cannot go on to infinity: this is not peculiar to it, it shares it with many varieties of cosmological argument, and it would hardly be fair to single out this particular example. But it also has another half-concealed assumption, that if a thing's form or quiddity involved existence, that thing would cause itself. Now this seems to be false. The form of a strawberry involves redness, but this does not mean that the strawberry causes its own colour. Only if a thing were identical with its form would this

reasoning apply; and this is not the case, except with God Himself, and also angels (according to Aquinas, at least). There certainly are serious difficulties in the notion of a thing whose existence follows from its nature, and I should personally quite agree with Aquinas that nothing, save possibly God, answers to this notion;[1] but the difficulty Aquinas himself raises does not seem to me a decisive one.

The last argument is still more obviously invalid; but it does illuminate St. Thomas's notion of what the Cosmological Argument ought to lead to - namely, a God in whom essence and existence are one and the same, and whose proper effect is Being itself. That he did indeed believe these to be true of God is, of course, well known, nor was he the first to believe them; but elsewhere he presents them as conclusions to be reached only at a later stage, after we have already established that a God does indeed exist. Here we have attempts to reach such conclusions immediately; not from the consideration of the nature of the First Cause we have already shown to exist, but directly from consideration of finite being and causality. I do not think St. Thomas really succeeded; but the effort was worth making.

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1. I do not mean that Aquinas himself thought that God's existence followed from His nature; in his view the two were identical.

Duns Scotus (ca.1266-1308) constitutes a real landmark in our survey. His discussion of the Cosmological Argument[1] is far more elaborate than those of any of his Christian predecessors, and marked by a painstaking effort, not just to state the argument, but to make it watertight against possible objections.

He does not treat it as an isolated philosophical theorem; it is part of a triple-barrelled proof that there exists a single Being that is First in three senses, those of efficient causality (proved by the Cosmological Argument), of final causality (proved by a Teleological Argument) and of pre-eminence (proved by the necessity of there being a highest nature). As far as the first section is concerned, we have to prove, firstly that among beings that can produce effects one is simply first; secondly, that this being cannot be caused; and thirdly, that it is not just a possible but an actual existent. The most important part of the argument for our present purposes is, of course, the first.

We begin with a fairly simple version. There exists something that can be produced. It cannot be produced by itself or by nothing; it is therefore produced by something other than itself, which we may call A. Now A may, of course, itself be the First; but if it is not, it can itself be produced by some other thing, or perhaps it can only

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1. Opus Oxoniense (Ordinatio) I,dist.2,q.1 (Wolter, pp.35-47); the arguments in the "Lectura Oxoniensis" and the "De Primo Principio" are virtually identical.

act (exercise its causality) in virtue of something other than itself. In either case we have to move back to a third being, B. We thus find that we must either go on to infinity or reach a being that has nothing prior to it. But infinity is impossible "in ascendendo", and a circle of causes is equally inadmissible; hence a primacy is necessary.

Now, however, Scotus raises two objections to this argument. One, that it is not a proper "demonstration", as it begins from contingent premises, may strike us as rather peculiar. His point seems to be that "There is such a thing as a being that is caused" is an unreliable basis for a proof that there is a Necessary Being. For it is itself a contingent truth - i.e. it could have been false. And a demonstration properly so called should move entirely in the realms of necessity. Scotus therefore prefers to take as his starting-point the proposition that it is <u>possible</u> that there is some being that is caused. This proposition is not itself contingent. It is true that it leads only to the conclusion that it is <u>possible</u> for there to be a cause that is simply first; but since such a cause, if it exists, does so necessarily, to show that it is possible is to show that it is actual.

It may seem that Scotus is unduly worried over what is really a matter of words - does an argument that starts from contingent premises count as a "demonstration" or not? - and I am inclined to agree. Similar worries have, however, been expressed more recently. Thus, in his early work on Leibniz, Bertrand Russell says of the Cosmological

Argument that it has a formal vice, in that as the premiss is contingent, the conclusion also must be contingent.[1] But this is not in fact the case: necessary conclusions can in fact follow from contingent premises - and indeed even false ones. Thus "All bachelors are male" follows logically from the false contingent premises "All bachelors are Theosophists" and "All Theosophists are male" - yet it is certainly itself necessary. It is true that we cannot, from the argument alone, infer that the conclusion is necessary; but this we can do, at least in the case of "There is a necessary being", from the nature of the conclusion itself, which, if true (and the argument has presumably shown that it is true) must be necessarily so.

Scotus' first objection need not, I think, detain us further (though it colours his whole argument). But the other is more important. Does not the "proof" just assume that there must be an end to the series of causes? After all, philosophers have supposed that an infinite series "in ascendendo" was not only possible but even actual - e.g. in the generations of members of a given species.

This is true, agrees Scotus; but it applies only to causes that are accidentally ordered, as opposed to essentially. The distinction is explained as follows: in essentially ordered causes the second depends on the first not only for its existence but also for its actual causative work, whereas in accidentally ordered ones only

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1. "A critical exposition of the philosophy of Leibniz", p.175.

existence is involved. (Scotus' example of the latter is that of a father and his son; the son's existence was caused by the father, but after that the son can exercise his own causality, even after his father has died.) Furthermore, it follows that an essentially ordered cause must be of another order to those lower than it in the series; otherwise we should have a cause depending for its own action on another just like itself, whereas one cause (of a given kind) is clearly enough. (Scotus says, but does not prove, that the higher cause must be not only different from the lower, but also more perfect.)[1] Thirdly (and this is crucial), since essentially ordered causes cannot exercise their causality on their own, it follows that all the essentially ordered causes of a given effect must exist simultaneously.

Now, given this distinction, Scotus proposes to show (a) that an infinity of essentially ordered causes is impossible; (b) that an infinity of accidentally ordered causes is equally impossible unless it exists in virtue of an essentially ordered series; and (c) that even if there is no such thing as an essentially ordered series, an infinity is still impossible. Whether Scotus' proofs of these propositions are adequate remains to be seen; it should, however, be noted that he has neatly anticipated some modern critics of the

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1. Oddly: for in 'De Primo Principio' 2.43-4 Scotus explicitly declares that not every dependent thing is inferior to that on which it depends. Thus a material object is superior to the matter composing it. Yet this is certainly a case of essential ordering.

Cosmological Argument who (dependent too much on Thomas or neo-Thomists?) have objected that if an infinite series of causes *in fieri* (roughly corresponding to Scotus' accidentally ordered causes) is acknowledged to be possible, why should not also an infinite series of causes *in esse*? and that in any case is there any real reason for believing in causes *in esse* at all? (Actually, Scotus' distinction seems to me to be inferior to the more usual one. It seems clear that in any sense in which a son can be said to depend *now* on his father for his existence, he depends equally on him for any causality he exercises.) Scotus makes it clear that as far as he is concerned (and in point of fact I think much the same would be true of most of the Scholastics, if the point had been put to them) the only reason he is willing to admit that an infinity even of accidentally ordered causes is possible is that he believes in at least one essentially ordered cause, namely God, and that if it could indeed be shown that there are no such things as essentially ordered causes the only result would be a proof that there is a first accidentally ordered cause.

Scotus has five proofs of his proposition (a), varying in quality. The first is rather an odd one: if there were an infinite series of essentially ordered causes, each dependent on the one before it, the whole series would be dependent on some prior cause. Odd, firstly because there is no attempt to prove it as there is with the rather similar proposition concerning accidentally ordered causes (Scotus' "b"), and secondly because it concedes, to all appearances,

that an infinity of essentially ordered causes is possible after all. (Presumably this is only for the sake of argument, as the remaining proofs would render this impossible.)

Secondly, we have the point that, since essentially ordered causes have to coexist, an infinite series of them means an actually existing infinity all simultaneously causing the final effect, "quod nullus philosophus ponit". (Algazel's "Tahafut" had not yet been translated into Latin.)

Thirdly, to be prior a thing must be nearer the beginning,[1] but if (as here) there is no beginning nothing can be essentially prior. This is not convincing.

Fourthly, since (as we have seen) each essentially ordered cause is more perfect than those below it, that which is infinitely higher is infinitely more perfect. But anything that can cause only in virtue of another is imperfect in its causality, and therefore not infinitely perfect. The point of this argument is not immediately clear. I think Scotus must be reasoning something like this: Any essentially ordered cause that is <u>not</u> the first in its series exercises its causality in virtue of the existence of the one next above it, and is therefore imperfect. So in an infinite series of such all will be imperfect. But if the series is infinite, it will ultimately

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1. Citing Ar.Met. Δ 1018b9; yet a few lines later Aristotle is providing an alternative criterion (for past events)!

(at infinity) reach a stage at which its members are infinitely perfect. Therefore the idea of an infinite series of essentially ordered causes is self-contradictory.

If this is Scotus' reasoning, it must of course be regretfully labelled invalid: not only has he not yet proved that the higher cause must be more perfect than the lower, but an infinite series can consist entirely of finite members (e.g. the ordinary series of integers). But it may well be that I have misunderstood him.

The fifth argument bears a distinct resemblance to certain reformulations of the Ontological Argument (which Scotus actually discusses himself elsewhere). If every cause depends on some other, all causes are imperfect. But being a cause does not itself imply imperfection; an independent power to produce can exist in some nature. Such a power is therefore at least possible, and Scotus intends to show later on - here the echo of the Ontological Argument comes in - that if it is possible, then it does actually exist.

So much for proposition A. What about B, the impossibility of an accidentally ordered infinity without a (finite) essentially ordered series to back it up? Well, an accidentally ordered series is in a sense a flux; it is perpetually changing; and a change of form requires something permanent that is not part of the succession. There must therefore be something essentially prior to the series on which each member depends - and depends in a different and stronger sense than that in which it depends on its predecessor in the series. This

argument seems to be sound enough as far as it goes,[1] but surely leaves open the possibility that this "something permanent" should be the material cause of the series, not the efficient. Materia prima would seem to fit the bill just as well as God.

Proposition C is dealt with more briefly. Some nature (i.e. some common nature, not some individual one) is capable of being an efficient cause. If there are no essential causes, this nature does not cause in virtue of some other cause. It may itself be caused in some instance(s); but not in all, unless there is an essential order. This follows from proposition (b). (In fact, (b) and (c) seem to be equivalents. "There can only be an infinite accidentally-ordered series if there is an essentially-ordered series too "is logically identical with "If there is no such thing as an essentially-ordered series, then there cannot be an infinite series of accidentally-ordered causes either".)

Scotus has now proved that there is a first efficient cause. He next proceeds to show that this is itself incapable of being caused - not as unnecessary a step as might be supposed, as he is thinking of material, final and formal causes, not efficient. A final cause is impossible, as such causes are only causes at all in that they "move" the efficient cause to action - and the First has no efficient cause. As for the other two, the "intrinsic" causes, which we can consider

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1. Though it might not have convinced someone (say Hume) with a different philosophical outlook.

together: neither of them can apply to the First, for if a being has no extrinsic cause, which is a more perfect thing than an intrinsic, a fortiori it has no intrinsic causes either. (This implies, surely, that if God has no superiors, He has no inferiors either!) Furthermore, intrinsic causes need an extrinsic, either for themselves or for the composite being they form; they cannot by themselves form anything without an agent.

And finally, this being actually exists. The point of setting out to prove this lies in the fact that Scotus has been thinking throughout in terms of natures, universals, rather than of individuals. (This is stated explicitly in the "De Primo Principio", ch.3.3.) It therefore remains to prove that this nature is actually exemplified. This is easy. An uncausable being must exist of itself if it can exist at all. But the fifth proof of proposition (a) showed at least that such a being was possible. It can exist of itself; therefore it does exist of itself. Incidentally, Scotus adds, there would be something improper about a universe that did not include the highest possible level of being.

Duns Scotus' discussion of the Argument was the fullest since the Arabs; but it was itself to be discussed at length by William of Ockham (died ca.1349), who accepted a good deal of Scotus' version but refined and retouched much of the detail, including several points that we have ourselves had occasion to notice as apparent weaknesses.

For instance, there is the distinction between essentially and

accidentally ordered causes. Ockham accepts the distinction, but raises a number of points about it. A man, he points out,[1] in generating another, needs the co-operation of the sun, which is therefore (on Scotus' definition) the higher essentially ordered cause. Yet the man himself need not depend on the sun; he might never have been generated, but directly created by God. We must therefore distinguish <u>three</u> types of cause; not only accidentally and essentially ordered ones, but also partial causes of numerically the same effect. In the last case, there is no hierarchy among the various causes; none is dependent on another, either for existence or for conservation. In essentially ordered causes, on the other hand, there <u>is</u> an hierarchical order, Socrates being dependent on his father Plato for his existence (though not for his conservation). (This form of distinction leaves little or no room for accidentally ordered causes; and in fact, as we shall see, the accidental/essential distinction plays no real part in Ockham's argument.)

Again, Scotus, as we saw, took it for granted, however inconsistently, that a higher (essentially-ordered) cause must be more perfect than a lower. Ockham queries this:[2] in our example, the sun is a higher cause than the father (for it could exercise its causality through some other man, but there is no other sun to enable

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1. Quaestiones in I Phys., q.132. (Boehner, p.115.)

2. Ib., q.133 (Boehner, pp.115-6).

the father to exercise his); yet man is more perfect than the sun.

Ockham's conclusion is that there is a sense in which the higher cause is the more perfect, in that a more perfect condition or predicate applies to it - in this case, independence in causality. But if "perfect" is taken to mean "absolutely perfect", it is not true that the higher cause is more perfect, unless we are speaking of the total higher cause. That would include not only the sun but God Himself and every other partial cause of a given effect except the one we are contrasting the total with; and this would be absolutely more perfect. (But, we may note, even this is not necessarily the case unless we are already given the existence of a God.)

The next point to be elucidated is whether all the essentially ordered causes of a given effect are required to act together to produce it.[1] ("Together" here renders "simul"; it does not seem that Ockham is primarily concerned with time, only with how "essential" - in the modern sense - these causes are. We might also note that Ockham has apparently confused the idea of an essential cause with that of an essentially ordered one, despite Scotus' clear distinction between the two.) Ockham's counter-example is a little unfortunate, for it is that of the production of a worm, which can be done either by the normal process of generation - i.e. by another worm with the sun as higher essentially-ordered cause - or by spontaneous generation in

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1. Ib., q.134 (Boehner, pp.117-8).

the course of putrefaction, i.e. by the sun alone. Unfortunately, the latter is not in fact found. Still, we could probably devise other examples (a sculptor producing a clay statue with his hands or, less conveniently, with tools from a distance?). In general, Ockham's answer, that numerically the same effect cannot be produced by all agents and by one alone, but that specifically identical ones can - is surely correct.

Ockham can now proceed to the Cosmological Argument itself.[1] Can a first efficient cause be shown to exist (a) from production, or (b) from conservation? Duns Scotus had argued for (a); and Ockham here summarizes Scotus' argument in eight paragraphs. (The first two are different versions of Scotus' first proof of his proposition A; then follow the other four; then two versions of his proof of proposition B.) We should note one point here that Ockham seems to overlook. Scotus' essentially ordered causes, though not causes of conservation, are evidently thought of as causes of a thing's causing power here and now, and therefore (if they exist at all) as co-existing with lower causes and with the effect. Now Ockham's preliminary discussion of essentially ordered causes makes it look pretty certain that he would disagree (rightly, to my mind); but he has not actually said so, let alone proved it, and until that has been done most of what he says about conserving causes will apply also to Scotus' essentially ordered

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1. Ib.qq.135-6 (Boehner pp.115-125).

productive causes.

Anyway, Ockham begins his criticism of Scotus by claiming that as far as productive causes are concerned (i) they may go on to infinity, as with accidentally ordered causes, and (ii) it cannot be shown that the total universe is dependent on anything, as perhaps each member is produced by some other and thereafter depends on nothing (except possibly a conserving cause, which is irrelevant here); (iii) since not every producer coexists with its product, no actual infinity arises; (iv) only essential priority, not accidental, depends on nearness to the first principle, and here only accidental priority is involved. As regards Scotus' argument from perfection, Ockham has already shown that the higher cause need not be more perfect than the lower: and as regards the argument about the compatibility of efficient causality and perfection, this cannot, according to Ockham, be proved from mere production. Finally, the proofs of Scotus' proposition B are met with a simple rejection. There is no need for a single permanent cause on which the infinite series depends; it is enough that each member depends on the one before it in the series.

We are therefore unable to prove the existence of a first productive cause. Does the same apply where conservation is concerned? It might seem that the same objections apply here; but conserving causes have to co-exist with their effect, and so if there were an infinite series of them we should have an infinite number of things co-existing, which is impossible.

At this point Ockham imagines a Scotist objecting that exactly the same applies to productive causes, at least in the case of essentially ordered ones; these too have to co-exist. Also, in a collection of causes and effects (whether accidentally or essentially ordered) the cause of the whole must be outside the collection, or else it would be its own cause. The latter point, however, can be met with the observation that the whole does not need an external cause, since every part of it is caused by something not itself, viz. a higher member of the series. (We may compare Hume's famous remark (Dialogues IX) "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".) The former has already been answered in the course of the preliminary enquiries, when it was shown that even essentially ordered causes need not co-exist with their effects. It remains true, therefore, that the First Cause cannot be proved to exist on a basis of productive causes; but on one of conserving causes He can. (Provided, we might add, that an actual co-existing infinity can be shown to be impossible. Ockham and Scotus alike took this for granted; but we have already noticed the hesitations of Aquinas and - only a little later than Ockham - the denials of Crescas, while in Newtonian physics infinite space at least was to be taken as basic!)

It should be added that in the Quodlibeta[1] Ockham takes what

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1. II, q.1.

appears to be rather a different line. It is possible to give "persuasive" (i.e. probable but not demonstrative) reason for believing God to be the cause of something, but not to give a demonstrative proof that He is the cause of anything - let alone of everything. All we can prove to be caused are the things that come to be and pass away, and the various bodies of the world, earthly and heavenly, are cause enough for these. Indeed, there might as far as we can see be more than one first efficient cause. An infinite regress is no doubt impossible, but the series could end in a heavenly body, "for we know by experience that this does cause other things; nor is there adequate proof that there is only one such".[1] And he reiterates his point that it does not make sense to ask for a cause of the whole series. But there is no real inconsistency with the "In Physicorum" argument - only a difference in the impression given to the reader. Anyone reading Ockham's proof of a First Cause would naturally suppose this First Cause to be God - and indeed no doubt Ockham did believe that it was - but the name "God" is not used there, and the argument of the "Quodlibeta" is quite consistent: there is certainly at least one First Cause, but it is not possible to show that this is the Christian God.

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1. Nor, for that matter, that there is only one God: Quodlibeta I, q.1.

APPENDED NOTE - INDIAN PARALLEL

The Hindu philosophy best known in the West is the monism of Śankara (788-820). It is, however, only one school among many, some of which were explicitly theistic; and in two of the theistic schools, the Nyāya ("Logic") and the Vaiśesika ("Atomist"), natural theology played a leading part. It is interesting to realize that according to most scholars these schools began as atheistic (atheistic, that is, in the sense of denying the existence of any Supreme Being personal or impersonal; the existence of superhuman powers, the "gods" of the Hindu pantheon, was not questioned), in which case they provide instances of that great rarity, actual conversion to belief in God by means of rational argument alone.

A number of different arguments were used by philosophers of these schools; but the one that concerns us here is the nearest approach to the Western Cosmological Argument, though really it "combines the causal and teleological proofs"[1] - that is, it begins by asserting the need of a First Cause, but defends this with arguments from design. ("First Cause", by the way, more in the sense of "shaper" than of "creator" - there is no creation ex nihilo.)

The classic treatment of this argument is in the "Kusumāñjali" ("Handfuls of flowers") of Udayana (fl.984), a writer who belonged to

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1. S. Chatterjee in "History of Philosophy Eastern and Western", ed. Radhakrishnan, I,228.

both schools, at a time when they were beginning to merge; it is, however, extremely compressed (probably for better memorizing) and largely in verse.[1] Other versions may be found in the "Nyāya-Kandali" of Śrīdhara (fl.991-the work is a commentary on a Vaiśesika text of about A.D.600); and in the commentary of Rāmanuja (d.1137?) on the Vedānta-Sūtras (I,i,3), who expounds in order to refute from a fideistic position. The argument common to these sources may be summed up as follows: Every effect is preceded by some being who has a knowledge of its material cause and the desire to make it. Now the earth and mountains, or the four elements, are effects; they must therefore be preceded by a Maker, i.e. God.

