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NEW SERIES XIX

AVERROES'
TAHAFUT AL-TAHAFUT

(*The Incoherence of the Incoherence*)

TRANSLATED FROM THE ARABIC
WITH INTRODUCTION AND NOTES
BY

SIMON VAN DEN BERGH

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ELIAS JOHN WILKINSON GIBB

and to promote those researches into the History, Literature, Philosophy and Religion of the Turks, Persians and Arabs, to which, from his Youth upwards, until his premature and deeply lamented Death in his forty-fifth year, on December 5, 1901, *his life was devoted.*

تِلْكَ آثَارُنَا تَدُلُّ عَلَيْنَا * فَانْظُرُوا بَعْدَنَا إِلَى الْآثَارِ

"These are our works, these works our souls display;
Behold our works when we have passed away."

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PREFACE

I wish to express my warmest thanks to the Trustees of the Gibb Memorial Fund for making the publication of this work possible, and especially to Professor Sir Hamilton Gibb, who asked me to undertake the work and who has not only read the proofs but has continually given me his interest and encouragement. I am also deeply indebted to Dr. R. Walzer, who has read the proofs, carefully checked the references in my notes, and composed the indexes and the Greek–Arabic and Arabic–Greek vocabularies. I have also to thank Dr. S. M. Stern for his help in completing the subject-index. Finally, I wish to pay a tribute to one who is no longer amongst us, Father Maurice Bouyges, without whose admirable text the work could never have been undertaken.

The marginal numbers in Vol. I refer to the text of Father Bouyges's edition of the *Tahafut al Tahafut* in his *Bibliotheca Arabica Scholasticorum*, vol. iii, Beyrouth, 1930.

The asterisks indicate different readings from those to be found in Bouyges's text: cf. the Appendix, Vol. I, pp. 364 ff.

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INTRODUCTION

If it may be said that Santa Maria sopra Minerva is a symbol of our European culture, it should not be forgotten that the mosque also was built on the Greek temple. But whereas in Christian Western theology there was a gradual and indirect infiltration of Greek, and especially Aristotelian ideas, so that it may be said that finally Thomas Aquinas baptized Aristotle, the impact on Islam was sudden, violent, and short. The great conquests by the Arabs took place in the seventh century when the Arabs first came into contact with the Hellenistic world. At that time Hellenistic culture was still alive; Alexandria in Egypt, certain towns in Syria—Edessa for instance—were centres of Hellenistic learning, and in the cloisters of Syria and Mesopotamia not only Theology was studied but Science and Philosophy also were cultivated. In Philosophy Aristotle was still 'the master of those who know', and especially his logical works as interpreted by the Neoplatonic commentators were studied intensively. But also many Neoplatonic and Neopythagorean writings were still known, and also, very probably, some of the old Stoic concepts and problems were still alive and discussed.

The great period of translation of Greek into Arabic, mostly through the intermediary of Christian Syrians, was between the years 750 and 850, but already before that time there was an impact of Greek ideas on Muhammadan theology. The first speculative theologians in Islam are called Mu'tazilites (from about A.D. 723), an exact translation of the Greek word σχισματικοί (the general name for speculative theologians is Mutakallimun, διαλεκτικοί, dialecticians, a name often given in later Greek philosophy to the Stoics). Although they form rather a heterogeneous group of thinkers whose theories are syncretistic, that is taken from different Greek sources with a preponderance of Stoic ideas, they have certain points in common, principally their theory, taken from the Stoics, of the rationality of religion (which is for them identical with Islam), of a *lumen naturale* which burns in the heart of every man, and the optimistic view of a rational God who has created the best of all possible worlds for the greatest good of man who occupies the central place in the universe. They touch upon certain difficult problems that were perceived by the Greeks. The paradoxes of Zeno concerning movement and the infinite divisibility of space and time hold

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200. 13	اعنى الاجسام الغير الكائنة الفاسدة	I omit these words which I regard as a gloss.
200. 15	بل اتحادا من جميع الوجوه	I omit these words which seem superfluous.
209. 10	على حال	على كل حال
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NOTES

μόνοι φιλοσοφῆσαι Ἕλληνες δύνανται
Only Greeks philosophize, EPICURUS
(CLEM. ALEX. *Strom.* i. 15; DIOG. LAERT. x. 117)

> One must know that everything the Moslems, Mu'tazilites as well as Ash'arites, have professed concerning these subjects, has been borrowed from the Greeks and Syrians who applied themselves to the criticism of the philosophers.
> (MAIMONIDES, *Guide of the Perplexed*, i. 71)

p. 1. 1. According to Aristotelian logic, demonstrative proof which affords necessary, absolute truth must be distinguished from dialectical and rhetorical proofs which only yield probability. The term تصديق is a translation of the Stoic term *συγκατάθεσις*, assent, and synonymous with تحقيق, but whereas for the Stoics assent may be given to the single representation, for the Aristotelian logicians in Islam assent refers always to a proposition. The Arabs divide Logic into two parts, the one treating of concepts, تصور, the other of judgements in so far as they refer to the exterior world, تصديق (cf. e.g. Avicenna, *Salvation*, ed. H. 1331, p. 3).

p. 1. 2. The general term for eternity is قدم (Greek *ἀϊδιότης*), but Aristotle distinguishes the eternal *a parte ante*, the ungenerated, *ἀγένητον*, ازلى, from the eternal *a parte post*, the indestructible, *ἄφθαρτον*, ابدى. There is also the term *αἰών*, دهر ('timeless eternity'), in scholastic philosophy *aevum*, used by Plato (*Tim.* 39 d) and Aristotle (*De caelo A* 9. 279ᵃ22), which becomes especially important in Neoplatonism.

p. 1. 3. The basic ideas of this proof, which presumes an eternal agent, are to be found in Aristotle, who regards himself as the first thinker to affirm that the world is ungenerated (*De caelo A* 10. 279ᵇ12): that the world cannot have had an origin, because there could be no new decision in the mind of God for its beginning (cf. the passage of Aristotle—probably from the *De philosophia* fr. 22 Rose—quoted by Cicero, *Acad. pr.* ii. 38 'neque enim ortum esse unquam mundum, quod nulla fuerit *novo consilio* inito tam praeclari operis inceptio'); that in all change there is potentiality (e.g. *Phys. Γ* 2); that the potential needs an actualizer which already exists actually (*Met. Θ* 8. 1049ᵇ24).

The argument itself follows closely Proclus' third argument in John Philoponus' *De aeternitate mundi*, Rabe, p. 42, which I here give in summary: The demiurge will be either always in act or sometimes in potency. If he is always in act, then his work (*δημιουργούμενον*) also will be always in act; if he is sometimes in potency, there must be an actualizer of this potency. Therefore either we shall have an infinite regress, always seeking a new cause for the actualization of this potency, or we shall have to admit a

cause always in act. In the argument given by Ghazali we find the term مرجح ('determining principle', or more literally 'what causes to incline'; the Greek word is *τὸ ἐπικλῖνον*—see for this word below, note 19.1.), which is used by the Muslim theologians in their proof (inspired by Aristotle) for the existence of God: the possible existence of the world needs for its actual existence a مرجح, a determining principle which cannot have itself a cause, as an infinite series of causes is impossible. The argument given by Ghazali is found in substance, for example, in Avicenna's *Salvation*, pp. 415–17.

Shahrastani, a younger contemporary of Ghazali, gives in his book *Religious and Philosophical Sects* (ed. Cureton, p. 338) a short and somewhat imperfect enumeration of eight of Proclus' eighteen arguments (that mentioned above is the second). Shahrastani says that all these arguments have a logical flaw, that they were used by Avicenna, but that he himself has composed a special book to refute them logically (على قوانين منطقية).

p. 1. 4. As an Aristotelian, Averroës ought to have accepted this argument, and as a matter of fact he ultimately does so. In his objection, which corresponds to that of Philoponus, he seems moved by a certain *esprit de contradiction* against his Moslem fellow-philosophers. Averroës argues like Philoponus that both the 'potential' and the 'actual' are homonymous terms. Philoponus (op. cit., p. 46) distinguishes a potency which is a natural aptitude, *φυσικὴ ἐπιτηδειότης εἴς τι*, and a potency *in habitu*, *καθ' ἕξιν*. According to Philoponus, a man having a natural aptitude to become a teacher needs an external cause to become a teacher; being once a teacher *in habitu*, i.e. having sufficient knowledge, he no longer needs an external cause. But the question of the internality or externality of the cause is not relevant to Proclus' argument.

p. 1. 5. Common notions; common, عامة = مشهورة, i.e. *κοινόν* = *ἔνδοξον* = *τὰ δοκοῦντα πᾶσιν ἢ τοῖς πλείστοις*, the domain of probability (*Top. A* 1. 100^{b}22). That proofs are concerned with things proper to the same genus: *Anal. Post. A* 7.

p. 1. 6. The different meanings of the possible, Aristotle, *Met. Δ* 12; *ἐπὶ τὸ πολύ*, الاكثرى; *ἐπ' ἔλαττον*, الاقلى; *ἐπ' ἴσον*, على التساوى.

p. 2. 1. For the *ἐπὶ τὸ πολύ* does not happen by chance; cf. *Met. Δ* 30. 1025^{a}15 and *De caelo A* 12. 283^{a}32.

p. 2. 2. The natural has its principle of movement in itself, the artificial is moved from the outside; *Phys. B* 1. 192^{b}13.

p. 2. 3. The soul has its principle of movement in itself; *De an. B* 1. 412^{b}16.

p. 2. 4. The four types of change: e.g. *Phys. E* 1. 225^{a}3.

p. 2. 5. i.e. the eternal unmoved mover and the eternally moved; cf. *Met. Λ* 6.

p. 2. 6. A sect named after Muhammed ibn Karram of Khorasan (ninth century). They say that God is a substratum for new accidents, and that nothing comes into existence in the world without being preceded by new accidents in God, e.g. new volitions (cf. e.g. Baghdadi, *The Differences between the Sects*, p. 202).

p. 2. 7. Matter is the principle of all generation and corruption, e.g. *Met. H* 5. 1044^{b}27; matter is eternal, e.g. *Met. B* 4. 999^{b}5.

p. 2. 8. This is the *νοῦς παθητικός*, called in Arabic (in accordance with Alexander of Aphrodisias, *De an.* 82. 20 sqq. Bruns) also العقل الهيولانى, *νοῦς ὑλικός*, mentioned in Aristotle, *De an. Γ* 5, where he distinguishes an active and a passive intellect, the intellect which 'does' and the intellect which 'becomes everything'. Greek and Arab commentators elaborated Aristotle's scanty and rather obscure remarks about the intellect and made a number of new distinctions. This potential intellect is regarded by Averroës (and by Thomas Aquinas) as eternal, in opposition to Aristotle, *De an. Γ* 5. 430^{a}23: *τοῦτο* (i.e. *τὸ ποιοῦν*) *μόνον ἀθάνατον καὶ ἀίδιον* (see also below, note 14. 4).

p. 2. 9. The non-rational faculties only produce the effect proper to them, whereas the rational are able to produce contrary effects, e.g. *Met. Θ* 5. 1048^{a}8.

p. 3. 1. This is the fallacy *τὸ ἁπλῶς ἢ μὴ ἁπλῶς*, *fallacia a dicto secundum quid ad dictum simpliciter.*

p. 3. 2. Cf. Aristotle, *De caelo A* 5. 271^{b}8: *εἴπερ καὶ τὸ μικρὸν παραβῆναι τῆς ἀληθείας ἀφισταμένοις γίνεται πόρρω μυριοπλάσιον*, a small deviation from the truth at the beginning multiplies itself later ten thousandfold.

p. 3. 3. This is the Ash'arite theory, which is in conformity with that of Philoponus in his sixteenth argument. One must distinguish, says Philoponus (op. cit., pp. 567–8), between God's eternally willing something and God's willing it to be eternal, between God's eternal will and the eternity of the object of His will. It was not in the nature of Socrates to be created before Sophroniscus; but before Sophroniscus became, God had willed that Socrates should be, not absolutely, not always, but when it should be possible. Therefore God willed what He had ordained to be before it became, and He willed it to be at the time when its becoming should be possible.

This agrees with the teaching of St. Augustine, who, using Cicero's expression *novum consilium*, denies expressly that there could be in God a *novum consilium* (*De civ. dei*, Kalb., xii. 15). However, St. Augustine is well aware of the difficulty of his theory and he says (loc. cit.): 'valde quippe altum est et semper fuisse et hominem, quem nunquam fecerat, ex aliquo tempore primum facere voluisse nec consilium voluntatemque mutasse' (that God has always existed and that after a certain time He created man whom He had not wanted to create before, without having changed His mind and will—this, indeed, is very deep for us).

p. 3. 4. i.e. a change in the agent.

p. 3. 5. It is not clear why he regards this as difficult to prove, since the proof follows immediately. Probably he means that the whole problem of God's relation to the world is a difficult one.

p. 3. 6. The word حال which I translate here by 'disposition' is a most ambiguous one. I take it here to be the translation of the Aristotelian term διάθεσις ('disposition') which is opposed to ἕξις, ملكة ('habitude'), the former denoting a temporary, the latter a more lasting condition. But Averroës, I think, uses this word here, too, in reference to its theological meaning. The systems of the Muslim theologians (called in Arabic Mutakallimun, a translation of the Greek διαλεκτικοί) are largely dependent on Stoicism, and their term حال is a translation of the Stoic term πῶς ἔχον. This term does not signify a thing, a material reality, but a fact or event, either a state, e.g. the fact that a body is in space, or a result of a cause, e.g. the fact that I will, which is the result of the will in me, a living being. These states and events are regarded by the Stoics and those Muslim theologians who accept this theory as something either intermediate between reality and unreality or as not real; they are meanings (in a more or less objective sense), λεκτά, معان; thoughts (in a more or less objective sense), νοήματα, احكام (both these Arabic words are very ambiguous: معني, for example, can also mean 'idea' in the Platonic sense). The theologians accepted also from the Stoics the term τί, شيء, the 'something' which is defined as هو ما يجوز ان يخبر عنه, everything of which something can be said, and which includes the real and the unreal.

The term حال applied by the theologians to the attributes of God gives them a certain unreality so as not to impair God's unity. Amongst the Muslim theologians there are never-ending discussions about the حال (Sextus Empiricus, *Adv. log.* viii. 262, speaks of the ἀνήνυτος μάχη among the Stoics about the existence of the λεκτά). About the use of the term حال for the universal by the Ash'arites see below (for the Stoic theory see v. Arnim, *Stoicorum Veterum Fragmenta*, ii. 48–49, 118–22, 131–3, and E. Bréhier, *La Théorie des incorporels dans l'ancien Stoicisme*, deuxième éd., Paris, 1928; for the Muslim theory Shahrastani, *The Utmost Proficiency in Theology*, ed. Guillaume, pp. 131 sqq.).

It may perhaps be noted that the Stoics introduced into philosophy the concepts of meaning and of event or fact. The Stoics distinguish the sentence, i.e. the words, from the judgement and from the fact meant; e.g. 'it is raining' is at the same time a sentence, a judgement, and the objective fact, meant or expressed by these words. The Stoics, too, saw that the realm of meaning, i.e. of the things meant, which includes the past, the future, the universal, the possible, the impossible, the imaginary, the false and illusory, is infinitely vaster than the universe of actual reality. The Muslim theologians use the Stoic theory of meaning to define the words of God as meanings without the concomitance of physical speech (cf. op. cit., especially p. 289), and the theory of the 'something' to explain God's knowledge of the non-existent possible world before its actual existence (see op. cit., pp. 150 sqq.).

The paradox of the reality of non-being, that there are things which do not exist, was foreshadowed by Plato, *Soph.* 240 B. It is a characteristic of the undefinable act of meaning that its object need not exist. Indeed, all our planning concerns the not yet existing future just as our memories refer to the no more existing past. This is an ultimate fact which cannot be explained, i.e. reduced to another fact, nor represented, nor described by any material image.

p. 3. 7. That this new disposition may be in the effect and not in the agent—in the creature, not in the creator—seems rather astonishing, but refers to the theological theory that the acts of God do not affect God's essence, but are only related to the object (for this theory see Al-Ash'ari, *The Dogmas of the Muslim Theologians*, ed. Ritter, p. 176). This conforms to Plotinus' theory (*Enneads* vi. 9. 3) that to speak of God's causation is not to attribute something to Him but to us, and to Christian dogma, e.g. St. Augustine, *De trinitate* v. 16: concerning the unchangeable substance of God we must admit that something may be so predicated relatively in respect to the creature that although it begins to be so predicated in time, yet nothing shall be understood to have happened to the substance of God itself, but only to the creature in respect of which it is predicated; *De civ. dei* xxii. 2. 2 'cum deus mutare dicitur voluntatem, homines potius quam ipse mutantur'.

p. 4. 1. i.e. the act of creation depends on a new disposition, and this new disposition will be either caused by another God or by God Himself. If by God Himself, there will be an act of God prior to the creation which we regarded as God's first act.

The problem is set out by Aristotle, *Phys.* Θ 1. 251^{b}30: if the moving had existed without moving, a cause would have been necessary for the change, one would then have had a change anterior to the first.

p. 4. 2. At haphazard and by themselves من تلقاء ها, ἀπὸ ταὐτομάτου.

p. 4. 3. The older philosophers concerned themselves only with material principles: see Aristotle, *Met.* *A* 3–5.

p. 4. 4. That desire (ὄρεξις) and purpose or will (προαίρεσις) are able to produce contrary effects: *Met.* Θ 5. 1048^{a}4.

p. 4. 5. νῦν δὲ ὁ μὲν νοῦς οὐ φαίνεται κινῶν ἄνευ ὀρέξεως· ἡ γὰρ βούλησις ὄρεξις, for intellect does not seem to move without desire, and will is desire (*De an.* Γ 10. 433^{a}22).

p. 4. 6. This is much the same conception as in Plotinus, who denies that God has the power to do one of two contraries which is the property of those

who can abstain from always doing the best (vi. 8. 21); regards God as Free Will itself, αὐτὸ ἐφ' ἑαυτῷ (vi. 8. 8); affirms that God's will does not differ from His essence and that everything in Him is will πᾶν ἄρα βούλησις ἦν (vi. 8. 21); but still regards the world as produced by natural necessity (iii. 2. 2).

Averroës's criticism is justified in so far as the idea of will implies a choice of the unrealized and a possible realization of it in time; an eternal will is a contradiction in terms, and Averroës's own theory that God's action is intermediate between voluntary and involuntary action is untenable, because there is no such intermediate; his analogy with an existence neither outside nor inside the world is defective, for to the non-spatial neither 'outside' nor 'inside' can be applied (according to Arist. *De caelo A* 9. 279ᵃ18, God is not in space).

