THE DIALOGUE BETWEEN AL GHAZĀLĪ AND THE PHILOSOPHERS ON THE ORIGIN OF THE WORLD

PART I

Few writings in the history of philosophy reflect such an impression of exciting intellectual combat as the celebrated debate of the two *Tahāfuts* on whether the world is eternal in the past or originated. [1] It is also one of the central texts of Islamic philosophy. But the argument follows a somewhat devious course. It seems worth while to present within a short compass its main lines with some general comments.

The debate in its final form is contained in Ibn Rushd's *Tahāfut al-Tahāfut*, in the first and longest of the twenty discussions of the book. [2] But in reality the discussion includes three distinct layers of thought, contributed by the best philosophic minds of Islam over a period of two centuries and a half.

(a) The two earlier Islamic philosophers, Al-Fārābī (d. A.D. 950) and Ibn Sīnā (d. 1037), had upheld the Aristotelian position that the world as a whole was eternal in the past. Their conception was that matter has always existed, though continually taking different forms. They did not deny that God was an eternal Creator (*khāliq*). But by this they meant that He constantly combines matter with new forms, not that He made the world out of nothing at a definite time in the past. In the same way God "creates" time, but it has no beginning. The arguments of the two philosophers incorporated many elements drawn from Aristotle and the later Greeks, and are themselves incorporated in Al-Ghazālī's statement of them in *Tahāfut al-falāsifah*. Although Al-Ghazālī was concerned to refute Al-Fārābī and Ibn Sīnā, he took care first to understand their positions and present them in a plausible manner.

(b) The next layer is Al-Ghazālī's answers to the Islamic philosophers, contained in his *Tahāfut al-Falāsifah* [3], completed in 1095. Al-Ghazālī's view is that both the world and time were created by God out of absolutely nothing, at a moment in the past which is at a finite interval from the present. Thus for him *khalaqa* means the same as *aḥdatha*:

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[1] This first article is a modified version of a lecture given at the School of Oriental Studies, American University at Cairo. The second article deals with the third and fourth 'proofs'. Both were written while the author was the holder of a Ford Foundation Fellowship. The Foundation is not responsible for the contents of the articles.

[2] Ed. M. Bouyges (Beirut, 1930), pp. 4-117. The abbreviation *TT* refers to this edition. Eng. tr. S. van den Bergh (London, 1954), I, pp. 1-69, from which I shall quote. The translator furnishes page numbers of *TT* in the margin.

[3] Ed. M. Bouyges (Beirut, 1927), pp. 21-78. Referred to as *TF*.

i.e. the Creation of the world was an act of origination, of matter as well as of forms and time. This is in accordance with the apparent meaning of the Qurʾān, at least as it was understood by the *Mutakallimūn*. But Al-Ghazālī does not attempt to prove his own view. His object is only negative, to show that the philosophers have not proved theirs. Speaking sometimes on behalf of the *Mutakallimūn* and sometimes for himself, he brings out inconsistencies or shows the lack of force in the philosophers' arguments.

(c) Ibn Rushd's *Tahāfut al-Tahāfut* was written at some time after 1180. In it he repeats the first two layers almost in their entirety, and gives his own criticisms paragraph by paragraph. He represents a third viewpoint, for his primary object is to show that Aristotle, if not the Islamic philosophers, had proved the eternity of the world (and of time). Thus he has several ways of answering Al-Ghazālī. Sometimes he vindicates the arguments of Al-Fārābī and Ibn Sīnā, supporting them with fresh statements of his own. Again he argues that Al-Ghazālī has misunderstood them, or criticizes these philosophers themselves, saying that they have misunderstood Aristotle (in which case his attacks are irrelevant because they do not touch the real proofs for the philosophic position).

The following summary of this complex debate covers the four proofs of the philosophers in the order of Al-Ghazālī and Ibn Rushd. Within each proof the precise order of the text is changed when ever a clearer view can be obtained by simplification or re-arrangement. Ibn Rushd is not distinguished from the earlier philosophers except where they hold different views. Questions of method are discussed at the end.

The FIRST PROOF of the philosophers for the eternity of the world depends on the Aristotelian concepts of cause and will. Every change that takes place must have a cause to determine its occurrence, and this cause must be the action of some external force, other than the object changed. A ball is moved by a racket, the racket by someone's arm pressing it, and so on. The rule applies not only to physical changes but also to acts of will and changes of mind, and not only of man but of God as well. Thus if God wills a change to occur, this can only be because some new factor has determined Him to will it.