Various objections were raised to this argument. Some derived from the particular tenets of rival philosophical schools. Thus the Cārvākas ("Materialists") went so far as to repudiate causality altogether (or, in the case of the Susiksita Cārvākas, repudiate it as a metaphysical principle while admitting it as an empirical relation between objects of experience). Things exist by their own nature, not because of causes; mere perception of two things cannot establish a causal connexion between them. Indeed, if there were such causes, they would go on to infinity, and we should be landed with an infinite regress.[2] To which the Naiyayika replies that if there is evidence

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1. The E.V. by Cowell and Nyāyaratna includes an undated commentary by H.D. Bhattāchārya which amplifies the compressed parts.

2. Udayana, p.5 (commentator).

for the existence of an infinite series, there is no reason why we should reject it.

Buddhist critics, similarly, objected on their own grounds, that there is no such thing as an enduring substance, only a flux of momentary existents.[1] This is of importance not only temporally but also spatially, for one of the main points made by the theists in favour of the elements' being effects was that they are composed of parts.[2] If, however, you deny the whole idea of the real existence of wholes, this argument will fail. Needless to say, the theists did not accept the Buddhist premises.

Another argument, favoured apparently by Jains in particular[3] though not dependent on their own philosophical views, was equally directed against the Indian "proof from composition", arguing that space is just as much divisible in parts as the earth or sea - yet the natural theologians regard space as eternal and uncreated. This, of course, is ad hominem only, and in any case the natural theologians had their answer, that divisibility is not the same as composition. Space is divisible into parts, agreed, but it is not and cannot be made up by putting spaces together!

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1. Ib., p.19 (and commentator ad loc.); cf. Bhattacharyya, "Studies in Nyāya-Vaisesika Theism", pp.44 ff.

2. Śrīdhara, p.119; cf. Rāmanuja, p.165.

3. Smart, "Doctrine and Argument in Indian Philosophy", pp.153-4.

But there were also criticisms on more general lines, which did not involve the acceptance of a rival metaphysics. There seem to have been two of particular importance. One was that if the argument is valid at all, it proves not only that the world, like a jar, has a Maker, but that this Maker, like a potter, has a body and operates through it[1] - a conclusion the theists were naturally reluctant to accept. Evidently the standard reply was that to be an agent is not the same as to be embodied (if it were, men would be agents even when fast asleep); on the contrary, the body is itself impelled and operated upon by the soul, which is immaterial. Rāmānuja objected that even a soul does not operate (as far as we know) except when embodied; but this seems to miss his opponent's point, that the soul does operate directly on the body. Possibly God does require something corresponding to a body, so as to act upon it; but this role is filled by the atoms that compose the universe.

A second criticism[2] runs roughly as follows: The natural theologians' argument is inductive in form; that is, it asserts an invariable concomitance between an effect and an agent with knowledge. Now this does apply to their standard instance, the jar and the potter; but it is not invariable. What about the sprouting of a seed? Even if you count the farmer as the agent, he cannot know that the seed

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1. Udayana, p.19 (commentator); Śrīdhara, pp.122 ff.; Rāmānuja, pp.168f. and 172.

2. Śrīdhara, pp.119ff.

will sprout until it actually does so. More especially is this the case when the agent whom we are trying to prove is God; for none of the agents of whom we have experience is anything like Him. This last point the natural theologians could perhaps answer: all they were trying to prove was the existence of an intelligent Creator, not one particular kind of Creator - not yet. Moreover, would the objector really say that a man could not infer from the potter/jar sort of case to the existence of a highly skilled builder when he sees a great palace? But the first part of the criticism was much harder to deal with (as Western physico-theologians have also found). Basically, the only answer was to say that volition is in some senses a privileged type of cause. Another answer was, however, produced by Śrīdhara,[1] which, though very obscurely put, seems to be as follows: If the absence of observed duality in the case of the sprouting seed is all that is bothering you, then what about the motion of the sun? It is unobserved, yet no-one doubts its reality. If this is what Sridhara means, he has, of course, proved too little - only that there might be an intelligent cause of the sprouting, not that there is one. In fairness, though, it should be added that his opponent is adducing the sprout as an actual counter-example, a case where there clearly is no intelligent cause; and to this Śrīdhara's reply is adequate.

Rāmānuja also points out the difficulty of proving that the

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1. P.120.

Creator is one and supreme. There are two reasons for this. Firstly, there is no evidence that the world was created all at once; but if it was created in successive stages, the natural assumption is that several successive creators were involved. Secondly, the Creator need not be onmipotent or omniscient to create only a finite universe. It is common ground to Hindu thinkers that a soul may attain great powers if it has accumulated sufficient merit; however great the powers needed to form the world, they are in theory attainable by finite spirits. Consequently, all the Nyāya-Vaisesika arguments prove is that intelligent creative agents of some sort exist - which nobody ever denied.

In general, therefore, it may be said that theistic proofs were not accepted outside the two schools in which they originated. (Sankara himself does accept them[1] as possible additions to scriptural authority, but without discussion of them, or, evidently, thinking them very important.) They never played as great a part in Hinduism as in Western theologies - especially as the Nyaya and Vaisesika systems were primarily concerned with questions of logic and natural philosophy, and with the metaphysical analysis of ordinary existents; they were not dominated by religion, however devout their individual adherents may have been.

There may also be another reason for the minor status of this sort

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1. Commentary on the Vedānta-sūtras,I,i,2(p.17).

of natural theology in Hinduism. This is the fact, already alluded to, that their form of the causal argument is plainly an inductive one, and not based on supposedly certain metaphysical principles, nor even (like the West's physico-theological proofs) on an elaborate survey of detailed evidence for design. Consequently, it always carries with it a certain air of being a guess; and it is arguable that mere guesses are not the best base for a philosophical theology.

THE YEARS OF DECLINE

In the two centuries or so following the Reformation, comparatively little took place in the way of development or criticism of the Cosmological Argument. Theologians had had their attention diverted to questions purely internal to Christianity; natural theology was, by comparison, neglected, not necessarily as being in itself misguided, as some more recent theologians have held it to be, but as irrelevant to the more pressing needs of the moment. And philosophers, who now tended to be laymen, were often more interested in understanding the new sciences, and the world in the light of those sciences, than in seeing how far the unaided intellect could go towards the comprehension of religious truth. There were still, of course, philosophers who were metaphysically rather than scientifically minded in their approach; but even there the influence of the mediaeval model was weakened, and the general atmosphere was one of beginning again from the beginning in a different way. This is not to say that natural theology disappeared altogether from the philosophical scene; it did not. But whereas in its mediaeval heyday it had formed the great bridge between heaven and earth which made philosophical syntheses possible, now it was merely a kind of footnote in passing - if that. And often it took new forms, many of which were less subtle, less plausible, or both, than before.

René Descartes (1596-1650), for instance, is given by the "Oxford

Dictionary of the Christian Church" as one of the three writers to whom one is referred for discussion of the Cosmological Argument (the others being Aquinas and Kant). But if we look at the passage cited,[1] what do we find? Descartes is not beginning from the notion of Being generally, nor from that of causality, or possibility, or contingency, but from one specific feature of the world, namely, the fact that he himself has an idea of God, a fact which he held to be far more certain than any other basis for natural theology. In fact, he explicitly rejected the Cosmological Argument in its usual form;[2] for, he says, though I cannot understand how an infinity of causes in the realm of sensible things could have succeeded one another from all eternity without a first cause, still, this leads only to the conclusion that my intellect may be imperfect, in that it is finite and so cannot comprehend the infinite. He also disliked the argument because the existence of God seemed to him more evident than that of sensible things - a good reason for neglecting it, though not, of course, for regarding it as actually invalid.

Now it might be possible, though rather pointless, to reason back from one's idea of God in the ordinary way and so arrive at a First Cause - as indeed Hobbes suggested.[3] But even apart from the

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1. "**Meditations** on First Philosophy", 3 (Haldane and Ross, I, 157 ff.)

2. Third Set of Objections, no.5 (Haldane and Ross, II, 67).

3. Ibid. (Haldane and Ross, p.cit.).

objections mentioned above, Descartes would prefer a short-cut. A complete efficient cause must have at least as much reality as its effect; therefore, what is more perfect, or contains a greater amount of reality, cannot be caused by what is, or has, less.

This is at first a startling notion. One can see where the argument is going to lead, once this point has been granted; but it seems plainly false. Can a son never be an improvement on his father? The answer lies, as Descartes' amplification makes clear, in the word "complete". A son may indeed be more learned, say, than his father; but then the father was only part cause of his son's final condition. The son's teachers also had a hand in the matter! More relevant for Descartes' immediate purpose: I may have an idea of an object which has more in it than there is in reality - I may think of a house built of gold instead of bricks.[1] But the additional material must come from somewhere; it cannot have no cause at all. And if you add the source of this other material to that of the original idea - here, the actually existing gold and the actually existing house from which I first got my ideas - you have a complete (or more nearly complete) cause which does contain in reality all that my idea contains in imagination.

I am not sure whether the counter-instances suggested by, for instance, Professor H.D. Lewis[2] are really adequate. These are the

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1. The examples are mine, not Descartes'.

2. "Teach Yourself Philosophy of Religion", p.177.

flame produced by striking a match and the multiple accident on a motorway produced by icy roads and fog. I think an answer could be made that Descartes' principle still holds: a flame consists of certain gases in a state of great heat, and the gases, or the atoms composing them, actually were present in the match and the air surrounding it, while the heat actually was present in the form of potential energy. Similarly, the pile of scrap-metal and injured people on the motorway contains nothing that was not there just before the accident. Whether Descartes himself would make such an answer is more doubtful. He does in fact deny that he has the material cause in mind,[1] and one might feel that the causes of the flame or the crash that I have been describing are properly material rather than efficient causes. It is possible that for discussion of things like car-crashes the language of efficient and material causes is not really a convenient one - and perhaps that its appearance in Descartes is something of a hangover from scholasticism: but Descartes does not seem to stress the matter very much, and says that Gassendi evidently came to the same conclusion as he himself had.

It might be thought that even if we abandon Descartes' principle as universally valid, still it does seem to apply where ideas are concerned - that it says little more than Hume's principle "That all our simple ideas in their first appearance, are derived from simple

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1. Reply to Gassendi (Haldane and Ross, II, p.217; Gassendi's original statement is on pp.159-60).

impressions, which are correspondent to them, and which they exactly represent".[1] Unfortunately, this is not quite the case. Firstly, Descartes would certainly have been unwilling to say that his idea of God exactly resembled its Original; and secondly, and more important, the idea of God is not derived from an impression of Him, though it is supposed to be caused by Him. Still, it does seem reasonable to say that <u>if</u> our idea of God is "simple", it must derive either from an impression of Him or be in some sense innate in us; and if the latter, it is certainly easier to suppose it is the work of God Himself than to think of any other adequate explanation of its presence. Admittedly, this is a far weaker sort of argument than the sort Descartes thought he was putting forward, and undoubtedly needed for his general philosophical plan.

But suppose we concede Descartes' principle for the sake of argument: his next step is, of course, to apply it to this idea he has of God. Most of our ideas <u>could</u> have originated in our own minds; that of God, however, could not, as it is the idea of an infinite being, and we are finite. This is really the heart of the argument; but there are, Descartes recognises, certain objections to be dealt with. The least convincing is this: perhaps all the perfections I ascribe to God are in me <u>potentially</u>, and this potentiality is enough to produce the idea. But (a) the idea of God itself implies a total

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1. "ATreatise of Human Nature", I,i,i,par.7.

lack of potentiality - which obviously cannot be had potentially! - and (b) my knowledge, etc., may grow indefinitely, but will always be limited; also (c) mere potentiality is clearly not enough to produce the idea of actuality.

A second objection is that my idea of infinite substance has come about simply by the negation of the idea of finite substance. Descartes' answer is that there is more reality in an infinite substance than in a finite, so that in a way my idea of the former preceded that of the latter. After all, I am aware that I doubt and desire - i.e. that I am imperfect - and how could I do this if I had no standard of perfection already in me?

A very similar point is made later, with regard to Descartes' second argument: could my idea have several part-causes, e.g. one perfection from source A, another from B, and so on? Here his answer is that unity or simplicity is itself one of the perfections attributed to God, and moreover brings with it the ideas of other perfections; for otherwise, if I had no idea of these perfections, how could I possibly understand them all as combined and inseparable in the divine Unity?

This is the trickiest part of Descartes' argument. If by "idea" he had meant some sort of mental image, his position might have been more defensible; but of course he meant no such thing. In his usage, "idea" means roughly what would nowadays be called "concept". "When understanding what I say, I can express nothing in words, without that

very fact making it certain that I possess the idea of that which these words signify".[1] And it does look very much as if the idea of infinite substance, in this sense of "idea", were a "complex idea" and not a simple one. There is reality in the idea of infinity, and reality in the idea of substance; it would seem, then, that there might well be more reality in the idea I have of an infinite substance than in that I have of a finite even if the former were in fact a mental construction of my own. I am not sure of this. It seems quite possible that by "more reality" Descartes means something on the lines of "a wholly new level of reality", and that his argument is that infinite substance stands (as far as reality is concerned) to ordinary substance much as ordinary substance does to accident. And just as I could not get the idea of substance from that of accident, so I could not get that of God from that of substance.[2] But this is certainly a point that needs proving; it is surely possible that our idea of substance is in fact derived from our ideas of accidents,[3] and even if it is not, the idea of "something that stands to substance in a relation similar to that substance bears to accident" is certainly a complex one. (And, one might add, one not very likely to occur to

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1. Arguments appended to reply to Objections II (Haldane and Ross, ii,p.52).

2. Haldane and Ross, vol.I., p.162.

3. Cf. Gassendi (Haldane and Ross, II, pp.157-8).

anyone who did not already have some other idea of a God.) Again, we may well feel doubts about what Descartes says of the divine simplicity. Prima facie this too looks like a constructed idea: we have ideas of the various perfections ascribed to God, derived perhaps from a variety of sources, and we have also the idea of two things' turning out to be identical; hence we have the complex idea of a being in whom all these perfections reside and are ultimately the same.

Descartes' argument thus requires a large number of principles that are not obviously true. This is a particularly serious criticism when one remembers what he is actually trying to do - reconstruct philosophy from the very beginning. It is not quite so serious as far as we are concerned here, since all we are asking is whether Descartes' proof of the existence of God is valid in itself, not whether it is valid as part of the Cartesian system; nevertheless, the total result is unconvincing.

However, Descartes has another line of argument, rather nearer to the Cosmological Argument as that is normally understood. We need not begin simply from the idea of God; we can also begin from the existence of myself, a thinking being who has this idea. Clearly I am not the author of my own being, or I should have conferred on myself not only existence but also every possible perfection - I should, in fact, be God. Nor can I simply have always existed in the same

state as I am in now (Descartes, it must be remembered, is not yet in a position to trust his memory to tell him this). For no point in my life is dependent on any other; from the fact that I existed a short time ago it does not follow that I exist now. It therefore requires just as great a power to keep me in existence as it would to create me ex nihilo.

I depend, therefore, on some cause external to me. Not on my parents: they do not conserve me, nor were they even the original cause of my mind. Whatever caused me - a thinking being with an idea of God - must itself be a thinking being with an idea of God. If it derives its being from itself, this being is clearly God; if not, we can ask what its cause was, and so on. And this cannot go on to infinity, for we are dealing with conservation here and now, not with creation in the past.

Now the obvious catch in this argument, which was, I think, seen by Gassendi[1] (though somewhat obscurely, as he began by denying any need of conserving causes at all) is this: Even given that whatever caused me to come into existence must be, like me, a thinking being with an idea of God, does this give us a basis for belief? For this sort of cause, as far as we can tell, can go back to infinity. And though perhaps conserving causes cannot, does my conserving cause have to be a thinking being with an idea of God? Does there have to

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1. Fifth set of Objections, III, 10 (Haldane and Ross, II, 170-1).

be as much reality in the conserving cause as in its effect? It certainly seems not. Suppose I have the idea of a mountain; it may well be that this idea would never have come into existence had I never seen a mountain in the first place. But there is no reason to believe that I should lose this idea if all existing mountains were bulldozed. In so far as there is a conserving cause of my idea, it seems to be my power of memory; and this is not adequate to cause the idea in the first place. In other words, the originating cause may need to be as real as its effect, but can go back to infinity; the conserving may have to end somewhere, but need not be as real as its effect.

On the whole, therefore, Descartes' attempts to demonstrate the existence of God from the specific existence of an idea we have of Him must be regarded as just a passing episode in the history of natural theology; and indeed it is worth noticing that while more recent philosophers have often paid attention to his (and Anselm's) Ontological Argument, and to the Cosmological Argument proper, few of them have paused to deal with these others.[1] Nor is this peculiar to recent writers: Locke[2] and Leibniz[3] both mentioned them only to

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1. Prof. Lewis and Mr. McPherson are exceptions; and there is a brief reference in Flew, "God and Philosophy", pp.76-7.

2. "Essay concerning the Human Understanding", IV,x,7.

3. "Nouveaux Essais", IV, x (Works, vol,5, p.419).

dismiss them, Locke because there are other and better proofs rather than because it can be shown fallacious, but Leibniz on the grounds (a) that we need proof that the idea of God represents something possible - after all, we "have an idea" of perpetual mechanical motion, which is an impossibility, and (b) that Descartes had not given an adequate proof that our idea of God reálly does derive from its Original.

Locke (1632-1704) has his own proof of the existence of God,[1] and it is, frankly, feeble. Bare nothing, we are told, can never produce any real being; therefore from all eternity there has been something. And since this something is the source of all power and knowledge, it must be most powerful and most knowing - i.e. God. And it cannot be material, since matter of itself cannot produce even motion, let alone thought, and if it could we should have an infinite number of eternal finite cogitative beings, not just one infinite one. But, as Leibniz commented,[2] to say there has always been something is not to say that any <u>one</u> thing has always been. Nor, we might add, does the impossibility of "bare nothing"'s producing anything necessarily mean that something might not just happen to come into existence; however unlikely that may be, this will not prove it. Locke's cosmological argument is, in fact, probably the least subtle ever to

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1. Op.cit.IV,x,3-6 and 10-17.

2. Op.cit., p.417.

have been composed by a great philosopher.

The best cosmological proof to be brought forward in England during these "years of decline" was that of Samuel Clarke (1675-1729), in his "Demonstration of the Being and Attributes of God".[1] He begins by recognising the point made by Leibniz, that, while there may have existed some one unchangeable being from all time, there may instead have been an infinite succession of changeable and dependent beings. He admits[2] that he cannot prove that such a succession is in itself impossible - that is a matter of revelation, and the attempts of some to prove it by reason are fallacious. But suppose such a succession to exist; if it exists alone, it can have no reason of its existence within it, for that would require one of its members to be self-existent or necessary. And since absolute necessity of existence is not an "outward, relative, and accidental determination" but an "inward and essential property of the nature of the thing", if no part of the series is necessary, the whole is not necessary either. It is unfortunate that this distinction, which is surely quite crucial, is not amplified or explained!

Clarke proceeds to a second way of presenting his case. If, he says,[3] there is nothing "self-existent or necessarily-existing" in

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1. Prop.II (pp.12 ff).
2. Prop.III ad fin. (pp.36 ff).
3. Op.cit., pp.14-15; of. Prop.I, pp.9-10.

the whole universe, it was originally just as possible that nothing should ever have existed as that our supposed series of beings should. In that case, why is one true rather than the other? Not by necessity, that is clear; nor, ex hypothesi, by reason of some other being; and "chance" is a mere word without any signification. We must therefore say that one of our two possibilities was determined absolutely by Nothing - which is "an express contradiction". So some one eternal being does exist.

Evidently Clarke is here assuming a Principle of Sufficient Reason, such as is explicitly asserted by Leibniz. But even given this, if he is really to exclude Necessity, one feels, as with his first argument, that he ought still to have proved that what is true of each part of the universe (namely, that it is not self-existent or necessarily-existing) is also true of the whole. This is a complaint that we have had occasion to make before, and I think that it points to one of the most serious weaknesses in the Cosmological Argument.

This discussion has brought us to the early years of the eighteenth century; we must now retrace our steps and see what was happening to the Cosmological Argument among Descartes' Continental successors.