It is one of the difficulties of the Aristotelian system that it is frankly teleological and at the same time refuses to ascribe will to God; but, since every organism tends to an end, the difficulty of a teleological conception touches us all. Averroës's theory enables him both to affirm and to deny that God has a will.

p. 5. 1. Convention وضع, θέσις, as opposed to طبع, φύσις, nature.

p. 5. 2. The divorce becomes irrevocable when the sentence of divorce has been pronounced by the husband three times. The wife cannot then return to him until she has been married and divorced by another husband.

p. 5. 3. Up to this point everything agrees with Aristotle's theory of the will, *Met.* Θ 5.

p. 5. 4. The point raised here cannot be met by the Aristotelian theory of the will, for Aristotle, like Plato, does not regard the will as something *sui generis*. Aristotle either identifies the will with the decision (ἡ προαίρεσις) out of which the act follows of necessity, when the object of desire presents itself (*Met.* Θ 5. 1048ᵃ11), or he regards the will as a reasonable desire (*De an.* Γ 10. 433ᵃ24) and the impulse to motion is given by a φαντασία λογιστική (433ᵇ29); his theory, however, remains obscure.

p. 6. 1. i.e. the divorce is void, because it is not the immediate effect of the pronouncement. The validity of the conditionally pronounced divorce is a point of discussion in the legal schools of Islam. The 'Literalists' are a school of law which keeps to a literal interpretation of the religious texts.

p. 6. 2. All proof depends ultimately on immediately known first principles (ἄμεσα) (*Anal. post. A* 21).

p. 6. 3. For the most certain principle must be also the best known, γνωριμωτάτη (*Met.* Γ 3. 1005ᵇ11).

p. 7. 1. Common notions do not by themselves imply absolute truth, but belong to the domain of the probable (see note 1. 5). Compare, however, the preceding note. What is indeed according to Aristotle the criterion

for the objective truth of the first principles but their universal acknowledgement?

p. 7. 2. According to the Muslim Aristotelians who combine in their theology Aristotelian with Neoplatonic elements, God knows Himself, but, knowing Himself, He knows all the universals without this plurality's preventing His unity: the knower, the knowledge, and the known are one.

p. 8. 1. Assertions whose contrary is equally false are those in which the predicate does not apply to the subject (*Top. B* 8. 114ᵃ4), e.g. the colourless is neither black nor white. Ghazali's assertion that there may be a proof of the opposite of a necessary truth can neither be proved nor refuted, since, being in opposition to the principle of contradiction, it annuls the idea of proof.

p. 8. 2. For οὐ πᾶν τὸ φαινόμενον ἀληθές (*Met.* Γ 5. 1010ᵇ1).

p. 8. 3. Sound understanding فطرة فائقة, ὀρθὸς λόγος, *ratio recta*; about the ὀρθὸς λόγος as a criterion amongst the older Stoics see Diog. Laert. vii. 54 (*Stoic. Vet. Fr.* i. 142. 15). The word فطرة in the sense of *lumen naturale* is much used by the theologians, and we find it already in this sense in an old tradition: 'Every child is born in the *lumen naturale* (i.e. of Islam); it is his parents who make of him a Jew or a Christian or a Parsee' (cf. Tertullian's *anima naturaliter christiana*)—which shows how early Stoic influence is felt in Islam. The theologians often use بالفطرة (φύσει, by nature) where the philosophers would prefer بالطبع. Sometimes ὀρθὸς λόγος is translated simply by عقل, as, for instance, in the translation of the Stoic definition ὀρθὸς λόγος προστακτικὸς μὲν ὧν ποιητέον, ἀπαγορευτικὸς δὲ ὧν οὐ ποιητέον: right reason commands what is to be done and forbids what is not to be done, a definition which the Mu'tazilites took over (see e.g. the definitions of عقل in Farabi, *De intellectu*, ad init.; Massignon, *Passion d'al-Hallaj*, pp. 543–4; Lane, *Arabic-English Dictionary*).

p. 9. 1. This argument concerned with the impossibility of an infinite number is the first given by John Philoponus. The impossibility of an infinite number of revolutions of the different planets is a favourite argument in Muhammadan theology (e.g. Shahrastani, *The Utmost Proficiency*, p. 29; Ibn 'Uthman al-Khayyat, *The Book of Triumph*, Nyberg, p. 35.; and Ibn Hazm, *On Religious and Philosophical Sects*, ed. H. 1317, i, p. 16) for the creation of the world. It is not found in Philoponus in this connexion, but it derives from him (from his lost Refutation of Aristotle's doctrine of the eternity of the world), for it is given as a quotation from him by Simplicius in his commentary on *Phys.* Θ 1 (Diels, 1179. 15–27). Philoponus says in his first argument that if the world were eternal, there would be not only an infinite number of men, but also of horses and dogs; infinity therefore would be triplicated, which is absurd, because nothing can be greater than infinity.

p. 10. 1. i.e. the movements of, for example, Saturn will have the same proportion to the movements, for example, of the sun in one year as in ten years.

p. 10. 2. This sentence is in fact contradictory: a potential infinite cannot be an infinite whole. For Aristotle the infinite can only be potential (*λείπεται οὖν δύναμει εἶναι τὸ ἄπειρον, Phys. Γ* 6. 206ᵃ18), by which he means that time can be infinitely, endlessly, increased or divided, number infinitely increased, space infinitely divided, but that there cannot be an actual infinite magnitude (ibid. 206ᵃ16), where the word 'infinite' does not simply mean a negation, but something positive, a magnitude that contains the whole of a non-ending series. What is possible is to increase or to divide endlessly (for which the term 'potential infinity' is very badly chosen); the existence of an infinite whole is neither actual nor possible, according to Aristotelian principles, but totally impossible.

That what has no beginning can have no end, and what has a beginning must have an end, is proved in *De caelo A* 12 (282ᵇ2 *εἰ φθαρτόν, γενητόν . . . , εἰ δὲ ἀγένητον, ἄφθαρτον ὑπόκειται*). This is often regarded as more or less axiomatic, cf. e.g. Cicero, *De nat. deor.* 8.20: 'hunc censes primis, ut dicitur, labris gustasse physiologiam, id est naturae rationem, qui quicquam quod ortum sit putet aeternum esse posse?' (Do you think that one who believes that anything that has come into being can be eternal, can have the slightest notion of natural philosophy?). See also Origen, *Contra Celsum* iii. 43.

p. 10. 3. A shorter time bears a relation to a longer only if both are finite (*De caelo A* 6. 274ᵃ8).

p. 10. 4. This means that if there existed things actually infinite there would exist a proportion between them (for—this I suppose is Averroës's assumption—the actual infinite would have the same character as the actual finite). There is, however, nothing actually infinite. Nor, in a strict sense, is there any actual finite time. For actual, in a strict sense, means present. The present, the 'now', however is, according to Aristotle, a limit of time, not time itself. In Averroës actual time is in fact synonymous with finite time and it is therefore not difficult for him to prove that all actual time is finite.

p. 10. 5. This argument (which is found, e.g., in Abu Zaid al-Balkhi—or rather al-Mutahhar al-Maqdisi—*The Book of Creation and History*, Huart, i, p. 121, and in Ibn Hazm, op. cit. i, p. 18) is exactly Kant's proof for the thesis in his first antinomy. Kant says: 'For if we assumed that the world had no beginning in time, then an eternity must have elapsed up to every given point of time, and therefore an infinite series of successive states of things must have occurred in the world. The infinity of a series, however, consists in this, that it never can be completed by means of a successive synthesis'.

This argument is found in Philoponus' first proof (op. cit., p. 10).: *εἰ οὖν τὸ ἄπειρον ἀδιεξίτητον, καθ' ἕκαστον δὲ ἄτομον προϊοῦσα ἡ τοῦ γένους διαδοχὴ διὰ ἀπείρων ἀτόμων μέχρι τῶν νῦν ὄντων κατήντησεν, διεξιτητὸν ἄρα τὸ ἄπειρον γέγονεν· ὅπερ ἐστὶν ἀδύνατον*, if, therefore, the infinite cannot be traversed and the succession, which in each genus progresses along the different individuals, arrives at the actual present through an infinite number of individuals, the infinite has been traversed, which is impossible.

p. 10. 6. This is a *petitio principii* and presupposes—according to Aristotelian theory—that there cannot be an infinite series of causes (*Met. α* 2) and that all movement must end in a prime unmoved mover (*Phys. Θ* 5).

p. 11. 1. Aristotle's theory of a first cause and a prime mover seems to me one of the more disputable points of his philosophy, and the Muslim theologians fully saw its difficulty.

For Aristotle the world is eternal and uncreated; time and movement are both eternal and there is an eternal series of movements (it must be added that the Muslim Aristotelians, who combine Neoplatonic with Aristotelian elements, speak of a creation of the world, an eternal creation; the world emanates eternally out of God, but this does not change the problem essentially, since both an eternal cause for an eternally identical effect, and an eternal creation, are contradictory conceptions, cause and creation both implying change). If, therefore, cause is regarded as antecedent to effect (and it is often regarded by Aristotle as an antecedent in time: man is produced from a prior man, cf. *Met. Θ* 8. 1049ᵇ24), there cannot be a first cause, since there is no first moment. But according to Aristotle (see above) there must be an unmoved principle of all movement. If we accept this, the world in its totality is passive, cause and effect are simultaneous, and God is not the first cause, but in fact the only cause. However, even this does not solve the difficulty, for if we regard uniform motion (the prime mover is the cause of uniform, *συνεχής*, movement, *Phys. Θ* 5. 259ᵃ16) as an identical state, as we moderns do, who acknowledge the principle of inertia, no cause at all is needed; if, on the other hand, we regard uniform motion as spatial change, a change in the effect presupposes a change in the cause and in this way changes in God would be introduced, in opposition to Aristotelian doctrine, which holds the contradictory view that an unchanging God can be the cause of a changing world (compare note 33. 1).

p. 11. 2. The acts of God derive immediately from Him; there is therefore no causal nexus between these, and we have no infinite causal series.

p. 11. 3. Man, when he produces man, does not produce him essentially, but only accidentally (whatever this means); the real cause is God, the real essential relation between the prior and the posterior man is a time-relation. This is not Aristotelian doctrine, but Averroës's exegesis. Aristotle (*Phys. Θ* 5 ad init.) distinguishes the immediate action of an agent from his acting through some instrumentality, a stick, for example, which he uses as

a lever. You can say both that the last of a series of instruments is the mover and that the first mover (the man, e.g., who moves his hand which moves the stick) is the mover, but you will agree, according to Aristotle, that the first mover is the real mover, for without the first the last would not move anything, whereas the last does not move the first. Aristotle, however, tries to prove that there cannot be an infinite series of intermediates, although he regards the production of man out of man as eternal. Here lies the real difficulty.

p. 11. 4. i.e. God acts immediately, without instrument, as the mover of the world; where He needs an instrument, as in the production of man, for which He needs a prior man as an instrument, He has no first instrument; i.e. there is no first man, but the series of men is infinite.

p. 11. 5. *οὐκ ἔστι κινήσεως κίνησις* (*Phys. E* 2. 225^{b}15; *Met. K* 12. 1068^{a}15); *ἀδύνατον τὴν ἀρχὴν ἕτερόν τι οὖσαν εἶναι ἀρχήν* (*Met. N* 1. 1087^{a}33; *Phys. A* 6. 189^{a}30).

p. 12. 1. Averroës in his answer ignores the difficulty of how in the present a past infinite can have come to an end. Aristotle does not seem to have felt the contradiction between his thesis 'that what has no beginning can have no end, and that what has a beginning must have an end' and his description of the present, the 'now' (*τὸ νῦν*, الآن) as a kind of intermediate (*μεσότης τις*) containing both an end and a beginning—the end of an infinite past, the beginning of an infinite future (*Phys. Θ* 1. 251^{b}21). If it is said there is here no end, for the end is also a beginning, what in that case will be the definition of an end?

p. 12. 2. The unreality or subjectivity of an object of thought does not change its characterization; a hundred real thalers, said Kant, do not contain the least coin more than a hundred possible thalers.

The text has a variant: 'Therefore, when we imagine a number of horses . . . .' This may perhaps be the correct reading; horses is a favourite example with Aristotle when speaking of numbers (e.g. *Phys. Δ* 12. 220^{b}11; 11. 220^{a}24; 14. 223^{b}5).

p. 12. 3. For Aristotle possible existence does not mean only possible existence in the sense of my belief that a thing may possibly exist, but also the existence of a hypostatized possibility, an existing reality which is the source of an actual existent. For Aristotle all becoming is nothing but the change from a state of possible existence (in this second meaning) to a state of actual existence, and in contradiction to his own *principium tertii exclusi* (i.e. that there is no *tertium quid* between existence and its opposite, non-existence), he regards this potential existence as something intermediate between existence and non-existence (*De gen. et corr. A* 3. 317^{b}23). However, a potential existent ought to always have the possibility of becoming an actual existent, but here Averroës posits a potential existent, i.e. an infinite whole, which can never be an actual existent (cf. note 10. 2). That he regards potentiality as belonging to the domain of non-existence (in a certain sense) is in accordance with Aristotelian terminology (see *Met. N* 2. 1089^{a}28). Certainly all this is very confusing, and the ambiguity of Aristotle's terminology is not only a source of confusion but itself the consequence of a confusion of thought.

p. 12. 4. According to Aristotle the existence of time might be regarded as dubious, for the past exists no longer, the future is not yet, and the present is only a limit (*Phys. Δ* 10. 217^{b}32). That only the present exists (*ὑπάρχειν*), whereas the past and future merely subsist (*ὑφεστηκέναι*) is maintained by Chrysippus (*Stoic. Vet. Fr.* ii. 164. 26; 165. 34). See also Augustine, *Confess.* xii. 15: 'praeteritum enim iam non est et futurum nondum est'; (ibid. 16) 'praeterita vero quae iam non sunt, aut futura quae nondum sunt, quis metiri potest, nisi forte audebit quis dicere metiri posse quod non est?'

p. 13. 1. Here he seems to regard time as exclusively in the soul. This subjective conception of time is found already in Aristotle (*ἀδύνατον εἶναι χρόνον ψυχῆς μὴ οὔσης*, *Phys. Δ* 14. 223^{a}26). Throughout the whole history of philosophy there is confusion of the subjective with the non-existent, and time is regarded as incorporeal, i.e. subjective or non-existent, by the Stoics, who in their materialism and sensationalism deny the reality of everything which is not apprehended by the senses—they even make the self-contradictory assertion (which might be regarded as a definition of Kant's system) that it is we who put the relations into things (*Stoic. Vet. Fr.* ii. 133. 22: *πρός τι ἐστὶ τὸ πρὸς ἑτέρῳ νοούμενον*), an assertion which, if taken seriously, would destroy the whole world, ourselves and our problems included, but in which, as we shall see, they are followed by the Muslim theologians. However, in these questions they show no consistency, and it would be a mistake to regard Ghazali's conceptions as especially subjectivist—as has been done—, this kind of subjectivism (of which we shall find many examples in Averroës too) being characteristic of Hellenistic philosophy generally (see note 41. 2).

p. 13. 2. This does not seem very consistent. First, representation or imagination is given as the reason why we falsely regard the objective infinite as finite; now it is given as the reason why the future is rightly believed to be infinite.

p. 13. 3. Time has begun according to Plato, but may be infinite. 'Time has come into being together with Heaven in order that they may be dissolved together, if ever they have to be dissolved' (*Tim.* 38 b).

p. 13. 4. True to their principle, since according to Aristotle a beginning implies an end. For the incorruptibility of the world see below (Chapter II).

p. 14. 1. See note 8. 1.

p. 14. 2. The word I translate by 'immediate intuitive apprehension' is ذوق, *γεῦσις*, 'taste', a word which belongs to the mystical terminology of

the Sufis and which means the immediate mystical apprehension of the Divine. Plotinus says (*Enn.* v. 1. 7) that the purest Intellect (*ὁ νοῦς ὁ καθαρώτατος*) devours or swallows (*καταπίνειν*) the intelligible gods and in i. 6. 7 he speaks of the *ἀπόλαυσις θεοῦ, fruitio dei*, which becomes thence an accepted mystical term (the metaphor is obviously connected with certain rites of mystical religion). A definition of *γεῦσις* is given by Origen (*Comm. in Ioan.* xx. 33; Migne, xiv. 671) as the power of the soul to taste and to apprehend the quality of intelligible food (*ψυχῆς δύναμις γευστικὴ καὶ ἀντιληπτικὴ τῆς ποιότητος τῶν νοητῶν τροφῶν*), and Tauler (*Predigt* 26) says: 'Das Höchste, was der Mensch empfangen kann, ist die sechste und siebente Gabe des Geistes: Verständnis und *schmeckende* Weisheit für Gott, für die göttliche Süße, die süßer ist als Honig und Honigseim.' There is a close resemblance between fourteenth-century German mysticism and Sufism, both being derived from the same sources, Neoplatonism and Gnosticism.

p. 14. 3. The philosophers. This is only true if by 'philosophers' is meant Aristotle and his more strictly Peripatetic commentators like Alexander of Aphrodisias (according to Aristotle only the *νοῦς* which comes from outside, *θύραθεν*, is immortal, which seems to imply that my individual personality does not survive; however, the question as to what my individual personality consists in, was never asked by Aristotle or any other Greek thinker; see next note); it is not true either for Plato or for the Neoplatonists, including those commentators of Aristotle who have a Neoplatonic bias—e.g. all the Muslim predecessors of Averroës who deny with Aristotle (see *De an. A* 3. 407^b13 and 414^a21) the pre-existence of the soul and metempsychosis, and together with the Platonists accept the idea of personal immortality, although their pronouncements are various and are not always determined by purely philosophical considerations. At an earlier date Ibn Tufail in his philosophical novel had complained about Al-Farabi's inconsistency on this question.

p. 14. 4. *ἀλλ' ὅσα ἀριθμῷ πολλά, ὕλην ἔχει* (*Met. Λ* 8. 1074^a33). Callias and Socrates differ only in their bodies, but are one in their form, i.e. in their soul (*Z* 8. 1034^a5), and Socrates is unique only through his matter (1074^a35) (Aristotle, however, is not consistent, and declares (*De an. A* 3. 407^b26 and *B* 2. 414^a21) that each soul is fitted only to its own special body). This theory identifies my spiritual identity with my bodily identity and implies a denial of a spiritual Ego. Nevertheless it was Aristotle who introduced into philosophy (*De an. Γ* 2 ad init.) the idea of selfconsciousness, i.e. my consciousness of being the subject of my acts of sensation; but this consciousness concerns only acts of sensation and is itself a sensitive principle, the common sense (*τὸ κοινὸν αἰσθητήριον*), situated in the heart. The Stoics took over this idea from Aristotle, giving this consciousness a special term, *συνείδησις*, 'my knowledge of my own state', translated by Cicero, *De fin.* iii. 5. 16 as *sensus sui*, originating in the *ἡγεμονικόν*, القوة المدبرة, in the

heart; Plotinus (iv. 3. 26) has four other terms for selfconsciousness: *σύνεσις, συναίσθησις, παρακολούθησις, σύνθεσις*, all of which may be of Stoic origin. But the connexion of the purely rational faculties, which according to Aristotle have no localization in the body, with the sensual faculties remains obscure. Avicenna in his *Recovery*, following Plotinus, *Enn.* iv. 7. 10—posits an immediate (بلا وسط) awareness (i.e. one not mediated by any sensual faculty) of my individual spiritual identity, which is incorruptible. For Avicenna, as for Plotinus (and for Plato), my soul is the link between the Divine and the animal; as belonging to the Divine world, it is identical with, or a part of, the Intellect and the World-Soul (both may be said, see note 15. 1) and this is my true nature; as connected with the animal it is aware of the things of the body which it directs. The Intellect and the World-Soul stand in Plotinus' system in the relation of Aristotle's active and passive intellect; it is through his Neoplatonic interpretation that Averroës can regard the passive intellect as incorruptible. We live in two worlds and have in fact two souls, each of us possesses a double Ego (*διττὸν οὖν τὸ ἡμεῖς, Enn.* i. 1. 10), and the awareness of my individual spiritual identity in pure thought, which is mentioned by Avicenna, is but the awareness of the identity of my higher Ego with the universal Reason. The consequence would seem to be that everything that characterizes the individual, since it is connected with the body, is doomed to annihilation with the body. This, however, is a consequence which neither Plato nor Plotinus nor Avicenna seems willing to accept: the individual Socrates is immortal.

p. 14. 5. This was not the opinion of Plotinus, who at *Enn.* v. 7. 2 (last sentence) accepts from the Stoics the *principium identitatis indiscernibilium*, known in modern philosophy through Leibniz: not two hairs, not two grains are alike (Cic. *Acad. pr.* ii. 26. 85; Seneca, *Ep. ad Luc.* 113. 16). This principle is known also in Islam (see e.g. Ibn Hazm, op. cit. i, p. 93, l. 1); the theologian Hisham al-Futi says, just as Leibniz does, that God cannot create two exactly similar things, since they would then be identical (Ibn Hazm, op. cit. iv, p. 196).

p. 14. 6. According to Avicenna—e.g. *Salvation*, p. 203—entities which have no fixed order in space or nature, ما لا ترتيبه فى الوضع والطبع, like certain angels and devils, may form a simultaneous numerical infinity. For Avicenna there cannot be a pre-existence of souls (see e.g. his *Salvation*, pp. 300–2), because before their entrance into bodies they would have to be one or many; they cannot be many, because in an immaterial essence there is no *principium individuationis* for a plurality; they cannot be one, because this one soul would have to be divided amongst the bodies, whereas the immaterial cannot be divided. They can, however, exist after separation from their bodies, because then they are distinct through the bodies in

which they have been, through the times in which they were created, and through the distinctions in their own forms according to the different conditions of their former bodies. Plotinus (*Enn.* v. 7. 3), in order to avoid an actual infinity of spiritual entities (λόγοι), accepts the Stoic theory of different world-cycles. This is also Origen's solution of the difficulty of the actual infinite (cf. *De princip.* ii. 9. 1 and iii. 5. 3). Marcus Aurelius, as a materialist, asks (iv. 21; ed. Stich, p. 37): 'If souls endure, how will the air hold them all from eternity?'

p. 14. 7. This is the argument given by Aristotle against an actual infinity; *Phys.* Γ 5. 204ᵃ21.

p. 15. 1. It is important to distinguish three theories which are confused by the Arabic commentators.

(1) The Platonic theory that the individual soul stands in relation to the soul of the universe as the individual part to the individual whole (Plot. iv. 3. 1): ἐκ τῆς τοῦ παντὸς ψυχῆς καὶ τὰς ἡμετέρας εἶναι. Plato says in the *Philebus* (30 a) that, as our body is a part of the universe, so our soul is a part of the soul of the universe, and this idea finds its mythical expression in *Timaeus* 41 d: the demiurge creates the individual souls out of the same material as he had created the universal soul, although less pure. The same conception of the individual soul as a real part (μέρος) of the World-Soul is found in Stoicism: see Marcus Aurelius ii. 4, v. 27.