Now suppose that the world as a whole had come into existence in time and not existed from all eternity. Such a change from non-existence to existence would be quite inexplicable on the above principles. It could not have occurred owing to physical causes, for *ex hypothesi* none yet existed. And the world could not have arisen from an act of will by God, for this too would have had to be determined by some external factor leading Him to change His mind, and no such factors outside His mind yet existed. But even if, for the sake of argument, we suppose that there was such a determinant of the world

[4] *TF*, pp. 23-50; *TT*, pp. 4-63.

at a finite point in time, we still have to ask, what determined this determinant to arise now and not earlier? If we suppose a prior determinant the same question can be asked about it, and we are led to suppose an infinite series of external causes prior to the world and other than God, which contradicts all established notions about the world and God. Thus there are only two alternatives possible: either nothing ever arose from the Eternal Being (God)—and this is not the case as we know that the world did arise—or the world must have been in existence from all eternity. This last gives rise to no difficulty, because there is no change to be explained. The world is an eternal emanation from the divine essence, and its existence needs no explanation but the nature of that essence.

The difficulty of a non-eternal world can be stated in another way, if we view it from the side of the cause, God. Suppose God existed without the world at one time; then nothing could ever have acted upon His will to determine it to create the world, for, *ex hypothesi*, there are no external factors in existence, and He would have remained changeless and self-sufficient forever without a world. To express it informally, if He had not created it from the very beginning He would have lost His only chance of creating it ever. But we know for a fact that He created it, therefore His creation must be eternal.

In Al-Ghazālī's answer, and the retorts of the philosophers, the discussion revolves around the nature of the will. This is inevitable because the kind of cause of the world that is accepted by both parties is the eternal Will of God. Al-Ghazālī raises two objections, aiming to show that a beginning of the world in time *is* possible.

(1) God may have decreed or willed *from* eternity that the world should arise at a certain time.[5] This is the Ashᶜarī view. According to the Qurʾān God has but to say to a thing: "Be, and it is."[6] So He said to the world, "'Be'—but not yet." Then the world came into existence at the time appointed. The philosophers answer: This Ashᶜarī view is impossible, because an act of will is a complete cause of an event, and when once the will acts the event must follow immediately unless there is an obstacle. In the case of God willing the world there is no obstacle, so any delay would be inexplicable.

To this the Ashᶜarites can reply: Perhaps God made the origination of the world depend on a certain condition, namely the lapse of a certain time, as a man can divorce his wife in Sharīᶜah law as from a certain day in the future. Here Ibn Rushd objects that there is no sound analogy between conventional and natural causation: i.e. we can in advance make a conventional fact legally effective from a certain future time, but an agent cannot cause a natural event at a future time.

At this point Al-Ghazālī raises an objection of method on behalf of

[5] The discussion of the first objection covers *TF*, pp. 26-46 and *TT*, pp. 7-56.
[6] xvi, 39 in the Cairo edition.

the Ashᶜarites: the philosophers assert it is impossible to connect an eternal Will with temporal production; but how do they know this is impossible, especially for the Will of God? There is nothing self-contradictory in supposing such a cause with a delayed effect (even without supposing any obstacle). If they claim to know it by intuition, why do their opponents not share this intuition? [6a]

The philosophers' next line of attack was against the Ashᶜarites "time bomb" theory of creation. Al-Ghazālī expresses it for the philosophers thus. One time would be as good as another for the creation of the world, so it is impossible to find a differentiating principle (*mukhaṣṣiṣ*) for God's choice of a finite time for the creation. A differentiating principle is necessary because it is impossible to imagine a choice between two completely similar things, without any differentiating reason for the preference. The same is true of the Divine Will as of human will.

The answer of Al-Ghazālī to this is, that will is essentially that which differentiates one object of choice from another. We need not ask a reason for its choice. Free will is just that which can choose between two similar alternatives. The argument is conducted on two levels: human and Divine will. On human will, Al-Ghazālī gives the classic kind of example: "Suppose two similar dates in front of a man who has a strong desire for them, but who is unable to take them both. Surely he will take one of them through a quality in him the nature of which is to differentiate between two similar things." It is absurd to say that "the man will remain forever hungry and perplexed, looking at the dates without taking one of them, and without a power to choose or to will, distinct from his desire." [7] Ibn Rushd's reply to this is that the real choice in such a case is not merely between one date and the other, but between taking either one and leaving both; and there is a clear reason for taking, namely hunger.

At this crucial moment in the argument some comments will be in order. Van den Bergh says that Ibn Rushd has missed the point completely. Certainly the will is going to choose one or the other of the dates rather than go hungry, "but the question is what determines its taking the one rather than the other." [8] But Ibn Rushd has at any rate indicated a very relevant factor in the situation, namely the preponderance of a desire to eat. From this it can be inferred that the man will take the largest possible date as soon as possible, and if they are of equal size he will take the one that presents itself at the moment when that fact is discovered.