Spinoza (1632-77) I include here simply because he was once hailed by C.D. Broad[1] as one of the few philosophers ever to have both accepted the Cosmological Argument and realized its logical consequences (according to Broad, absolute determinism). But does

1. "Religion, Philosophy and Psychical Research", p.188.

Spinoza in fact accept the Argument at all? The Cartesian form does of course appear in his restatement of Descartes more geometrico, and also in a modified form in the "Short Treatise on God, Man and his Well-Being";[1] but it is not found in the "Ethics". The nearest approach to a cosmological argument is in Part I, prop.xi, which sets out to prove the necessary existence of God, or "a substance consisting of infinite attributes, each one of which expresses eternal and infinite essence". Of the four proofs brought forward, two are purely a priori: of the others, one uses the notion of cause and the other that of finite being, but neither is properly cosmological.

The first of them (second proof of the four) does indeed use ideas which we have met in earlier sections of this survey, for it divides all things, existent and non-existent, into those the reason for whose existence (or non-existence) lies in their nature and those whose existence (or non-existence) is caused. A square circle is non-existent by its very nature; an ordinary circle exists or does not exist for some reason in the order of corporeal nature. If, therefore, God does not exist, it is for some reason, and if there is no such reason He exists necessarily. Now the reason for His non-existence could not lie in another substance of the same nature, for that would be God. Nor in a substance of a different nature, for that would have nothing in common with God and so could not prevent

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1. Cf. also the approving reference to it in Letter 40.

(or cause) His existence. Nor in His nature itself, for it is absurd to suppose that the nature of an absolutely infinite and utterly perfect Being should contain a contradiction. Therefore God exists.

It will readily be seen that this is just as much an a priori argument as the Ontological. The same applies to his next proof, the one using the idea of finite being; for finite beings certainly exist, if there were no God finite beings would be more powerful than infinite, which is absurd. This argument is no more cosmological than the last (as well as less convincing), and Spinoza does in fact go on to rephrase it without even its present reference to finite beings.

It is true that in a letter to Meyer (Letter 12) Spinoza does in fact mention the Cosmological Argument, in the form used by Crescas, with some approval: but he is there thinking only of whether the argument depends on the impossibility of an infinite regress (the letter is about the idea of infinity). Crescas does not think it does, and it is this that Spinoza is approving. The question of the actual validity of the argument does not arise.

Leibniz (1646-1716), on the other hand, unlike Descartes and Spinoza, quite definitely did use the Cosmological Argument, and this in what became more or less the standard form; it appears several times in his writings.[1] It has, however, undergone one more change

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1. E.g. "Monadology", 36-9; "On the Ultimate Origination of Things", beginning (Latta, pp.337-40, Morris, pp.32-3); "Principles of Nature and Grace", 7-8; "Theodicy",7.

in basic terminology: Leibniz plays down the use of "causality" or "contingency" in favour of that of "sufficient reason", which has the advantage that it can be applied equally well to the creation or to God Himself.

The argument as it appears in the "Monadology" runs roughly as follows: There can be no fact or true statement unless there is a sufficient reason why it should be so and not otherwise. And this applies not only to necessary truths but also to contingent ones, "truths of fact". This is so both in the order of efficient causes and in that of final; an infinite number of factors determined Leibniz' writing of this passage, whether "forms and motions" making up the efficient cause or "dispositions of the soul" making up the final. But these factors are contingent themselves in just the same way, so that we are no further forward. The final reason must be outside the series of contingent things, even if that series be infinite; it must lie in a Necessary Substance, which we call God. (Leibniz does not elaborate his reference to final causes; and, if "tendencies and dispositions" are final causes, it looks as if these would ultimately lead to an efficient.)

There are varieties of this pattern in his other versions of the Argument. In the "Principles of Nature and Grace" he does not bother with the problem of explaining particular facts, but starts straight off with two basic questions which the Principle of Sufficient Reason suggests: "Why is there something rather than nothing?" and "Why do

things exist just as they do and not otherwise?" Similarly, in the "Theodicy", having established the contingency (non-necessity) of finite things, he goes straight on to say "We must therefore look for the reason for the existence of the world, which is the totality of contingent things". And in both works there is, interestingly, a kind of appeal to the Argument from Motion - not in order to prove the existence of God by itself, but in order to show the impossibility of the world's Sufficient Reason's being itself within the world. It is clear that time, space and matter could receive other motions (and shapes, adds the "Theodicy") than the ones they do; they cannot therefore contain the reason for the motions they actually have received. The "sufficient reason which needs no further reason" must be outside the world of contingent things.

Finally, in the "Origination of Things", we have an analogy and an amplification. The analogy is designed simply to suggest an answer to the objection that causes might go back to infinity. We might imagine a book on geometry that has always existed, each specimen being copied from an earlier one. Then we could indeed explain the present copy's existence - it derives from the previous one - but we cannot explain why the whole series exists, "that is to say, why books at all, and why written in this way". One has a feeling, though, that this analogy derives a fair amount of its persuasive force from our knowledge that all other books on geometry have actual authors. Some Hindu sects, after all, have supposed the Vedas to be eternal, as much a

permanent feature of the universe as matter or spirit - and equally uncreated. To them, Leibniz' analogy would presumably have little force.

The amplification is this: Whereas in the case of eternal things the sufficient reason is "necessity itself or essence", in the case of changing things (even an infinite series of them) it is "the prevailing of inclinations" - that is, the reasons that would incline God to choose which possible world to create.

We thus have three different sorts of Sufficient Reason: "Physical or hypothetical necessity", which connects events within the world, but always leaves us with an event on the same logical or metaphysical level as the one it explains; "prevailing of inclinations", which presumably does apply within the world, to our decisions, but is of particular importance because it applies to God as well, which the first does not; and "absolute or metaphysical necessity", which applies (where existential propositions are concerned) to God alone. And we may perhaps sum up Leibniz' argument with reasonable fairness as follows: The first sort of explanation does not give us a <u>really</u> sufficient reason. It explains one fact about the world, but only by means of another. The only sort of explanation that avoids this is the third. But this <u>alone</u>, though it will explain the existence of God, will not explain that of the universe (unless, we might add, one supposes that <u>everything</u> is necessary on Spinozistic lines). And the only sort of reason that will provide an adequate link between the

metaphysically necessary God and the contingent universe is the second. God is inclined by His goodness to create this universe (the famous "best of all possible worlds"); paradoxically, the "physical or hypothetical" reasons, which presumably (since they are the most conspicuous sort of reasons in our experience) set the philosopher off on his train of thought, turn out to be, as it were, optional - it is only because they form part of the best of all possible worlds that they exist at all.

THE GREAT ASSAULTS

Leibniz was the last great philosopher who was able to state the Cosmological Argument and leave it at that, or use it without further comment in the construction of a metaphysical system. Almost every later writer, however strongly he may have believed that the argument was in fact sound, has had to devote much of his attention to refuting criticisms of it, and probably has also had to build his system (if he had one) on some less shaky basis; indeed, it is probably true to say that comparatively few have regarded the argument as valid at all.

That this is so - which is, after all, a very notable change - is due, no doubt, partly to non-rational factors; some writers have rejected the Argument for such amazingly bad reasons that one can only suppose they never really gave any thought to the matter.[1] But much more important for our purposes are the series of assaults on it which took place during the eighteenth and nineteenth centuries, and still form part of criticisms of it today: the chief names involved being those of David Hume (1711-76), Immanuel Kant (1724-1804), and John Stuart Mill (1806-1873).

The posthumous "Dialogues concerning Natural Religion" of Hume have been called "perhaps the most remarkable treatise upon this topic

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1. Cf. e.g. Reichenbach, "The Rise of Scientific Philosophy", p.208, or Blackstone, "The Problem of Religious Knowledge", p.164.

ever composed"[1] and said to "leave little further to be said on the subject"[2] (though clearly only de jure, not de facto!) They are devoted mainly to a discussion (and devastating criticism) of the physico-theological argument or argument from design. At the beginning of Part IX, however, Demea, the spokesman for "rigid inflexible orthodoxy", suggests that the Cosmological Argument might well be a better foundation for our belief, and the debate that follows, though short, has become a classic; it puts forward most of the criticisms of the Argument that have appeared before or since, with clarity, originality and vigour.

Demea's version of the Argument looks as if it may be based on that of Clarke. It runs as follows: Whatever exists must have a cause or reason of its existence. Nothing can produce itself; we must therefore either trace an infinite succession without any ultimate cause at all, or end with a cause that is necessarily existent. But in the former case the whole eternal chain or succession is not caused by anything; "the question is still reasonable why this particular succession of causes existed from eternity, and not any other succession or no succession at all". There is, therefore, a necessary Being "who carries the reason of his existence in himself, and who cannot be supposed not to exist without an express contradiction".

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1. Berlin, "The Age of Enlightenment", p.163.
2. Broad, "Five Types of Ethical Theory", p.9.

The main body of the criticism which follows is allotted to the "moderate" Cleanthes, the defender of the argument from design, rather than to the sceptical Philo; but it is clear that this is done mainly for literary effect, and that both Cleanthes and Philo are here speaking for Hume himself.

Cleanthes, then, advances five criticisms, the first three of which form a continuous whole. The first, which he regards as the most important, urges that no matter of fact can ever be proved a priori. "Nothing is demonstrable unless the contrary implies a contradiction. Nothing that is distinctly conceivable implies a contradiction. Whatever we conceive as existent, we can also conceive as non-existent". There is no being, therefore, whose existence is demonstrable a priori.

Nor is this simply because we do not know the whole essence or nature of the Deity. (The point here is that in certain fields, e.g. mathematics, we may "conceive" of something, say a means of squaring the circle with ruler and compasses, which later advances in knowledge show to be impossible.) The mind can never be under a necessity of supposing any object to remain always in being, in the way it does lie under a necessity of always conceiving twice two to be four.

But even if we concede this point (Cleanthes proceeds) it only lands us in further difficulties. We no more know all the properties of matter than we do those of God. Why then should not the material universe be this necessarily existing being? The only argument Cleanthes knows of to the contrary is this, that "any particular

particle of matter may be conceived to be annihilated, and any form may be conceived to be altered. Such an annihilation or alteration, therefore, is not impossible". But this applies equally to the Deity, in so far as we have any conception of Him.

Fourthly, how can anything eternal, such as an infinite succession of causes, itself have a cause? For that relation implies priority in time and a beginning of existence.

And fifthly, the demand for a cause of "the whole" is illegitimate. The uniting of these parts (the successive objects that form the universe) into a whole is like the uniting of several counties into one kingdom - it is performed by "an arbitrary act of the mind" and does not affect their nature. "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".

The criticisms put into the mouth of Cleanthes end here; but the "careless scepticism" of Philo is allowed another and more provocative argument. The moment we admit the idea of necessity into the discussion we are faced with an awkward possibility. All multiples of nine have digits which themselves add up to a multiple of nine. But this remarkable fact is the result of necessity, not of design or chance. May it not be that in reality all statements about the universe are necessary in the same way, had we but an adequate "algebra" to hand? Introducing "necessity" into matters of fact might lead to the

elimination of God, not to his reality.

Except perhaps for the last, these arguments occur over and over again in later treatments of the Cosmological Argument; and even the last in closely related to certain positions in Idealism which also, in effect, eliminate God, though in favour of an Absolute rather than sceptically. I shall not, therefore, try to discuss Hume here, but shall leave his criticisms to a later stage, when we come to try to evaluate the Cosmological Argument for ourselves. Meanwhile, we should note that Hume seems to have been the first to see the difficulties involved in the idea of a necessary being - difficulties which, in a different guise, are also found in the criticisms of Kant.

Kant's most celebrated discussion of the Argument comes in his "Critique of Pure Reason".[1] He had, however, already criticized it earlier on, in the treatise "The Only Possible Grounds of Proof for a Demonstration of the Existence of God" (1763).[2] In this he summarized it as proceeding by the rules of causal inference from our experience of what exists to the existence of an independent First Cause, and then, by logical analysis of this concept, to the properties of this First Cause - which turn out to be those of divinity. Now the first stage of this argument, Kant conceded, is all right; there does exist some thing (or things) which is not dependent on, nor the effect of,

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1. "Transcendental Dialectic", Book II, ch.3. sect.5.

2. III,3. ("Sämmtliche Werke", vol.1, pp.280 ff).

anything else. But the second stage, which argues that this First Cause must be absolutely necessary, is much less certain, as it depends on the Principle of Sufficient Reason. (Otherwise, presumably, the First Cause might have no reason for existing.) Kant was willing, nevertheless, to accept this too. But the third step, from absolute necessity to absolute perfection (and uniqueness), is impossible. It is supposed to be taken thus: The contrary of a being in which reside all perfection and reality is inconsistent; consequently, the being all of whose predicates are truly affirmative is the only absolutely necessary being there is. And from this same union of all reality in one Being, it is also to be inferred that He is unique. Now if this is the case, said Kant, this analysis of Necessity must rest upon grounds that will equally well allow us to infer that this utterly real Being exists necessarily. And this is simply the ontological proof of Descartes, which (a) Kant has just shown to be invalid and (b) does not purport, as the Cosmological Argument does, to be based on experience. Experience is therefore not really used at all in either proof, whatever the appearances.

In the "Critique" Kant has gone further. The Cosmological Argument is now said to be "a transcendental illusion of the most extreme character", containing "a perfect nest of dialectical assumptions". The heart of his criticism is still the same - that we are really led straight back to the Ontological Argument. Expressed formally: If every absolutely necessary being is an ens realissimum,

it follows by conversion that some ens realissimum (or some entia realissima) is absolutely necessary. But no ens realissimum differs from any other, and what is true of one is true of all. Therefore every ens realissimum is a necessary being. Now this proposition is determined a priori by the concepts involved in it. But this is exactly what the Ontological Argument maintained, and what Kant had demonstrated it could not maintain successfully.

To this criticism Kant appended several others. In 1763 he had still agreed that the first part of the Argument was valid. Now, however, this too was denied. Formally it is valid, perhaps; but then so too is its exact opposite, a proof that no such thing as a necessary being exists.[1] Both are vitiated by the attempt to apply concepts (here that of causality) outside the phenomenal world to which alone they apply. Furthermore, there is something queer about the way in which the argument tries to end its series of causes. "It removes all conditions (without which, however, no conception of Necessity can take place); and, as after this it is beyond our power to form any other conceptions, it accepts this as a completion of the conception it wishes to form of the series".

These arguments, like Hume's, have often reappeared, though generally in ways less tied to the Kantian system. We do find it argued still that causality cannot apply, or cannot be known to apply,

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1. "Transcendental Dialectic", Book II, ch.2, section 2, Fourth Antinomy.

outside the universe, even by philosophers who do not have Kant's reasons for asserting this.[1] We also find it argued that all Necessity is conditional.[2] But Kant's main contention, that the Cosmological Argument can only be valid if the Ontological is too, is less often supported.[3] Indeed, it is often rejected even by philosophers unsympathetic to the Argument itself.

The usual reason advanced for this is as follows.[4] General statements of the form "All As are B" can be converted to the form "Some Bs are A" only if it is presupposed that As do exist. Otherwise, all we can get is "If there are any As, some Bs are A". For instance, all unicorns have hooves, but it does not follow that some hooved animals are unicorns! Consequently all Kant was entitled to say was that *if* there is a necessary being, then some (and indeed all) *entia realissima* are necessary. And clearly this does not provide any basis for an ontological argument. Kant realized that for his criticism to be valid the proposition "Every *ens realissimum* is a necessary being"

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1. E.G. Laird, "Theism and Cosmology", p.95; Hepburn, "Christianity and Paradox", pp.168-9.

2. E.g. Plantinga, "Necessary Being" (Burrill, "The Cosmological Arguments", pp.129-36) - superior to many other examples in that Plantinga does not limit himself to *logical* necessity.

3. An exception is Paton, "The Modern Predicament", p.199.

4. E.g. Hawkins, "Essentials of Theism", pp.69-70; Smart, "The Existence of God", in Flew and Macintyre, "New Essays in Philosophical Theology", p.37; Sillem, "Ways of Thinking about God", pp.147-8.

must be determined a priori by the concepts involved; what he overlooked was that (according to the Cosmological Argument) it is only so determined by the concepts involved plus the existence of a necessary being.

Interestingly, the flaw we have just discussed was detected very early on, by Hegel, though he put it rather differently:[1] "In the cosmological proof, Being has already a definite existence of its own, and the question as to how we pass from absolute necessity to the All-Reality and back... has reference to the content only, and not to Being". He cites as a parallel the way in which Euclid first proves Pythagoras' Theorem and then uses it to prove its converse, that any triangle where the square on one side is equal to the sum of the squares on the other two sides is right-angled; the first proof in a sense entails the second, but cannot be said to presuppose it, and the second cannot be demonstrated without the first's already being known. Similarly, if the Cosmological Argument is valid, it does follow that the propositions constituting the Ontological are true and imply one another; but it does not follow that the Ontological could ever stand on its own feet.

What was it that misled Kant into his fallacy? Partly, perhaps, the fact that the philosophers he was criticizing (ultimately, Leibniz) did believe the Ontological Argument valid, so that to them the

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1. "Lectures on the Philosophy of Religion", vol.3, pp.240ff. ("On the Proofs of the Existence of God", lecture 10.)

Cosmological was really a work of supererogation. More, however, I suspect, the fact that it is, if the Cosmological Argument is sound, a necessary truth that the ens realissimum should be a necessary being. (For that a necessary being exists is obviously necessary, if true, and so with the propositions that all necessary beings are entia realissima and that there can only be one being answering either description.) It is necessary, if true; but (a) we cannot know it to be true without the Cosmological Argument, and (b) its necessity need not be a logical necessity; we do not have to suppose that there is, even in theory, even to God Himself, any direct route from the concept of a ens realissimum to that of a Necessary Being.

It is interesting to note that in the "Only Possible Grounds" of 1763 Kant actually advanced a proof of his own which does bear a certain resemblance to the Cosmological Argument - it could almost be described as an attempt to rewrite Leibniz on a Scotist basis - on possibility, not fact. All possibility, we are told,[1] presupposes something real, in and through which everything conceivable is given. For while there is no contradiction in the idea that there should exist nothing whatsoever, if that were the case nothing would even be possible - and this we must reject if we are to do any thinking at all. "There is therefore some reality, the removal of which would itself remove all inner possibility". But if all possibility depends

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1. II,3,2 (Sämmtliche Werke, vol.I, pp.185-6). Cf. also the "Nova Dilucidatio" of 1755, sect.2, prop.7 (vol.cit. pp.14-15).

on this reality, it must be absolutely necessary.

Now the odd thing that first strikes one about this argument is that it is surely liable to the same objection that Kant himself brought against the ordinary Cosmological Argument of Wolff and Leibniz. Can we get from the absolute necessary to the divine without allowing the legitimacy of the Ontological Argument? The point is, of course, purely ad hominem, since, as we have seen, there is a flaw in Kant's criticism itself; but the point is of some interest for all that. As far as I can make out, Kant's answer would be something like this: In the ordinary sense of "contingent" and "necessary", they cannot be applied to existence. For contingency expresses a relation between subject and predicate, a predicate being contingent when its opposite is not contradictory of the subject; but existence is not a predicate. There can therefore be no logical connexion (such as the Ontological Argument requires) between the divine and the necessary. We are dealing with "real" reasoning ("Realverstande"), where "contingent" simply means that the removal of which does not entail the removal of all that is thinkable. Furthermore, Kant would evidently deny that God is the "ens realissimum" with all possible positive predicates that Leibniz had supposed Him to be.[1] All reality must be encompassed by the Necessary Being, but to ascribe all realities to Him as predicates is not possible; even where they are not logically

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1. I,3,6. (S.W.vol.I, pp.188-9).

incompatible, there may be a "real" repugnance - and there cannot be such in God.

Nevertheless, by the time Kant came to write the "Critique" he had abandoned this proof too, and clearly if it involved a notion of "real" (as opposed to logical) necessity it would have to go in the light of Kant's new theory of the nature of the synthetic a priori. His own "proof" was to be rejected just as much as that of Leibniz.

The third attack on the Cosmological Argument that we ought to look at here is that of John Stuart Mill,[1] writing long after Hume and Kant and from a different sort of standpoint. His criticisms were based much more on science than on metaphysics, which makes them less subtle in appearance than those we have been looking at, but also means that they cannot be treated in quite the same way.