(2) The Plotinian theory of substantial identity: πᾶσαι αἱ ψυχαὶ τοίνυν μία (*Enn.* vi. 5. 9). Plotinus, who quotes both passages of Plato (iv. 3. 1 and iv. 3. 7), regards the individual soul and the soul of the universe as ultimately identical; he denies that this identity can be explained in any materialistic way (this, according to him, was not intended by Plato), and he remarks (vi. 4. 12) that this identity is like the identical noise that is heard by different persons or the identical object which they see, showing by this profound remark that he is aware that the perception of one object by many percipients is an irreducible fact which cannot be described or represented by any material image. Greek psychology on the whole does not distinguish clearly between the percipient, the perceiving, and the object perceived, or between the thinker, the thinking, and the object of thought; subject and object are identified, and the theory of the oneness of all souls expresses the truth that the many can perceive one common object, just as Aristotle's theory of the uniqueness of the active intellect expresses the truth that the many can think one identical thought, but the uniqueness of the object is transferred to the subject.

(3) The Aristotelian theory of the identity of the universal. Callias and Socrates are one through their form; this means that although individually two, they are one in their universal essence, their soul. The universal is the same in a number of different individuals, and the same yellow may be in many individuals; the identity of the universal and the identity of the

individual should not, however, be confused. The universal 'soul' is hypostatized by the Neoplatonic commentators as the soul of the universe.

p. 15. 2. Plotinus is fully aware of this obvious difficulty and discusses it unsuccessfully (*Enn.* iv. 3. 5); his spiritualism cannot explain man's individuality, man's privacy of vision and thought. But Ghazali's nominalism cannot explain man's membership of a common world of sense and thought, for the consequence of all nominalism is solipsism.

p. 15. 3. The different meanings of 'part' are discussed by Aristotle, *Met.* Δ 26, and Plotinus, *Enn.* iv. 3. 2.

p. 15. 4. This, of course, is a *petitio principii* and presupposes the Aristotelian doctrine that all unity is based on form, all plurality on matter.

p. 15. 5. After death all souls must be one.

p. 15. 6. For the meanings of 'identity' (ταὐτό) and 'different' (διάφορον) see Aristotle, *Met.* Δ 9.

p. 16. 1. For the divisible, διαιρετόν, i.e. the quantum, ποσόν, see *Met.* Δ 13, where the ποσὸν καθ' ἑαυτό and the ποσὸν κατὰ συμβεβηκός are mentioned.

p. 16. 2. In *De anima* (Γ 5. 430ᵃ15) Aristotle compares the active intellect to light, his third term in the comparison being the actualization of the potential: the active intellect actualizes the potential intellect as light actualizes the colours which exist already potentially. Averroës, however, uses the comparison as Plotinus does, for the soul generally, and he passes unawares from Aristotle's conception of the soul as a universal to Plotinus' conception of the substantial identity of the universal and the individual soul. For Plotinus' treatment see especially *Enn.* iv. 3. 22–23; it is interesting to observe how in this passage light is regarded at the same time as an image of the soul, ψυχὴ . . . ὡς τὸ φῶς (loc. cit. 22 ad init.) and as the reality of the soul, σῶμα πεφωτισμένον (loc. cit. 23 ad init.); all representation tends to materialization. The metaphor of light goes back to the passage in Plato, *Rep.* vi. 508 b, c, 509 b.

p. 16. 3, Philosophy distinguishes itself from sophistry through its ethos (Arist., *Met.* Γ 2. 1004ᵇ24): ἡ φιλοσοφία διαφέρει τῆς σοφιστικῆς τοῦ βίου τῇ προαιρέσει.

p. 16. 4. In a tentative way, πειραστικός; dialectic is merely tentative, where philosophy claims to know (Arist., *Met.* Γ 2. 1004ᵇ25): ἔστι δὲ ἡ διαλεκτικὴ πειραστικὴ περὶ ὧν ἡ φιλοσοφία γνωστική.

p. 16. 5. This kind of argument in defence of objective truth, which is very common in Islam amongst the theologians as well (cf. Baghdadi's arguments in Wensinck, *The Muslim Creed*, p. 251), goes back to Plato, *Theaet.* 170 c. It is asserted by Aristotle (*Met.* Γ 3. 6), in his elaborate discussion of the principle of contradiction, that all discussion rests ultimately on first principles, and that not to know of what things one should and

should not ask for demonstration is the result of lack of education (*δι' ἀπαιδευσίαν, Γ* 4. 1006ᵃ6). The Stoics argue against the Sceptics that you cannot deny the possibility of proof without proving it, and that he who affirms that nothing can be known with surety must know at least that he knows this (cf. e.g. Sext. Emp. *Hyp. Pyrrh.* ii. 186; Cic. *Acad. Post.* ii. 9. 28); and Lucretius, too, says (*De rer. nat.* iv. 469–70 'denique nil sciri si quis putat, id quoque nescit, |an sciri possit, quoniam nil scire fatetur.' See also Cicero, *De fin.* ii. 13. 43 and Seneca, *Q. nat.* vii. 32. 2).

The argument is also found in the Christian Fathers; see especially Clement of Alexandria in his chapter against the Sceptics, *Strom.* viii. 35, St. Augustine, *De trinitate* ix. 10 '. . . si dubitat, scit se nescire . . .', and Eusebius, *Praep. evang.* xiv. 18. 760b . . . *εἰ δὲ ἀγνοοῦσιν* (the Sceptics) *ὁποῖόν ἐστι τὸ δῆλον, οὐκ ἂν εἰδεῖεν οὐδὲ τί τὸ ἄδηλον.*

It may perhaps be added here that the Muslim theologians regard the conviction of the existence, for example, of a country or of a town by reliable hearsay, i.e. traced back without interruption to an eyewitness (الخبر المتواتر) as unassailable (see Baghdadi, op. cit., pp. 312–14), here following the Greek empiricists, who also give the existence of a country or town (Crete, Sicily, Sardinia in Galen, *Subfig. Emp.* 52; Alexandria in Galen's *On Medical Experience*, Arabic version, xx. 5) by hearsay from an eyewitness (*αὐτόπτης*) as an example of reliable knowledge. In their rules for the reliability of a tradition the theologians seem to be influenced by the rules given by the empiricists (see Galen, *Subfig. Emp.* 51) for the reliability of traditional knowledge, *ἱστορία* (*ἱστορία ἐστὶν ἀπαγγελία τῶν ἑωραμένων*), and like the empiricists they emphasize the concord (*συμφωνία*, مواطأة), trustworthiness, and situation of the witnesses; however, whereas the theologians distinguish between traditions the evidence of which is immediate and necessary and those the evidence of which is acquired and valid only for practical purposes (عمل), for the empiricists, those forerunners of the pragmatists, all evidence is valid only in relation to our actions and the life of the community (*ὁ βίος ὁ κοινός*: see Sext. Emp. *Hyp. Pyrrh.* i. 237).

p. 16. 6. In these three last sentences Averroës is following Aristotle, *Met. K* 6. 1063ᵃ7. 16 and *Met. Γ* 5. 1009ᵃ16–22.

p. 17. 1. The introduction of the concept of possibility does not change the problem, and the difficulty remains the same, that of the completion of an infinite series. In what follows Averroës wants to eliminate the concept of time and to base the argument merely on the concept of possibility. It was, says Averroës, in God's unlimited power to choose one of an unlimited number of time-points for His creation of time. Averroës then transfers the unlimited possibility (of choice) in the subject, i.e. God, to the object, i.e. the time-points, and regards the possibility as a qualification of these points. The termination of this infinite series of possible time-points would be a condition for the beginning of finite time, which according to the supposition

was created by God (this condition introduces, of course, the concept of time, which is, however, already implied in the concept of creation). Aristotle himself bases an argument for eternity on the idea of possibility. If time, so he says (*De caelo A* 12. 283ᵃ11 sqq.), had been generated, an infinite series of possible time-points (*σημεῖα*) would have existed before the generation of time. But an infinite series of possibilities is contradictory according to Aristotle, because the possible implies the possibility of existence and non-existence which, according to him, cannot coexist infinitely. The possible cannot be eternal.

p. 17. 2. See pp. 48 sqq.

p. 17. 3. i.e. the finite time supposed to have been created by God.

p. 17. 4. According to Aristotle, a quality can be attributed to something whether it possesses this quality potentially or actually; 'seeing' can mean both 'having the capacity of sight' and 'seeing actually' (*Met. Δ* 7. 1017ᵇ1). For the possible as disposition see *Met. Δ* 12. 1019ᵇ5. By a possibility which is simultaneous with a thing is meant a faculty, a capacity, an ability, a power. I shall discuss the difficult and ambiguous term 'possible' more in detail later.

p. 18. 1. For the argument which Averroës gives is double-edged; on the basis of God's omnipotence one might also prove an infinite number of possible spatial extensions; according to the Peripatetics, however, the spatial extension of the world is finite.

p. 18. 2. The possible, i.e. the actualized or realized possible, the created time. The identification of the possible with the actual is, as we shall see later, a Megarian Ash'arite theory.

p. 18. 3. The passage which follows is somewhat confused, and does not render quite correctly the real objection of the philosophers, which is closely similar to Kant's argument for the eternity of the world in the antithesis of the first antinomy. The philosophical objection is that, since all time-points are similar, there is no difference in them which could determine God to choose a definite time-point as the moment for His creation (see e.g. Avicenna, *Salvation*, p. 418; the basic idea is in Arist. *De caelo A* 12. 283ᵃ11, cf. *Phys. Θ* 252ᵃ14, and already in Parmenides, Diels, *Fr. d. Vorsokr.* fr. 8). But the problem is not quite the same as that of the presence of black or white in certain things of nature, for black and white are not similar; the problem here is that of God's intention in choosing the one rather than the other. The confusion lies in the term مخصص ('differentiating principle'), which can mean as used by Ghazali (like مرجح *praeponderans*, determining principle or principle giving preponderance) (1) a principle which, determining or choosing without any motive one of two *similar objects*, establishes

a distinction between them through this choice, (2) a principle which determines or chooses, without the motive being known, the existence of one of two opposites which seem *equally purposeful*, (3) the dissimilarity which is the motive for the choice. The conception of a 'differentiating principle' is of Stoic origin. Through God as the logos the world gradually develops through division (Diog. Laert. vii. 136); all things are set in opposition through the logos, e.g. the mortal and the immortal, the material and the immaterial (Plutarch, *De solert. an.* ii. 9); Lactantius says (*Stoic. Vet. Fr.* i. 42. 23) that Zeno called the logos *naturae dispositor*; Ps.-Arist. (*De mundo* 5. 397ᵃ17) has the word χωρίζειν (the natures of the different kinds of animals are separated); and Philo uses the expression (*Quis rer. div. her.* 26. 130) λόγος τομεύς, the specifying logos.

Ghazali probably borrowed his theory of a differentiating principle from his master Juwaini (for whose theory see Averroës, *Theology and Philosophy*, ed. Müller, p. 40).

Aristotle, although he is convinced that nature always does the best possible, ἡ φύσις ἀεὶ ποιεῖ τῶν ἐνδεχομένων τὸ βέλτιστον (*De caelo B* 5. 288ᵃ2) (which seems to imply that even for nature—or for God—not everything is possible, a problem much discussed in theology, since it denies one of its postulates, God's omnipotence), and that nothing in the eternal world can happen by chance and at random, 287ᵇ24, says (287ᵇ31) that to ask a reason for everything would seem to show an excessive simplicity (εὐήθεια) and zeal (προθυμία). The Aristotelian and Stoic principle that God does always τὸ βέλτιστον, الاصلح, is generally admitted by the Muslim theologians (cf. also Leibniz's *principium melioris*).

p. 18. 4. We should not inquire after the motives of the Eternal, according to the Koran, xii. 23: God is not to be questioned concerning what He does.

p. 19. 1. According to Plutarch (*De stoic. rep.* xxiii, *Stoic. Vet. Fr.* ii. 973) there were certain philosophers, ἔνιοι τῶν φιλοσόφων, who accepted a faculty in the soul which could determine the soul to choose without any external cause, when there is an *absolute equipoise of motives*, and Plutarch uses for this faculty (loc. cit.) the term τὸ ἐπικλῖνον, i.e. that which inclines, مرجح (Chrysippus denied the existence of such a faculty, which would imply the existence of the causeless, ἀναίτιον). This is the theory which, as we will see, Ghazali adopted for the human will. However, in the definition he gives here (and he seems to speak here of the will in general and not only of the Divine Will; but the whole passage is ambiguous) he regards the will in every act of will as an ἐπικλῖνον or a τομεύς, since he assumes in the agent for *every* voluntary act an *equal possibility* of acting or not acting. This is the Pelagian conception of the *liberum arbitrium*.

p. 19. 2. This would be rather an argument for the opposite of Ghazali's

thesis, for will is a faculty, a power, which needs for its actualization a cause, a motive.

p. 19. 3. πᾶσα δύναμις ἅμα τῆς ἀντιφάσεώς ἐστιν, every potency is at one and the same time a potency of the opposite (*Met.* Θ 8. 1050ᵇ8).

p. 19. 4. According to the Muslim theologians God has power to act and to will.

p. 19. 5. For the Divine Will also could only choose between things exhibiting a dissimilarity.

p. 19. 6. It is, however, the similarity, not the opposition of the time-points, which constitutes the philosophical objection; see pages 22, 25, and 32, and note 32. 4.

p. 20. 1. Differentiating principle, i.e. a dissimilarity; the term 'differentiating principle' has a different sense for Averroës from that which it has for Ghazali.

p. 20. 2. It would not contain the possibility of contrary effects; warmth —says Aristotle (*Met.* Θ 2. 1046ᵇ5)—is capable only of heating, but the medical art can produce both disease and health.

p. 20. 3. i.e. they reject the idea of a Divine Will, at least in the theological sense.

p. 20. 4. نقل, μεταφορά; for transference as a form of sophistry, see *De soph. elench.* 18. 176ᵇ20.

p. 21. 1. i.e. in the Koran will is attributed to God.

p. 21. 2. The original of this example is in Aristotle, *De caelo B* 13. 295ᵇ32, where, discussing Plato's theory that the earth is sustained in heaven through the equivalence (ὁμοιότης) of the surrounding heaven (*Phaedo* 108 e), he speaks of the constraint of equivalence in a man who, at an equal distance from food and drink and equally starving and thirsting, must remain where he is. More or less the same example, *duo cibi aequaliter appetibiles*, is found in Thomas Aquinas, *Summa theol.* I. ii. 13. 6, and in Dante, *Par.* iv. 1–6, who adds, however, the much less paradoxical example of a lamb standing *egualmente temendo* between two hungry and fierce wolves. The paradox becomes known later as that of Buridan's ass (although in Buridan, who often gives asses as examples, this particular ass is not found), and the example of an ass dying with hunger between two similar bundles of straw at an equal distance is mentioned and discussed by such different authors as Montaigne, *Essais*, ii. 14; Spinoza, Scholion at the end of *Eth.* ii; Bayle in his *Dictionnaire*; and Schopenhauer, *Die beiden Grundprobleme der Ethik*, 2nd ed., p. 58.

p. 22. 1. According to Aristotle there are four classes of opposition: contradiction, privation, contrariety, relation; the first opposition is that of being and not-being, πρώτη ἐναντίωσις ἕξις καὶ στέρησις τελεία (absolute privation, i.e. non-being) (*Met. I* 4. 1055ᵃ33).

p. 22. 2. i.e. it is only through our desires that we regard two similar things as different.

p. 22. 3. For the definition of will as desire of a good, ἡ βούλησις ὄρεξις ἀγαθοῦ, see *Top.* Z 8. 146b5.

p. 22. 4. 'The desires which belong to the essence of the things willed'. This contradictory sentence, which implies that the thing willed is the willer, refers to Aristotle's theory of God as the mover of the world through being desired and loved (κινεῖ ὡς ἐρώμενον), and is but a consequence of the profound contradiction in Aristotle's system in that God is both the supreme Agent and the supreme End. Not only does Aristotle ascribe the motion of the heavens to their love—'l'Amor che muove il sole e l'altre stelle'—but he attributes even to matter a desire for the divine, the good, and the desirable (*Phys.* A 9. 192a16). That to be is better than not to be, βέλτιον τὸ εἶναι τοῦ μὴ εἶναι (*De gen. et corr.* B 10. 336b28) is Aristotelian optimism.

p. 23. 1. Averroës misses the point here completely. Certainly the donkey will take one or the other of the two bundles rather than die, but the question is what determines its taking the one rather than the other. Obviously it will take the one that comes first to hand; only, when there is a complete equivalence of all conditions, this is impossible, and Spinoza says bluntly that the donkey will have to die. As a matter of fact, in such cases a complete equivalence of psychological and physical conditions is never reached; no living body even is strictly symmetrical, and if *per impossibile* such an equivalence could be momentarily reached, the world is changing, not static, and the donkey will move and not die.

p. 23. 2. What Averroës wants to express here, I believe, is not the *principium identitatis indiscernibilium*, but simply the fact that two individual things, even when completely similar, are not identical. Averroës, I think, confuses similarity with identity. By 'the quality exclusive to it' he means, probably, its spatial or temporal localization.

p. 23. 3. The impossible—like the necessary—is for Aristotle of two kinds, the logically impossible, the impossible through the necessity of thought, and the empirically impossible, not based on the necessity of thought (see Aristotle, *Met.* Δ 12. 1019b21). Since a logical impossibility is here in question, the impossibility is valid for all cases: divine, natural, and logical.

p. 24. 1. The sun, by moving on the ecliptic, approaches to and recedes from the different points of the earth, and is in this way the cause of change, of coming to be and passing away in the sublunary world (*De gen. et corr.* B 10). The theory of the eccentric sphere, κύκλος ἔκκεντρος, and the apogee, ἀπόγειον, belongs to Ptolemaic astronomy, see e.g. *Alm.* iii. 3 (according to Simplicius, *In Arist. libr. de caelo*, Heiberg, p. 507, the Pythagoreans were perhaps the first to introduce an eccentric sphere for the sun). The apogee is the point farthest from the earth on the orbit of a planet which has its centre outside the earth. All change in the sublunary world is conditioned by the positions and movements of the heavenly spheres, ταῖς ἄνω φοραῖς (*Meteor.* A 2. 339a21).

p. 24. 2. The problem why the heaven revolves in the one direction rather than the other is posed by Aristotle at *De caelo* B 5, and the problem why the planets have a movement different from that of the sphere of the fixed stars at *De caelo* B 3. According to Aristotle only two points on the sphere of heaven have a distinguishing mark (διαφορά) and they are the two poles through their immobility.

p. 24. 3. In Arabian astronomy the ninth sphere serves to communicate the diurnal motion to all the other spheres. The fineness of the simple body increases with its distance from the centre: see *De caelo* B 4. 287b20 and *Meteor.* A 3. 340b6.

p. 24. 4. These two spheres, i.e. (*a*) the ninth sphere; (*b*) all the other spheres together.

p. 24. 5. Ghazali means, evidently, that the ecliptic might have passed through the points which are in the actual world occupied by the poles; the actual poles would then have had to occupy other points; he cannot mean that the ecliptic might go through the poles, since the order of the world depends on the relation between the ecliptic and the poles. Ghazali's objection is not quite analogous to that of the philosophers, who argue against a creation which implies a pre-existence in time by saying that since all time-points are similar no definite time-point could cause a new volition in God. Ghazali's objection, that God could not choose individual points from among the homogeneous points of the world-globe to serve as poles, does not imply that God first created the globe and then chose the poles from amongst its homogeneous points; the implication is that any other two points which God might have chosen, while creating the world, would have been equally purposeful, so that the choice of the actual poles cannot depend on a choice made by God based on His conception of the best possible world. There is no answer to this objection, which is valid against a complete explanation of the world by final causes; one might as well ask why God created me and not someone similar in my stead (one cannot ask—says Plotinus, *Enn.* iii. 3. 3, why plants have no sensations and are not animals, or animals are not men; this would be like asking why men are not gods); all explanation in terms of final causes presupposes a number of primitive facts and laws which cannot themselves be explained by final causes. Theophrastus in his *Metaphysics* (see especially ad fin.) had already remarked that certain things do not seem to exist for the sake of an end, and that we must limit teleological explanation. The consequence of Ghazali's theory that God's will is not determined by any motive at all, however, would seem to be that there is no wisdom whatever in the world and that

nothing has a purpose. But Stoics and Aristotelians, Muslim theologians and philosophers alike, believe in the principle of *τὸ βέλτιστον*, الاصلح, 'que tout est pour le mieux dans le meilleur des mondes possibles'.