The argument on Divine Will follows a parallel course. Al-Ghazālī gives some examples of features of the cosmos which might have been different without being either better or worse: e.g. the spheres of the

[6a] This question of method will be discussed more fully in the second article.
[7] *TF*, p. 41; *TT*, p. 37.
[8] 23.1 (i.e. note 1 to p. 23 of his translation).

Ptolemaic heaven might all have moved in opposite directions, from East to West instead from West to East, and vice versa. This would make no difference so long as all movements are reversed, leaving all relations between spheres as before. Therefore, there is no reason for God's choice of one direction rather than the other.

To these examples, Ibn Rushd replies that if we study science closely enough we can always find that the existing condition of the world is superior to the alternative, in all cases. God has acted wisely for the best. However, Ibn Rushd does not justify these assertions clearly in specific cases, and this part of his reply seems to be weak.

But in another place [9] Ibn Rushd follows the same train of thought as on human will. He says that what God chose between was in the first place the existence or non-existence of the world. Here there is no choice between similars, and he chose the better, namely existence of the world. This is as far as he goes, but we could follow it up in exactly the same way as with human will. Why did God choose to move the highest sphere from East to West? Because it was the direction that occurred first after He saw that the direction was indifferent, and He wanted to get on with His good world.

We may conclude, then, that if Divine Will is like human will Ibn Rushd has gained a slight advantage in this argument. This would mean that God must have created the world from eternity, because He saw from eternity, immediately, that the existence of a world such as ours was better than its non-existence.

But then all this argument falls to the ground if we believe that there is no analogy between a Divine Will and a human will. Many possibilities then arise, e.g.: God can cause a delayed effect, without any reason or condition. Or, God can act for the worse if He wishes. Or, God can choose arbitrarily between equals. Or, He needs a determining reason, but such a reason springs up in His mind after many reflections. (This last suggestion is probably un-Aristotelian, for it supposes an internal cause of movement).

The question of the eternity of the world cannot be solved from considerations of the Divine Will, for we do not know enough about the nature of that Will, though we may guess a great deal.

(2) Al-Ghazālī has a second objection [10] to the philosophers' proof of the eternity of the world on grounds of causality. This objection consists of an *argumentum ad hominem*, as follows: The philosophers have to admit that an eternal Being can cause temporal beings, in the case of new events happening in the world. For their argument for the first mover is based on the impossibility of an infinite chain of causes of these events. For example, what causes the earth to revolve round the sun?—the force of attraction. But the operation of this force on

[9] *TT*, pp. 38-39.
[10] *TF*, pp. 46-50; *TT*, pp. 56-63.

the earth is only necessary if the earth is a body with weight, and so on. It is not necessary in itself. So what causes bodies with weight to be attracted to each other? Perhaps we can find some more general laws of the universe. But these in turn will not give us the element of unconditional necessity, which was supposed by Ibn Sīnā and others to be needed for a complete explanation. The whole chain of causes is, therefore, conditional, unless we assume the existence of an ultimate First Cause which is "necessary in itself." Leaving aside the fallacy of this argument, we are only concerned with its conclusion as held by the philosophers: namely, that there must be a necessary eternal Being as the ultimate cause of temporal events. This cause is not merely at the beginning of time, it must be acting continually to create or cause every event in time; for the chain of causes mentioned in the above argument is not the temporal series, but the logical series from more particular to more general, all in operation simultaneously. Al-Ghazālī then argues: if the philosophers admit such a cause for each event *in time*, why cannot they admit it for the world as a whole *in time*; i.e., why cannot God cause the whole world to arise at any moment He wills?

Ibn Rushd protests that Al-Ghazālī has misinterpreted the way in which the eternal Being causes any temporal event. Each event has its accidental cause in an infinite series of preceding temporal beings; (such a series is apparently possible). Only the whole eternal series is caused essentially by an eternal Being acting upon the whole. Thus the eternal Being is not a cause of temporal beings *qua* temporal, and so the philosophers have not admitted that God can act directly in time.

Further on, however, Al-Ghazālī makes a more careful statement of the philosophers' theory of creation, which does try to avoid imputing to them a direct intervention of God in temporal events. But then he proceeds to show that their theory is unsatisfactory and fails to explain change. The philosophers link the eternal Being with the temporal through an intermediary being, the outermost heaven, which is in endless circular movement: this movement is eternal essentially, in its universal aspect, being circular and endless, but it is generable and corruptible in respect of its particular movements which are transient, always changing.