For instance, his first point shows a radically different attitude to causality from that of any of his predecessors. According to Mill, the notion of cause does not really apply to objects but to events or changes, and to objects only in so far as their beginnings of existence were themselves events or changes. And if this is the case, causality applies only to the outward form and properties of an object; for in every object there is also the "elementary substance or substances" of which it consists, and these are not known to have any beginning of existence. You cannot apply a generalization about

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1. "Theism", in "Three Essays on Religion"; part 1, sect. "Argument for a First Cause".

changeable things to that which does not change. And even where it does apply - to the changeable phenomena of the universe - the cause of every change is itself another change and cannot be anything else; and this implies that there must be an infinite regress of such causes, so that the weight of argument is not in favour of there being a First Cause, but against it.

There may indeed be a "first or universal cause" of a different sort, in the sense of a permanent element without a beginning, necessary (though not sufficient) to account for all other causes and changes; as a matter of fact, physical science strongly suggests that there is, in that the cause of any physical event turns out, when analysed, to be "a certain quantum of Force, combined with certain collocations". And since the law of the Conservation of Energy tells us that the total amount of Force in the universe is constant, we have in Force the real First Cause, which cannot be traced to any source beyond itself - at least, not by our experience.

Now it might be - and has been - argued that Mind is the cause of Force, or rather the only sort of Force that is capable of originating change; and that therefore all other sorts of Force must be derived from it. In all inanimate nature there is only a transferring of a pre-existent force, not an origination. Mind therefore is in a privileged position; it is the ultimate First Cause even of Force itself - an argument which we have had occasion to notice several times before in this survey, and which, as Mill rightly says, can be

traced back to Plato himself.

Unfortunately, the law of the Conservation of Energy shows that Mind is not capable of originating change. At the most, it is only an agent for the transformation of Force from one type to another. It is not even in a privileged position as such an agent; there are many others just as effective, or more so. (Mill instances chemical action, electricity, heat, and the presence of a gravitating body.)

Finally, it might be argued that, although the other facts of the universe may not require Mind to explain them, still the existence of Mind itself does. It is self-evident that only Mind can produce another mind; Mill quotes the maxim "that no causes can give rise to products of a more precious or elevated kind than themselves", which we have seen in operation in several of the philosophers already discussed. But even this will not do. If the existence of one mind is a puzzle, that puzzle is not solved by postulating another mind as the cause of the first - it is only pushed further back. And what is more, the evidence is overwhelmingly against our supposedly self-evident principle. "The tendency of all recent speculation is towards the opinion that the development of inferior orders of existence into superior... is the general rule of nature"; and even if it is not the general rule, it is quite common enough to overthrow the theist's argument. An individual mind must indeed have a cause, like everything else, but why should this cause have to be a prior Intelligence?

It would probably be fair to say that Mill's essay is more important for the general attitude it reveals than for the particular points it raises. Causation applies primarily to events, not things; mind is nothing very special; the cause may well be inferior to its effect: these are not propositions one can imagine fitting well into the older metaphysical systems. It may be that the Cosmological Argument still holds good in the new atmosphere, but it will evidently have to take on rather a different form to do so.

LATER DEVELOPMENTS

There have been perhaps four main lines of development in the Cosmological Argument since the time of Kant. One is simply that of criticism and counter-criticism; we have seen some of this in Mill and Hegel, and shall see more of it later. Another, which we must look at next, is the position adopted by some of those philosophers who followed what may loosely be called "nineteenth-century Idealism" (though not all took the same line, not all were nineteenth-century, and not all would be happy to be labelled "idealists"!) It would, I think, be fair to say that most of the philosophers we are now concerned with thought of the relationship between God and the world less as one of deliberate voluntary creation than as one of inclusion or manifestation. We have seen one example of this sort of attitude in Lotze's argument from change;[1] we shall now look at a few other philosophers who seem to share it.

It has been remarked[2] that to Hegel the real proof of the existence of God was the Hegelian philosophy itself. We might extend this, and say that to him the Hegelian philosophy was also the real criticism of the Cosmological Argument. "The essential and formal defect in the Cosmological Proof" we are told,[3] "consists in the fact

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1. V.sup., pp.54-8.
2. Copleston, "History of Philosophy", vii,1, pp.280-1.
3. Hegel, op.cit., pp.259-60.

that finite Being is not only taken directly as the beginning and starting-point, but is regarded as something true, something affirmative, with an existence of its own... If the finite were thus affirmative, the major proposition would be the proposition 'finite being as finite is infinite'". We must therefore alter our premiss to something like this, "The Being of the finite is not its own Being, but is on the contrary the Being of its Other, namely, the Infinite", or "Being which is characterized as finite possesses this characteristic only in the sense that it cannot exist independently in relation to the Infinite, but is, on the contrary, ideal merely, a moment of the infinite"; and this means that the original minor premiss ("The finite is") can be dropped, for the finite, in so far as it can be said to exist at all, is merely an appearance.

What, then, is the real nature of the Cosmological Argument? Its only use is "to bring into consciousness what the inner life, the pure rational element of the inner movement, really is".[1] Kant was right to try and destroy it as a supposed proof, even if his efforts were, strictly speaking, defective; for it is only an attempt to express the religious elevation of the soul to God. That elevation is not irrational or ungrounded, however, and it is therefore a mistake to ignore the Argument, just as much as it is to try and express it in syllogistic form.

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1. Page 264.

The elevation begins with the fact that material things are contingent - that is, they do not come out of themselves nor pass away of themselves. In isolation they may exist or not-exist; but then as governed by law they are not isolated but related to one another. We can, of course, go behind "things" to "laws", but we find that the same applies to them; either they could not-exist, or they are conditioned by other laws, and are consequently not independent but "posited through an Other". Nor will it be any use to bring the "Infinite" in, for this is a mere negation; it can only be understood relatively to the finite which was supposed to be negated by it. Consequently the spirit must raise itself above both contingent things and the "Infinite", and reach a necessity that is in and for itself, while all else depends upon it. We have to call things both necessary and contingent; and this contradiction suggests that both belong to the one Necessity and are joined together in it in a unity whereby they no longer contradict one another. This absolute necessity "represents something at peace with itself".

We are here given what is in effect a version of the "insight" theory of the Cosmological Argument, though one very different from that offered by Bonaventura; for the God it gives us insight into is not so much set over against the world, in contrast to it, as inclusive of it, a "unity in which things are joined together". But the Absolute Idealistic school did not rely entirely on "insight"; it occasionally used a deductive form of the Argument to produce a similar

result. There is a good example of this in Book I of the "Principles of Logic" of F.H. Bradley (1846-1924).[1] He has just claimed that "our analytical judgements" (by which he means something quite different from "analytic" in the Kantian sense) "are all either false or conditioned", and is considering the comment that "conditioned" does not mean "conditional". A statement may be true because of the truth of another statement, but both are still categorical; you cannot say of the first that it is only true if the second is, because it is given as true to begin with.

Bradley, however, will not admit this. "There is no because, and there is no fact." And his proof of this is recognisably a variant of the Cosmological Argument: "We are fastened to a chain, and we wish to know if we are really secure... Is it of much use to say 'The link we are tied to is certainly solid, and it is fast to the next... as far as we know it all holds together'?... The chain is such that every link begets, as soon as we come to it, a new one; and, ascending in our search, at each remove we are still no nearer the last link of all, on which everything depends. The series of phenomena is so infected with relativity that, while it is itself, it can never be made absolute.... A last fact, a final link, is not merely a thing which we cannot know, but a thing which could not possibly be real. Our chain by its nature can not have a support....

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1. Ch.2, sect.71, pp.99-100.

Hence our conditioned truth is only conditional. It avowedly depends on what is not fact, and it is not categorically true. Not standing by itself, it hangs from a supposition; or perhaps a still worse destiny awaits it, it hangs from nothing and falls altogether."

Bradley's argument is thus not to a "privileged" first link, nor even to a support that is no part of the chain; what he is getting at is that the whole outlook suggested by the metaphor is mistaken. You cannot have wholly independent facts; nor can you have separable facts dependent on one another. The only possible alternative is to admit that reality is quite indivisible.

There are, of course, quite a lot of comments that can be made on all this; there is, for instance, a detailed criticism in Mr. Richard Wollheim's Pelican book on Bradley,[1] two points from which seem particularly relevant here, as they affect the possibility of using the Cosmological Argument to get to an Absolute rather than to a God. Firstly, it is suggested that Bradley's reasoning is not conclusive the way he wants it to be, as, even given its validity, we could just as easily infer that the relation of conditionality did not hold between facts as that no facts existed. Now this is fair enough if the passage is taken in isolation. But in actual fact Bradley believes he has already shown that independent facts are an impossibility. Consequently all he has to show here is that the only

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1. Pp. 95 ff.

alternative to independence is conditionality, that there is no third possibility, "conditionedness". It is not, I must admit, at all easy to say whether he has done so. There is one sense in which I think he has; for it seems to me that to say that facts are conditioned but not conditional might be to say, roughly, that they are linked but not dependent. A chain lying on the ground is so linked - you could destroy any one link without affecting the others; a chain hanging in the air is not, for the destruction of one link would mean the fall of all those below it. And it certainly looks as if the relationship between facts is more like the second of these than the first, except perhaps in the case of facts about things existing simultaneously (and even these may both "depend" on the same previous fact). On the other hand, to say that all truths are conditional might mean that they must all be expressed in the form "If P, then Q" rather than "Q because P". And this does not seem to have been made out. The latter proposition entails the truth of the former, but is not equivalent to it. Indeed, if we look at it closely, we can see that there is something very queer about Bradley's parable. A man fastened to a chain might worry about his security in the sense that the chain might break; but that is not in question here. Apart from that, his problem is more likely to be "How is the chain secured?" rather than "Is it secured at all?" He might, I suppose, be in interplanetary space, in real doubt whether he was falling or not; but that is hardly our situation with regard to facts. Our knowledge

is not all of the form "If P, then Q", and where it is, this is usually so because we already know truths of the form "Q because P". I think, therefore, that while Bradley is right to say that facts are conditional in the first sense of the distinction, he is not right in the second.

And it is the second that he needs to prove his case. I think this may be what Wollheim is getting at in his next criticism, which really follows on from the first: that the whole passage in Bradley presupposes the existence of facts, and therefore cannot possibly lead to the conclusion that facts do not exist after all. If Bradley could have shown that all truths were hypothetical, we should indeed have had to abandon hope of making sense of particular facts and start again somewhere else. But it seems that all he has really managed to show is that either we must abandon hope in this way, or we must suppose that there really is an end to the chain after all, or the chain is supported all along its length, or at intervals, by some exterior power. That is to say, Bradley's version of the Cosmological Argument could quite easily lead to a theistic conclusion, just like other people's versions.

Bradley's own views about God were that He is, like everything else in the world, only an appearance (though more nearly "real" than anything else is). There were, however, Christians in the Absolute Idealist school, who might be expected to take a different line. Actually, we find a good deal of variety among them when it comes to their evaluations of the Cosmological Argument. Thus, in his early

work "Elements of Metaphysics",[1] A.E. Taylor (1869-1945) accepts the Kantian criticism (which later he came to reject), but proposes a remodelling of both Cosmological and Ontological proofs together into a valid form, thus: "All propositions directly or indirectly refer to real existence. Hence it would be self-contradictory to assert that nothing exists. But existence itself is only conceivable as individual. Hence the absolutely individual must be really existent." This, he adds, only proves an Absolute, not a God, whether God be identical with the Absolute (as Taylor himself believed) or a finite being within the Absolute (as Bradley believed). I must confess that I doubt whether it proves anything at all, except perhaps that some individual or individuals exist, which is doubtless true, but unexciting. And Taylor himself eventually came round[2] to supporting a more usual form of the Cosmological Argument.

Others within the same general school explicitly rejected the Argument. John Caird (1820-98), for instance, regarded it, as Hegel had, as "simply the expression of... the impression which our experience of life forces upon us of the transitory, unsubstantial, evanescent character of the world".[3] As an argument, he held, it will not do.

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1. IV,5,9; pp.403-5.

2. Art. "Theism" in Hastings, "Encyclopaedia of Religion and Ethics" and essay "The Vindication of Religion" in Selwyn, "Essays Catholic and Critical".

3. "Introduction to the Philosophy of Religion", v,1, pp.134 ff.

All you can infer from a finite or contingent effect is a finite or contingent cause, or at most an infinite series of such causes. Again, supposing that it did prove the existence of some First Cause, he would not be necessary, for "the cause is as much conditioned by the effect as the effect by the cause". (I think that what Caird meant was, possibly, that some true statements about God would not be necessary, but would depend upon what the creation was like. For instance, it would be true that God had created the planet Mercury, but that there should be such a planet is not necessary, and neither, therefore, is the fact that God created it. God is not, therefore, necessary in all that He is.) And thirdly, though God may be the necessary cause of the world - i.e. necessary for it to exist - He need not, as far as this argument takes us, be absolutely necessary in Himself. (This is really the same point as the first.)

There also appeared during this period a number of arguments which, in effect, reverted to Plato's "Laws" - in a more up-to-date manner. A specimen may be found in Rashdall (1858-1924);[1] a similar argument, not however explicitly used as a theistic proof, occurs in Newman's "Grammar of Assent".[2] These writers begin by accepting a Humean account of causation as far as the physical world is concerned: "Experience teaches us nothing about physical phenomena as causes" (Newman); "So long as we confine ourselves to merely physical phenomena...

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1. "Philosophy and Religion", lecture II, pp.31 ff.

2. Part I, ch.4, sect.1, iv, pars. 5 and 6.

nowhere can we discover anything but succession" (Rashdall). The human will, however, is in a different position. Here we do find genuine causality, if not in the voluntary movements of our bodies, at least in the power to direct the succession of our thoughts. There are, of course, times when our thoughts are not so directed - e.g. when a train of thought is interrupted by a twinge of pain - but this actually strengthens our case, as it serves to show the difference between a directed succession and an undirected one. Now from this it follows that, in maintaining that everything must have a cause, we are really maintaining that everything must be the result of a volition, the act of a Will. This by itself would be quite compatible with polytheism, or even animism; but the unity that is discovered throughout the world by science makes monotheism the only really live option.

It is this sort of reasoning that we have already seen Mill criticising in the second part of his attack on the Cosmological Argument,[1] and it also receives passing but severe notice from Professor Flew.[2] Broadly speaking, their complaint is that Will is in no sense special; that we do observe causes at work in the rest of the world, and that if these are indeed to be reduced to mere succession then exactly the same applies to the will and its powers.

Now one preliminary point, which threatens to be of considerable

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1. V.sup., pp.198 f.

2. "God and Philosophy", 5.7-5.9.

difficulty, had better be dealt with first. I think it would be true to say that most contemporary British philosophers do not believe in "volitions" at all.[1] And it might seem that if this were the case the will could not be a cause of anything; "the action of mind on body in voluntary movement is not causal action".[2] Now if it is really true that there are no such things as volitions, and if it is also true that human actions (voluntary or involuntary) are wholly determined by preceding causes outside their control, then I think the theistic argument under consideration must indeed be abandoned. But there are other possibilities. Firstly, it may be that, although there are no such things as volitions, nevertheless human actions are (sometimes) free. And in this case we might really find genuine causation in our actions, and our actions alone, even though it would not be correct to analyse those actions into two causally connected stages (volition and physical result). The action as a whole would still bring a "novelty" into the world, being undetermined itself yet determining other things. It is this that seems to me to be the flaw in Mill's suggestion that there is no difference in causal status between wills and (say) heat, electricity, or the presence of a gravitating body. For these last are all themselves the determined results of other

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1. See e.g. Vesey, "Volition", in Gustafson, "Essays in Philosophical Psychology", pp.41-57; Pears, "Freedom and the Will", chs. 2 and 3; Ryle, "The Concept of Mind", ch.3.

2. Vesey, art.cit., p.57.

causes, and wills (if they are free in the "libertarian" sense) are not. Wills therefore start off new causal series in a way no other events or states of affairs can possibly do. Naturally, all this depends very much on what answer one gives to the "problem of free-will".

The alternative, of course, is to try and refute the arguments against the existence of volitions, or at least to show that the relationship between mind and body in voluntary action is a causal one. It is interesting to note the reason Vesey gives for saying that it is not causal: if it were, he says, this would conflict with Hume's thesis that you cannot say anything about an effect from consideration of its cause alone, whereas in voluntary movements the "mental side" clearly does contain a reference to (say) my arm rather than my leg. This is precisely the reason given by Broad[1] for concluding that Hume's thesis is false when applied to voluntary actions. And I must admit that I personally incline to agree with the latter conclusion. We should note, however, that even if volitions do exist, it might still be possible that they were wholly determined by previously existing causes. And if so, we should have to admit that they formed part of a successive series in the same sort of way as physical causes. Their relation to their effects would doubtless be more complicated than "mere succession" would suggest, but this would be because there were additional relations between them besides succession, not because

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1. "The Mind and its Place in Nature", pp.102-3.

one was "genuinely causal".

I conclude therefore that, whether volitions exist or not, the will could be a "genuine cause" provided that it is free in the sense of undetermined. But I do not think this is enough to prove the theist's case. For there might, in the first place, be other "genuine causes" besides the will; and, in the second, it is not clear that everything requires a "genuine cause" in this sense.

To amplify the first point: It does look as if there were undetermined physical events as well as mental ones, such as the decay of individual radioactive atoms. Why should not these be "genuine causes" too? It is true that they require certain necessary, though insufficient, conditions before they can come to pass, but then the same is true of human actions. Again, it is true that one cannot see how the universe could possibly be explained by anything on the lines of a disintegrating atom; but is it any easier to explain it by anything on the lines of a human will? The latter might produce order out of chaos; but so (just conceivably) might the first. (Some cosmogonical theories have, I believe, spoken of a "primeval atom" containing all the matter of the universe.)

I think that some sort of an answer might be made to this if one remembers that Rashdall's original analogy was not that of the human will and its bodily results but that of the human will and its mental results - e.g. its power to direct the succession of one's thoughts, and, I should personally want to add, its power of imagination. There

is surely a difference between one's will and one's imaginings on the one hand, and undetermined physical events and their results on the other. Something would have been the case with the radioactive atom and its surroundings, whether it disintegrated or not; all that disintegration or the lack of it decides is what is the case. But if I picture to myself, say, a white circle, it does not replace or exclude some other thing that I would have been picturing to myself otherwise. I suspect that in some cases this is also true of successions of thoughts, but we can let that pass; it does seem that in imagining we have a genuinely unique kind of causation - the nearest thing, perhaps, to creation ex nihilo that there is in ordinary life.

But even if this is so, why should the world need a "genuine cause" of this type? Perhaps this point properly belongs later on, in our discussion of the actual validity of the Cosmological Argument; but, to anticipate, I think the answer would be, roughly, that only so can we get a cause about which no further causal questions can be asked. Whether this answer is adequate is another matter.

One more form of cosmological argument ought, I think, to belong here (though it comes much later in time than those we have been considering) because of its relationship to Bradley. This is the argument advanced by Professor C.A. Campbell[1] on the basis of the

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1. "On Selfhood and Godhood", lecture XIX, pp.383 ff.

Law of Contradiction. He begins by arguing (correctly, I think) that this Law really is "a genuine 'law'... both of thought and reality". But what exactly is contradiction, and on what is it based? His answer derives from that given by Bradley in "Appearance and Reality",[1] where the startling suggestion is advanced that contradiction consists of uniting differences as a bare conjunction. The idea seems to be something like this: Thought (intelligent critical thought, that is) rejects the notion of anything's being both A and not-A. It does not, however, necessarily reject the notion of a thing's being both A and B. In the latter case, there may be some reason for the two's being united. If there is no such reason, thought cannot accept their union.

Now if this is the case, Campbell argues, differences must ultimately be united in a way that would satisfy thought. But the ordinary way of uniting differences intelligibly, as in the sciences, does so by appealing to a new ground of union which "merely sets us at a higher level the same problem that confronted the intellect at the beginning"; for the ground itself involves differences that have to be united. In Campbell's example, suppose a car's sliding roof jams in hot weather. We can unite the ideas of "roof" and "jamming in hot weather" by appealing to the law that heated metals expand. But "heated metal" and "expanding" have to be united too; and so on. We cannot, however long we go on, get to a self-evident truth. There is, therefore, a radical discrepancy between reality as it must be

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1. Appendix, Note A, pp.500-511.

and reality as we can, even in theory, conceive it. "Reality must be held to be supra-rational".