p. 25. 1. A salience and a differentiation of the angles خروج زوايا وتفاوتها *οὐδὲν γὰρ ἀπηρτημένον ἔχει οὐδὲ προέχον, ὥσπερ τὸ εὐθύγραμμον* (*De caelo B* 8. 290ᵇ6).

p. 26. 1. Possible, *ἐνδεχόμενον*, i.e. accidental, *συμβεβηκός*. The accidental, according to Aristotle, is what may or may not happen, and is not based on any inner necessity: *συμβεβηκὸς δέ ἐστιν . . . ὃ ἐνδέχεται ὑπάρχειν ὁτῳοῦν ἑνὶ καὶ τῷ αὐτῷ καὶ μὴ ὑπάρχειν* (*Top. A* 5. 102ᵇ4). Averroës means that the position of the poles seems accidental, but is nevertheless based on necessity. In what follows Averroës reproduces the Aristotelian doctrine as found in the *De caelo*.

p. 26. 2. *τὸ δὴ κύκλῳ σῶμα φερόμενον ἀδύνατον ἔχειν βάρος ἢ κουφότητα* (*De caelo A* 3. 269ᵇ30).

p. 26. 3. The properties of the four elements in the matter of weight and lightness are treated by Aristotle, *De caelo Δ* 4; fire is absolutely light, because it rises higher than anything else; earth is absolutely heavy, because it sinks below everything else.

p. 26. 4. High, فوق, *ἄνω*, i.e. away from the centre; low, اسفل, *κάτω*, i.e. towards the centre (*De caelo A* 2. 268ᵇ21).

p. 27. 1. The sphere has only one surface, *ἐπιφάνεια* (*De caelo B* 4. 286ᵇ30), and is therefore the primary body, just as the circle is the primary figure; the spherical shape of heaven is proved by Aristotle at *De caelo B* 4.

p. 27. 2. Rectilinear bodies (*τὰ εὐθύγραμμα*) are not essentially finite, since an addition to a straight line is always possible (286ᵇ20).

p. 27. 3. The impossibility of there being any bodily mass or any empty space beyond heaven is demonstrated by Aristotle, *De caelo A* 9.

p. 27. 4. Since the heaven is alive (*ὁ οὐρανὸς ἔμψυχος*), it is clear—says Aristotle (*De caelo B* 2. 285ᵃ30)—that it must possess a right and a left; see also note 28. 4.

p. 27. 5. That all generation is effected through the movements of the heavenly bodies is shown by Aristotle, *De caelo B* 3. 286ᵇ1–9. For the theory that this continual production and corruption is based on the movements of the heavenly bodies, see *De gen. et corr. B* 10; cf. also note 24. 1.

p. 27. 6. Cf. Philo, *De provid.* ii. 74 (*Stoic. Vet. Fr.* ii. 332.3): 'Numerus autem planetarum prodest universo'. 'Mundum esse opus providentiae' is especially emphasized by the Stoics. According to Aristotle *εἰσὶ δύο αἰτίαι, τό θ' οὗ ἕνεκα καὶ τὸ ἐξ ἀνάγκης* (e.g. *Phys. B* 7. 198ᵇ17). See note 31. 1.

p. 28. 1. That each heavenly sphere has its own eternal principle of movement is stated in Aristotle, *Met. Λ* 8. 1073ᵃ33; that the heavens are

composed of simple bodies moving through their own nature and not by force, having their definite natural movement, a circular one, which has no contrary as rectilinear movement has, since it turns, i.e. it moves at the same time in two directions, is stated in Aristotle, *De caelo A* 2. The sentence about the magnet is not found in Aristotle, nor, as far as I know, in any Greek commentator; it touches a very delicate point in the Aristotelian philosophy, for according to Aristotle the spheres move through an external principle, God, their final principle; they move in fact like iron which is attracted by the magnet (with the exception, as Averroës mentions, that the magnet can attract from any direction). One could say that the heaven either moves in virtue of its own nature (*κατὰ τὴν ἑαυτοῦ φύσιν*) or through an external principle which attracts it; Aristotelianism, however, wishes to have it both ways.

p. 28. 2. This passage is a commentary on Aristotle, *De caelo B* 2. 285ᵃ12 sqq. Aristotle has (285ᵃ15) the sentence that certain living beings differ only in power or faculty, whereas other living beings differ also in shape (*τὰ μὲν γὰρ τῇ δυνάμει διαφέρει μόνον, τὰ δὲ καὶ τοῖς σχήμασι . . .*). That the world needs for its spherical movement neither hands, legs, nor feet is laid down in *Timaeus* 34.

p. 28. 3. Aristotle proves (*Met. Λ* 8. 1074ᵃ31) that there can be but one heaven, since only through matter can there be plurality (man is one in species but numerically many because of his matter, e.g. Socrates, Callias). But the heavenly bodies are in a sense immaterial (*Met. H* 4. 1044ᵇ7) and yet they form a plurality and have a plurality of immaterial moving principles (the heavenly bodies and their movers are not always well distinguished). This plurality is explained by the Neoplatonic commentators as being not a plurality of individuals which would need matter, but as a plurality of universals. Every divine being, although it is unique (*πάντα μοναδικὰ τὰ οὐράνια ζῷα*, Simplic., *Comment. de caelo* 276. 32), forms a species in itself and is a universal (*νοητόν*). These beings are called angels by the theologians, both Muslim and Christian, and Thomas Aquinas affirms that there are as many species of angels as there are individual angels.

p. 28. 4. According to Aristotle heaven possesses *τὸ ἄνω καὶ κάτω, τὸ δεξιὸν καὶ ἀριστερόν, τὸ ἔμπροσθεν καὶ ὄπισθεν* (cf. *De caelo B* 2 and *B* 5). The diurnal revolution from East to West moves in the better direction (*ἐπὶ τὸ τιμιώτερον*) and is a forward movement. Aristotle regards the south pole as the more divine and the superior. If you imagine yourself standing with your feet to the north pole and your head to the south pole, you will see heaven turn in front of you in its diurnal movement from your left to your right (see *De caelo B* 2 ad fin., and *B* 5 ad fin.).

p. 29. 1. Koran x. 65.

p. 29. 2. Koran xxx. 29.

p. 29. 3. According to Aristotle the organ derives from its function (not the reverse), and he censures Anaxagoras for saying that man is the most intelligent being, because he has hands; whereas, according to Aristotle, he has hands because he is the most intelligent being. Nature, like an intelligent man, provides everything with the instrument it can use (*De part. an.* Δ 10. 687ᵃ7 sqq.).

On the movement of the crab (καρκίνος) see Aristotle, *De an. incess.* 14 712ᵇ13.

p. 29. 4. According to Aristotle nature (or God) acts like the craftsman (see e.g. *Phys. B* 8 ad fin. and 9 ad fin.). That in every work of art, one must inquire for its intention (τέλος, غاية) is a doctrine found, for example, in Aristotle, *Phys. B* 9, where as an example we find the saw, ὁ πρίων, المنشار (200ᵃ10), as also below in the text, p. 54. See also note 31. 1.

p. 29. 5. Koran xviii. 103–4.

p. 30. 1. Koran vi. 75.

p. 30. 2. Heavenly bodies are in trine or sextile or conjunction, when, as viewed from the earth, they are respectively distant from each other a third of the zodiac (i.e. 120°) or a sixth or in close proximity.

p. 30. 3. Aristotle has an answer to this: the highest sphere has the greatest dignity and must therefore have the superior movement (τιμιώτερον), which is the diurnal movement from East to West, whereas the other spheres move from West to East (see note 28. 4).

p. 31. 1. The whole of this passage is rather confused, but it is a consequence of Aristotle's dualistic conception of nature, i.e. of a necessary and a teleological element in nature. Aristotle introduced the conception of immanent teleology; nature itself strives towards an end (but in different places—see *De caelo A* 4, *De gen. et corr. B* 10, *Eth. Nic. K* 11, *Polit. H* 4—Aristotle identifies nature and God, which of course destroys the opposition of immanence and transcendence; the Muslim commentators often put the emphasis on God rather than on nature). But just as a craftsman cannot make a saw without iron, so nature is bound by the necessities of its material; in order to create, nature needs materials with specific qualities and inherent necessities. This conception would imply that certain materials having their own laws are presupposed by nature, and so are not nature itself; nowhere, however, does Aristotle indicate what these materials are, and indeed this whole conception is in opposition to his fundamental thesis that matter in itself, i.e. without having as yet received any form—and form and end are fundamentally identical for Aristotle—is absolutely undetermined. It may be added that the basic relation of matter and form is extremely obscure; both primary matter and form are ungenerated, non-spatial, non-individual, but yet it is said that the form enters into matter and that out of the combination of these ungenerated, non-individual entities the transitory individual comes into being. Besides, man as a universal form is eternal; as an individual man he is transitory. For Aristotle, only individuals exist; what then can it mean to say that the universal form is ungenerated? The Neoplatonic commentators explained this by saying that universals exist in the mind of God (a theory found already in the Middle Platonist Albinus), and the Muslim Aristotelians followed this tradition. It is God who is the source from which everything emanates, it is He who provides matter with its forms, (either directly, or indirectly as in Plotinus and Avicenna through the νοῦς, عقل, ὁ χορηγὸς τῶν λόγων *Enn.* V. 9. 3, واهب الصور, the *dator formarum*) and this is Averroës's conception also. Nevertheless we frequently find in Averroës the more naturalistic conception of matter as having its own qualities, its own potencies and necessities; and such a passage we have here. It may be—he says—that the existence of man cannot be explained by the potencies of his substratum alone, and that we must look for a final cause; but other actualities can be wholly explained by the potencies which are found in their substrata, and he gives as an example the seeing of the eye—probably referring to Aristotle, *Meteor.* Δ 12. 390ᵃ10, where it is said that the eye is an eye in full actuality when it sees. See also notes 31. 7 and 62. 6.

p. 31. 2. The word I translate by 'substratum' is القابل, which is a translation of τὸ πάσχον, τὸ πάθος. Like many Aristotelian terms this word is ambiguous; it is often synonymous with ὑποκείμενον, *substratum*, and as this is the sense it has a few lines farther on I take it so here; but πάθη, ἔργα, and πράξεις are sometimes synonymous and one might perhaps translate 'the effect of both is equivalent', which would seem more logical.

p. 31. 3. For example, a period of 5,000 years ago is not equivalent or similar to that of 6,000 years ago; these two times are equivalent only in so far as there is nothing in them which would determine God to choose the one rather than the other as the moment of creation.

p. 31. 4. Since a desirable result cannot be accomplished through any and every material, but needs materials that have the required nature. See note 31. 1.

p. 31. 5. However, possibility implies always two opposites. Averroës means the time of its production is different from the time of its corruption. For the underlying problem see below note 52. 6.

p. 31. 6. Time, says Aristotle (*Phys.* Δ 14. 222ᵇ30), is the condition for every change and for everything that moves: φανερὸν ὅτι πᾶσα μεταβολὴ καὶ ἅπαν τὸ κινούμενον ἐν χρόνῳ.

p. 31. 7. The proximate matter of things which have the principle of becoming in themselves—a grain, for example—develops by itself when there is no exterior obstacle; whereas out of wood a carpenter can make either a chair or a table; see *Met.* Θ 7. 1049ᵃ13.

p. 32. 1. This is not very clear. The source of the proof for God, based on contingency, i.e. that the possible must be actualized by a necessary existent, is certainly in Aristotle; it is only the term 'determining principle', مرجح, which is taken from the theologians (see note 1. 3). The argument is found in Farabi, e.g. *The Book of the Gems* ad init., and Avicenna, *The Recovery* iv. 1. 6. For Aristotle, Farabi, and Avicenna God is the prime, indirect cause of all acts; for the Ash'arites God is the direct, indeed the only, agent.

p. 32. 2. *τὸ πρότερον καὶ ὕστερον πῶς ἔσται χρόνου μὴ ὄντος; Phys. Θ* 1. 251^{b}10.

p. 32. 3. The prior in the past is that which is farther away from the present moment (*τὸ νῦν*), the prior in the future that which is nearer to it; *Met. Δ* 11. 1018^{b}15 (see note 41. 2).

p. 32. 4. For why should the world be generated just at this particular moment, when for an infinite time it had not existed? *De caelo A* 12. 283^{a}13.

p. 32. 5. i.e. there is no analogy between the difference in moments of time and the difference in directions.

p. 32. 6. 'The second objection', compare p. 3.

p. 33. 1. For this argument compare note 11. 1. According to Aristotle, although movement is eternal, God is the first mover; according to the Muslim Aristotelians, although the world is eternal, God is its creator (Ghazali, as we shall see, rightly rejects the idea of eternal creation, as did John Philoponus, who asks, op. cit., p. 14, l. 14: *τὸ γὰρ ἀεὶ ὂν πῶς ἂν εἰς τὸ εἶναι παράγοιτο;* how could what always is be brought into being?). Aristotle himself tried to prove at *Met. α* 2 that there cannot be an infinite series of causes and that there must be a first cause. But if the world and time are eternal, and a cause precedes its effect both in nature and in art, says Philoponus (op. cit., p. 14, l. 19), there will be an infinite series of causes and effects, e.g. an infinite series of fathers and sons. If one denies such an infinite series, time must be finite and there must be a first cause for this finite temporal series. However, Aristotle does not deny, but admits, an infinite series of individuals in a sequence of causes and effects; what he denies (*Met. α* 2) is an infinite series of genera—that flesh may come from earth, earth from fire, fire from something else, and so on *ad infinitum*.

p. 33. 2. This whole passage seems to be a commentary on such passages as Aristotle, *Met. α* 2. 994^{a}30 sqq., where it is said that coming to be out of another thing, as water comes from air, implies the destruction of that other thing: the generation of the one is the destruction of the other, for there is no absolute becoming of substances, cf. *De gen. et corr. A* 3. 319^{a}20: *καὶ ἔστιν ἡ θατέρου γένεσις ἀεὶ ἐπὶ τῶν οὐσιῶν ἄλλου φθορὰ καὶ ἡ ἄλλου φθορὰ ἄλλου γένεσις.*

p. 33. 3. See p. 11.

p. 33. 4. Of a circular nature (in Greek, *ἀνακάμπτειν*). This is clearer in the case in which water comes into existence out of air, and the process is reversible, than it is in the example of a man coming into existence from a man. However, the meaning is that there is no ascending series, either infinite or finite, to a first cause. And here is the difficulty of the whole conception, for if man can come into existence out of man eternally, in an eternal causal series, where is the need to posit a first cause at all? And if it is claimed that God is the *condicio sine qua non* of the existence and indeed of the possibility of this process, the relation between two eternally constant terms is not a causal one, since causation presupposes change.

p. 33. 5. *Phys. Γ* 5. 204^{b}22.

p. 34. 1. This is a Neoplatonic rather than an Aristotelian conception; it is not the individual man, but man generically that proceeds from God, i.e. man generically emanates from the idea of man in God. Nothing, however, is more obscure than the Neoplatonic conception of emanation, which is not a flowing from a source, not a causal relation in time: the idea of man in God, and man generically, are simultaneous eternally; and even this, perhaps, is not true, since the idea in God exists in timeless eternity (see text below).

p. 34. 2. This means probably that if there were no eternal agent there could not be an infinite series.

p. 34. 3. *μὴ κατ' οὐσίαν*, Aristotle, *Met. Λ* 7. 1072^{b}7.

p. 34. 4. As concerns its parts: The sphere of heaven, in its uniform and circular movement, always follows the same course and therefore does not change as a whole; it is simply that its parts change their place. However, the term جزء, 'part' (like the original Greek term *μέρος*—and *μερικός*—in late Greek use) is ambiguous and can mean also 'particular', and on the ambiguity of this term the plausibility of the argument depends in part: the movement of the heavenly sphere, since it does not change as a whole or generically is the cause of the eternal and generical, but in so far as it changes in its parts or particulars it is the cause of the particular and temporal (cf. note 35. 1). (The word كل, 'whole', is also ambiguous, and can mean 'universal'.)

p. 34. 5. Through the inclination of the ecliptic the sun is the cause of all generation and corruption; see Aristotle, *De gen. et corr. B* 10.

p. 34. 6. The four kinds of change: in substance, quality, quantity, locality. See note 2. 4.

p. 34. 7. *φορὰ γὰρ ἡ πρώτη τῶν μεταβολῶν*, Aristotle, *Met. Λ* 7. 1072^{b}8. The whole passage is a comment, with a slight Neoplatonic bias, on Aristotle, *Met. Λ* 7. 1072^{b}4–10.

p. 34. 8. Essentially and accidentally. As Averroës explains in the following passage, moving essentially means moving by a mover existing simultaneously with the thing moved, moving accidentally means moving by a mover preceding the thing moved; this distinction is not found in Aristotle and as a matter of fact annuls the proof, for it cannot be seen why an infinite series of accidentally moving movers should not suffice.

p. 34. 9. *Phys.* Θ 5. 256ᵃ17: *ἀδύνατον γὰρ εἰς ἄπειρον ἰέναι τὸ κινοῦν καὶ κινούμενον ὑπ' ἄλλου αὐτό· τῶν γὰρ ἀπείρων οὐκ ἔστιν οὐδὲν πρῶτον.*

p. 34. 10. Preservation حفظ, *σωτηρία*. For God as preserver, *σωτήρ*, of the world, see Ps.-Arist. *De mundo* 6. 397ᵇ20.

p. 34. 11. 'Heaven and earth and all that is between them' is a Koranic expression, Sur. xx. 5.

p. 35. 1. See note 34. 4; جزئى, *μερικός*, means 'particular' or 'of the parts'; كلى, *ὁλικός*, 'universal' or 'of the whole'.

p. 35. 2. i.e. God. This is not very well expressed; no alternative should have been put forward. It is the movement of heaven, in which eternity and temporality are combined, which forms the link (*σύνδεσμος*, اتصال) between the eternal and the temporal.

p. 35. 3. Surely this strange theory, which seems both to deny and to imply a creation of the world in time, was not propounded by any philosopher. Ghazali seems to advance it only for the pleasure of refuting it.

p. 35. 4. i.e. how can new things arise in the world?

p. 36. 1. i.e. *qua* temporal.

p. 36. 2. i.e. Socrates as an individual depends on the transience in the movement of heaven; Socrates as a universal, as a human being, depends on the eternity of the First Mover (or—Averroës' position here shifts—on what is eternal in the movement of heaven). This conception is not Aristotelian.

p. 36. 3. Ghazali's argument is perfectly sound. The unchanging infinite eternal and the transient finite individual are incommensurable. No change can depend on the unchangeable, and to posit as a link an entity participating in both natures does not solve the difficulty but doubles it, for the relation of the primary terms to the intermediate term remains as obscure as the relation between the primary terms. The idea of the link, of mediation, goes back to Plato's conception, in *Tim.* 35, of the World-Soul which possesses the opposite qualities of the *ταὐτόν* and the *θάτερον*, of uniformity and change; it became in later Greek philosophy one of the chief devices to safeguard God's transcendence. And all transition is gradual: *natura non facit saltum* (Arist. *Hist. an.* Θ 1. 588ᵇ4), وما ترى فى خلق الله من تفاوت, 'you do not find any discontinuity in God's creation', as the Arabs have it. Cf. also Leibniz's *principium continui*.

p. 37. 1. The following argument, the substance of which is found in Avicenna (e.g. *Salvation*, p. 419), is based on Aristotle, *Phys.* Θ 1. 251 ᵇ10 (cf. *Met.* Λ 6. 1071ᵇ8): How could there be any 'before' (*πρότερον*) or 'after' (*ὕστερον*) if there were no time, or how could time itself exist if there were no motion? Proclus in his fifth argument gives a variation not based on the term 'before' but on the term 'once' (*ποτέ*). He says in brief: When once there was no time, there was time, for 'once' implies time (*τὸ γὰρ ποτὲ χρονικόν*); and since time is the measure of the movement of heaven, heaven is coeternal with time. The same argument is found in Ps.-Philo, *De incorr. mundi* 53, p. 89, 8 Cohn-Reiter (notwithstanding Cumont's arguments I still regard this work as spurious, as does, for instance, von Arnim). See also Sextus Empiricus, *Adv. phys.* ii. 189.

p. 37. 2. Definitions of 'prior' (and 'posterior') are given by Aristotle, e.g. *Cat.* 12 and *Met.* Δ 11. 'Essential' and 'natural priority' are Aristotelian terms: *πρότερον κατ' οὐσίαν* (*Phys.* Θ 6. 260ᵇ19) and *πρότερον φύσει* (9. 265ᵃ22). The example of one and two is given in *Cat.* 12 and found also in Avicenna, loc. cit.