This theory was produced by the Greek philosophers to get them out of a serious difficulty: how could a changeless Being, as God was supposed to be, be a cause of movement? Movement can only be caused by another movement by its mover; but a changeless God could not stir such a movement in himself. The intermediary being's movement is supposed to follow more easily from an eternal changeless Cause, because it is itself eternal and changeless in a certain respect. But at least it moves, so that it can in turn start up all the particular movements of the world.

All this, however, is a subterfuge. The difficulty as Al-Ghazālī points out remains. For there is obscurity in the link on at least one side of the intermediary. He puts a dilemma: Is the circular movement the principle of temporal things because of its permanence (changelessness)? But how can a temporal event proceed from something because of its permanence? Or is it the principle of temporal things because of its arising anew (changing)? But what arises anew will need a cause for its arising anew, and we have an infinite regress.

Ibn Rushd says this is sophistical. The temporal proceeds from the circular movement *qua* temporal; but this process does not need a fresh cause, for it is "not a new fact, but an eternal act." [11] This is the last word in the discussion—Ibn Rushd always has that advantage. But it is still not clear how an eternally same movement (the cycle) could cause the changes in the world.

This whole argument is difficult. What of its result? It would seem that Al-Ghazālī has shown the unsatisfactoriness of the philosophic theory of change in time, arising from an eternal changeless Being, without any act of His in time. One may conclude with him that if the temporal events of the world are caused by a Creator, they must be caused by Him in a more individual fashion, and He must be able to act in time directly. And in this case there is no reason why He should not also have created the world as a whole by a direct act in time, not from eternity.

The SECOND PROOF of the philosophers (leaving aside Ibn Rushd) [12] revolves around *time*: is it eternal or finite? We may ask: how is the existence of time relevant to the existence of the world? It is so because of an Aristotelian assumption, that the existence of time depends on the existence of movement, and thus of a moving being. Aristotle says that time is the measure of movement. So if it can be proved that time is eternal, it would follow that a moving being is eternal, i.e. the world. Modern thought in general does not accept Aristotle's assumption. We think of time as some kind of framework in which movement occurs, and which is measured by movement—e.g. the day of 24 hours is measured by the movement of the sun between noon and noon. What kind of reality time has, in what sense it is objective or subjective, is a matter for discussion. But whatever it is, its existence does not depend on the actual existence of our measuring-stick of it, viz. movement in space. Perhaps the concept of time can only be grasped from *some* examples of actual movement, but when once grasped it can be understood as having an existence beyond any known actual movement. It can be thought of as a framework for possible movements. Since no limit can be set to such a framework, time cannot be conceived as finite but only as eternal. But this proves absolutely nothing about the

[11] *TT*, p. 63.
[12] *TF*, pp. 51-66, quoted in *TT*, pp. 64-97.

length of time for which the world has existed. The argument about time is thus irrelevant.

This point, however, is not taken up by Al-Ghazālī. He apparently accepts the Aristotelian assumption which ties time to actual movement. Therefore there are only two alternatives:

Either time and a moving world are both eternal. Or time and a moving world are both finite. He tries to prove that there is no reason why time should not be finite. This is not too difficult on the Aristotelian conception of time, for the existence of time is taken to be only co-extensive with the existence of a moving world, and there is no evidence that our moving world is not finite. Any extension of time beyond this world thus has no more basis than imagination, as Al-Ghazālī repeatedly says.

In fact the philosophers are in a difficulty, which starts in a contradiction in Aristotle's own thought. If time is nothing but an attribute of movement, then the only valid way to find out the extent of time is *from* the evidence of the extent of movement. But Aristotle in the *Physics* [13] shifts his ground and argues from a more natural concept of time: Whenever the world began, we can always conceive a time before it, and this time must be eternal. Then he goes on to deduce *from* this eternal time an eternal movement, because time cannot exist without movement! In other words he has reversed his own correct order of reasoning, and instead of inferring the extent of time from the extent of movement, he has inferred the extent of movement from the extent of time—an illegitimate process both on his own assumptions and on modern assumptions. The Islamic philosophers followed him in this proces. Al-Ghazālī, therefore, accepting Aristotelian time as derived from actual movement, has only to show that any extension of time beyond actual movement is purely imaginary.

Ibn Rushd, however, stands aside from this part of the argument, saying that the previous Islamic philosophers' proof is merely dialectical because it makes an assumption about God being in time. It is not obvious how his objection is relevant. For here it has been readily possible to state the main outlines of the discussion without referring to God.