Now Campbell has previously, by a quite unrelated train of reasoning, reached the conclusion that theism, if it is to be "appropriate to the religious consciousness", must also be "supra-rational". God must transcend our conceptions of Him, but must also be interpreted symbolically" in terms of the highest conceivable power and value". Similarly, reality transcends human conceptions of it, but must also be interpreted symbolically in terms of "the highest unions of differences attainable along the path to phenomenal truth". And this parallelism renders it at least probable that religion and metaphysics are here, so to speak, talking about the same thing. It does not prove God's existence, but it "contributes something of value towards its probabilification".

The close relationship between this argument and the Cosmological is recognised by Campbell, and is, I hope, fairly clear. Although Campbell begins with a discussion of the Law of Contradiction and ends with a supra-rational theism whose God is nearer the Absolute of the Idealists than most Christians would like, his argument is based on the inadequacy of ordinary explanations in just the way that other cosmological arguments are. Its actual validity, however, is another question.

Its most obvious drawback is its use of a very unconvincing notion of the Law of Contradiction; at least one recent commentator

has treated this as fatal.[1] But while I agree that the notion is unconvincing, I cannot see that the argument necessarily fails. Campbell wants to bring in the Law of Contradiction partly, I suspect, because it is immune to refutation in a way that the Law of Causality, for instance, is not, and therefore provides a firmer basis for the metaphysician. But if we are willing to abandon this particular basis, though we shall no longer be forearmed against the complete sceptic, we shall not need to depend upon Bradley's theory of contradiction. Thought does unquestionably look for reasons why different qualities or relations are joined together, and ordinary scientific explanations do lead to the same problems arising again at a higher level. The one catch is this, that we have no guarantee that thought's search has a fulfilment, even a supra-rational one, whereas if we had been able to base our argument on the Law of Contradiction, that Law, being absolutely and necessarily universal, would have been able to provide the guarantee.

Unguaranteed, then, the newness of Campbell's argument turns out to lie on the fact that the series it claims to be inadequate is not one of causes but of successively higher-level laws or explananations. It is therefore in a sense midway between the Cosmological and Physico-Theological Arguments; its pattern is that of the former, but its material is that of the latter, and so are its results (if any), for

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1. H.P. Owen, "The Moral and Religious Philosophy of C.A. Campbell", in "Religious Studies", vol.3, no.2, p.440.

what it gives us is a God who is the explanation of why things are as they are rather than of why they exist at all.[1] Whether it does indeed have any result depends, I suppose, on whether you think a situation where the universe is governed by a set of un-self-evident (and possibly unconnected) laws does or does not require some sort of extra explanation.

There have, of course, been a number of discussions of the Cosmological Argument in recent years besides those mentioned above. Most of them have been unfavourable, a few favourable.[2] But the favourable ones have not, I think, produced any new forms of the Argument, and the unfavourable ones have been criticizing standard forms; and both, accordingly, can best be dealt with in our investigation into the validity of the Argument as a whole.

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1. Cf. Owen, art.cit., pp.440-1.

2. See, for examples, the items mentioned in the Bibliography under (for unfavourable treatments) Broad, Burrill, Edwards (P), Flew, Hepburn, Laird, Le Roy, Lewis (H.D), MacIntyre, McPherson, Martin, Paton, Matson, Russell, and Smart (J.J.C.); (for favourable treatments) Ewing, Hick, Hicks, Smart(N), Taylor (A.E), Taylor (R), Thompson, and (Thomistic) Hawkins, Mascall, Maritain, and Sillem.

PART TWO

We may now, having noted the various forms the Cosmological Argument, and criticisms of it, have taken in times past, try to investigate for ourselves. Certain forms of the Argument, such as that from motion, we have definitely had to discard; is there any form that has any validity?

Let us begin with what is, I suppose, the oldest form still to be met with today. Everything has a cause, we are told. Now a causal chain cannot go back to infinity; therefore there must be an end to it, a First Cause which does not itself require further causal explanation, and which is God.

Now our first queries will naturally be (a) Why cannot a causal chain go back to infinity? (b) Is it true that everything has a cause? (c) If it is true, then does not this apply to God as well? There is also a fourth - is this First Cause really to be identified with the God of religion? - but this sort of question applies to nearly all theistic proofs, and may be treated on its own later on.

Our queries are of different strengths: I arranged them in what I take to be descending order of importance. But even the third has convinced many - it was evidently decisive in the original conversion to scepticism of Bertrand Russell,[1] for one (though he has not, of

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1. "Why I am not a Christian", p.6.

course, been content to leave it at that). It is certainly true that if everything does have a cause, and if God is a "thing", He too must have a cause. But this only means that our original formulation of the argument was at fault. We should have said that (say) every ordinary thing has a cause, and that, since causal chains cannot go back to infinity, there must exist some extraordinary thing which is the First Cause. Some might prefer "finite" to "ordinary", but this seems a little too specific: as far as the argument has taken us as yet, the First Cause might be in some sense finite, and some "ordinary things" might be infinite in some sense (e.g. length). It is better to begin with a more non-committal word like "ordinary".

Does this give us an adequate answer to the third query? Not according to some. Firstly, because of the difficulties involved in saying what the "extraordinariness" required could consist of (a point that will recur with particular acuteness when we come to discuss the idea of a "necessary being"). Secondly, because "whatever right we have to start this progress imposes a corresponding obligation not to stop arbitrarily".[1] This is quite true; but only because of the word "arbitrarily". All that the argument has so far claimed to prove is that there must be a stop, not that that stop must be of such-and-such a nature. If, for instance, we had evidence of a being who had created this universe, we, with a Christian background, might

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1. Flew, "God and Philosophy", 4.41.

be tempted to stop "arbitrarily" at him. But an Advaitin Hindu like Śankara would suppose this being ("Brahma") to be himself derived from the supreme Lord ("Śiva") - who is Himself only an appearance, and to that extent an effect, of the transcendent and impersonal Absolute, Brahman. If you give a particular character to God, whether it be the character of Brahma or Jehovah, the question may indeed be asked "And who made God?" But if our initial argument (as amended) is valid, there must be some point where the answer is "Nobody", even if we cannot lay down arbitrarily what that point is.

What, then, of the second query - "Does everything really have a cause?" This may be subdivided. The querier may mean that there are certain things - subatomic events like the decay of radioactive nuclei, or perhaps the decisions of human wills - that have no causes. Or the may mean, with Mill, that causality applies only to events, not to objects. Or he may mean, with Warnock,[1] that the "law of causality", if it is to be such that we can be sure it will always hold, will be trivial, and incapable of bearing any metaphysical weight.

The first interpretation does not seem to be relevant to our argument. Supposing that the events it mentions are indeed unpredictable (and I must admit that personally I think they may well be), they are still not totally uncaused. A radium nucleus will not decay unless there is a radium nucleus to do the decaying, and this state of

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1. In Flew, "Logic and Language", series 2, pp.95-111.

affairs is itself caused (by the decay of other elements). A free human act is dependent on the existence of a human being to perform it (and he or she certainly had causes) and of the circumstances that elicit it. There is no evidence of any totally uncaused thing or event.

The second interpretation is much more important. It might be used in two ways. Firstly, to eliminate the need for causes in esse as opposed to in fieri. We have seen this distinction raised from time to time in our historical section; there have been, and still are, philosophers who regard an infinite regress of causes in fieri as possible, but not one of causes in esse. But it hardly seems possible to ascribe an in esse cause to an event. Consequently, if causality applies only to events, the only causality possible is in fieri causality - which can go back to infinity. Our second interpretation might therefore have in itself no force against the original argument, and yet very much strengthen the objection that causal series might be infinite. This is similar to the point raised by Mill himself, that the cause of a change must itself be another change, and that a causal chain of events must therefore be eternal: there might be a "privileged" object, such as an eternal God, but there could hardly be a privileged event. This form of criticism has, however, been rendered a good deal weaker by the scientific arguments in favour of there actually being just such a privileged event. And indeed the onus of proof surely lay on Mill even in his own day. If it is even conceivable for an eternal God to will the existence of a temporal

world, then it is possible to have an event (the beginning of that world) whose cause is not itself an event, or, if it is one, is a timeless and very definitely "privileged" one.

Mill's other argument derived from the replacement of objects by events was that it left one with a permanent substratum of "elementary substance or substances" that was not itself changeable and about which therefore no questions of causes could be raised. Ad hominem it could be, and was,[1] pointed out that this was not easy to square with Mill's own theory of matter as "permanent possibilities of sensation"; and, more generally, that it does imply a particular metaphysical view which needs arguing for. This, however, is not altogether fair. Not only is the theory probably that of common sense, but it is also, unless it can be disproved, at least an alternative to theism, and enough to render the variety of the Cosmological Argument against which Mill was using it defective.

The third interpretation is of greatest importance as a criticism of another form of the Cosmological Argument, that which agrees that causal series may go back to infinity, but insists that the series as a whole needs a cause. Accordingly, discussion of it may be deferred till later.

What, then, of our first query: "Why cannot a causal series go back to infinity?" There seem to be very good reasons for supposing

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1. E.g. by Flint, "Theism", pp.111-2.

that it can. Firstly, because it looks as if the question "Did the universe have a beginning in time?" were a purely empirical one. This is not decisive. It could well be that those scientists who believe it had no beginning are unable to follow the metaphysical proof that it did; and there is no reason why their opponents should not be able to produce empirical evidence for what is in fact metaphysically necessary. (I have excellent evidence for believing that all red things are extended.)[1] If, of course, the evidence tended to favour a "steady-state" or "oscillating" model of the universe, that would be a different matter, and our supposed metaphysical proof would begin to look very shaky.

Secondly, the arguments adduced to show that an infinite causal regress is impossible unquestionably <u>are</u> shaky. We have had to examine quite a number of them earlier on, in particular those which attempted to show that time must have had a beginning,[2] and the only one we did not reject at the time was that of Thomas Aquinas, that "when you suppress a cause, you suppress its effect. Therefore, if you suppress the first cause, the intermediate cause cannot be a cause. Now, if there were an infinite regress among efficient causes, no cause would be first. Therefore, all the other causes, which are intermediate, will be suppressed. But this is manifestly false".[3]

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1. And cf. also above, p.146-7.

2. See pp.76-80, 136 ff.

3. S.C.G.I, 13, 33.

This, however, will not really do. It is perfectly true that if you have a series (or rather the possibility of a series) which has a first cause, and you suppress that cause, you suppress the whole series; if I kill a child, I suppress the series of descendants that it might otherwise have had. But there is no question here of suppressing the first cause, taken as already existing; only of denying that there is one to suppress. Nor will it avail us to say that if all the causes are intermediate, there will be no ultimate source for their causality; for this is what the critic is saying all along, that there <u>is</u> no ultimate source.

Thirdly, it is arguable that the whole picture of a series of objects causing one another is a misleading one.[1] What the universe really consists of is a series of events or states of affairs connected with one another by laws ("causal laws" if you like), and our use of the word "cause" and its derivatives is simply a convenient shorthand for speaking of certain cases within this general pattern - e.g. cases where we can bring about or suppress one event or state of affairs in order to bring about or suppress another,[2] or where some antecedent event or state of affairs is to be discovered. Now while "X was the cause of Y" suggests that Y was somehow dependent on X, and the

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1. The classic statement of this position is Russell, "On the Notion of Cause" ("Mysticism and Logic", ch.ix).

2. Cf. R.G. Collingwood, "Essay on Metaphysics", pp.285 ff.

metaphor of dependence strongly suggests that there must somewhere be an ultimate being (or beings) on which all else depends, "Y could be inferred from X on the basis of the laws of nature" gives rise to no such suggestion. There seems to be no reason why there should not be an infinite number of things (whether objects, events, or states of affairs) all linked together by such laws.

The answer is sometimes made, as has been mentioned, that these criticisms apply only to causes in fieri and not to causes in esse. Now clearly there are serious differences between the two types. It is much less easy to eliminate the notion of "cause" when you are dealing with in esse causality. In the previous case it was possible to infer the "effect" from a sufficiently extensive description of a preceding state of affairs - e.g., if I throw a stone, one could, given its speed and direction, and the absence of any wind or intervening obstacle, predict its future path. But causes in esse remain the same whatever their results - those results depending for their exact nature on their various causes in fieri. Thus among the causes of my own esse are, I suppose, things like the existence of oxygen in the atmosphere and the constant radiation of the sun. But it would certainly not be possible to infer from these, or even from a complete list of my causes in esse (with the possible exception of the will of God!), that I do indeed exist. We should first have to know that I had at some point begun to exist in the first place. On the other hand, it would be possible to infer from my existence to that of oxygen

and solar radiation, whereas as far as *in fieri* causes are concerned there are probably a number of different possible total causes that might have produced me. In other words, *in fieri* causes are as a rule sufficient but not necessary, while *in esse* ones are necessary but not sufficient. This means that we cannot here use the third type of objection; causal language is here inescapable.

Nevertheless, the other objections still hold. It might well be that the universe is infinite in extent, and contains an infinite number of beings, in which case we could surely have an infinite series of co-existent causes *in esse*. Indeed, even if the physical universe should turn out to be finite, there might (a) be an infinite number of states of affairs in it or even (b) be an infinite number of immaterial causes *in esse*, somewhat on the lines of the Intelligences of mediaeval emanation theories. But, more important, there are awkwardnesses in the whole idea of using *in esse* causes as the basis of our argument.

The point is this. Where causes *in fieri* are concerned, we seem to be able to go back many stages without any great change in the sort of thing we are calling "cause". The causes of a material object may be supposed to be other material objects; of an event, other events, and so on. But does this apply to causes *in esse*? I mentioned as possible *in esse* causes of my own existence such things as the presence of oxygen and solar radiation. But what happens when we try to move back further? We can no doubt find causes *in esse* for the

rays of the sun in the absence of any eclipsing body to keep them off me, or in the laws of the propagation of light. But the first of these is a negative fact and the second is a set of natural laws - neither of them on the same logical level as either myself or the rays, and neither of them obviously requiring any cause *in esse*. Similarly with the presence of oxygen in the atmosphere, which requires the law of gravity and the absence of any intense fire that might convert it into carbon dioxide and suffocate me. I do not deny that laws of nature may afford the basis for a theistic proof, but that is clearly a different sort of argument from the one we began with. It looks as if the search for causes *in esse*, oddly enough, did indeed end without going on to infinity - but not, as far as we can tell, at God. The beginning of the universe *might* be an event of such a nature as to suggest a Creator; the laws and negative facts that we find among causes *in esse* do not suggest it without further argument's being needed.

An alternative way out, which does not bring *in esse* causes in at all, is of course to bring the "beginning of the universe" in instead: to accept that an infinite regress is perhaps possible, but insist that nevertheless it is not *actual*. Two sorts of evidence are usually quoted here: the Second Law of Thermodynamics,[1] and the arguments for the "big bang" theory of cosmogony.[2] Now it would be

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1. See e.g. Clark, "The Universe: Plan or Accident?" pp.19-31; contra, e.g. W. Saslaw, "Entropy and the Universe" ("Teilhard Review," vol.3 no.2) and Milne, "Modern Cosmology and the Christian Idea of God", pp.146-50.
2. See e.g. Mascall, "Christian Theology and Natural Science", pp.138-66 (giving both sides but finding neither relevant).

wholly beyond my competence to discuss the scientific reasons advanced for either of these claims, or against them. It is worth noting, however, that certain purely philosophical points have been raised in connexion with them which we ought to look at.

For instance, with regard to the Second Law of Thermodynamics, Professor Stephen Toulmin has urged[1] that before we can base on it a belief in the ultimate running-down of the universe (and a fortiori this applies to a belief in its winding up) we must have an affirmative answer to two questions: Firstly, does the Second Law (assuming its validity, of course) apply to the universe as a whole, as opposed to thermally isolated parts of it? And secondly, since it expresses a theoretical impossibility rather than a practical, does it really mean that it is "exceedingly, indeed infinitely, difficult to overcome"? Both questions Toulmin himself answers in the negative.

His argument with regard to the first is basically this: The Law applies to thermally isolated systems - that is, systems shielded against interchanges of heat with other systems outside themselves. But this notion cannot be applied to the universe, for there is no sense in talking even of the possibility of there being an interchange of heat between the universe and other systems outside itself. The universe has no surroundings to be affected by. The Law of Gravitation applies just as universally as the Second Law of Thermodynamics, yet

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1. "Contemporary Scientific Mythology", in MacIntyre, "Metaphysical Beliefs", pp.28 ff.

no-one supposes that the universe must be attracting something!

Now there are several possible answers to this. One, which was advanced when Toulmin's argument first appeared, is that the Second Law need not be expressed in terms of thermally isolated systems at all. To this Toulmin replies, firstly, that if the two formulations are really equivalent, a logical incongruity in one will be present in the other also, and, secondly, that in more abstract expressions it is much easier to overlook such incongruities. This is correct, provided that the two formulations are really equivalent, rather than one being a special application of the other. For instance, the proposition "In the next year, everyone in Britain will catch a cold" reduces, if we are only interested in County Boroughs, to the proposition "In the next year, every inhabitant of a British County Borough will catch a cold". Now it is impossible to get from the second to "I shall catch cold in the next year", since I do not live in a County Borough; but it <u>is</u> possible to get there from the first.

But even if this is a false analogy (which depends on the exact relationship between the various formulations of the Second Law), Toulmin's original argument seems to be fallacious. Firstly, because he treats "thermally isolated" as a positive quality of a system, which it surely is not. To say of a system S that it is thermally isolated is to say "There is no system T between which and S there is an interchange of heat". And this certainly does apply to the universe. Furthermore, there is an argument of some elegance in Dr. Clark's

"The Universe - Plan or Accident?"[1] to show that an infinite universe can be wholly subdivided into volumes which are thermally isolated to any degree desired; and the notion of a universe in which every such volume is "running down" but which is not "running down" itself seems very odd indeed. (In fairness, though, it should be noted that this applies only to an homogeneous universe. In a radically heterogeneous one it might perhaps be possible to have a series of volumes each running down more slowly than its predecessor, so that though each would attain a "heat-death" at some point, there would always be others left functioning.)

Toulmin's counter-example of gravitation actually strengthens his opponent's case. It is true that the universe attracts nothing. But the equivalent of this in thermodynamics would be "The universe warms nothing" - a perfectly harmless truth. An application of gravity which really would be parallel to the "winding up/running down" application of thermodynamics would be something like "If no other force intervened, the matter in the universe would ultimately draw together into a single point", which for all I know is true. (There are other forces, of course!)

Toulmin's second argument against eschatological thermodynamics is something like this: A theoretical impossibility is not just a practical impossibility only more so. It is a conceptual matter alone,

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1. P.30, note 2.

and tells us nothing about (in this case) the history of the universe. You cannot (theoretical impossibility) make an ordinary map of the world on Mercator's Projection that will include the North Pole; but this is not because of some peculiar status of the Pole, it is simply the result of our choice of projection. Choose another projection and all will be well. "Suppose we look at the map of an unsurveyed country, we shall find that it is not completely empty, for it will bear at least the parallels of longitude and latitude. But it would be a mistake to think that these, by themselves, told us anything geographical about the surface of the earth".

Now the odd thing is that they most certainly would. They would tell us that the earth is round. Agreed, this will not help us to find our way across this unsurveyed country; agreed, we all know the earth to be round anyway. But this does not alter the fact that the roundness of the earth is both true and important. It implies (for instance) that if I travel far enough East I shall return to my starting-point. It implies (what is perhaps more relevant) that I cannot make an accurate map of the country, on Mercator's or any other projection, on a flat surface; I shall have to use a globe. There would be no need to choose between projections on a flat earth; our theoretical difficulties are caused by an actual physical fact. Similarly, it may be that our time-scale is really a matter of choice, and that one could be devised which did not produce a beginning or end to the universe. Artificially, of course, this is easy - I can do

it so as to produce no beginning or end to this day, or, conversely, to give a limit to a period stipulated in advance to be infinite.[1] Now as far as I can follow the proposals of Professor Dingle quoted by Toulmin,[2] there may be a natural time-scale with the same effect. (Something to the same effect was, I believe, also suggested - on a quite different basis - by Milne.) Such a time-scale would be one recommended to our minds not by its ingenuity in producing some peculiar effect, but by a natural process. And we might possibly find that one such scale gave the universe a beginning and an end, while the other did not. But if a beginning to the universe implies the existence of a God, and if the absence of such a beginning implies nothing either way, such a state of affairs is just as good from the theist's point of view as one where only the first time-scale applied.