p. 37. 3. Aristotle gives it as an example of the simultaneity of cause and effect, where cause and effect are not reversible, that the intervention of the earth causes the eclipse of the moon (*Anal. Post. B* 16). This presupposes, of course, that light does not travel.

p. 37. 4. Since the effect always follows the cause.

p. 37. 5. The builder, however, is also prior to the wall in the order of causation.

p. 38. 1. Just as Averroës' objection to the first argument was inspired by John Philoponus, so in this objection he is influenced by Philoponus' objection to Proclus' fifth argument. Philoponus says that when, for example, it is said that God was before men knew God, 'was' cannot express time (*ἦν* is not a *χρονικὸν πρόσρημα*), since God is not in time, but in the *αἰών*, timeless eternity. Averroës also denies priority to God in the sense of causation. This is a necessary consequence of the denial of the simultaneity of God and of the world: since causation is in time, a time-relation is the necessary condition of any causal relation (neither Plato nor Aristotle, who also regard God as existing in timeless eternity, has seen this consequence). Philoponus does not treat of that problem in this argument, but Plotinus regards God as a *causa sui generis* (whatever this means) and declares, *Enn.* vi. 8. 8, that in one way God is an *ἀρχή*, in another way not; and this is also Averroës's theory here. But up to now the whole argument against the theologians has been built upon the idea that God is a cause and the world His effect, and Averroës's way of hunting with the hounds and running with the hare lands him, as we shall see, in the most flagrant contradiction.

p. 38. 2. Ghazali's originality lies in the example. In such sentences, says Philoponus (op. cit., p. 116, l. 10), 'existed' or 'was' (*ἦν*) expresses a mere existence, *ψιλὴ ὕπαρξις* (cf. Plato, *Tim.* 38 a). Philoponus also regards the *φαντασία*, which can represent the timeless only in time, as the cause of the error.

p. 39. 1. Here is the flagrant contradiction I mentioned, for here the relation between God and the world is, notwithstanding the denial immediately preceding, regarded as a causal relation in which the cause does not precede the effect, but is eternally simultaneous with it.

p. 39. 2. See *Cat.* 11. 14ª15: *δῆλον δὲ ὅτι καὶ περὶ ταὐτὸν ἢ εἴδει ἢ γένει πέφυκε γίνεσθαι τὰ ἐναντία.*

p. 39. 3. The difficulty exists only when the effect is axiomatically regarded as following the cause immediately in time; if the effect can be delayed, it must be in time; and if it is in time, the cause must be in time.

p. 39. 4. This proof is found in Aristotle, *Phys.* *Θ* 1. 251ª17–20.

p. 39. 5. That nothing can be in movement or at rest at an instant (*τὸ νῦν*, الآن) is proved by Aristotle, *Phys.* *Z* 3. 234ª24–ᵇ9. According to Plato, *Parm.* 156 d, e, the transition from rest to movement takes place instantaneously (*τὸ ἐξαίφνης*) and for the Megarians movement takes place at an instant, discontinuously by jumps (see Arist. *Phys.* *Z* 1. 232ª6–10; ib. 9. 240ᵇ30–241ª6; and Sext. Emp. *Adv. phys.* ii. 85). The discontinuous conception of movement is found also in Stoicism (*ἔχει τὸ πάλιν καὶ πάλιν* Simpl. *In Arist. Cat.*, see *Stoic. Vet. Fr.* ii. 161. 21). In Islam the idea of a jump (الطفرة) in movement is connected with the name of an-Nazzam, but as a matter of fact the conception of the discontinuity of reality, combined with the Megarian and Stoic denial of potentiality, is one of the basic ideas of Muslim theology.

p. 39. 6. That change (becoming or motion) is the actualization of what exists potentially, in so far as it exists potentially (*ἡ τοῦ δυνάμει ὄντος ἐντελέχεια, ᾗ τοιοῦτον, κίνησίς ἐστιν*), is proved by Aristotle, *Phys.* *Γ* 1. 200ᵇ25–201ª29.

p. 40. 1. *πάντα τὰ ἐν χρόνῳ ὄντα περιέχεσθαι ὑπὸ χρόνου*, Aristotle, *Phys.* *Δ* 12. 221ª28.

p. 40. 2. I take this sentence to mean: God is not prior to Jesus in time, provided that you do not regard God as creating the world (and Jesus) in time and as preceding it. Jesus is only a posterior entity in so far as He is an effect—what Averroës calls here an accidental posteriority—of an infinite series of causes and effects. The duration of the world as a whole is not preceded by anything, since time is infinite; it is only particular parts of this duration that are preceded and followed by time.

p. 40. 3. This question is discussed by Philoponus, p. 116, l. 12, who answers it in the same way as Averroës does: It is permissible to say of the Timeless, He was when there was no time, and He will be when there will be no time, *ἦν ὅτε οὐκ ἦν χρόνος καὶ ἔσται ὅτε οὐκ ἔσται.* Philoponus adds that we must not mind the weakness of our expressions, but give our attention to their meaning.

p. 41. 1. 'God was indulgent and compassionate.' One might translate equally: 'God is indulgent'. The so-called perfect in Arabic can indicate a state either in the past or in the present. The example, however, given by Philoponus, who himself quotes Plato, *Tim.* 29 e, is: *ἀγαθὸς ἦν, ἀγαθῷ δὲ οὐδεὶς περὶ οὐδενὸς οὐδέποτε ἐγγίγνεται φθόνος*, God *was* good and the good can never have the slightest envy of anything (therefore God created the world).

p. 41. 2. In the following interesting, but slightly confused, passage Ghazali is no longer dependent on Philoponus. He begins by saying that future and past are relative to us (he ought to have said to the 'now' in which we are at present). The subjectivity of time, as I have remarked already (see note 13.1.), is often asserted in Hellenistic philosophy. In *de Ei apud Delphos*, Plutarch, in a passage quoted by Eusebius *Praepar. Evang.* xi. 11. 529a in which he expounds a Heraclitean view of nature which comes very near to the conceptions of the Muslim theologians, says: 'the terms of time, "afterwards", "before", "will be", "has been", are already by themselves a confession (*ἐξομολόγησις*) of the unreality of time'. Proclus in a passage of his commentary on Plato *Tim.* (*Stoic. Vet. Fr.* ii. 166. 4) says that the Stoics and many Peripatetics assert that time is *κατ' ἐπίνοιαν ψιλήν*, a mere product of thought. (Stobaeus, *Eclog. Phys.* 252, mentions by name the Peripatetics Antiphanes and Critolaus, as saying that time is a *νόημα ἢ μέτρον, οὐ'χ ὑπόστασις*, a concept or measure, not an existent.) Ghazali, however, does not develop this idea, but goes on arguing quite rightly that, if an extreme limit in time-extension is illusory, an extreme limit in spatial extension is illusory also. But, whereas we moderns regard such a limit as logically impossible, i.e. contradictory, Ghazali regards it as well founded and its denial an illusion of the imagination; for although denying the eternity of movement he seems to accept the Aristotelian conception of time and space as dependent on motion and body.

p. 41. 3. This argument would have been more convincing if Ghazali could have shown that the past may also become the future.

p. 41. 4. All this, i.e. the belief in the infinity of time.

p. 42. 1. This definition agrees with the conception of *διάστημα*, بعد, 'extension' or 'interval', as quoted by Simplicius (*Comm. in Arist. phys.* 571. 22): *τὸ διάστημα τὸ μεταξὺ τῶν ἐσχάτων τοῦ περιέχοντος τὸν τόπον.* This is, however, a conception of space which Aristotle himself rejects (*Phys.* *Δ* 4.

211b7), but which seems to have been adopted later by the Stoics, according to Simplicius (loc. cit.) and Themistius (*Stoic. Vet. Fr.* ii. 165. 11).

p. 42. 2. *διάστημα*, بعد, 'extension', can mean also 'dimension', for which Aristotle has also the term *διάστασις*; as space has three dimensions—*μῆκος, πλάτος, βάθος* (*Phys. Δ* 1. 209a4)—high and low are only one of the three relations into which extension can be divided.

p. 42. 3. By counting; the relation of the soul to time is treated by Aristotle, *Phys. Δ* 14. 223a16–29.

p. 42. 4. The necessary is eternal and unmovable; nothing compulsory or against its nature attaches to it (Arist. *Met. Δ* 5 ad fin.).

p. 43. 1. *ᾧ γὰρ ἡ κίνησις ὑπάρχει, τούτου ἡ ἀκινησία ἠρεμία*, Aristotle, *Phys. Γ* 2. 202a4.

p. 43. 2. Absolute becoming cannot be a movement, for, if it were, the non-existent in its becoming would have to move: Aristotle, *Phys. E* 1. 225a25. Absolute becoming would imply that the non-existent existed already, ibid. 28.

p. 43. 3. The Arabic text has only one word, عدم, *στέρησις*; both the Arabic word and the Greek can mean, according to the context, either absolute non-existence, *τὸ μὴ ὄν*, or privation; here, of course, relative non-existence, privation, is meant; becoming develops from contrary to contrary, the privation of health, for example, is sickness, of warmth, coldness, the sick man becomes healthy, the warm thing cold, but coldness and health, being forms, do not become or perish; they are eternal (see e.g. *Phys. B* 5. 205a6 and *Met. B* 4. 999b5).

p. 43. 4. A vacuum, emptiness, which according to Aristotle does not exist, would have the potentiality of extension, because a body could occupy it: *κενὸν δ' εἶναί φασιν ἐν ᾧ μὴ ἐνυπάρχει σῶμα, δυνατὸν δ' ἐστὶ γενέσθαι, De caelo A* 9. 279a13 (this is a definition accepted later by the Stoics, see Sext. Emp. *Hyp. Pyrrh.* iii. 124). In using the expression 'for instance' Averroës thinks probably of a matter, *ὕλη*, without extension which might be erroneously assumed to exist.

p. 43. 5. The paralogism Ghazali commits, according to Averroës, is that *παρὰ τὴν ἔλλειψιν τοῦ λόγου*, i.e. based on an insufficiency in the definition (*De soph. elench.* 5. 167a22).

p. 43. 6. Since time does not abide, says Aristotle, it cannot have position (*θέσις*), and one should rather say of it that it has order (*τάξις*), through its relations of prior and posterior (*Cat.* 6. 5a27–30).

p. 44. 1. *τὸ νῦν τελευτὴ καὶ ἀρχὴ χρόνου. . . . τοῦ μὲν παρήκοντος τελευτή, ἀρχὴ δὲ τοῦ μέλλοντος, Phys. Δ* 13. 222a33–b6.

p. 44. 2. Since it is impossible that time could exist or be conceived without the present, and since the present is a kind of middle combining

beginning and end (*ἀρχὴν καὶ τελευτὴν ἔχον ἅμα*) . . ., time must be eternal and stretch away from it in two directions, *Phys. Θ* 1. 251b19–26.

p. 44. 3. *ἡ στιγμὴ πέρας γραμμῆς* e.g. *Top. Z* 4. 141b20–21.

p. 44. 4. *ἡ στιγμὴ ἀρχὴ γραμμῆς* e.g. *Top. A* 18. 108b30.

p. 44. 5. 'That its becoming is a vanishing'—this is one of the paradoxes of continuity. The past 'now' must have vanished before the present 'now', but it could not have vanished when it was itself the 'now', because then it would not have been, nor could it have vanished in another 'now' than itself (see Arist. *Phys. Δ* 9. 218a15–18).

p. 44. 6. It is clear, says Aristotle, that the 'now' is not a part of time any more than points are part of a line, *Phys. Δ* 11. 220a18.

p. 44. 7. Spatial quantity has position (*θέσις*); number and time have order, *τάξις, Cat.* 6. 5a15 (see note 43. 6).

p. 44. 8. i.e. of being a present and preceded by a past, for this is its definition.

p. 45. 1. So far as the infinite void is infinite, says Aristotle, it could not have a high (*ἄνω*) or low (*κάτω*), and so far as it is emptiness, no high nor low could be distinguished in it, any more than any distinctions can be made in the nothing; and emptiness is nothing positive, but a mere *στέρησις, Phys. Δ* 8. 215a8.

p. 45. 2. For how can there be any natural movement in the undifferentiated infinite vacuum? loc. cit. a6.

p. 45. 3. See note 27. 2.

p. 45. 4. On the whole Aristotle regards the accident as a universal (only in *Cat.* 2 does he draw an explicit distinction between the universal and the individual accident), in agreement with our common language, for when we say, 'This table is yellow', 'yellow' is a universal, and when we speak of 'this yellow' we mean this shade of yellow, a universal and not an individual yellow. The commentators, however, often regard the yellow of the table and the yellow of the chair as individually different, and as individualized and localized through their substratum, and this is what Averroës means here. He makes the true observation that the point is localized in the individual line and can be pointed at, it is a this, a *τόδε τι*, it is here or there; but the 'now' is everywhere, for it is everywhere now, or, as Aristotle expresses it, *Phys. Δ* 12. 220b5: 'everywhere the identical time is simultaneous'.

p. 45. 5. Time is not movement, says Aristotle, but that by which movement can be numerically expressed, *οὐκ ἄρα κίνησις ὁ χρόνος ἀλλ' ᾗ ἀριθμὸν ἔχει ἡ κίνησις, Phys. Δ* 11. 219b2.

p. 45. 6. The relation between movement, the 'now', time, and number in Aristotle's physics seems very obscure, *ὁ χρόνος ἐστὶ τὸ ἀριθμούμενον καὶ οὐχ*

ᾧ ἀριθμοῦμεν, time is the thing numbered and *not* the numbers by which we count (219b7) and it is the 'now' which counts according to *Phys.* 220a22. Plotinus in his attack on Aristotle's definition of time, *Enn.* iii. 7. 8, says that there is no explanation given whether the time is the measure or the thing measured. Still, what Averroës says expresses at least one of the things Aristotle intended. The number 'ten' can be attributed to ten horses or any other group of ten, says Aristotle, 220a23; and a hundred men and a hundred horses have the same number, but the horses numbered are different from the men numbered, 220b10.

p. 45. 7. Aristotle does not speak of a cave in connexion with time (he has the simile of the cave, inspired by Plato, in *De philosophia* fr. 12 Rose—Cic. *De nat. deor.* 2. 37. 95), but he says, *Phys.* Δ 11. 219a4, that even in the dark, and even if we had no perceptions through the body, we should know time through a movement in the soul.

p. 45. 8. That movements exist in time is clear, but how the things numbered can exist in number cannot be understood; it is rather number which exists in the things numbered. This shows the fallaciousness of the analogy.

p. 46. 1. ὁ χρόνος ἀριθμός ἐστι κινήσεως κατὰ τὸ πρότερον καὶ ὕστερον, e.g. *Phys.* Δ 11. 219b1–2.

p. 46. 2. For it would be the individual accident of that individual movement.

p. 46. 3. i.e. the comparison of the temporal with the spatial limit.

p. 47. 1. The answer Ghazali here gives in the name of the philosophers is not one that can have been given by a philosopher of the school of Aristotle, for whom 'above' and 'below' not only have a real physical significance, but who distinguishes explicitly between an objective sense, by nature, φύσει, and a relative sense of the terms up, down, right, and left according to the position we take up (κατὰ τὴν θέσιν ὅπως ἂν στραφῶμεν, *Phys.* Δ 1. 208b16). As a matter of fact the argument is based on a passage in *Tim.* 62 d–63 a, in which Plato says, to put it briefly, that, since the universe is in the form of a sphere and its circumference is everywhere at the same distance from the centre, the earth, which cannot be called anything else but centre, it would be irrational to call any part above or below. A man walking round the earth in a circle would often stand at the antipodes (ἀντίπους) of his former position and would then call the same direction above which formerly he had called below. This passage is summarized by Aristotle, *De caelo* Δ 1. 308a18, in one sentence: some say that there is no above and below in the world, because all directions are equivalent and anyone walking round from anywhere will come to stand at his antipode. Aristotle then refutes this theory by saying that 'above' has a real physical sense and means 'nearest to the extreme, τὸ ἔσχατον, the circumference', and

'below', 'nearest to the centre, the earth'. Ghazali seems on the whole to agree with the argument given in the name of the philosophers. He does not seem to be aware that it is in contradiction with two of the principles enunciated by himself: that time is relative to us (see p. 41), for time is regarded here as objective and irreversible; and that spatial extension is apprehended as divided through the relation of high and low (see p. 42).

p. 47. 2. For the answer is irrelevant, since the problem is: Why is there a final term to the *objective* spatial dimension?

p. 47. 3. φύσει.

p. 47. 4. See p. 27.

p. 47. 5. Ghazali will not really object that 'above' and 'below' form an infinite series because of experience based on imagination, since according to him 'above' and 'below' have no definite sense; he will now use the terms 'outside' and 'inside', which for Averroës, however, have the same meaning as 'above' and 'below'.

p. 47. 6. Aristotle does not distinguish space from place, i.e. the space actually occupied by a body. The consequence of this is his negation of the void. The space of the world is contained as in a vessel by its extreme surface. A body is in a place when it is surrounded by another body outside it; but if not, not (Arist. *Phys.* Δ 5. 212a31).

p. 48. 1. To be consistent Ghazali ought to have said 'cannot be imagined'.

p. 48. 2. Imperceptible, غائب, ἀναίσθητον. Those who believe in the void, says Aristotle, believe it to be an extension not occupied by any perceptible body (*Phys.* Δ 6. 213a27); and he says, *Phys.* Γ 5. ad init., that it is impossible that there should exist an infinite void separated from the perceptible.

p. 48 .3. Amongst the five reasons which Aristotle, *Phys.* Γ 4. 203b15, gives for the belief in something infinite, he reckons the imagination as the most important. Through imagination that which is outside heaven, τὸ ἔξω τοῦ οὐρανοῦ, seems to be unlimited, and this would imply also the infinitude of body.

p. 49. 1. The word I translate by 'measure', تقدير, is ambiguous and can mean also 'possibility'; either meaning would be appropriate here.

p. 49. 2. The whole of this passage is a variation on the argument given by Averroës, pp. 17–18, see also note 17. 1.

p. 49. 3. οὐ μόνον δὲ τὴν κίνησιν τῷ χρόνῳ μετροῦμεν, ἀλλὰ καὶ τῇ κινήσει τὸν χρόνον διὰ τὸ ὁρίζεσθαι ὑπ' ἀλλήλων: not only do we measure movement through time, but reciprocally time through movement, since they mutually determine each other, Aristotle, *Phys.* Δ 12. 220b14.

p. 50. 1. i.e. we can find that one movement is longer than another by measuring them with units they both have in common. Aristotle says, loc. cit. l. 18: 'when we call time much or little we measure it through units of motion, as we measure numbered things through the units of number—the number of horses, for example, by taking one horse as a unit'.

p. 50. 2. Every actuality is the actualization of a potentiality, and since movement is the actualization of the mobile as such (*φαμὲν δὴ τὴν κίνησιν εἶναι ἐντελέχειαν τοῦ κινητοῦ ᾗ κινητόν Phys. Θ* 1. 251ᵃ9), it presupposes the existence of a mobile. And since movement is measured by time, time also must be eternal.

p. 50. 3. This argument is found, for example, in Avicenna's *Salvation*, p. 189 and p. 421.

p. 50. 4. i.e. every potentiality will realize its actuality and every actuality is the consequence of its own potentiality; e.g. if God had created the world a thousand years ago, this would have been the actualization of the potentiality of creating the world a thousand years ago, and the world could not have been created eleven hundred years ago, because this was never realized and therefore was not possible. Averroës refers here to one of the problems most discussed in Islam, whether there can be possibles that are never realized. According to Aristotle, *Met. Θ* 4 ad init., you cannot say that a certain thing may possibly be but will never be, for this would destroy the definition of the impossible, since 'impossible' means what will never be (it is this conception of the possible which is meant by Aristotle when he declares that there cannot be an infinite possible time, since a possible cannot be infinitely unrealized; see note 17. 1 and below). Averroës himself often accepts this definition, but it is contrary to the basic idea of Aristotelian philosophy, the reality of a potentiality which may or may not happen; and by declaring that the possible must happen he reduces it to necessity. This conception of the possible—which is also maintained by Simplicius, *In Phys.* 1225. 32 *δυνατῷ ἀδύνατον οὐχ ἕπεται*—forms the basis of the argument given by the Megarian Diodorus Cronus, see my *Ep. d. Met. d. Av.*, p. 209.

p. 50. 5. i.e. since every possible movement in the world is in time, it may well be that any 'possible' is connected with time (the question, however, is: Are there any 'possibles' outside the world?).

p. 51. 1. There is certainly no difference.