The argument is carried by Al-Ghazālī to a new point, the analogy between time and space. He says: the philosophers admit that space is finite, because it is an attribute of body which is finite. So why do they not admit likewise that time is finite, because it is an attribute of finite movement? This is an *argumentum ad hominem:* But it is a good way of showing the weakness of the philosophers' position, namely that they are unable to prove the infinity of movement, though this according to their own supposition should come first before the infinity of time.

[13] Book viii, Ch. I.

Ibn Rushd does not see the soundness of the analogy, disappointingly. He confuses space with physical points, and then accuses Al-Ghazālī of making physical points analogous to time, a false analogy. The argument on time has many complications and some obscurities, which do not need to be mentioned here. The sum of the matter is that the eternity of the world cannot be proved from the eternity of time, and this is so whether we conceive time in the ordinary way or as Aristotle does—though for different reasons. The third and fourth proofs of the eternity of the world in the philosophers and Al Ghazālī's response await a second article.

University of Michigan. GEORGE F. HOURANI

SURVEY OF PERIODICALS — from p. 268.

THE U.N. EXPERIENCE IN GAZA. Hamilton Fish Armstrong. *Foreign Affairs,* New York. July, 1957. pp. 600-619. Reviews the background of the situation and comments on various lost opportunities which might have solved the Arab-Israeli impasse.

UNITED STATES TO THE MIDDLE EAST, 1945-1957. *Middle Eastern Affairs,* New York, November, 1957. pp. 385-390. Gives tabulations and figures issued by the Office of Business Economics, U.S. Department of Commerce. Total aid amounts to $ 1,398,000,000.

VIII. MISSIONS TO MUSLIMS

CHRISTIANISME, ISLAM ET ANIMISME CHEZ LES BAMOUN. P. Dublié. *Bulletin de l'Institut Française d'Afrique Noire,* Dakar. Juillet-Octobre, 1957, pp. 337-382. Traces conditions in the Camerouns from the early 19th century, when animism was everywhere, to the 1950s when Christianity is well established and Islam is making rapid progress in the towns.

REFLECTIONS OF AN ANGLICAN IN SYRIA. George Every. *Eastern Churches Quarterly,* London. Winter, 1956-1957. pp. 368-373. Describes the condition of the Holy Places in Palestine, finds that the Roman Catholics and Melkites are increasing more rapidly than the Protestants, and tells of the Orthodox Academy at Belmont.

TURKEY: A BRIDGE BETWEEN CONTINENTS. Paul H. Nilson. *World Dominion,* London. October, 1957. pp. 266-271. "It is from the West that the Turks have taken their ideas of reform; it is logical that the West should be able to satisfy their spiritual yearning" with true Christianity unhampered by materialism.

THE DIALOGUE BETWEEN AL-GHAZĀLĪ AND THE PHILOSOPHERS ON THE ORIGIN OF THE WORLD

PART II

The philosophers' third and fourth proofs of the eternity of the world are both based on the concept of possibility.

In the *third proof* [1] the argument turns around the possibility of the world as a whole. It can be stated very briefly, as follows:

Everyone must admit that at least the possibility of the world's existence is eternal; for it could never have been impossible and then become possible. But what can possibly exist eternally must actually do so, because, as Ibn Rushd puts it, "what can receive eternity cannot become corruptible" [2], i.e. have a beginning or ending.

It is not clear how this conclusion follows, until we see that the argument rests on a hidden assumption, pointed out by Van den Bergh [3] that the world as a whole is ungenerated. Now everything ungenerated is eternal, because by definition it could never have come into existence or been corrupted. In this case it can be argued: the world is certainly possible. It has also existed actually at *some* time. But if it existed at any time, it must have done so at every time, since it is not subject to generation or decay (*al-kaun wa-l-fasād*).

The assumption made, that the world *is* ungenerated, begs the whole question at issue, as Van den Bergh has shown. If we substitute "Socrates" for "the world" we can start off with the premise: "the possibility of Socrates' existence is eternal." But it is obvious that we cannot prove from this that Socrates is actually eternal.

Al-Ghazālī makes this objection, saying quite correctly that eternal possibility does not imply eternal actuality, "for reality does not conform to possibility but differs from it." [4] He does not see the hidden assumption, that the world as a whole is something ungenerated. Even if he had seen it, he would not have accepted it as a proved fact.

The *fourth proof* [5] concerns the relation of possibility to matter, inside the world. The philosophers' argument can be stated as follows. While the world as a whole is ungenerated and uncorrupted, the world in detail is continually changing. Change means the combination of fresh forms in matter, making new things actual. Now every new combination was eternally possible. But possibility requires a substratum, matter, in which the changes of form take place. Therefore this substratum, matter, must also be eternal.