I cannot resist adding one last point. Unless I have totally misunderstood Professor Toulmin, his argument about theoretical and practical impossibilities applies not only to the universe but also to any thermally lagged system within it. The conclusion seems to

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1. Call noon today "N". Call the hours we usually call 6 a.m. and p.m. "N-1", "N+1" respectively; 3 a.m. and 9 p.m. "N-2" and "N+2"; 1.30a.m. and 10.30 p.m. "N-3" "N+3" etc. Such a scale provides a unique finite number for every moment of the day, but not for its beginning or end. Conversely, from N call moments distant by one hour "N±1", by two "N±1$\frac{1}{2}$", by three "N±1$\frac{3}{4}$", etc., and the numbers "N+2","N-2" represent moments "infinitely far away".

2. Dingle, "Scientific and Philosophical Implications of the Special Theory of Relativity" (Schilpp, "Albert Einstein, Philosopher-Scientist", pp.535 ff).

follow that if Professor Toulmin's dinner is shut up alone in a room with heat-proof walls, it is only a theoretical necessity that it will gradually get colder, and therefore not one to get worried about.

Before we leave the Second Law of Thermodynamics, however, we should ask the question "Does an increase of entropy throughout the universe really imply either a heat-death or a heat-birth?" The answer is that it does not, provided that there is no downward limit to the amount by which entropy increases. If its rate of increase diminished geometrically as time wore on, there need be no heat-death; conversely, if it decreased geometrically as you went back in time, there need be no heat-birth. But I know of no evidence that either of these is actually the case. Incidentally, if there was indeed a heat-birth of the universe, it was only a heat-birth and not a creation as Christianity has understood it; and if this were the only argument for believing in God, it would show only that He had rearranged matter that had quite possibly existed already.

There have also been, in recent years, a number of general attacks on any cosmogony which ascribes a beginning to the universe, and, just as many Christians have inclined to such cosmogonies because of a supposed resemblance to Genesis, chapter 1, so a number of others have opposed them, or supported them only reluctantly, because of equally a priori considerations.[1] Various such considerations have been

1. Cf e.g. a letter in the "New Scientist" of 22.5.1969, with 49 lines of scientific reasoning and 62 of a priori. Even the reply agrees that the steady-state theory is "attractive from a philosophical angle".

adduced. One, particularly interesting because of the part it played in the formation of the original "steady-state" theory, is what is called the "perfect cosmological principle", which adds to the fairly generally accepted principle that the universe is, on a large scale, homogeneous, and from most points in space looks much the same, the further principle that it is also homogeneous in time, and would look much the same at any moment of its history. Another[1] is that "big bang" theories "allow the laws of the Universe to come into being entirely by chance - there are no initial laws, hence later laws are arbitrary in their origin. And yet the laws are not arbitrary in operation..." - where a natural theologian might be tempted to agree strongly and point out that on his theory the laws could very well be arbitrary in origin and yet not in operation!

However, a case has also been put up by a professional philosopher[2] for maintaining that "any cosmologic model (or interpretation thereof), seriously maintaining there was an absolute origin of the universe, fails to satisfy the criterion of scientific method, and so must be rejected as even a scientific hypothesis". There are two reasons suggested for this. The first (on which Munitz rightly puts less weight) is the difficulty of ascribing any meaning to the idea of a first moment of time. It is certainly not easy to imagine. But then

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1. Suggested, in the letter cited in the last footnote, by Mr. R. Temple.

2. M.K. Munitz, "The Mystery of Existence", ch,7, pp.128 ff.

it is not easy to imagine the first moment of existence of my visual field, which certainly was in abeyance while I was asleep last night and certainly exists now. If this temporal series had an absolute start, I do not see why the series of events in this universe could not have had one too.

More important is Munitz' second point. The antithesis in Kant's First Antinomy had assumed a Newtonian "absolute time" and argued that there could be no reason for the world to come into existence at any one time rather than another. But "absolute time" is not needed; all we need is the Principle of Sufficient Reason, which Munitz is perfectly willing to use to achieve scientific results, though not metaphysical ones. "Science", we are told,[1] "is grounded in the Principle of Sufficient Reason, and therefore always leaves open the possibility of finding the explanation of <u>any</u> event. To say there is some unique event, marking the beginning of the universe for which no explanation can be given, is to say something contrary to the method of science".

Now this may be taken in one of two ways. In the first, suggested by Munitz' use of the word "method", it simply states that scientists ought always to go on looking for possible states of the universe before the so-called "beginning". This is perfectly reasonable, but merely lays down a programme for scientists to follow; there is no

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1. Op.cit., p.139.

difficulty in agreeing with it and yet expecting that no earlier states will ever be found. (It is quite correct for athletes to aim all the time at breaking the high-jump record, even if it is in reality impossible for them to get over some specific limit, say ten feet.) If, however, it is meant to be the basis for an assertion about the actual nature of the universe, it is not easy to justify. There is, of course, inductive evidence that scientific method in general works; but this only gives us one induction (from the method's success hitherto in discovering early states of the universe) to set against another (from the actual facts about the universe that have been discovered). At the very most this could do no more than require extra-strong evidence for a "big bang" theory, or set up a standing warning that, however well grounded in the evidence, this theory was more open to doubt than most scientific hypotheses,

If more than this is intended, we should have the odd position that we are being asked to accept a metaphysical principle (that of Sufficient Reason), which is not to be used in metaphysics but only within science, and which, though it has no empirical evidence for it, is strong enough to eliminate a scientific hypothesis that is (we are assuming) well grounded in the evidence itself. I do not find this convincing.

This has been rather a long digression from our main theme. But I hope the point has been made clear: that it really is up to the physicists and astronomers to work out what the universe has been or

will be like - including whether it had a beginning or an end - and that it is inadvisable for the philosopher to butt in. It may well be that relativistic thermodynamics has no place for heat-death or -birth, or that a steady-state or oscillating model fits the universe better than a "big bang" one; but it is for the scientists to find out.

There remains, however, one crucial point. Suppose that a "beginning of the universe" is possible; suppose, moreover, that the actual evidence is conclusively in favour of its being actual (which can hardly be said yet); is there a valid inference to a First Cause from that fact alone (i.e. assuming that with an unbeginning universe there is <u>not</u>)?

I must confess that I feel very doubtful about this. It is very hard not to picture the beginning of the universe as the sudden appearance in empty space of - well, whatever is supposed to have appeared then. But this is certainly wrong. There was no empty space for it to appear in, and unless there was indeed a God present, and a temporal God at that, there was no time either. The "Beginning" cannot be described as a change, for there was nothing, not even some sort of Non-Being, for it to be a change from. It follows that we cannot look for a cause of the change either. We may look for a reason why this universe (complete with "Beginning") should be at all; but that is not the same thing, and would surely apply equally well to a

universe that was eternal. We might quote here a comment by Averroes[1] on the claims of the Mutakallims to have proved the temporal beginning of the universe: "We find that temporal things occur through nature, through will, and by chance.... If indeed the world had come into being temporally, it would be more appropriate that it should have come into being, in so far as it was a natural existent, from principles appropriate to natural things, rather than from principles appropriate to artificial things, that is, the will." It is not, then, an exclusively modern realization that the temporal form of the Cosmological Argument does not have all the extra strength it is sometimes supposed to have.

We have evidently to come to the following conclusion about our first version of the Argument: Of the objections raised, two ("Is it true that everything has a cause?" "If it <u>is</u> true, does not this apply to God as well?") have no weight; but the third ("Why cannot a causal chain go back to infinity?") appears decisive. The philosophical arguments for believing that an infinite regress is impossible were invalid; and though we saw that there could be empirical reasons for denying such a regress, and that perhaps such reasons did exist, the first term thus reached was not a First Cause but only a First State of Affairs, and had no peculiar need for a divine cause simply in virtue of being first.

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1. "Tahafut al-Tahafut", 12 (van den Bergh, p.271).

However, supporters of the Cosmological Argument will obviously not be finished yet. Let us concede (they may say) that an infinite regress is possible, and that in any case a beginning of the world is not sufficient to prove us right; nevertheless, the universe's existence (with or without a beginning) is itself a state of affairs which requires explanation. There must be a cause of the whole. And they can point, quite justly, to a long series of natural theologians who have maintained precisely this, from Avicenna onwards. But this form of the argument is no more popular with modern philosophers than the previous one, for a variety of reasons. We may divide these reasons roughly into two classes: in one we ask (with Professors Laird[1] and Hepburn[2]) whether it is <u>possible</u> to ask for a cause of the universe, and in the other (with Professors Edwards[3] and Flew[4]) whether it is <u>necessary</u>.

Taking the former first (since, if it is not possible to ask for a cause of the universe, we need proceed no further): The first reason adduced is that it may well be that the universe is only the "theatre" for causal action, and not itself capable of being caused.[5] As Hepburn[6]

1. "Theism and Cosmology", pp.90 ff.
2. "Christianity and Paradox", ch.9.
3. "The Cosmological Argument" ("Rationalist Annual", 1958, pp.70 ff).
4. "God and Philosophy", 4.18 ff.
5. Laird, p.95.
6. P.167.

points out, the universe cannot be called "above" or "below" anything, though objects in it certainly can. May not the same be true of "caused"? Even if this is uncertain (as Hepburn agrees it is), it is still enough of a possibility to overthrow our new form of the Cosmological Argument.

Now there is one sense in which a strong case can be made out for saying that Hepburn and Laird are right; that is, by insisting that a cause must precede its effect in time, and that time is essentially a part of the universe. (We may note that Hepburn's example of "above" and "below" derives its impossibility when applied to the universe from the fact that it has just the connexion with space that - on this view - causality has with time.) In this case we should have to say of the First Cause that He, or It, existed in a temporal part of the universe which preceded the existence of the universe; and this is obvious nonsense. But there are two equally obvious counter-moves. One is to say that time is a feature not only of the universe but also of the experiences of individuals (including God). There are, of course, serious problems in such an answer (can there be an unbeginning temporal consciousness? why did God create when He did rather than at some other time?) but as far as the original problem is concerned this answer is enough. An alternative (the one actually adopted by most philosophical theists) is to deny that a cause must precede its effect in time. It must be in some sense prior to the effect, but this priority is metaphysical rather than temporal. For instance,

there is some evidence for the existence of precognition. Suppose this to be conclusive - that (to take a celebrated instance) Nostradamus really did foretell the executions of Charles I and Louis XVI. In that case it seems hard to avoid saying that the cause here came after its effect in time. If such a foreseeing is even possible, then, correspondingly, it is at least possible for a cause to follow its effect. It would, of course, be possible to define "cause" so as to include temporal precedence; but in that case all we need do is invent a new term, say "origin", which is to mean the same as "cause" but without the time-reference. And if it is possible for a cause to follow its effect, still more is it possible to have a relation of dependence between some "created" thing (whether the universe as a whole or not does not matter) and a timeless God - apart, of course, from the difficulties that may be found in conceiving of His timelessness.

Professor Laird points out that we are surely driven to say of something (let us say "reality") that it is "the theatre in which all causes and effects occur, but itself neither cause nor effect"; and this is certainly true. But his further suggestion, that "reality" and "the world" might be identical, seems much less happy. They might be identical in the sense of having the same denotation, of course; but this is precisely the proposition that the Cosmological Argument purports to disprove, and it certainly cannot be assumed as a counter to that argument. And they quite certainly do not have

the same connotation. To take an analogy: at the present moment, I believe, Dublin University and Trinity College, Dublin, are identical in the sense of having exactly the same members, just as "reality" and "the world" might have; but it is not true that any statement made about Dublin University could also be made about Trinity College, or vice versa. For instance the University has a Vice-Chancellor, but not the College; and conversely the College has Fellows, but not the University. Similarly, it is true to say that "Reality" cannot conceivably be a cause or effect; it is not true to say this of "the world" - not even if there is no reality apart from "the world", not even if in fact "the world" turns out not to be a cause or an effect. It cannot be shown not to be one just by a priori reasoning.

It looks, therefore, as if, so far as this first argument is concerned, we may legitimately look for a cause of the universe. There is, however, another one, raised by Laird,[1] to the effect that it may be illegitimate to speak of the world as a unitary "thing". A strong case can be made out for saying that all genuine existents are "such as can be discerned as individual entities and ticked off by enumeration" (provided that this is not taken to exclude the possibility of talking about "all" or "some" such entities). Now if all statements about the universe can be translated into statements about individual entities, we cannot use the universe as the basis

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1. Op.cit., pp.108 ff.

for a cosmological argument, unless the argument is really based on the individual entities and does not really treat the universe as a unitary "thing". This was doubtless true of our first Cosmological Argument, but hardly of the present form.

The trouble with this reasoning is that surely it applies too widely. It would apply, for example, to men and women. It might be held that to say "That man is the Prime Minister" is to say "Any limb or organ of that man's body is a limb or organ of the Prime Minister" and so on - i.e. that any statement about the Prime Minister can be translated into statements about other, lesser entities. There are, I suspect, certain statements about him that cannot be so translated; but then there are also statements about the universe that it is equally difficult to translate into statements about its component parts - statements, for instance, about its size or age. Furthermore, it seems at least possible that the only reason we have difficulty in discerning the universe as an individual entity or ticking it off by enumeration is that there is only one of it, or only one of which we have any experience. Science fiction writers, from H.G. Wells ("Men like Gods") onwards, have often used the idea of there being other universes besides the one we know, even if science fact has not yet got so far. (There is indeed one awkwardness for the theist here, namely the possibility that each universe might have been created by a different God; but this is only a particular variety of the criticism, to which we shall come later, that the idea of a First Cause, even of

the universe as a whole, is inadequate from the religious point of view - here because it does not guarantee the First Cause's uniqueness, nor his omnipotence except perhaps so far as his own universe is concerned.)

Some theists[1] have conceded this much at least, that the relationship between God and the world cannot be an ordinary one of cause and effect. I confess that I do not like such a move: it is rather a dangerous one for theism, for two reasons. Firstly, it makes it much harder to argue for the existence of God; for there is no way of knowing that such a relationship exists unless we already know that there is a God to be related by it. And secondly, even if we do not wish to use it to argue for the existence of God, it is not going to be very much help to the enquirer, or even the believer, to be told that God is to the world <u>rather</u> as cause to effect but not <u>quite</u>. Professor Hepburn compares it to being told that a certain road-junction lies in a determinate direction from a church and another from a hilltop, but that these directions are <u>not</u> due north, not ten degrees east, nor any other direction we may care to name. (Possibly, one is tempted to suggest, the junction lay directly <u>above</u> the Church, on a flyover?)[2]

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1. E.g. Farrer, "Finite and Infinite", p.269: causation is "an analogy which points beyond itself", creation is an "inexpressible fact".

2. "Christianity and Paradox", pp.176-7.

These objections could probably be got round. There are fairly well-known answers to the latter, originally designed to cope with the general problem of describing God at all; the theory of Analogy is the most celebrated.[1] As for the former, one could perhaps argue that the world requires some sort of explanation; that this is to be found in God; and that once we realize this, though not before, we can see that it is not a causal explanation of the usual sort. Nevertheless, I do not think that we need these answers unless it is assumed that causation is something that relates objects (as opposed to states of affairs or events) and is observed in the world in the same sort of way as we observe such relations as "to the right of" or "smaller than". I suspect that causation properly speaking relates states of affairs rather than objects: that, in other words, saying "A causes B" is a shorthand version of "P because Q".[2] In some cases, of course, "P" may be "B exists" and "Q" "A exists", but this need not be so; so that this form is able to cope with all the old causal statements and more besides. In this case the unique nature of God would not bother us. Instead of saying "God is the cause of the world" and then being worried because this is so unlike "A cigarette was the cause of this fire", seeing that God is not like a cigarette nor the world like a fire, we now say "The world exists because God exists (and wills to

1. For another, explicitly dealing with this point, see Ramsey, "Religious Language", pp.61 ff.

2. Cf. Geach, "God and the Soul", pp.75-85.

create it)". It does not now matter, or at least is not relevant to our present concern, that God is not like a cigarette, nor His creative power like the laws of propagation of fire. Provided that we can ask for an explanation of the world's existence, we do not need to say "The answer cannot be an ordinary causal one, it must be of a quite unique and mysterious nature"; we can say "The answer can be in an ordinary 'because' form, though the state of affairs that follows the word 'because' may well prove to be unique and mysterious". (It remains, of course, a possibility that this state of affairs might be other than the existence of a God, or that no answer can in fact be given.)

Suppose, then, that there are no a priori reasons for refusing to look for a cause of the universe as a whole, over and above its individual components, we may still ask whether there is any point in doing so. It may be possible, but is it necessary? We have noticed this criticism before in Ockham and Hume; let us see how it is presented by a contemporary, Professor Paul Edwards.[1]

"Suppose I see a group of five Eskimos standing on the corner of Sixth Avenue and Fiftieth Street, and I wish to explain why the group came to New York. Investigation reveals the following stories:

"Eskimo No.1 did not enjoy the extreme cold in the polar region and decided to move to a warmer climate.

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1. "The Cosmological Argument", in "The Rationalist Annual", 1958, pp.71-2 (reprinted in Burrill, "The Cosmological Arguments", pp.113-4).

"No.2 is the husband of No.1. He loves her dearly and did not wish to live without her.

"No.3 is the son of Eskimos 1 and 2. He is too small and weak to oppose his parents.

"No.4 saw an advertisement in the 'New York Times' for an Eskimo to appear on television.

"No.5 is a private detective engaged by the Pinkerton Agency to keep an eye on Eskimo No.4....

"Somebody then asks: 'All right, but what about the group as a whole; why is it in New York?' This would plainly be an absurd question... It is just as absurd to ask for the cause of the series as a whole as distinct from asking for the causes of individual members."

I have chosen this example - let me be honest - not only for its charm but also because it can easily be used to show just what is wrong with this criticism. A theist would, I think, point out first of all that in a sense Professor Edwards has slipped in, not one, but two First Causes (i.e. causes outside the group) - No.1's dislike of the polar cold, and the advertisement which attracted No.4. Secondly, that the group is precisely that - a group, not a series or an interconnected set: Nos.1, 2 and 3 are in no way linked to Nos.4 and 5. Now what happens if we remove these flaws? Something, I fancy, like this:

"Eskimo No.1 wanted to collect some money owed her by No.5.

No.2 is the husband of No.1, as above.

No.3 is the son of Nos.1 and 2, as above.

No.4 is a nurse engaged to look after No.3.

No.5 is a private detective watching No.4, as above."

Here we have a collection where each member is linked causally with the others, where there is no First Cause, and where each member has a secondary cause - which, therefore, nicely fits the requirements of Hume and Edwards. But it is at once obvious what is wrong with it. We have an adequate explanation of why the five Eskimos are together, but not why they are on the corner of 6th Avenue and 50th Street rather than 7th Avenue and 51st Street, or the Kremlin, or even their original Arctic homeland. Similarly, an explanation of each component part of the universe in terms of other component parts will explain why they all fit together, but not why they fit together in actual existence rather than in fancy, as might the component parts of a universe invented by some novelist of unusually powerful and coherent imagination.

It may be objected that I have cheated in framing my counter-example, in that I have given my Eskimos a circular chain of causes, whereas what Professor Edwards had in mind was an infinite series of them. I do not see that this makes any real difference. Let us suppose that Eskimos are incorporeal beings, an infinite number of whom can dance on a single New York corner. We then have the situation that of any given Eskimo, say No.X, that he is there because he wishes to be with No. X+1, and that No. X-1 is there because he wishes to be

with No.X. Suppose there to be an infinite number of Eskimos thus gathered; we still have no reason for their being gathered here, on 6th and 50th, rather than anywhere else. I conclude therefore that this objection is quite invalid. We may have a collection of five, twenty, or an infinity of items to be explained; if none of them has an explanation outside the collection we are fully justified in asking for an explanation of the whole.[1]

It might be, for all that, that there was no explanation of the whole. Are there any considerations to influence us either way in this? I think we can distinguish three that have been advanced of recent years to suggest that no such explanation need be forthcoming: the argument that explanation does not work like that, the argument that the "explanations" advanced are really beggings of the question, and what Professor Flew rather confusingly calls the "Stratonician presumption".[2] Let us take this last first; for it is, I think, the weakest of the three.