p. 51. 2. The reasoning is: it is impossible to imagine the world smaller or bigger than it actually is (this is a *petitio principii*, for it needs to be proved that actually it is not infinite), but before the world existed and its possibility was actualized, the world might possibly have any size, since it was then not yet necessary that the world should have its actual size. This implies that the future is not yet determined, but that when a thing has once occurred it must necessarily be what it is. This conception is found in Aristotle, *De interpr.* 9. 19ᵃ23: that a thing is in the time in which it is, is indeed necessary (*τὸ μὲν οὖν εἶναι τὸ ὂν ὅταν ᾖ . . . ἀνάγκη*), but it is not necessary that a naval battle will take place tomorrow, it is only necessary that either it will take place or not. In reference to the future there are therefore three natures: the possible, the impossible, and the necessary.

p. 52. 1. See note 27. 3.

p. 52. 2. i.e. it is based on reason, not on mere imagination.

p. 52. 3. That the generation of the world would imply a *σύστασις*, some formation out of which the change could take place, is laid down by Aristotle, *De caelo A* 10. 280ᵃ23, and he proves, ibid. *Γ* 2. 301ᵇ30–302ᵃ9, the impossibility of a generation *ex nihilo*, since it demands an empty space to hold previously non-existent bodies. Compare the Stoic argument (Ps.-Philo, *De incorrupt. mundi* 102, *Stoic. Vet. Fr.* ii. 188. 24) that there has to be empty space in which the world can dissolve itself at its conflagration.

p. 52. 4. This sentence expresses of course a certain contempt for the theologians. Maimonides in his *Guide of the Perplexed*, i, ch. 73, where he gives a summary of the system of the Muslim theologians, says only of the older Mutakallimun that they believed in the theory of the Void. Empty space is refuted by Ibn Hazm, op. cit. v. 70, 71 and i. 25 sqq.

p. 52. 5. By the Ash'arites. Ghazali here gives in Ash'arite terminology a theory of the Ash'arites which he criticizes, although he accepts it ultimately. He pretends, however, that it is given by the philosophers, and indeed it may have been given by a philosopher for the reason stated in note 50. 4 (cf. also next note), but there is here some confusion in Ghazali's mind.

p. 52. 6. i.e. the world, having the size it has, could not have been created otherwise, for the possible is what will be some day realized; a difference in size was never realized, and it was therefore not possible and *could* not have been realized, i.e. it is impossible that reality should have been different from what it actually is (cf. Spinoza, *Eth.* i, prop. xxxiii: 'res nullo alio modo neque alio ordine a Deo produci potuerunt, quam productae sunt'). The theory of the Ash'arites comes to the same as Aristotle's doctrine that the possible must always be realized, but neither Aristotle nor Averroës is aware of the implication of this doctrine, i.e. that it destroys their own theory of objective possibility—the possibility of opposite acts. The Ash'arites in their doctrine of the possible are dependent on the Megarian and Stoic conception of the possible, just as in their whole conception of fate and will they depend on the Stoics. The Ash'arite doctrine that there is no possible before the real, actual fact, that the possible is coexistent and coextensive with the actual, is the Megarian theory 'that a thing can act only when it is acting, and when it is not acting cannot act', criticized by Aristotle at *Met.*

Θ 3. 1046b29. The word مقدور, which I translate by 'can be done', corresponds in its original meaning to the Stoical term *εἱμαρμένον*, that which is decreed; but since for the Ash'arites what is decreed is the real, and the real is the possible, and the possible is what can be done, the term takes the meaning which it has here, that of anything that can be done by a will, be it the eternal Will or the will of a transitory being (the same development had taken place in Stoic doctrine, where the *εἱμαρμένη* became identified with the *ἐπιδεκτικὸν τοῦ γενέσθαι*, i.e. fate is what is capable of becoming, see Plutarch, *De stoic. rep.* 46 and note 53. 1). We find in Shahrastani, *Religious and Philosophical Sects*, p. 69, 1, the following definition المكتسب هو المقدور بالقدرة الحادثة والحاصل تحت القدرة الحادثة which I would translate: 'acts in our power (المكتسب corresponds to the Stoic term *τὸ ἐφ' ἡμῖν*) are those which have been decreed to be done, and therefore can be done, by the power of a transitory being, and can be realized by it'. This is the Stoic conception of the will of the creature as an instrument through which the predestined will of God can be realized. It seems to me embodied in such definitions as in Alexander of Aphrodisias, *De fato* 13, *Stoic. Vet. Fr.* ii. 285. 33 *τὰς διὰ τῶν ζῴων ὑπὸ τῆς εἱμαρμένης γινομένας ἐπὶ τοῖς ζῴοις εἶναι*: what is in the power of animals is what is realized by fate through them as its instrument; or in its Latin form in Chalcidius, *Commentary on the Timaeus*, *Stoic. Vet. Fr.* ii. 272. 4: 'quae in nostra potestate posita, omnia certe ex initio disposita atque decreta'.

The Ash'arite denial of potentiality, i.e. the denial of the possible *in rerum natura*, taken from the Megarians, is founded on the law of thought, later formulated and violated by Aristotle—see note 12. 3—that a thing either is or is not, *tertium non datur*, whereas the potential, as what *may* be, *is* not yet, still seems to have some reality. From this law of thought, too, the Megarians and the Ash'arites, as before them the Eleatics, had deduced that there can be no becoming (since what becomes neither is nor is not) nor transition in time, nor movement in space, for what passes in time *is* not in time, since it passes, and what moves would *be* nowhere, since it moves. Therefore the Megarians and the Muslim theologians conclude that what we call movement is the being (or illogically *κινήματα*, timeless jumps—illogically, for there is no identity in the atoms) of a material atom (*ἀμερές*) at the next time-atom in the next space-atom (that this is the theory of the Megarians can be seen from Arist., *Phys.* Z 10. 240b31, and Sext. Emp. *Adv. phys.* ii. 85). This implies the atomic structure of nature (see *Pyrrh. Hyp.* iii. 32; for the atomic view in Islam see, e.g., the extensive discussion in Ibn Hazm, op. cit. v. 92). This atomic structure of nature is not admitted by the Stoics, who believe in the infinite divisibility of matter, time, and space (the Mu'tazilite an-Nazzam, who is the Islamic thinker most influenced by Stoicism, also accepts this infinite divisibility); but from them the Muslim theologians take the idea of a passive material universe and the one active

principle, God. In Islam, however, the immanent Stoic God, the agent of a unified universe, becomes the transcendent Allah, who discontinuously creates and re-creates His atomic world.

The problem of the existence of potentiality, i.e. objective possibility—capacities, faculties, tendencies, dispositions, powers, all the entities that imply the term 'can' (and every individual is a centre of such possibilities)—in which we all seem to believe when we are not philosophizing, was much discussed in later Greek and Roman philosophy (see e.g. Ps.-Plutarch *De fato*, Cicero *De fato*, and especially Alexander of Aphrodisias *De fato*, an important book which has never been properly translated) and even became a subject of polite banter (see Cicero, *Ad familiares* ix. 4, *Stoic. Vet. Fr.* ii. 93). The problem is very difficult, and I do not see how the Eleatic–Megarian argument can be refuted.

Aristotle argues against the Megarians (*Met. Θ* 3) that potentiality must necessarily precede actuality; before a man builds, he says—and it seems almost a truism, for it seems evident that it is through the knowledge which he has acquired and which lies dormant in his soul that the builder will practise his art—he must possess the art of building, i.e. he must be a potential builder; before a man actually sees or walks he must have the capacity to see or walk. However, there is here a difficulty—which the Megarian Diodorus Cronus saw in his *κυριεύων λόγος*, his 'master-proof' (for the problem compare Cicero, *De fato* 7.13 where the question is discussed whether a signet-ring, *gemma*, which never will be broken can be regarded as breakable): it is not possible for a man to see, i.e. he cannot see, before all the conditions of his seeing are fulfilled, e.g. when it is light and his eyes are uncovered; it is impossible that he should walk if he does not will to walk. But if all the conditions of his seeing and walking are fulfilled, so that he can see and walk, he will see and walk actually and his seeing and walking will be necessary, not possible. Indeed, we seem to hold the contrary propositions that we act because we have the power to act (because we can act), and that we act because we have to act. The difficulty is felt by Aristotle, where he says (*Met. Θ* 7. 1049a8) that a house is potentially a house when there are no obstacles and when nothing has to be added or subtracted or altered. But in such a case the potential house is already the actual house, and there is no process, no becoming.

The idea of potentiality (and potentiality in Aristotle does not only mean 'capacity', 'power', i.e. 'can do', but also 'can be', 'can exist', 'can undergo') seems to express our belief in the fundamental identity of things, our belief that *ex nihilo nihil, que rien ne se crée, rien ne se perd*, that all change, all becoming is but a transformation of what existed previously under another form, is but a coming-to-be out of something, a development, an evolution (i.e. an unrolling; cf. Cicero, *De div.* i. 56. 127: the series of events in time is like the uncoiling of a rope, *quasi rudentis explicatio*), that tomorrow is

contained in today, that *ciascuna cosa, qual ella è, diventa* (Dante, *Parad.* xx. 78). But the idea of potentiality leaves two things unexplained: (1) the status of potentiality, this mysterious state of dormancy between being and non-being; (2) the very process of actualization, of development, of evolution, for in the actualizing process either something is added to the potentiality and then we have a becoming out of nothing, or nothing is added and then there is no change. Aristotle tries to have it both ways. In the example of the house given above the potential house is already the actual house, there is no process, no becoming; in the example of wine turning sour (cf. note 61. 6), the actual sourness is the actualization of a potential sourness, but how this actualization takes place cannot be understood, as Aristotle himself admits, and the actual sourness, since it was not there before, arises out of nothing.

p. 52. 7. They have compromised themselves by accusing their opponents of charging God with impotence, since they themselves hold that it is impossible that the world should be bigger or smaller than it actually is.

p. 53. 1. The implication of this argument is that for God only the contradictory is impossible. Ghazali here makes the important distinction between logical impossibility or necessity and factual or hypothetical impossibility or necessity, *τὸ ἀναγκαῖον ἁπλῶς* and *τὸ ἀναγκαῖον ἐξ ὑποθέσεως*, found confusedly in Aristotle, *De part. an. A* 1. 639^{b}24 (cf. *Met. Δ* 5. 1015^{b}9 and *Met. Λ* 7. 1072^{b}12; see also note 23. 3). This distinction is known in modern philosophy through Leibniz's distinction of *vérités de fait* and *vérités de raison* (*Monad.* 33, *Nouv. Essais*, i. 1. 26). A *vérité de raison* is that *A* is not not-*A*; a *vérité de fait*, that fire burns. The distinction is, however, complicated by the fact that we believe that there are reasons why fire burns, as Leibniz acknowledges, *Monad.* 31–32, that in the apparent changing events there are underlying identities, and the aim of science is to find, in the *vérités de fait*, *vérités de raison*. The problem of possibility in relation to God was much discussed both in Eastern and Western scholasticism. Some, like Ibn Hazm, hold that God can do the impossible, whereas the Ash'arites exclude the logically impossible or what they hold to be the logically impossible (see Ibn Hazm's criticism of them, op. cit. iv. 214, l. 1). Both Ghazali and the Ash'arites hold the contradictory propositions that nothing is possible but what exists, and that for God everything is possible but the logically impossible. Plutarch, *De stoic. repugn.* c. 46, *Stoic. Vet. Fr.* ii. 64. 39, reproaches the Stoics with the same contradiction. In modern philosophy Descartes believed in God's omnipotence; Leibniz excluded the logically impossible.

p. 53. 2. i.e. the possibility that the world might be larger or smaller than it actually is.

p. 53. 3. Averroës does not express himself well, but what is implied is sound. He should have said: All logical inference is necessary; no inference

about fact, however, is based solely on logical necessity, but needs as an initial premiss a fact, self-evident (*cogito*, e.g.) but not logically necessary; if, however, by false reasoning you assume a fact, contradictions will follow from this assumption whose exposition is called by Aristotle *ἐκ* (or *διὰ*) *τοῦ ἀδυνάτου δεικνύναι* (or *ἀποδεῖξαι*), e.g. *Anal. Pr. A* 17. 37^{a}9, a *reductio ad absurdum*.

p. 53. 4. *ὥστε οὔτε νῦν εἰσὶ πλείους οὐρανοὶ οὔτ' ἐγένοντο οὔτ' ἐνδέχεται γενέσθαι πλείους· ἀλλ' εἷς καὶ μόνος καὶ τέλειος οὗτος οὐρανός ἐστιν*, *De caelo A* 9. 279^{a}9.

p. 53. 5. i.e. after the study of logic.

p. 53. 6. From the thesis that it is impossible that something which has not happened (or will not happen) might have happened, Ghazali concludes rightly that everything that happens is necessary (of course this implies a belief in natural law; if you deny natural law with the Ash'arites, things are neither necessary nor possible, they simply are). This necessity is admitted by Averroës. Ghazali, using the double sense of 'necessity' in Aristotle, proceeds to conclude, from the fact that everything happens by necessity, that it will have no cause. Aristotle, as we saw, distinguishes logical necessity and factual necessity—a fact is necessary when it has happened through a cause; primary logical necessity is not conditioned, but is necessary by itself and eternal, i.e. it is eternally true or valid. Aristotle, who constantly confuses the individual and the universal, facts and propositions, regards God's existence as such an eternal truth and therefore unconditioned and necessary by itself (see especially the passage at *Met. Δ* 5. 1015^{b}9 indicated above in note 53. 1).

p. 54. 1. This doctrine is not proper to Avicenna, but, as we have shown, is fundamentally Aristotelian. It is the correct answer, according to Aristotle, that God's existence is necessary through His own essence, whereas the existence of transitory beings needs an extraneous cause.

p. 54. 2. This example (see note 29. 4) is highly confused. He has to show that transitory existents which are necessary have a cause; what he shows is that there are necessities which cannot be attributed to existents because they express a relation between universals. The necessity he mentions here concerns the conditions for a saw being a saw, but does not refer to the existence of any particular saw.

p. 54. 3. There is no necessary connexion between the atoms of the Ash'arite atomic universe, nor does God stand under any law or any constraint; on the contrary, He is the law, the *Λόγος*, the *Νόμος* (the Arabs have the word ناموس, *nāmūs*). The latter idea is Heraclitean and Stoic.

p. 54. 4. i.e. according to Ghazali: the opponent of the philosopher, i.e. the Ash'arite.

p. 54. 5. The argument is not similar, but identical. The thesis is: the world is only possible during its existence. Convert this statement and you have: the world is impossible before its existence. This is the objection which Aristotle makes against the Megarians, *Met.* Θ 2. 1047ᵃ10: *ἔτι εἰ ἀδύνατον τὸ ἐστερημένον δυνάμεως, τὸ μὴ γενόμενον ἀδύνατον ἔσται γενέσθαι*; again, if that which has no possibility is impossible, that which is not happening cannot possibly happen, i.e. if the possible is what happens, that which does not happen ('that which has no possibility') is impossible; therefore, Aristotle concludes, before the possible thing happened it was impossible. Aristotle's argument rests on a *quaternio terminorum*: he takes 'possible' in its Megarian sense of 'happening' and 'impossible' in the usual sense of 'what cannot happen'. If he had given to the word 'impossible' the sense the Megarians intended, his argument would only have amounted to this: 'If that which is not, is not, that which is not happening is not happening.' Ghazali turns here completely round; he now makes the philosophers, using Aristotle's argument, attack the Ash'arite thesis, which he pretended they held, and he defends the Ash'arite thesis which he previously attacked himself.

p. 54. 6. If you take 'impossible' to mean, as it does for the Ash'arites, 'non-existent' and 'possible' 'existent', this is certainly quite obvious.

p. 54. 7. Ghazali now reverts to his former argument based on the analogy of time and space; this sentence has no connexion with what immediately precedes.

p. 54. 8. i.e. the suppositions of different possibilities in time for the creation of the world as given in Avicenna's argument, pp. 48–49.

p. 54. 9. i.e. because all things are in time, imagination represents God as in time.

p. 55. 1. i.e. the possible implies the impossible, but the impossible is what necessarily cannot happen and therefore implies necessity.

p. 55. 2. This refers to Aristotle, *Met.* Δ 12. 1019ᵇ23 and *De caelo A* 12. 281ᵇ27: to assume that what is impossible may exist, e.g. the fact that the diagonal of a square is commensurate with the side, is an impossible falsehood, because, according to Aristotle, its contrary is not only false, but also false of necessity; to assume that the possible may exist is a possible falsehood, because the contrary is not necessarily false; that a man should be seated is possible, says Aristotle, since it is not necessarily false that he is seated.

p. 55. 3. This is quite true. The Megarians and the Ash'arites should not have said that the possible is coextensive with the actual; they should have said that 'possible' has no meaning at all.

p. 55. 4. If it is impossible before its existence, it cannot be true, as he has just said, that a thing should be possible before its existence.

p. 55. 5. Nothing absolutely incorruptible—says Aristotle, *Met.* Θ 1050ᵇ16—is absolutely potential: *οὐδὲν ἄρα τῶν ἀφθάρτων ἁπλῶς δυνάμει ἐστὶν ἁπλῶς.*

p. 55. 6. See notes 50. 4, 17. 1, and below.

p. 56. 1. This is one of the fundamental ideas of the Aristotelian philosophy and also one of its fundamental contradictions: in action (*ἐνέργεια*) فعل, lies the perfection (*ἐντελέχεια*) استكمال, of every being, and indeed these two terms are often used synonymously; on the other hand, the idea of action *presupposes* the idea of perfection, of an end; action is not an end in itself (this is denied by Arist. *Met.* Θ 6. 1048ᵇ18, at least for certain actions), but tends towards an end. We have here the old difficulty of change and becoming, concealed through the ambiguous use of the term *ἐνέργεια*. *ἐνέργεια* is the act, the actualizing, it is also the end of the process of actualizing, the *being* in actuality, the reality attained, and in fact it is synonymous with reality. Without realizing it Aristotle identifies becoming and being, the act, *ἐνέργεια*, towards the end becomes the end, *ἐντελέχεια*, and inversely the end, *ἐντελέχεια*, becomes the act, *ἐνέργεια*. There is a similar confusion in Aristotle's theory of movement which he defines *Phys.* Θ 5. 257ᵇ8 as an incomplete action, *ἐντελέχεια ἀτελής*. Now every activity is the actualization of a potency, i.e. a change, and every change for Aristotle is movement. However, in this definition Aristotle seems to mean by action not the process, the attaining of the end, but the end attained, whereas in the definition of movement as *ἡ τοῦ δυνάμει ἐντελέχεια* by entelechy the process is meant.

p. 57. 1. This proof is the same as that of Avicenna (pp. 48–49) and Averroës (p. 17), only here it is applied to the existence of the world. It is based on the idea that what is possible must at some time be realized, and that therefore nothing can be eternally possible; and it is a *petitio principii*, i.e. it assumes that the world is ungenerated (if you substitute the words 'existence of Socrates' for 'existence of the world' the argument will not prove the eternal existence of Socrates). The world is not eternal, because it could not not have been, but, because the world is eternal, it could not not be. The same *petitio principii* is found in Aristotle, *De caelo A* 10–12, which is the source of this argument, where, besides, Aristotle proves *in extenso* the two truisms (1) that what exists during an infinite time—and he implies by 'infinite', infinite *a parte ante* and *a parte post*—can neither become nor perish, since if it did, it would only be at some time; and (2) that what is both ungenerated and incorruptible cannot be of the nature of the possible (i.e. the changing), i.e. can neither be generated nor be destroyed.

p. 57. 2. 'Possible' in the sense of what 'has to be'.

p. 57. 3. i.e. is logically necessary; absurd, محال, *ἄτοπος*.

p. 57. 4. Cf. *De caelo A* 12. 281ᵇ20: if anything that exists for an infinite time is destructible (*φθαρτόν*), it must have the possibility of not being.

p. 57. 5. Or more exactly, Aristotle says, *Phys.* Γ 4. 203b30: ἐνδέχεσθαι ἢ εἶναι οὐδὲν διαφέρει ἐν τοῖς ἀϊδίοις, in eternal beings possibility (i.e. realization) and existence coincide.

p. 57. 6. This is in opposition to the Ash'arite doctrine that possibility conforms to reality, i.e. is coextensive with it.

p. 58. 1. This sentence agrees with the Ash'arite doctrine that the possible is what has become (i.e. that possibility is coextensive with reality); i.e. Ghazali first affirms in this passage, in opposition to the argument of the philosophers which implies that what becomes had necessarily to become, that there is objective possibility: the world could become at any time whatever, i.e. God could create at any moment, but did not do so; and then he denies this in the last sentence by saying that only what has been realized is possible. What he wants to say is this: the world might have been created at any time, but it has been in fact created (its creation was possible, in the Ash'arite sense) at a definite specified time. This is, of course, a *petitio principii*, since the problem is whether the world was created or is eternal.