This is the essence of the philosophers' argument. Here a criticism may be offered, which does not occur in Al-Ghazālī. It seems to me

[1] *TF*, pp. 66-68; *TT*, pp. 97-99.
[2] *TT*, pp. 97-98.
[3] 57.1.
[4] *TF*, pp. 67-68.
[5] *TF*, pp. 68-78; *TT*, pp. 100-17.

that the philosophers, including Ibn Rushd, confuse logical possibility with potentiality. Then they compose an argument by selecting the most favorable feature of each of the two concepts, as follows: every possibility is eternal; matter is implied by every potentiality; therefore matter is eternal.

In the syllogism, stated thus, it is obvious that the supposed middle term is ambiguous, that is to say there is no real middle term. If we take each of the two concepts and apply it exclusively in the syllogism, we can see that it does not lead to the desired conclusion.

First, let us take possibility in its correct logical sense. We say that any state of affairs is possible if its existence is not logically impossible owing to self-contradiction or some other logical absurdity. In this sense, the major premise is correct, for the existence of each changing thing in the world was always a possibility. But no substratum of actual matter is implied by this logical possibility. Therefore, the eternity of matter does not follow.

Now consider the other alternative, potentiality. Here the minor premise is correct, that matter is implied by every potentiality; for in the Aristotelian system potentialities belong to actually existing matter. This boy has the potentiality of becoming a man, but not that of becoming a snake. In the same way everything has its fixed and limited potentialities, according to the nature of its species. What the potentialities of each thing are can only be discovered by empirical observation of the development of real things. So potentialities are a kind of attribute, which can only be spoken of in connection with real things. Their existence implies the existence of some matter, in the sense that they only exist where matter exists. But if we turn to the major premise and say "Every *potentiality* is eternal," we can now see that there is no justification for such an assertion. Indeed potentialities are peculiarly temporal, for they belong to instances of species only at a particular stage of development. Therefore once more there is no proof of the eternity of matter.

Al-Ghazālī does not see this ambiguity in the philosophers' argument, nor does Ibn Rushd. Their discussion revolves around logical possibility only, and deals with the ontological status of possibility. Is it subjective or objective? This is a very difficult question. The discussion of it in *Tahāfut* has great intrinsic interest, but no relevance to the question about the world. For even if we accept the philosophers' view, that possibility has some kind of objective existence as an object of knowledge, still this would prove nothing about the *actual* existence of the world, which is the point at issue.

Our conclusion from the two arguments from possibility must be that nothing can be proved about the actual from the possible. This is inevitable because the nature of the actual can only be known from evidence, and the possible provides no evidence. The logically possible always offers at least two alternatives, for if "A is B" is possible, "A

is not B" must also be possible; but logic provides no way of choosing between them and deciding which is true. Such a decision can only come from actuality, by observation and inference. In the issue before us, both an eternal world and a finite world are possible; therefore no amount of reflection about possibility will tell us which is actual.

From this survey the four proofs of the first discussion of the *Tahāfuts*, our conclusion is that in none of them have the philosophers made out their case for the eternity of the world. This is partly, no doubt, due to the superior skill and clarity of Al-Ghazālī, and the somewhat disappointing performance of Ibn Rushd in this debate. But there is a more essential reason, connected with the methods of the two parties (the philosophers and Al-Ghazālī). We now examine their theories of knowledge and their methods of aiming at the truth about such questions as the origin of the world. We shall confine ourselves first to discussing their rational methods, and then mention their views on revelation at the end.

For the philosophers, the truth about the world can be deduced by demonstrative arguments (syllogisms) which make use of sound premises. And the premises can be known in two ways: by observation of the world, which gives us empirical knowledge, and by intellectual apprehension of primary axioms, which gives us intuitive knowledge. Examples of such axioms, in the Aristotelian tradition, are: every event must have a cause; causes produce their effects necessarily; the cause cannot be identical with that part of the object which is moved or affected.

These axioms are not analytic statements, known to be true by mere analysis of language. But they are thought of as no less ultimate truths, which cannot be proved or disproved by further argument. The test of their certainty is that all men of sufficient understanding and education admit them, just as anyone with these qualities admits mathematical truths. Consequently, if we accept the axioms of the Aristotelian system, together with its empirical knowledge or beliefs, we should be able to work out for ourselves the very same conclusions about the world — provided there are no fallacies in the reasoning on either side.

The philosophers do not admit imagination as a source of truth. A good imagination is a great help to a man, in enabling his intellect to grasp quickly the relevant connections between facts and "see the middle term." But the imagination of objects or of relations between them is in itself no guarantee of the reality of the objects or the relations.