The "presumption" is expressed by Professor Flew as follows:[3]

"All qualities observed in things are qualities belonging by natural

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1. Cf. R.G. Swinbourne, "Whole and Part in Cosmological Arguments", in "Philosophy", XLIV, pp.339-40.

2. Confusingly, because it hides rather than reveals the allusion to Strato (cf. p.20 supra); it should be "Stratonic" or "Stratonian".

3. "God and Philosophy", 3.20.

right to those things themselves; and hence whatever qualities we think ourselves able to discern in the universe as a whole are the underivative qualities of the universe itself". This is said to be defeasible by adverse argument, but otherwise to be in possession of the field.

Now the first thing to be said about this is that if anyone had taken it seriously there would hardly be any such thing as science. The moment somebody asked "Why do planets move differently from other stars?" "Why are fossil fishes found inland?" "Why do apples fall to the ground?" or anything like that, the answer would have been prompt: "These qualities belong to them by natural right". Opium puts you to sleep because it has a virtus dormitiva. It is unlikely that anyone would ever make a "Stratonician presumption" except as a means to avoid theism. Certainly Strato himself did not; his actual principle is quoted as having been "Whatever exists or comes to be has been made or is made by purely natural forces and movements".[1] Not only does this say nothing at all about "underivative qualities", it is a principle that can only be applied to the universe as a whole if there is some "natural force" by which the universe could come to be. To the theist, of course, the will of God fits this description to perfection; to the atheist, surely, the real Stratonic principle would be highly unwelcome. (The theist's turn to feel uncomfortable would

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1. Cicero, "Academica", II, 38, 121.

probably come when the conversation turned to miracles!)

The second point to be made about the "Stratonician presumption" is that it is not defeasible by argument, at least not in the case of the universe. Whatever moves the theist may make, the presumption is immune; and this not because the moves are necessarily bad moves, but because of the logical nature of the "presumption". For the theist, unless he approves of the Ontological Argument, can only proceed by pointing to some feature of the universe and arguing that it implies the existence of a God. The feature may simply be, as now, the actual existence of the universe; it may be change (the Prime Mover argument), order (the Physico-theological), ethics (the Moral), purpose (the Teleological), the "numinous" or mystical (Religious-Experience arguments); but whatever it is the "Stratonician" can accept all the theist's evidence and answer "Ah, but this feature belongs to the universe by natural right". "Is it not topsy-turvy to insist that... things cannot naturally do what is, in our experience, precisely what they do do?"[1] And, of course, whatever they do, this is "precisely what they do do". We have the peculiar state of affairs that, if there really were a Creator, He could never, by any method whatsoever, convince a true "Stratonician" of His existence.

This remarkable result has been achieved, I think, in part by an ambiguity of the word "natural". It can indeed mean "that which

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1. Flew, op.cit., 3.25.

does in fact happen", and in this sense it is natural for iron to sink and wood to float, for the stars to appear to revolve, the planets to "wander" among them, and the universe to exist and go on existing. It can also mean "that for which there is no point in looking for an explanation". In the latter case the word is generally used to counter a possible request for a special explanation. "Why did Tommy get into a fight at school?" (Not because he is specially aggressive, but because) "It's natural at his age". This second use of the word is based on the first, of course, but it is not quite the same. It can only be used for specific cases; if it is applied to an entire class, with no reference to a more inclusive class, it no longer makes sense. You cannot say "Iron sinks because it is natural for it to do so"; the best you can do is something like "Iron sinks because it is natural for that which is heavier than water to do so".

Now you could perhaps say "It is natural for the universe to exist and to go on existing" in this second sense (which is the one the "Stratonician" requires) if you had seen many universes and found that they had all done so. But this is not, of course, the case. It is not, therefore, possible to get from the first, trivial sense of "natural" to the second, non-trivial. The "Stratonician" can go on holding his "presumption" against any assault - provided that his "presumption" is trivial, and unusable against the theist. He may, I think, be disregarded.

Our second consideration - that the theist's answer really begs

the question - is of more force. It might be put in two ways. Firstly, it might be said that if our search for a cause of the universe is to be justified we need a form of causal principle that is certain to be true.[1] Now this can only be done by either making it valueless (by refusing to accept any suggested counter-examples) or by claiming that its value lies in its metaphysical consequences (i.e. that it leads us to realize that there is a God). And the former of these is useless to the natural theologian, while the latter begs the question.

This is not just a play on the word "value". It does look as if a <u>certain</u> causal principle must be either trivial or metaphysical; and can the latter be known to be true without previous knowledge of the being of a God? But there are several strands to the argument, which need closer investigation. The first thing to show is that causality cannot lead us to a cause of the whole universe without being treated as a metaphysical principle in this sense; and in order to do this it must be proved (i) that the only form of the causal principle that will do here is "Every event" (or "state of affairs") "has a cause"; (ii) that this principle must be known for certain; (iii) that it cannot be known for certain unless it is either trivial or question-begging. Are all these true?

The first, at least, would seem rather doubtful. Obviously the

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1. Cf. Hepburn, "Christianity and Paradox", pp.161 ff.

theist will hold that it does not apply to God (unless, like Spinoza, he thinks of God as His own cause); the theist's form of the principle is more likely to be modified. He may try and limit the class of caused things to "finite things" or "things that come to be and pass away"; he may alter "cause" to "sufficient reason"; or he may deny that he needs a universal premiss at all. The first is not a very good move: it is not at all clear that the universe is finite, at least not in every sense of the word, and we have already seen that there are difficulties in treating it as something that comes to be and passes away. The second will avoid the difficulty about the cause of God - His sufficient reason will be His own metaphysical necessity - but not, perhaps, the charge of vacuity. The third may turn out to be the most hopeful solution.

But must we in fact know this principle for certain? Certainly it has been held that we do so know it.[1] But it seems to me that this is only necessary if we have to have utter and absolute certainty that there is a God. If we had only the certainty that we have of the sun's rising tomorrow, and if the rest of the Cosmological Argument were watertight, would many theists be embarrassed, or many atheists unconvinced? Yet the charge of vacuity will only hold if our certainty is unshakable by any conceivable evidence (if then); it could be unshakable by any actual or likely evidence without being vacuous.

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1. E.g. Sillem, "Ways of Thinking About God", p.170.

In order to see this let us look at the sort of reasoning used to support this charge. I say "This man has a hat"; if you doubt it, we can check the evidence. Has he been seen wearing one? Is there one in his cupboard at home, or on the hatstand at the place he works? and so on. If, in every case, the answer were "no", and if nevertheless I were to insist that he did have a hat, you would be quite justified in thinking me wholly irrational in the matter. I might, however, explain that I meant an invisible hat; and if you were very patient, and investigated this, and still came up with negative evidence (no hat being detectable even by touch or smell), you might end up by saying "Not only are you irrational, I simply do not know what you mean by his 'having a hat'. If this hat is invisible, intangible and wholly undetectable, it is not what I or any other sane man means by 'hat'". And it is argued that the only way one can be absolutely certain that no evidence will ever arise against the principle of causality is by treating "cause" (or "sufficient reason") in the same way as I treated "hat" in our illustration.

But the cases are not really very close to one another. Hats form a fairly limited and easily recognisable class; causes do not. The notion of an intangible and invisible hat is ludicrous; that of, let us say, a supernatural cause is not obviously so. A man, therefore, who insists that he is quite sure that any state of affairs must have had some cause, even if he can't imagine what it was, is not being obviously absurd; not even if there are reasons for supposing that the

particular state of affairs did not in fact have a (total) cause, as may be the case with disintegrating atoms or free choices. It is only if he were to hold that nothing could ever convince him that these were partially uncaused, even if he had ranged the whole of time and space and penetrated to the throne of God in his vain search, that we should decide that he was behaving irrationally or call his position vacuous.

Now if the theist is willing to claim only practical certainty, not absolute and forever-unshakable certainty, for his causal principle, or principle of sufficient reason, he need not be accused of being irrational. The trouble is that he will have at least as hard a time to convince his opponent that all things do have causes as his opponent had to convince him that some do not. For sub-atomic physics and free will do seem to provide cases of partially uncaused events; events indeed, which need not have a sufficient reason of any sort, causal or otherwise. And if the theist wishes to claim that he has practical certainty of the truth of his principle, as he has of tomorrow's sunrise, his opponent is entitled to suggest that he has far less evidence for it than he has for that sunrise. The theist must apparently either stand accused of taking an irrational stand or of basing his position on very shaky ground indeed. In the first case, a theistic proof is impossible; in the second, it is nowhere near convincing. But there is, I think, a way of escape still open.

I said earlier on that the theist might deny that he needed as

strong a premiss as the one suggested. Suppose that he accepts that there are, or could be, uncaused states of affairs; is the possibility of arguing for a cause of the universe ruled out? It seems not. For there are not very many candidates for the title of "uncaused states of affairs"; free decisions, certain sub-atomic events, and "continuous creation" of certain particles are the only ones I know of, and at least the first and third of these are still the subjects of vigorous dispute. Now there is something to note about these: they are all relatively simple. The conditions that must be present before a human being can make a free choice, or an atom disintegrate, are no doubt complex, but the event itself is not. This cannot be said of the universe, which is indeed by definition the most complex thing of which we are aware. People do not perhaps find it very hard to believe in the <u>possibility</u> that matter simply appears at random in space as this was proposed in the "steady-state" theory: if, however, that theory had required that this matter should appear, not in isolated particles, but in large blocks, I think it would have found much less support than it did; and if it had required that these blocks should be in some sense orderly - if, say, they had had to be in the form of protein molecules, or even of crystals - I think it would have found even less. It is not quite so easy to make this point in the case of the other two classes of "uncaused states of affairs", because of the fact already alluded to, that they require complex preconditions. It may not be causally determined that a particular atom should break up at

time T; but it is causally determined (or at least I know of no reason to think otherwise) that when it does break down it should emit an alpha-particle and not a beta, or vice versa: and though it may not be causally determined whether I should decide to eat this sandwich or not, it may well be so determined that it is this sandwich that is involved, and not some other one, or a Bath bun. But in both cases the undetermined side of the event seems to be a simple "Yes or No" to a complex whose nature is determined.

Now if we apply this to the universe, the conclusion seems to be either that its existence is in no sense uncaused or that its existence is uncaused but its nature determined by some factor or factors outside itself. The latter is rather a pleasant speculation, for many people have supposed that some universe would have existed in any case but that a God or Demiurge was required to decide what sort, whereas on this view the reverse was the case; the universe might quite easily not have existed at all, but what sort of universe might exist was somehow already determined. However, this determination might itself be the result of the divine will; in that case we should have to suppose that God planned His creation with care, but had no reason for deciding whether to bring it into actual existence or not. ("The motive which prompts Brahman - whose wishes are all fulfilled and who is perfect in himself - to the creation of a world... is nothing else but sport, play.")[1]

1. Ramanuja, "Commentary on the Vedanta-Sutras", II, i, 33.

I conclude, therefore, that there is no need for the natural theologian to choose between a trivial form of the causal principle and one that begs the question at issue - no need, that is, provided that he is willing to agree that the Cosmological Argument (in this form, at least) is only a probable one and does not give absolute logical certainty. But the charge of begging the question can take another form: "The insistence of Hick and others on the greater intelligibility of facts about God (is) no more than the muddled and muddling expression of personal preference".[1] In other words, the only advantage to be gained by introducing God as an "explanation" of the universe is that it suits the theist's tastes; and this is not an adequate reason.

Now we have already seen the form an answer to this is likely to take in our discussion of such arguments as that of Rashdall.[2] It is, of course, quite true that the theist begins with a preference for explanations in terms of God. But he can insist that there is a perfectly good basis for this preference in logic. All explanations look to some fact preceding (in some sense) the fact to be explained; but explanations in terms of the free decisions of a will (whether human or divine) are such that there is no need to look for any other explanation. Such decisions are "more intelligible" than other facts

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1. Flew, "God and Philosophy", 5.6; the reference is to Hick, "Philosophy of Religion", pp.21-3.

2. V.sup., pp.209ff.

simply because the enquiring mind finds in them a place where it can, and sometimes must, stop. There may well be some other sort of fact of which the same can be said, and which would also do as an explanation of the universe, but if so it is up to the atheist to produce it and justify its claims.

But the most serious argument against this sort of natural theology is that it mistakes the whole nature of explanation. All explanations, as we have just said, look to some fact preceding the fact to be explained. There is, therefore, in any explanation whatever, some element of "brute fact", and this is absolutely unavoidable. The atheist's case is not that there might be some states of affairs that were simply inexplicable, but that in any explanation that deserves the name there must be such. "Facts about God, however important, do not thereby cease to be, simply, facts".[1]

At first glance, indeed, it might seem that this has already been answered. The free decisions of the divine will are certainly facts, but they are facts of a sort that one expects to be "brute", which is not the case with universal regularities or the existence of the world. But it is not as simple as that. God's decisions may be accepted cheerfully as "brute facts"; but for there to be such things there must be a God, and His existence is not a free decision. It is a "brute fact", and as such in no way preferable to any other brute

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1. Flew, loc.cit.

fact, such as universal regularities or the existence of the world. This is a formidable criticism, and there are, as far as I can see, no ways for the theist to meet it that are altogether free from objections.

The theist has got to show that in some way the fact (if it is a fact) that God exists is more acceptable as an ultimate inexplicability than any other candidates. There are, I think, two ways he might set about this. Firstly, he may claim that God is a Necessary Being. That is, while of any other brute fact all you can say is "it is so, and that's that", of God's existence you can say "It had to be so, and that's that". But there are at least two drawbacks to any such move. Firstly, it suggests that the whole "First Cause" pattern of argument was a kind of facade; that we should really have argued in terms of "contingent" and "necessary" beings all along. (We shall see later what sort of success such a pattern might have.) Secondly, and much more seriously, have we not now really let ourselves in for Kant's charge of presupposing the Ontological Argument? We have proved that there must be an ultimately inexplicable fact or facts. But we are suggesting that God's existence is preferable as this inexplicable fact because God is a necessary being; and how do we know this if the Ontological Argument is invalid? Leibniz, as we saw, could get away with it, because he thought he had proved that there must be such a Necessary Being.[1] But all we have proved is, at best, that there is

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1. V.sup., pp.193-5.

either a necessary being or a "brute fact" being. And this is not enough to avoid Kant's criticism.

That this is so can be made clear without difficulty. According to Kant, the proposition "Every necessary being is an ens realissimum" can be converted to "Every ens realissimum is a necessary being" - the premiss of the Ontological Argument. A Leibnizian, however, could answer that while this second statement was true, it could not be known to be true unless we already knew that there was such a thing as a necessary being - which his Cosmological Argument had proved; you could not know that God was necessary until you knew that He existed. (Leibniz himself, of course, thought the Ontological Argument valid too, but that is not the point here.) Our present argument, on the other hand, is claiming to know that God is necessary in order to make the Cosmological Argument watertight and so prove that God does exist. And this is precisely what Kant was objecting to.

It may be answered that we are only saying that if there is a God, He is a necessary being. This may be true. But if so we cannot use it to bolster up our original First Cause argument. From the three premisses "Either a necessary being or a 'brute fact' exists", "A necessary being is a more satisfactory explanation than a 'brute fact'", and "If God exists, He is a necessary being", all we can infer is that if God exists He is a more satisfactory explanation than a "brute fact". And this is not much of a theistic proof.

The second possibility is to appeal once more to the complexity

of the universe. If the choice is between, on the one hand, the "brute fact" of the existence of the universe with all its component parts and the laws of its behaviour, and, on the other, that of the existence of God (whom some theological traditions hold to be absolutely simple, without any composition in His nature), is not the latter the more plausible? It need not be satisfactory in the sense of the satisfaction that is "reached in pure mathematics and hardly anywhere else";[1] the sort of satisfaction that we have in an empirical explanation will do just as well.

Now I do personally feel that the second <u>is</u> more satisfactory. But this may be because I happen to believe in God anyway. Can we give any <u>reason</u> for thinking that it is so? Not - this much is clear - the reasons we gave earlier for satisfaction in the idea of uncaused Divine decisions. God's existence is not analogous to any of the supposedly uncaused events we come across in the universe. The best hope seems to be a kind of reversed Ockham's Razor (a Hair-Restorer, perhaps): entities <u>are</u> to be multiplied when this simplifies the total explanation. What I mean is this. If there is no one First Cause, we have as our ultimate inexplicability (a) whatever minimum number of scientific laws is required to describe the behaviour of the universe (b) a description of the state of the universe over a sufficient stretch of space-time to enable us to infer its state in other stretches in accordance with those laws, and (c) any uncaused

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1. Broad, "Religion, Philosophy and Psychical Research", p.185.

events occurring within the universe outside the stretch described in (b). On the theistic hypothesis, we have as our ultimate inexplicability (x) the existence of a being who is able to create an ordered universe and (y) his free decisions to do so on the lines described in (a) (b) and (c) above. Now this requires one entity which the first does not; on the other hand it has replaced (a) (b) and (c) by a set of decisions whose possibility flows from (x) and which we have already seen to be satisfactory intellectually if (x) is true. In other words, (c) and (y) give us no trouble - we have already agreed that the intellect has got to put up with partially uncaused events. But (x), though it adds one entity to (a) and (b), simplifies our scheme immensely. And I think it is therefore preferable.

If, that is, "the universe is the kind of place which must yield intellectual satisfaction to people thinking about it".[1] It may be that it is not. There seems in fact to be a good deal of evidence, in the development of the sciences, to suggest that to a great extent it <u>is</u>; but there is no contradiction in saying that while there is much that is intellectually satisfying in the details, there is none in its foundations. However, this type of Cosmological Argument, as we have seen, has already had to abandon any claim to absolute logical cogency. It is only a probable argument; but I think it <u>is</u> probable.

If I am right, then, our first type of Cosmological Argument

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1. R.L. Saw, "Leibniz", p.74. (Given as Leibniz' view, not Dr. Saw's).

("No Infinite Regress") was invalid, and our second ("Cause of the Universe") only made the existence of a God probable, not certain. This in itself is quite something, if correct. But there is the third type still to be considered, which we may call the "Contingent/Necessary" type; it has certain features in common with the previous types, but some peculiarities of its own as well. Does it provide us with a logically watertight proof that there really is a God?

It begins with the assertion that most of the things we meet with are contingent; that is, they would not exist but for the fact that something else exists. Now it is not possible (we are told) that <u>everything</u> should be contingent; for in that case there would be no reason for anything to exist at all. (We remember our Eskimos in New York, each there because another one was.) But there must be a reason for everything. There must therefore be some being the reason for whose existence is not to be sought in anything else but in absolute necessity. And this Necessary Being is God.

Now there are several possible lines for a critic of this argument to take. Firstly, he may deny that the notion of a necessary being makes sense at all. (This is the line taken by most modern critics.) Secondly, he may say that even if there is such a being, there is no reason to identify it with God, and perhaps that there is positive reason not to do so. (The first part of this we have seen in Algazel.) And thirdly, he may deny that "necessary" and "contingent" exhaust the possibilities. (This seems to have been the line taken

by Lotze.) A fourth, of course, would be the suggestion that even if a necessary being is (as far as we can tell) possible, still it is not required, as an infinite series of contingent beings would require no explanation: but this does not really differ from the corresponding suggestion in our discussion of the last form of the Cosmological Argument, and we need not repeat the discussion here.

Let us begin, therefore, with the critic who denies that there is any sense in talking about a "Necessary Being". He will probably begin with the assumption that "necessary" here means "logically necessary", and point out that in this sense "necessary" applies to propositions or truths, not to beings. Obviously the theist may retort that in that case all we need do is replace "God is a necessary being" by "'God exists' is a necessary truth". But "the truth of a logically necessary proposition depends only on our symbolism, or, to put the same thing in another way, on the relationship of concepts," whereas "an existential proposition does not say that one concept is involved in another, but that a concept applies to something."[1]

Now there are serious difficulties in this criticism as it stands.[2] In the first place, it is very doubtful whether logically necessary propositions do all depend on symbolism, and if they do, this dependence

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1. J.J.C. Smart, in Flew and Macintyre, "New Essays in Philosophical Theology", pp.38-9.