p. 58. 2. The problem of an alternative generation and corruption, as asserted by Empedocles, the Atomists, and Heraclitus (the Stoics later renew the Heraclitean doctrine of the world as ἁπτόμενος μέτρα, ἀποσβεννύμενος μέτρα, inflamed and extinguished according to measures), is discussed by Aristotle, *De caelo A* 10. 280a11. He compares this to the evolution of a child into a man, and the production of a child out of a man, and says it must be an ordered, not a fortuitous process, and must be not an absolute generation and destruction of the world, but only a change in its dispositions (διαθέσεις).

p. 58. 3. The theologians believe in the corruptibility of the world, for which, as we will see in the next chapter, they give the main Stoic argument.

p. 58. 4. See, for example, Aristotle, *Met. Z* 7. 1032a20: δυνατὸν γὰρ καὶ εἶναι καὶ μὴ εἶναι ἕκαστον αὐτῶν, τοῦτο δ' ἐστὶν ἡ ἐν ἑκάστῳ ὕλη, for what in every thing has the potency to be or not to be, that is the matter in every thing.

p. 58. 5. This is not absolutely true; the forms do not become either—form is eternal like matter, and becoming is a change of form in matter. Aristotle, however, has also (*Phys. A* 9. 192b1) the term φυσικὰ καὶ φθαρτὰ εἰδή, natural and perishable forms. See note 31. 1.

p. 59. 1. e.g. *Met.* Θ 8. 1050b16: οὐθὲν ἄρα τῶν ἀφθάρτων ἁπλῶς δυνάμει ἐστὶν ὃν ἁπλῶς, nothing which is essentially incorruptible is essentially in potency (i.e. can be or not be).

p. 59. 2. This is not absolutely true; it is in contradiction to what Ghazali has just said, namely that matter itself *is* the essentially potential. It is, however, true that in Aristotelian philosophy potentiality is at the same time the substrate, the potentiality in the substrate, and the potentiality of the agent. See the text below and note 62. 6.

p. 59. 3. See note 11. 5.

p. 59. 4. i.e. that a man can do something is a consequence of his possessing the power to do it.

p. 59. 5. i.e. an objective reality, not something subjective.

p. 59. 6. i.e. matter.

p. 60. 1. For the circularity of this process see page 33 and note 33. 4.

p. 60. 2. Aristotle admits both an objective necessity and an objective possibility. The Stoics, who regard the world as a closed unique system in which everything that happens is the necessary consequence of an eternally determined concatenation of causes and effects, deny objective possibility (not quite consistently, as we have seen) and define possibility and chance in terms of our human ignorance of the laws of nature, αἰτία ἄδηλος ἀνθρωπίνῳ λογισμῷ (Alex. Aphr. *De fato* c. 8, p. 174. 2, *Stoic. Vet. Fr.* ii. 281. 35). It would seem that only the Eleatics and Megarians, who absolutely deny all becoming, could deny both objective necessity and objective possibility. However, the Stoics divide 'things' (see note 3. 6) into the corporeal and the incorporeal, relations belonging to the incorporeal. Necessity and possibility, being both relations and incorporeal, would have to be regarded by them as subjective. The Stoics seem to have committed the same inconsistency as many moderns who appear to believe in the objective necessity of cause and in the necessary character of objective laws of nature, but regard both possibility and necessity as expressing not the characteristics of things, but the conditions of our knowledge of them. That Ghazali may have taken his argument from some late Stoic source is indicated by the expression 'provided no obstacle presents itself'. Sextus Empiricus tells us in fact (*Adv. log.* i. 253) that the later Stoics regarded the apprehensive presentation τὴν καταληπτικὴν φαντασίαν as a criterion of truth, *provided that it has no obstacle*, τὸ μηδὲν ἔχουσαν ἔνστημα. The term καταληπτός, مفهوم, the apprehended, comprehended (*comprehendibile* in Cicero's translation, see *Stoic. Vet. Fr.* i. 18. 18), is frequently used in Muslim theology (see e.g. Massignon, op. cit., p. 56), and is often regarded by the theologians as synonymous with 'possible' ممكن. For the intermediate position of the apprehensive presentation see Cicero, loc. cit.: 'sed inter scientiam et inscientiam comprehensionem . . . collocabat (scilicet: Zeno), eamque neque in rectis neque in pravis numerabat, sed soli credendum esse dicebat'. Chrysippus' definition of the possible (Alex. Aphr. *De fato* c. 10, *Stoic. Vet. Fr.* ii, p. 279. 15) as that which is not prevented from happening by anything, although it may not happen (δυνατὸν εἶναι γενέσθαι τοῦτο ὃ ὑπ' οὐδενὸς κωλύεται γενέσθαι, κἂν μὴ γενήται) implies of course objective possibility (see also note 241. 1).

p. 60. 3. This, the most obvious definition of truth, is based on Aristotle, *De interpr.* 9. 19a33 ὁμοίως οἱ λόγοι ἀληθεῖς ὥσπερ τὰ πράγματα. The definition

becomes somewhat problematic when one asks what in the mind conforms to reality; but when rightly interpreted it is undoubtedly true, since it expresses in the form of an image the tautology that a true judgement is a judgement which expresses a truth ('truth' which is assumed in all thought is indefinable and irreducible like all primary concepts). Aristotle has also in this form the definition *Met.* *Γ* 6. 1011^{b}26: *τὸ μὲν γὰρ λέγειν τὸ ὂν μὴ εἶναι ἢ τὸ μὴ ὂν εἶναι ψεῦδος, τὸ δὲ ὂν εἶναι καὶ τὸ μὴ ὂν μὴ εἶναι ἀληθές.* Aristotle holds three views on truth: (1) the conformity of thought with reality; (2) a connexion between concepts (*συμπλοκὴ νοημάτων*) inside the judgement, *De an.* *Γ* 8. 432^{a}11; (3) reality itself, *Met.* *Θ* 10. 1051^{b}1.

p. 60. 4. It is an Aristotelian assumption that every logical concept has its counterpart in reality; thus the absence of a quality (privation, *στέρησις*) takes for Aristotle a positive meaning, and even of absolute privation, the non-existent, he says (*Met.* *Γ* 2. 1003^{b}10) that it is something, namely the non-existent (see note 61. 7). The 'something' (*τι*, see note 3. 6) plays an important role in Stoicism, which distinguishes between meaning and existence: 'nothing' means something, but the 'something' it means does not exist. Averroës in his answer might have said that the impossible, like the non-existent, expresses a negation; neither the impossible nor the non-existent exists, and therefore they need no substratum, but the non-existence of the impossible does not imply the non-existence of the possible, and the problem Ghazali has touched upon does not concern the impossible only, the negation of the possible, but negation generally; however, he follows a more Aristotelian train of thought, and regards the privation of the possible as a reality.

p. 61. 1. Ghazali seems to hold that every concept has to be either necessary, impossible, or possible; modality, however, refers only to judgements. Ghazali's argument would have seemed more plausible, if he had given as an example that four *can* be divided by two, which is a purely rational judgement and does not refer to any definite time. Ghazali's argument may be an interpretation of the Stoic theory as, for example, expounded by Cicero (loc. cit.): 'visis non omnibus adiungebat [scilicet: Zeno] fidem, sed iis solum quae *propriam quandam* haberent declarationem earum rerum quae viderentur'. The apprehending presentation carries with itself its own evidence.

p. 61. 2. By the 'possible' as predicated of the recipient he means the at present existing and actualized matter which is changing, losing one attribute and taking the contrary; e.g. wine turning into vinegar. The opposite of this possible is the impossible, for the matter of the wine can never become non-existent. The opposite of the sweetness of the wine is the acidity of the vinegar, and this acidity is necessary because the wine, turning into vinegar, will necessarily become acid.

p. 61. 3. The sweetness (i.e. the potentiality to become acidity) loses its potentiality when the wine has become acid, i.e. the sweetness is not there any more (*οὐκ ἐνυπάρχει*, see *Phys.* *A* 8. 191^{b}16).

p. 61. 4. It is the wine which is potentially vinegar, and which changes from potential vinegar into actual vinegar; in other words, becoming is not the change of a quality into another quality, of the sweetness into acidity; the substance, the substratum (the wine; the term 'substratum' is ambiguous, and I shall explain the difficulty below) becomes another substance through a change of quality. Something persists, says Aristotle, *Met.* *Λ* 2 ad init., but the opposite does not persist; there is, therefore, a third entity besides the opposites, namely matter, cf. *Phys.* *A* 7. 190^{a}17.

p. 61. 5. So far as I know, this definition is not found in Aristotle in exactly this form, but it expresses his conception perfectly. Cf. such passages as *Met.* *N* 2. 1089^{a}28: *τὸ κατὰ δύναμιν* (viz. *μὴ ὄν*) *ἐκ τούτου ἡ γένεσίς ἐστιν*, out of the possible (which is said not to be) generation follows, and *Met.* *Θ* 8. 1050^{b}11: *τὸ ἄρα δυνατὸν εἶναι ἐνδέχεται καὶ εἶναι καὶ μὴ εἶναι*, that, then, which can possibly be can either be or not be.

p. 61. 6. The possible non-existent lies in the *στέρησις* of what may become; in our example, the sweetness is the *στέρησις* (i.e. it is the non-acidity) of the acidity. In this *στέρησις*, in this sweetness (the non-acidity), the acidity lies potentially hidden; this potency is a kind of intermediate between pure nothingness and full reality. It seems an astonishing and unbelievable paradox, Aristotle himself says (*Phys.* *A* 8. 191^{b}16), that anything can become in this way out of the non-existent.

p. 61. 7. Indeed, the Mu'tazilite doctrine of the non-existent as a reality is based on Aristotle's doctrine of *στέρησις* as something positive (see also note 3. 6). There is an interesting parallel in early medieval Western philosophy: Fredegisus of Tours (an Englishman who was a pupil of Alcuin and who died in 819) says in his *Epistola de nihilo et tenebris* (ed. Migne, *Patr. L.* cv. 751): 'Omnis significatio est quod est. "Nihil" autem aliquid significat. Igitur "nihil" eius significatio est quid est, id est rei existentis.'

p. 62. 1. The actualized matter, wine *qua* wine, is in actuality; in the wine, however, there is an underlying substratum, matter, *ὕλη*, which is in potency. The last section of this passage is redundant and only repeats what I have tried to explain in notes 61. 2 to 61. 6.

p. 62. 2. The acidity of the vinegar is the outcome of the process of becoming; i.e. it belongs to the becoming in so far as it is actual, it exists in the product, whereas the non-acidity, the sweetness changing into it, has disappeared.

p. 62. 3. i.e. matter cannot be already actual, for becoming implies something that is not actual.

p. 62. 4. i.e. both Mu'tazilites and philosophers regard non-existence as something positive. The philosophers, however, believe that non-existence, which they call matter, never exists in reality without being connected with a form. The transition from blood to sperma and from sperma to the members of the embryo refers to Aristotle's theory, *De gen. an. A* 19. 726b5, that sperma is concocted blood coming from all parts *μόρια*, اعضاء, of the animal and possessing potentially all the parts of the new animal.

p. 62. 5. i.e. it would be an independent reality, fully existent and actual in itself.

p. 62. 6. The whole of this passage is a faithful, although somewhat redundant, summary of Aristotle's theory of becoming, discussed in *Phys. A* 6–10. This theory is contradictory, for it is said that becoming is the transition of a *στέρησις* into a positive quality (e.g. non-acidity into acidity) and that in the *στέρησις* its opposite potentially lies, but it is also said, as I have explained in note 61. 4, that the sweetness, the *στέρησις* of acidity does *not* become acidity; it leaves the wine and is replaced by its opposite, the acidity, and therefore it is the substratum, the substance, the wine, which becomes acid, i.e. the potentiality lies in the wine, not in the sweetness. But even this latter thesis can only be maintained through an ambiguity in the term 'substratum' or 'substance'. For although the wine may be called a substance or substratum, according to Aristotle's definition (*Cat.* 5) that the substance is the individual, the real substratum of the whole process is not the wine but matter. For the wine is nothing but the combination of matter and form; when wine turns into vinegar some forms leave the substratum, matter, to be replaced by other forms; there is here no becoming, only a change of forms; the real substratum, unqualified matter, remains, and remains eternally. For matter is eternal, although according to Aristotle it is pure potentiality, and nothing potential, according to him, can be eternal, and in this eternal matter eternal forms alternatively appear and vanish eternally, for forms too are eternal. Eternal forms and eternal matter, indeed, are the basic principles of the whole system, and through the combination of these principles the transient world is said to arise. But how can such heterogeneous elements as matter and form combine; how can the transient individual arise out of the combination of these two eternal elements? Whence do these eternal forms come, and whither do they go? Concerning this last problem there are two attempts at solution: (1) the transcendent Middle Platonic and Neoplatonic solution that they lie eternally in the mind of a transcendent God; (2) the immanent Stoic solution that the individual forms (*λόγοι*) lie in germ (*σπερματικῶς*) hidden in the immanent divine logos which unfolds itself in the world fatally and inexorably. The theory of a germinal development, كمون, was known in Islam and is ascribed to an-Nazzam (cf. note 31. 1 and compare my *Epitome der Metaphysik des Averroes*, pp. 190–1).

p. 62. 7. Although this is in verbal agreement with Avicenna it is scarcely true in fact, for according to the Muslim philosophers, who combine the Plotinian concept of the soul as a substance with the Aristotelian concept of the soul as a form, the human soul never subsists by itself; during life it is in need of the human body, and after death it is, in one way or another, part of the universal soul; see notes 15. 1 and 14. 4.

p. 62. 8. منطبع, 'impressed', is a translation of the Stoic term *τυπούμενον* or *ἐνσφραγιζόμενον* used of the presentation, *φαντασία*, as stamped on the material soul (see e.g. Sext. Emp. *Hyp. Pyrrh.* ii. 70; *Adv. log.* i. 228). The expressions *τύπος* and *σφραγιζόμενοι* are used earlier by Aristotle, *De memoria* 1. 450a31–32; see also note 67. 1. That the soul is not impressed on the body is often maintained by Avicenna, e.g. *Book of Theorems and Notices*, ed. Forget, p. 219.

p. 63. 1. According to Aristotle the soul has its seat in warmth (*θερμόν*) or in spirit (*πνεῦμα*); see *De gen. an. B* 3. 736b29, cf. note 64. 4.

p. 63. 2. i.e. becoming implies a relation to a pre-existent matter and to an agent, but the individual souls do not become out of anything, nor are they created (*ex nihilo*) by God. The mystery of the human personality, the uniqueness of my Ego, cannot be explained by science, which tries to rationalize events by seeking to find the underlying identities in the apparent changes. However much I may resemble my parents, however much the same universals may describe my physical and moral constitution, it is I, my unique Ego, *individuum ineffabile*, who becomes, lives, thinks, suffers, enjoys, and dies. Neither the traducianism of the rationalists, nor the creationism of the faithful, can explain the primary fact of my individual, personal existence.

p. 63. 3. i.e. God.

p. 63. 4. See note 14. 6.

p. 63. 5. Light, according to Plotinus (*Enn.* iv. 5. 7), is incorporeal; the image in the mirror is the act of the object reflected, and when the object disappears, the image vanishes; in the same way the individual soul reflects the light of the world-soul (cf. Leibniz's conception of the monad as 'un miroir vivant, représentatif de l'Univers selon son point de vue', *Œuvres*, Erdmann, p. 714). According to Aristotle, *Meteor. Γ* 2. 372a33, there are in mirrors different possibilities of reflection, in some of which only shape is reflected, in others colour also.

p. 63. 6. 'Sound understanding', *ὀρθὸς λόγος*, see note 8. 3. Islam has no faith in the self-taught man (*autodidactus*): من لا معلم له الشيطان معلمه, 'Satan is the master of him who has no master', says an Arabic proverb.

p. 63. 7. This is an Arabic proverb. Maidani has it in this form: ان الجواد قد يعثر (Freytag, *Meid. Prov.* i, p. 11).

p. 64. 1. The distinction between knowing and the object known provides the conclusive argument against all subjectivism. If perception and thought had no object beyond themselves, we should dwell in timeless monads without windows or communication—timeless, for time would be subjective too. All knowledge is relational, related to an object of knowledge; if *percipere* and *cognoscere* were identical with their objects, there could be neither illusion nor falsehood, but everything would merely be. The Platonic Socrates in the *Theaetetus* realized this when he drew the consequence from Protagoras' doctrine (167 a): *οὔτε γὰρ τὰ μὴ ὄντα δυνατὸν δοξάσαι οὔτε ἄλλα παρ' ἃ ἂν πάσχῃ, ταῦτα δὲ ἀεὶ ἀληθῆ*, for no one can think anything but what he thinks, nor perceive anything but what he perceives, and this is always true. For all our thinking the existence of a unique, common, objective world is an unavoidable primary assumption. Cf. note 65. 3.

p. 64. 2. i.e. the Platonists and Neoplatonists.

p. 64. 3. Galen says, e.g. *Quod anim. mor. corp. temp. seq.* c. 3. 775 K., that if the soul is mortal (which seems problematic to Galen), all the forms and parts of the soul will have potentialities which follow (*διώκει*, يتبع) the temperament (*κρᾶσις*, مزاج) of its matter.

p. 64. 4. 'The possibility prior to the becoming is relative to matter': this refers probably to Aristotle's theory that the seat of the soul is in warmth and spirit, by which he wishes to explain how the soul can be transferred through procreation from one being to another. The problem, however, is how and whence the new individual soul arises. This problem was not seen by Aristotle, for whom soul is a form, a universal, whereas Callias and Socrates are individuals only through their bodies; see notes 14. 4 and 67. 3.

p. 64. 5. According to Aristotle the soul is *ἐντελέχεια ἡ πρώτη σώματος φυσικοῦ ὀργανικοῦ*, the first entelechy of a natural, organic body ('organic', i.e. used as an instrument), *De an. B* i. 412^{b}5; the body is merely there to serve as an instrument for the soul, *De part. an. A* 1. 641^{a}29.

p. 64. 6. That they have objects seems in contradiction to Ghazali's theory, which appears to assert that concepts simply are. If they have objects, what, according to Ghazali, are these objects, and in what, according to Ghazali, does science consist?

p. 65. 1. Blackness and whiteness, black and white, however, are just as much universals as receptivity of colour.

p. 65. 2. i.e. if it is not impossible for other concepts to exist only in minds, not in the external world.

p. 65. 3. We have entered here upon the perennial problem of universals. Ghazali is justified in saying that one cannot assert the objectivity of necessity and possibility and deny the objectivity of universals. If we believe with the Aristotelians in the 'natures' of things, we have to admit the objectivity of universals, although we may be at a loss to explain the mode of their being and how these universals and 'natures' are related to the individuals. Ghazali's own nominalistic view is untenable; it is based on the common illusion of *representing* the spiritual, of regarding as representable what cannot be represented, and on the consequent representation, materialization, and localization of thought as imprints in the soul, as individual spiritual atoms *in* the mind. Material things, however, are subsistent by themselves—they merely *are*; but every perception, every thought, expresses a relation, and points beyond itself. We perceive things, we think about things, and every object of thought can become the object of thought for innumerable thinkers: the basic, unrepresentable fact of thought, inexplicable and indefinable—since it is assumed in all definition and explanation—, is that we can mean something objective, and that our meaning can be communicated to others and understood by them.

p. 65. 4. That knowledge is *not* knowledge of the universal concept is a view contrary to that of Aristotle, who says that knowledge is always of the universal, e.g. *Met. B* 6 ad fin. *καθόλου ἡ ἐπιστήμη πάντων*. This is the great and insoluble difficulty of his system, that for it all reality is individual, all knowledge universal. The second assertion, that the individuals are known in a universal way, *γνωρίζονται τῷ καθόλου λόγῳ*, agrees with Aristotle, *Met. Z* 10. 1036^{a}8.

p. 65. 5. i.e. although potentially things are universals, namely when they are known. This is, of course, a *petitio principii*, for the question is: How can, and why should, the mind think as a universal, what in reality is an individual?

p. 65. 6. The conception of the real as accidentally individual, essentially universal, is not found in Aristotle; it is not very clear what it means, and it seems rather a Platonizing conception of Aristotle. (It is true, of course, that according to Aristotle the individual consists of a universal form *plus* matter, but this rather adds to the difficulty, for how, out of these two heterogeneous and non-individual elements, can the individual arise?)

p. 66. 1. According to the Neoplatonic conception of the Muslim Aristotelians, universals, i.e. the ideas, exist permanently in the Mind of God.

p. 66. 2. e.g. blackness is impossible for a thing which eternally possesses the opposite of blackness, i.e. whiteness.