When we come to Al-Ghazālī, we have to get rid of a false impression which has become traditional concerning his attitude to reason. This is the idea that Al-Ghazālī mistrusted reason. Such an idea can only lead to confusion about him, for one may ask: "What was he doing in his *Tahāfut*?" To say that he was carrying on an activity which he rejected later, when he became a Ṣūfī, will only land us in worse confusion when we read his later books, for many of them are just as much works or reason as *Tahāfut al-Falāsifah*. His whole view of reason can only be learned from a careful study of his biography and doctrines. Much could be said on this subject, but here comment will be confined to his *Tahāfut*.

The fact is that Al-Ghazālī accepts in principle all the rational sources of knowledge accepted by the philosophers: observation, axioms and reasoning. He also rejects imagination, emphatically. The difference between him and the philosophers, in the sphere of rational knowledge, is that he rejects much of their particular reasoning as fallacious or contradictory, and some of their most important axioms as not known by any intuition. Their faulty reasoning might no doubt be regarded as remediable. But the weakness of their axioms is more serious; it leads him to conclude that the philosophers' positions on the origin of the world, and other questions, cannot be proved by direct rational methods. Reason is valid as far as it goes, but it does not cover as much ground as the philosophers think.

The disagreement of method, therefore, between the philosophers and Al-Ghazālī resolves itself in the main in to this: that the philosophers place more reliance on intuition and so accept a greater number of axioms of reason. What happens when they assert that something is known by intuition and Al-Ghazālī denies it? An example occurs in *Tahāfut al-Falāsifah* pp. 29-30. The philosophers have asserted that it is impossible to see in an eternal Will (of God) a cause producing the world in time, after a delay and not from eternity. Al-Ghazālī answers, on behalf of the Ashᶜarites, that such an assertion of impossibility must either be proved by argument or known by intuition, by a direct necessity of thought. If it is proved, the philosophers should bring forth their argument. If it is known by intuition, why do their opponents the Ashᶜarites not share this intuition? Ibn Rushd believes that the assertion in question is derived from the axiom "Effect follows cause immediately," and he answers Al-Ghazālī's methodological objection by saying: "It is not a condition of objective truth that it should be known to all." [6] But this as it stands is an unsatisfactory answer. For, as Van den Bergh points out, [7] to Aristotelians the test of the objective truth of first principles is their universal acknowledgement. Perhaps Ibn Rushd is thinking of the well-known qualifications of the principle of universal acknowledgement: that the judge of philosophical truth must have natural intelligence and an intellectual education. Elsewhere he says that when someone denies a truth that is certain and evident, it must be because he is unintelligent or uneducated. [8] But the answer is still unsatisfactory; for a man like Al-Ghazālī himself, for instance, had all the required qualities and could understand

[6] *TT*, p. 13.
[7] 7.1.
[8] *TT*, pp. 29-30.

the philosophers' assertion perfectly well; but he could still reject it.

The fact is that when such a conflict arises about a supposed intuition, it is no use saying dogmatically: "My intuition is sound and yours is unsound," or "I am qualified to understand and you are not." We should be able to obtain agreement from every reasonable judge. If we cannot, then it is well to look at the supposed intuition again more closely and ask whether it really is one.

In modern times we have learnt to do this more and more, under the influence of Hume and Kant in particular. Hume showed that every sensible statement can only be justified as true in one of two ways: either we know it analytically, by simply understanding the meaning of our language, as in definitions; or it must be justified ultimately by some empirical observation. Thus we can learn nothing about the real world by supposed axioms of reason. For instance, if someone asserts: "Every effect follows its cause by a logical necessity," we must ask: "How do you know that?" If he answers: "I know it because it is implied in the notions of cause and effect as I understand them," we must tell him: "You may understand concepts as you like, but you cannot show that this kind of cause and effect exists in the real world, for you cannot point out one 'necessary connection' between observed events." Necessary connections exist primarily between statements or propositions, when one logically implies another. We can say loosely that an event implies another, but it can do so only in combination with a natural law, and all laws are known only empirically, not as logically necessary. Kant did not accept Hume's sweeping theory entirely, but he was aware of the difficulty posed by synthetic statements about the world which appear to be known only *à priori*, not by any empirical evidence. In the case of assertions about the origin of the world, he showed in the "Antinomies of pure reason" that opposite assertions can appear equally convincing if we follow the old dogmatic methods of starting from supposed axioms of reason; and he gave the arguments on both sides, "proving" both the eternity of the world and its beginning in finite time. [9]