2. Cf. A. Kenny, "God and Necessity", in Williams and Montefiore, "British Analytical Philosophy", pp.140 ff.

is itself necessary and does not depend on symbolism. In which case, of course, we have a necessity which is logical but not restricted in the way suggested, or else is not logical necessity at all. As for "the relationship of concepts", it is not quite clear what this means. It may mean the same as the first suggestion, except that room is left for the existence of different symbolisms (roughly, the distinction customarily made between "statement" and "proposition"). But it seems possible that "concept" here means something like "the idea we have of something"; thus an elementary case of one concept's being involved in another would be the fact that "being male" is involved in "being a king". And this opens up interesting possibilities. For it is clear that our ideas of things can change and improve as we come to learn more about the things themselves; my idea of an electron is wildly inadequate compared with a physicist's, and quite probably his knowledge of physical theory enables him to realize the necessity of many propositions concerning electrons which I do not even know to be true, let alone necessary. And the theist might argue that if we had an adequate insight into God's nature, we should be able to see that He necessarily existed.[1]

The critic might reply that this makes no difference, as it has failed to meet his second point, that the statement "God exists" does not relate two concepts, but merely states that one concept, "God",

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1. Cf. Aquinas, S.C.G.I, 11, ii.

applies to something. But it seems to me that in any normal sense of the word "concept" I do have a concept of "existence": I can use the word correctly, understand propositions that contain it, and so on. This is not to deny that there are important logical differences between "existence" and such concepts as "manhood" "happiness" and the like - the differences which have been summed up in the slogan "Existence is not a predicate". But they are surely far less drastic than the differences which separate all these concepts on the one hand from the "concepts" (if one can call them that) of purely logical words like "some" or "and". Indeed, that the critic's reply will not do as it stands can easily be shown by adopting a still higher-order rephrasing of the statement "God exists". The critic had replaced it by "The concept 'God' applies to something", which allegedly fails to relate two concepts, as a logically necessary statement presumably should. But all we need do is take this one step further and say "The concept 'concept of God' involves the concept 'applicability to something'". This may be demonstrably necessary (as believers in the Ontological Argument would hold), actually but not demonstrably so, or a complete falsehood; it is the point of theistic and atheistic arguments to settle this: but it certainly relates two concepts, and therefore is presumably capable of being necessary as far as its form goes.

Furthermore, it has been pointed out[1] that there do seem to be

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1. Cf. Malcolm, "Anselm's Ontological Arguments" in Hick, "The Existence of God", p.59.

logically necessary statements which <u>are</u> existential, in mathematics at least: "There exists one prime number between 20 and 26", for example. There are obvious difficulties here: God is not like a prime number, and the comparison could let in the whole problem of the nature of mathematics: but it certainly makes the critic's original claim look less plausible than it did at first.

Even if he waives these points, though, the theist can surely argue that there are other forms of necessity besides the logical.[1] We have already seen that this seems to be implied by the existence of logic itself; and of course there are also a number of other types of proposition for which the claim has been made, such as those of ethics and those involving determinate forms of determinables ("Everything red is coloured and extended"). Consequently even if it could be shown conclusively that no logically necessary statements are or could be existential, God's existence could still be necessary in a non-logical way. The only drawback is the task of specifying this way.

One possible suggestion, favoured by Dr. Kenny[2] is that "necessary" here means "unchanging". The statement that there is a God, if true, is almost universally taken to be necessary in this sense. (It is possible to take it otherwise - Samuel Alexander evidently regarded

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1. Cf. Kenny, art.cit.; and Hughes in Flew and Macintyre, op.cit., pp. 59 ff.

2. Art.cit. pp.147 ff.

it as not yet true, and Dr. Thomas Altizer evidently supposes that it became false round about A.D.33 - but both are unusual positions.) Clearly there is no difficulty in this use of "necessary", which is closely related to that found in Aquinas; the trouble is that there is no good reason for believing that there are any "necessary beings" in this sense unless there are reasons for believing that there are some in another sense. The attempts of Maimonides and Aquinas to prove that there must be such have already been discussed and found deficient;[1] and as far as I know nobody has produced any more successful ones.

Another possibility is tentatively suggested by Dr. A.C. Ewing in an article in "Religious Studies":[2] that the ultimate explanation for the existence of a necessary being (and hence of the universe) is an explanation in terms of values. God may necessarily exist because it is supremely good that He should do so. Such a view clearly has many advantages for the theist; but its difficulties are equally clear. Explanation in terms of values is normally also explanation in terms of purpose (things do not <u>happen</u> because they ought to, but sometimes people <u>do</u> them because they ought to). But the existence of the Ultimate Explanation cannot be the result of anyone's purpose, for that someone would himself <u>be</u> the ultimate explanation, or part of it.

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1. V.sup.pp.99 ff.

2. "Two 'Proofs' of God's Existence", in "Religious Studies", I, i, pp.29 ff. (esp. pp.34-7).

(God is sometimes said to will His own existence, but even if He does, that is not the explanation of His existence!) And the only alternative seems to be to say that there is a basic necessity that the best possible being should actually exist. If this is so - and if we are to avoid the Ontological Argument, which Dr. Ewing rejects - it must be a strange and unique sort of necessity. Doubtless the existence of a Necessary Being <u>is</u> a strange and unique sort of necessity. But to make it a necessity of value seems to make it even stranger than it need be.

More promising is the suggestion that the existence of God may be necessary in the sense that its assertion is a synthetic but necessary proposition. This would certainly avoid the criticisms of Smart and Flew, who hardly consider the possibility. It has however been considered and rejected, for different reasons, by Professors Penelhum and Plantinga.[1] Penelhum's reason is simply the difficulty of explaining how a synthetic truth <u>can</u> be necessary. It is certainly difficult, and I agree that the Kantian solution will not help the theist; but if (as I believe) there quite definitely are synthetic but necessary truths, difficulty in explaining them will not prove their unreality.

Plantinga's points are more important. Firstly, although other

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1. T. Penelhum, "Divine Necessity" ("Mind", 1960): A. Plantinga, "Necessary Being" (from "Faith and Philosophy"): both reprinted in Burrill, "The Cosmological Arguments", pp.125-161.

propositions supposed to be both synthetic and necessary can be denied without actual self-contradiction, to do so is plainly absurd - which is certainly not the case with the proposition "There is a God". Secondly, they are all concerned with the relationships between possible instances of two properties: thus "Everything coloured is also extended" may be a synthetic necessary truth, but "There are coloured things" is not. And once again this is not the case with God.

The first of these two points can certainly be answered. Firstly, even analytic necessary propositions can be denied without absurdity, if they are sufficiently abstruse or difficult to prove; there is no lack of mathematical theorems that can at present be either asserted or denied with equal intelligibility. And there is no reason to suppose that synthetic necessary truths must be any more obviously true than analytic ones. There are, for instance, a number of moral problems where the truth is not universally agreed. So the existence of God might well be necessary without its being plainly absurd to deny it.

The second point is another matter. It does look as if all other claimants to synthetic-necessary status were about relationships between properties. There are possible exceptions in the case of specific instances of such relationships ("That red rose is extended" "Hitler's massacres of Jews were wicked"), but even these are not existential, and their claim to "necessity" is shaky. I think the

theist's only possible reply would be something like this:[1] "I never supposed there were any other necessary existential truths besides 'There is a God'; and the mere fact that you can't find any does not disturb me. It is perhaps possible to show that no analytical truth can be existential; all you have shown is that no synthetic necessary truth that we know of except for that which asserts the being of God is existential. Unless you are going to argue inductively from this fact, my position is unaffected; and if you are, your conclusion will be only tentative, whereas I have a much stronger argument - from the nature of Contingent Being - to show that there must be at least one necessary existential truth". There is, in fact, no proof that synthetic necessary truths must be of any particular type, and until such a proof is forthcoming the theist may consider his position sound as far as this line of criticism is concerned.

But there are other possible lines. It may be contended that, although there is no doubt a Necessary Being, this is not to be identified with the God of Christianity, or any other religion. It might be the universe itself, as Algazel and Hume suggested (ad hominem); or it might be something on the lines of Śankara's "Brahman" or Bradley's "Absolute", above and beyond God Himself.

Of the latter possibility I shall say nothing here. An essay on

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1. Plantinga's own answer is to define "necessary" as "without causally necessary conditions" - that is, in effect, he treats "Necessary Being" as equivalent to "First Cause", and our discussion of the latter notion apply.

the Cosmological Argument is not really the proper place to discuss the tenability or otherwise of absolute monism, or the possibility of identifying the Absolute of such theories with the God of religion. Certainly anyone who accepts the Cosmological Argument as leading to a belief in this Absolute is about as far removed from the Argument's usual critics as it is possible to be, even if he is not an actual ally of the theist: "If orthodox Christianity, while incompatible with Hegelianism, is nevertheless closer to it than any other religion, it is natural that Hegelianism should support Christianity against all attacks but its own".[1]

Might the Necessary Being, however, turn out to be the universe as a whole? This was noticed as a possible answer by Avicenna and al-Razi,[2] who answered in their turn that the universe could not itself be necessary and yet depend upon contingent or possible constituents for its existence; and we saw that this particular answer was inadequate. Another answer was to show that the Necessary Being must have certain qualities (notably perfection and simplicity) that were obviously lacking in the universe as a whole.[3] But this answer itself requires subdivision, according as to whether it is perfection or simplicity that is the key quality; and there is also a negative form, which would

1. M'Taggart, "Studies in Hegelian Cosmology", VIII, par.264.

2. V.sup.pp.82 and 94ff.

3. V.sup.pp.115ff.

argue that, even if we cannot tell what precisely a necessary being must be like if there is one, still we can be sure that the universe is not a good candidate for the title.

Now there are a number of a priori arguments for the perfection of God (as well as arguments against it), but our problem here is to see if this perfection follows simply from the definition of a necessary being. Accordingly, it is not open to us to try and prove His perfection from the fact (if it is a fact) that He is the cause of all perfections in finite beings,[1] not only because there may be flaws in such a proof, but because we have not yet shown that our Necessary Being is the cause of perfections in finite beings, or indeed of anything at all. If we had, there would be no need of a proof of perfection in order to distinguish the Necessary Being from the universe, for no-one, as far as I know, has ever supposed the universe as such to be the cause of perfections among its constituent parts.

An alternative approach[2] is to point out that, as there is nothing independent of the Necessary Being, it cannot be limited or restricted by anything, and therefore must be in some sense perfect. This is no doubt a queer sense of "perfect", but it is arguable that the perfection of a Necessary Being is unlikely to be very similar to that of ordinary, contingent beings. (Actually, there are of course serious problems in

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1. Cf. e.g. Leibniz, "Principles of Nature and Grace", sect.9; Aquinas, S.Th.I, 4, ii.

2. Cf. e.g. Leibniz, "Monadology", sects. 40-41.

the whole notion of absolute perfection, but we can let that pass here.) In any case, this perfection of unlimitedness is clearly not possessed by the universe. The trouble is that we have already, in defending the possibility of there being a Necessary Being at all, undermined this particular argument. For we had to argue that there are such things as synthetic but necessary truths. Now if this is so the Necessary Being is limited. He cannot create - or, it cannot contain - anything that is coloured but unextended; nor any action that is both a pointless infliction of pain and a moral duty; and so on. And as we do not know how many such synthetic necessities there are, we cannot define the limitations of the Necessary Being, nor can we rule out a priori the possibility of its turning out to be the universe as a whole rather than God.

Is there, then, a more hopeful approach based on the simplicity of the Necessary Being? This is dangerous ground from the point of view of theological orthodoxy, it may be: there are difficulties for a Trinitarian in denying that God is in any sense composite, and we have already seen that even in Islam orthodoxy tends to separate God's attributes from His essence.[1] However, for our present purposes we may set such considerations aside. Can it be established that a Necessary Being must be utterly simple?

I think a possible pattern of argument for this simplicity might

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1. V.sup.p.117; and for a similar problem in Hinduism, Ramanuja, op.cit., I,1,i (SBE pp.78 ff).

run something like this: God's existence, if He is a necessary being, follows from His nature, causes it, or is identical with it, for it certainly does not follow from anything else. Now if that nature is composite, does His existence form one of the components or not, and does it cause the other components or not? It seems that it cannot be one of the components, for "existence is not a predicate"; and it cannot cause them. For if this existence is somehow qualified - if it is some special sort of existence, whatever that may mean, the same question will arise over the relationship between it and its qualities; while if it is not, existence will presumably cause deity wherever it is found, which is not the case. Similarly, it cannot logically entail the divine attributes. Nor can it be caused by them; for they cannot cause their own existence from a state, so to speak, of pure potentiality. Nor can they logically entail it; if they did, the necessary existence would already be involved in one or more of them, and ex hypothesi it is not. Consequently, it seems, we are left with only one possibility, namely, that the Necessary Being's existence is identical with its essence, and consequently that it is absolutely simple.

But, once again, have we not already undermined this argument by allowing the reality of synthetic necessary truths?[1] If it is

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1. The same applies to the argument of (e.g.) Aquinas that composition, even of essence and existence, requires a cause. (S.C.G.I,18,5 and 22,6; S.Th.Ia,3,4.) Cf. the criticism of Algazel (p.94, supra).

necessarily (but not analytically) true that there is a Necessary Being, might it not also be necessarily (but not analytically) true that it had certain qualities? No doubt, as such allegedly necessary qualities are multiplied we shall find our position looking less and less plausible, but there seems no need to limit them to one, especially if that one is the questionable and apparently vacuous one of Existence. Once again, it looks as if our method of rescuing the idea of a Necessary Being from impossibility has prevented us from showing that the universe cannot be that Being.

Is it possible to proceed negatively, then - to show that the universe has certain qualities which surely are <u>not</u> those of a Necessary Being? I am aware, of course, that logically this is the same procedure as the last one, but practically there is a considerable difference, in that the idea of a Necessary Being may not at once suggest to us a given quality or its absence, whereas the idea of the universe may.

An obvious possibility is that of temporal limitation. <u>If</u> the universe did have a beginning, is it not clear that it cannot be the Necessary Being? A necessary proposition is surely always true, even if there is more to it than that; but if the universe had a beginning then the proposition "There is a universe" has <u>not</u> always been true. It cannot therefore be necessary, and so the universe cannot be a necessary being.

We have already had occasion to see that there are difficulties

with this sort of argument. The most obvious is that if the universe did have a beginning there was surely no time "before" that at which it began, and no time, therefore, at which it was not true that a universe existed. Another is that the "necessary universe" is presumably the whole universe, spread throughout space and time, and this is a non-temporal entity. John Smith is not a necessary being, for he began to exist at a definite point in time and will cease to do so at another. But the whole of the time series, whether finite or infinite, is adjectival to the universe-as-a-whole, and no more a hindrance to the universe's being necessary than any of its other aspects. For the same reason we must reject the suggestion that the existence of change in the universe is an indication of contingency.[1] If indeed it were possible to show that the universe cannot be regarded as a whole at all, as has been suggested,[2] this line of thought would be ruled out - as would be the whole idea of a necessary universe. But the only reason advanced, as far as I know, for denying that the universe can be treated as a whole is that it is not self-explanatory; and though this is no doubt true, it hardly seems an adequate proof.[3]

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1. Cf. Thompson, "A Modern Philosophy of Religion", pp.312 ff.

2. Taylor, in "Essays Catholic and Critical", p.53.

3. It should be noted that we are not dealing here with the sort of argument against the world-as-a-whole advanced by Laird (v.sup. pp.243-4). That denied the unity of the world over against its component parts; the present suggestion denies the completeness of the world without its Creator.

These aspects, then, of the universe are no more a hindrance to its necessity than any others: no more, and no less. We have come round, by rather a devious route perhaps, to the same point that was made when we discussed the possibility of an uncaused universe. We saw just now that it was not possible to prove the simplicity of a synthetically necessary being. But if it is claimed that this being is to be identified with the universe, we shall have to suppose that it (the being) is not only not simple but immensely - perhaps infinitely - complex: the most complex thing there can possibly be. Indeed, shall we not have to hold that all true statements about the universe are necessary, as suggested by Hume's Cleanthes?

There are two possible answers to this. One is, of course, to agree: the universe is indeed necessary, and so is everything in it. Such is the belief, I take it, of all absolute monists; and though there are strong objections to absolute monism, it is certainly (as far as this form of Cosmological Argument goes) a valid alternative to theism. Nor, of course, is such a belief confined to absolute monists: it is available to anyone willing to accept the consequences. These consequences seem to me to include the absence of free will (in matters of rational as well as moral debate) and the rendering very doubtful of scientific method. For it is certain that induction can <u>not</u> be applied in some necessary systems, notably the series of natural numbers; and this might also be the case in a world governed by metaphysical necessity. This is uncertain; but I do not think the

point about free will is. I am therefore myself prejudiced against such an answer.

An alternative would be to adopt the position suggested as logically an answer to the arguments of Avicenna and al-Razi, namely, that the existence of some universe is a synthetic necessity, but not that of any particular sort of universe. I do not know of any philosopher who has in fact maintained this position, but must confess that I can see no obvious self-contradiction in it. Nevertheless, I feel it has a certain improbability. We are once again in the position reached in the First Cause argument; it is claimed that the universe, in so far as it is this universe and not some other, is uncaused. And the same drawback still applies - that surely so complex a thing cannot be uncaused in respect of its nature any more than of its nature-plus-existence. It might perhaps be necessary; it seems wildly improbable that it could be just "spontaneous" brute fact.

There is, however, a third way to attack the argument from contingency, which neither identifies the Necessary Being with something other than God nor seeks to deny its possibility on a priori grounds, but does deny that there is any good reason to suppose that there is such a Being. This is, I think, the nerve of the criticism advanced by Lotze:[1] he himself presents his case as directed against the whole idea of a necessary being, conceiving necessity to be always

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1. "Microcosmus", ix,4 (E.T.pp.664-6).

conditioned necessity, but it retains force even if this be mistaken. Basically, he is arguing that the Cosmological Argument can only reach a being that "simply is, and simply is what it is". "It cannot of itself attain to the religious conception of a God... and it is not even able to establish the unity of this Unconditioned." All we can get to from contingency is the notion of something that is not contingent; but this need not (Lotze himself would say "cannot") be necessary. It might be just brute fact - or facts. Conceivably one might get from the notion of a Necessary Being to that of a God, especially if, as Lotze suggests, "necessary" here is really a value-word more than anything else. But how do you get to God simply from a brute-fact being? And does not this apply also to the First Cause variety of the Argument? It would seem possible that there should be several beings of the same metaphysical status as the First Cause of our own universe. Perhaps some created universes of their own, and other did not; some Buddhist cosmologies have come quite close to this view. Again, we supposed that it was of some use to compare the generation of the universe to a free decision of a will; but might we not equally well have compared it to an impersonal but uncaused event like the disintegration of a radioactive atom? Might not the world be perpetually breaking away from the First Cause, without being deliberately willed by it? and is not a theory very like this to be found in the "emanation" theories of Neo-platonism and the Arab philosophers?

This criticism seems to me to be decisive from a logical point of view. I can see no compelling reason to believe in a Necessary Being; the nearest approach would be the need for an intellectual satisfactoriness about the sum of things greater than that achieved by the postulation of an uncaused First Cause, which is not strong enough. And if the Unconditioned Being or First Cause is merely unconditioned and not necessary, I do not see how to prove that he or it is God. The theist's only real hope seems to be something like this: If the Unconditioned Being, or First Cause, is <u>not</u> God, what can it possibly be? There are quite strong reasons for denying that it is the universe or a monist Absolute; there are no strong reasons <u>for</u> believing in a multiplicity of independent creators, or in impersonal emanations from a One: and has any other candidate for First Causehood ever been so much as suggested? Whereas the God of monotheism is usually believed, even by those monotheists who do not accept any form of cosmological argument, to fit such descriptions perfectly - to <u>be</u> the First Cause and the Unconditioned Being. This does not mean that they are right; but if it can be shown that probably some sort of First Cause does exist, theistic religion becomes more probable too. The Cosmological Argument cannot stand alone, it seems; perhaps not so very many of its advocates have supposed that it did: but it may form a strong part of a general theistic argument.

This is not, I fear, much of a conclusion to come to, nor much of a result to emerge from a line of reasoning for which such large

claims have been made and against which such strong criticisms have been launched. But solid achievements in philosophy and theology are rare, "as unalloyed gold to the other minerals and the pure pearl to the other jewels"; to have established even a probability is as solid an achievement as most. And this, I think, the Cosmological Argument has done.

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1. Includes the text of Algazel's "Tahafut al-Falasifa".

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