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

In the third proof 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," 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 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." 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 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

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1 TF, pp. 66-68; TT, pp. 97-99.
2 TF, 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 Tahāfuṭ 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 Tahāfut, 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 Śūfi, 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 Ashʿarites, 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 Ashʿarites 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.” But this as it stands is an unsatisfactory answer. For, as Van den Bergh points out, 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. But the answer is still unsatisfactory; for a man like Al-Ghazālī himself, for instance, had all the required qualities and could understand

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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

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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 sub-stratum 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 Qurʾān 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 Qurʾān and Traditions. They tell us truths about the world that we could never have discovered 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 Qurʾān, in particular, is a divine revelation and therefore true. It is therefore rational to accept the individual statements of the Qurʾān 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.