The conclusion we have to draw about the world is then as follows. Let us take the statement "The world is eternal." The writer does not question that this statement has a meaning, as some people would (the logical positivists). It it taken here as meaningful, also as synthetic: i.e. "eternal" is an attribute not contained in the concept of "world." I then say to myself: the opposite statement, "The world had a beginning in time, at a finite interval from the present," is equally meaningful (and synthetic). I can conceive either statement as being true. How then am I to decide which is really true? I have absolutely no empirical evidence, since prehistory, geology and astronomy do not take us back to a known beginning of all things. The arguments which employ

[9] The first antinomy, in *Critique of Pure Reason*, 2nd ed., pp. 454-61.

axioms of reason are also worthless, because when we examine the axioms we find that they are either (a) analytic statements giving us no knowledge about the empirical world, or (b) synthetic statements about the world which have to support from empirical observation, the only kind of support that can justify such statements. Any claim that such axioms are known by intuition simply breaks down when someone denies the intuition, and claims the opposite assertion as conceivable and possibly true. Thus we lack any rational way of finding out whether the world is eternal or of finite duration, though it must in fact be one or the other.

Coming back now to the Islamic philosophers and Al-Ghazālī, we can see that the former followed the somewhat dogmatic tradition of Aristotelian philosophy — dogmatic at least in the sense mentioned, of acceptance of a number of axioms of reason over and above the principles of logic. We have seen how each of the four proofs contains at least one such axiom as an essential part of its argument. In the first proof, there is the principle of determination of all wills by knowledge of the good (the principle of "sufficient reason"), also that of immediate action of all causes. In the second there is the principle that time implies actual movement. In the third, there is the concealed assumption that the world as a whole must be ungenerated. And in the fourth, there is the confused assertion that possibility requires a substratum of matter. Thus the philosophers were vulnerable to the kind of attack made by empiricists: How do you know this? What can you say to people who claim an opposite intuition? We have seen Al-Ghazālī making just this kind of attack. He did so not because he denied the possibility of axioms of reason — he did not draw the full conclusions of post-Humean empirical philosophy. But he was freer than the philosophers to deny particular axioms, because he was not bound to Aristotelianism, emotionally or by education. Thus it seems clear, to the writer at least, that Al-Ghazālī's position was stronger on grounds of method.

It now remains to outline in a summary fashion the attitudes of the parties towards revelation, in order to complete the picture of the sources of truth.

For the Islamic philosopher, Scripture is of course a source of truth and not of falsehood. Everything in it is true, when it is correctly interpreted, and the major truths about the world are all contained in the Qur'ān or Traditions in one place or another. But all these truths can also be known independently by the rational methods described above, and these methods also produce them in a direct and scientific form, and no doubt with more detail. In Scripture the literal meaning often conceals the scientific truth from the masses. This is the position of Ibn Rushd, at least about theoretical science, with which we are now concerned.

For Al-Ghazālī, Scripture holds a more essential place as a source

of truth. Rational sources leave large gaps in our knowledge of the world, and some of these gaps are filled by revelation, the Qur'ān and Traditions. They tell us truths about the world that we could never have dicovered for ourselves, e.g. that the world was created by God at a past time, a finite number of years ago. And it is not an irrational act of faith to accept Scripture as a sound source of knowledge: there are rational grounds for believing that the Qur'ān, in particular, is a divine revelation and therefore true. It is therefore rational to accept the individual statements of the Qur'ān on the basis of our confidence in the whole, just as a child who trusts his parents believes that their orders are right even when he does not see their justification for a particular order.

A third position is possible, that of some modern empiricists who hold that neither axioms of reason nor Scripture are valid sources of truth, at least about such questions as the origin of the world. According to this view there is no way at all of knowing the answer to the question we have been discussing. We have seen that there is common ground between Al-Ghazālī's position and such modern empiricism, but their final conclusions about the world are widely divergent because of their different views of revelation. But perhaps there are other empiricists who also accept revelation, and thus come closer to Al-Ghazālī's position.

Behind the attitudes of the Islamic philosophers and Al-Ghazālī there are different emotional attachments: of the philosophers to Aristotle and the rest of their philosophic heritage; of Al-Ghazālī to the Scriptures of Islam and the traditions of Islamic learning. These attachments provide much of the background which helps us to understand why they held to their philosophic positions. But this is not the place to enter into psychological history. Ostensibly the debate in the *Tahāfuts* is conducted by direct arguments without reference to Aristotle or revelation as commanding authorities. This is possible because the philosophers think they can prove their theses by reason, and Al-Ghazālī thinks he can undermine them by reason alone without reference to Scripture.

University of Michigan,
Ann Arbor, Michigan

GEORGE F. HOURANI