p. 67. 1. This sophistical argument seems to imply that words can mean only existents; now the impossible does not exist, and therefore the term 'impossible' cannot be applied to anything. The whole argument is a

reductio ad absurdum of a materialistic and nominalistic conception of thought, of the conception that every thought is an individual imprint (*τύπωσις*) in the soul. This Stoic conception was definitely refuted by anticipation in Plato *Theaet.* 191 c sqq. (Plato already uses the terms *ἀποτυποῦσθαι, receive an impression,* and *δακτυλίων σημεῖα, seals of signet-rings*). The Mu'tazilites (and Aristotelians) affirm that, since 'non-existence' means something, the non-existent exists (in a way); Ghazali asserts that, since the non-existent does not exist, 'non-existence' does not mean anything. The difficulty was seen by Plato, who makes Socrates ask at *Theaet.* 189 a: 'Will not he who thinks of the non-existent (*μὴ ὄν*) think of nothing (*οὐδέν*)? And does he who thinks of nothing think at all?'

p. 67. 2. This seems in contradiction to Ghazali's own theory that there is no objective possibility.

p. 67. 3. See note 63. 2. For Aristotle the soul of the child is transmitted by the parents (both Aristotle and the Stoics are traducianists), or rather there is one soul, a universal in all human beings. The real crux of Platonism, Aristotelianism, and Neo-platonism is the relation of the universal to the individual.

p. 67. 4. A remote or secondary relation, since the soul in its essence or existence, at least according to the Neoplatonic commentators, is not dependent on the body, but is essentially a part of the World-Soul and comes from the outside into the body. It is not impressed on the body, but merely directs the body.

p. 67. 5. i.e. God, who can produce them *ex nihilo* by His will. Ghazali means that you might just as well say that the soul is potentially in God as that it is potentially in matter, since the soul is not extracted by God out of matter. The statue is not more potentially in the marble than in the sculptor, since the sculptor brings the form of the statue out of himself into the matter of the marble. And the relation of the soul to the body is still more 'remote' for the commentators than the relation of form to matter. For, says Plotinus (*Enn.* iv. 3. 20), the soul, which is not in the body as in a place, *ἐν τόπῳ*, or in a container, *ἐν ἀγγείῳ*, is not its form either, for the form which is involved in matter is not self-subsistent; if it is said that the soul is not engendered but self-subsistent, how can the self-subsistent soul be in the body?

p. 67. 6. See the Aristotelian definition of the soul quoted in note 64. 3.

p. 67. 7. The metaphor of the soul as a steersman or pilot is found in Plato, *Phaedr.* 247 c, where the rational part of the soul is called *ψυχῆς κυβερνήτης* (cf. Arist. *De an. B* 1. 413ᵃ9). At *Tim.* 41 e the demiurge is said to have placed the souls *ὡς ἐς ὄχημα*, as in a ship.

p. 68. 1. This refers to the Aristotelian doctrine of the triad which exists where there is motion, *Phys. Θ* 5. 256ᵇ13: the mover, the instrument of motion, *τὸ ᾧ κινεῖ*, and the object moved. The living being is a cause of motion, it moves itself: *κινεῖται γὰρ τὸ ζῷον αὐτὸ ὑφ' αὑτοῦ, Phys. Θ* 4. 254ᵇ16, it is a mover and a thing moved. To set it in motion it needs an eternal mover which is not itself moved, for if everything in motion were moved, it would follow that whatever was capable of causing a change would be capable of suffering a change, *Phys. Θ* 5. 257ᵃ15. I do not see how this theory settles the difficulty.

p. 68. 2. Averroës substitutes the word 'identical' for the word 'similar', which he used previously.

p. 68. 3. How could it be otherwise? Besides, according to Averroës, all judgements refer to something outside the soul.

p. 68. 4. This seems rather like the aporetic (*ἀπορητική*) or dubitative method of the Sceptics, see Sext. Emp. *Hyp. Pyrrh.* i. 3. 7.

p. 68. 5. The title given in the text is *The Foundation of Dogmatics*. There is no such work, although the second book of Ghazali's *Vivification of Theology* bears this name. Its third chapter contains a very short and popular summary of his *Golden Mean in Dogmatics* (written immediately after the present work) to which he himself refers the serious student. Probably through an error of the copyist the title of this book is given wrongly in the text, but Ghazali refers without doubt to his *The Golden Mean in Dogmatics* (which has been translated into Spanish by M. Asin Palacios, Madrid, 1924), in which he sets out to prove by reason the dogmas of religion according to the Ash'arites. In his introduction Ghazali says, for example, that theology, i.e. religion based on rational proof, is not incumbent on the faithful (and may even be dangerous for certain types of men), since Islam does not distinguish between faith based on (1) an act of faith and mere acceptance, on (2) tradition or authority, on (3) rational proof. The book has four parts: (i) God's existence and essence; (ii) the divine attributes and the properties of these attributes; (iii) the divine operations; (iv) demonstration of prophetic revelation. There is no full discussion in it of the problem of the temporal creation of the world, but he repeats in it some of the arguments given in the present book, e.g. the argument based on the revolutions of the different spheres.

p. 69. 1. Probably the correct title was not given in Averroës' copy of Ghazali's *Incoherence of the Philosophers*.

p. 69. 2. The same remark concerning the same book is made by Averroës in his *Theology and Philosophy*, ed. Mueller, p. 21. *The Niche for Lights* is a commentary, following the Neoplatonic mysticism of the Sufis, (1) on the verses of the Koran (Sur. xxiv. 35), which cry out for a mystical interpretation: 'Allah is the light of the heavens and of the earth. His light is like a niche wherein is a lamp, the lamp within a glass, the glass as if it were a glittering star. From a blessed tree it is lit, an olive-tree neither of

the East, nor of the West, the oil whereof were well-nigh luminous, though no fire touched it. Light upon Light'; and (2) on the Tradition: 'Allah has seventy thousand veils of light and darkness; were He to withdraw this curtain, the splendour of His countenance would surely consume anyone who apprehended Him with his sight.' In this treatise Ghazali expresses his belief in God's absolute transcendence and utter ineffability, in a mediating principle between God and the world (see note 36. 3), and in mystical ecstasy.

p. 69. 3. i.e. as an ordered universe, *κόσμος*.

p. 70. 1. One would expect 'must conform to the possibility'; that it 'may or may not conform' is the theological view (see below, note 70. 4).

p. 70. 2. Abu Hudhail ibn al-Allaf of Basra, one of the earlier Mu'tazilites of the beginning of the ninth century, and a contemporary and adversary of an-Nazzam. He applied the theory that what has a first term must have a last term even to God's knowledge and power and, according to Ibn Hazm, op. cit. iv, pp. 192–3, he said that God, having arrived at the final term of His power, would not be any more able to create even an atom or to move a leaf or to resuscitate a dead mosquito.

p. 70. 3. Simultaneously, متلاحقا, *ἅμα κατὰ χρόνον*; successively متساوقا *ἐφεξῆς*; i.e. at any moment all the parts of the past are there in their totality.

p. 70. 4. According to the Koran, Sura xxxix. 67, on the Day of Judgement 'the whole earth shall be His handful and the heavens will be rolled up in His right hand'. That we can know only through the Divine Law that the world will end was held by certain Mu'tazilites. According to, for example, 'Abu Zaid al-Balkhi' (cf. above, note 10. 5), *The Book of Creation and History*, i, p. 125 (see also ii, p. 133), there is no rational proof of the annihilation of the world; the series of numbers needs a first term, but no final term, and a man may have eternal remorse, although his remorse must have a beginning. It became the orthodox view that the annihilation of the whole world (including the destruction of heaven and hell, which, however, will not happen, as is known by revelation) is possible, جائز, considered as something in God's power, see Baghdadi, op. cit., p. 319. Thomas Aquinas held that similarly the problem of the eternity of the world *a parte ante* cannot be solved by mere reason.

p. 70. 5. We have seen, however, p. 37, that Averroës himself regards God as not existing in eternal time, i.e. in an eternal sequence of past, present, and future, but in timeless eternity, i.e. *αἰών*, دهر. The conception of God as existing in timeless eternity severs all relation between God and

the world; the conception of God as in eternal time implies in God an instability, a change, a passing, a past.

p. 70. 6. Averroës takes 'first term' in a chronological sense and 'the First' in the sense of the highest principle (in Arabic the expression 'the first' is used here in both cases).

p. 70. 7. Here 'first term' means God and 'its act' is the world, which according to the theologians has a beginning.

p. 71. 1. This is rather a difficult theory, for even if God and movement are eternal, the past states or acts of God and the past movements would seem to have ended.

p. 71. 2. It is not clear whether any definite philosopher is meant; of course many philosophers must have admitted that the past acts of the Eternal are past and ended. He may perhaps mean Plato, for whom the world has a beginning.

p. 71. 3. Incomprehensible غير معروف = غير معلوم, *ἀκατάληπτος*.

p. 71. 4. Compare Aristotle, *Phys.* *Δ* 12. 221^{b}3: the eternal, *τὰ ἀεὶ ὄντα*, is not in time.

p. 71. 5. This, I believe, does not signify anything but the tautology that only the present or the present movement exists or takes place at present.

p. 72. 1. i.e. finite existence, since the infinite cannot be represented.

p. 72. 2. When the existence of a thing is perfect, i.e. when all the conditions of its existence are fulfilled, its action cannot be delayed.

p. 72. 3. *petitio principii*, مصادرة على المطلوب, *ἅπτεσθαι τῆς ζητήσεως ἐξ ἀρχῆς*.

p. 73. 1. Averroës wants to suggest that the philosophical view of an eternal creation is not in contradiction to the Koranic view and that the verb 'to produce', 'to cause to happen', which occurs in the Koran, Sura lxv. 1, does not necessarily imply a time-factor, and that therefore the Ash'arites gave a wrong interpretation of the true conception of the Koran. (The verb 'to produce', احدث in Arabic is a causative form of the verb 'to become' which corresponds to the Greek *γίγνεσθαι*.)

p. 73. 2. Here he wants to suggest that the philosophical view is in fact the common view of Muslims, and that when they say that the world is not eternal, they really mean that the world has a cause, so that the difference is only verbal, لفظي, not factual, معنوي.

p. 73. 3. He is possibly alluding here to the Maturidites who—in opposition to the rival school of the Ash'arites—see, for example, Muhammad al-Murtada, *Commentary on Ghazali's Vivification of Theology*, ii, p. 8—regard God's attributes of action, صفات الفعل, and His creative production, تكوين, as coeternal with the attributes of His nature. Ibn Hazm, op. cit. iv, p. 212, speaks of even the Ash'arites as holding the heretical view

that the world is eternal. For, according to him, the Ash'arites affirm that God says eternally 'كن' 'let it be' to all things, whether they have been created or will be created, and this, according to Ibn Hazm, implies the eternity of the world. The theological distinctions are in any case very subtle.

p. 74. 1. This is an Aristotelian principle (*Top. A* 3) which Aristotle himself puts into practice.

p. 74. 2. This argument, as far as I know, is not found in those works of Galen which have come down to us, although there is a reference to our problem in *De plac. Hippocr. et Plat.*, Mueller, p. 783 (K. v, p. 760), where Galen says: It is not astonishing that more questions have not been settled in philosophy, since in philosophy one cannot base one's judgement on evident experience (*πεῖρα*); and so some declare that the world has not come into being, others that it has. Most probably the argument was found in the fourth book of the lost work *De demonstratione*, *Περὶ ἀποδείξεως*, فى البرهان, a work of which, among other parts, the first half of Book IV was known to the Arabs. In this book Galen discussed those arguments which, since they are based on an imperfect experience, can only reach a certain degree of probability. Averroës in his commentary on *De caelo* (see I. Mueller, *Über Galens Werk vom wissenschaftlichen Beweis*, Abh. philos.-philolog. Kl. d. K. Bayr. Ak. d. W., Bd. xx) refers to Galen's arguments in *De demonstratione* about the eternity of the world and says: 'Galenus aestimat quod nullus potest scire mundum esse aeternum nisi per has propositiones quarum origo est a sensu et testimonio; dicit in suo libro quem composuit de eis quae credit, quod nihil certum habebat de mundo utrum esset novus aut antiquus, et manifestum est quod ipse non utitur in antiquitate mundi nisi talibus propositionibus ex verbis suis et in libro suo quem appellavit Demonstrationem.' Philoponus, *De aet. mundi* xviii, p. 599. 23 gives a long quotation out of Galen's *De demonstratione* in which Galen comes to the conclusion that 'ungenerated' implies 'indissoluble', but not the reverse, for what is indissoluble may be indissoluble not essentially but extrinsically, 'since it may have been provided with immortality', and Galen himself quotes *Tim.* 41 b, where the demiurge says to the gods he has created: 'since you are created, you are not altogether immortal and indissoluble, but you shall not be dissolved nor experience the fate of death'.

Galen's argument is directed against the Stoic syllogism to prove the corruptibility of the world (see Diog. Laert. *Vitae* vii. 141 and Ps.-Philo *De aetern. mundi* 124 (p. 110. 11 Reiter); the argument is found also in Philoponus, *De aet. mundi*, p. 502): 'That whose parts are corruptible is corruptible as a whole. Now the parts of the world are corruptible, and therefore the world is corruptible. Moreover, everything is corruptible, if it is capable of decay (*ἐπιδεκτικὸν τῆς ἐπὶ τὸ χεῖρον μεταβολῆς*).' The premiss of the Stoic argument seems to be assumed by Ghazali. The Ash'arites accepted this Stoic argument,

and say (see e.g. the Arabic text of our book, 466. 5): كل ما تحله الحوادث فهو محدث 'everything in which transient entities inhere is itself transient'. (This argument is refuted at length by Averroës, *Philosophy and Theology*, ed. Mueller, pp. 31 sqq.)

Galen's argument is based on *De caelo A* 3. 270b11, where Aristotle says: the truth of the eternity of Heaven is clear from the evidence of the senses, at least so far as to warrant the assent of human faith, for we find in what has been handed down from generations no trace of a change in either the whole or the parts of the outermost heaven. According to Plato, *Tim.* 33 a, the world is *ἀγήρων καὶ ἄνοσος*, 'undecaying and free from sickness'.

That, if the heaven were destroyed, the sun, which according to the Stoics is a visible God, *αἰσθητὸς θεός*, would be destroyed, is argued by Ps.-Philo, op. cit. 46 (p. 87. 1 Reiter).

p. 74. 3. i.e. the ordinary hypothetical syllogism قياس شرطى متصل, *συνημμένον ἀξίωμα*, in opposition to the hypothetical disjunctive syllogism قياس شرطى منفصل, *διεζευγμένον ἀξίωμα* (for these terms and the ambiguity of the term *διεζευγμένον ἀξίωμα* see Galen, *Intr. dial.* 3, *Stoic. Vet. Fr.* ii. 71. 15).

p. 75. 1. That the transitory things of our sublunary world are of no significance in relation to the size of the universe is stated by Aristotle, *Met. Γ* 5. 1010a28: *ὁ γὰρ περὶ ἡμᾶς τοῦ αἰσθητοῦ τόπος ἐν φθορᾷ καὶ γενέσει διατελεῖ μόνος ὤν, ἀλλ' οὗτος οὐθὲν ὡς εἰπεῖν μόριον τοῦ παντός ἐστιν.* Cf. *Meteor. A* 3. 339b13–340a18.

p. 75. 2. This all agrees with Aristotle, *De caelo A* 3. 270a13–35; *A* 9. 278b21.

p. 75. 3. In the *Posterior Analytics* Aristotle says (*A* 3) that everything cannot be proved, but there are immediately evident principles, *ἀρχαὶ ἄμεσοι*. These principles are of two classes, those common to all the sciences, and those proper to specific sciences, e.g. number and magnitude, *Anal. Post. A* 7 ad fin.

p. 75. 4. 'Abu Zaid al-Balkhi', op. cit. ii. 18, tells us that the generality of astronomers affirm that the sun is $166\frac{1}{32}$ times the size of the earth. Actually the surface of the sun exceeds that of the earth 11,900 times, while its volume is 1,306,000 times greater than that of the earth.

p. 77. 1. The difficulty mentioned in this section did not exist for the Greek philosophers, who admit neither a creation *ex nihilo* nor a destruction *in nihil*. Nobody is so naïve (*εὐήθης*)—says Ps.-Philo, op. cit. 5 (p. 74. 3. Reiter) as to ask whether the world can be absolutely annihilated, since absolute annihilation, *ἡ ἐκ τοῦ ὄντος ἀναίρεσις*, is a non-entity, *ἀνύπαρκτον*; the question is, rather, whether its order can be corrupted and dissolved; however, says Ps.-Philo 83 (p. 98. 16 Reiter) if there were, as the Stoics believe, a conflagration, *ἐκπύρωσις*, of the world, in what would God's

activity, God's life, then consist, and would not His inactivity be in fact His death, since life is activity?

p. 77. 2. For temporal production implies annihilation.

p. 77. 3. For the performance of nothingness is doing nothing. The problem is a consequence of the failure to distinguish between the act and the end or intention of the act. It is another example of the identification of the process of the act and its end, mentioned in note 56. 1, which language itself does not always distinguish sharply: 'annihilation' can mean the act of annihilating or the result of this act. Non-existence, even my own non-existence, can be my intention, but my act of annihilating is something positive.

p. 78. 1. i.e. the theologians deny potential existence, they deny that there is a *tertium quid* between existence and non-existence, that there is a passage from the one to the other, i.e. becoming; they transfer the mystery of change to the agency of God, or rather, through the miraculous idea of creation they eliminate the idea of becoming: God said 'let it be' and the thing was, immediately, without any process.

p. 78. 2. i.e. either there is no agent or cause at all, or God's act must attach itself to the non-existent.

p. 78. 3. Contrary opposites (ἐναντία) that have middle terms can, according to Aristotle, only pass into each other through the middle terms; e.g. before arriving from white at black one has to pass grey (*Met.* 1. 7 and *Cat.* 10). The difficulty, however, of the problem of becoming lies precisely in the fact that there is no middle term between being and not-being; a thing either is or is not.

p. 78. 4. The simile is taken from Plato, *Rep.* vii. 514 sqq.: beings living in a cave and brought into light will, owing to the weakness of their eyes, believe that the shadows they formerly saw are truer than the objects which are now shown to them.

p. 78. 5. In this defence of the doctrine *rien ne se crée, rien ne se perd* there still is, besides the general problem of becoming, this difficulty: it may be said that I existed potentially before my actual existence, in so far as my existence was possible, but once gone I am gone for ever and have no potential existence any more, since 'potential' refers always to the future. Uptorn trees are not rooted again.

p. 78. 6. This is not quite correct; according to Aristotle neither matter nor form, both of which are eternal, is subsistent by itself. The only thing subsistent by itself is the combination of both, the individual, and this is transitory.

p. 79. 1. Since the theologians regard the act of God not as a process but as a static fact in which the intention, the result, and the act all coincide,

they do not make the result of the annihilating act, namely the annihilation of the world, i.e. nothingness, directly dependent on Him, for this would mean that God intended and did nothing. The following rather naïve theories, which seem indeed to have been inspired by the criticism of the philosophers, have therefore the tendency to interpolate between God and the annihilation of the world a *tertium quid*, a quasi-positive entity which causes the annihilation. By doing this they of course introduce a process between this *tertium quid* and the annihilation.

p. 79. 2. This theory is ascribed by Baghdadi, op. cit., pp. 168 and 183, to Jubbai and his son Abu Hashim. Abu Hashim is regarded as the most important Mu'tazilite of his generation. According to this theory God cannot destroy an atom without involving the destruction of Heaven and Earth.

p. 79. 3. i.e. if extinction existed in a substratum, it could not be the opposite of existence, i.e. non-existence, since a non-existent existent is absurd.

p. 79. 4. According to Bagdhadi, op. cit., p. 319, most of the Karramites, however, regarded it as impossible for God to destroy the bodies in the Universe.

p. 80. 1. Condition, حال: for the theological sense see note 3. 6.

p. 80. 2. This is rather a strange conception. The Karramites assert that the act of God is an external relation and does not change the essence of the substratum, i.e. His essence, but inheres in the substratum. (A favourite example for both the philosophers and the theologians of an external relation is that of right and left; there is no difference in the objects themselves, whether I am at their right or their left, Aristotle argues, *De caelo B* 2. 285ᵃ1.) This is a contradiction, for if it inheres in the substrate, it is not merely an external relation. The obvious objection is that an act is not an external relation, since it assumes in the agent a change, a newness, like the change from whiteness to blackness. Averroës, however, moved perhaps by an *esprit de contradiction* against the Ash'arites, takes just the opposite view, denying that an act does inhere and admitting that it is a purely external relation.

p. 80. 3. He evidently means temporal reality in the world, for there is a temporal reality in God, or in relation to God, produced by Him.

p. 80. 4. Since the temporal reality in God, or in relation to God, does not affect His essence.

p. 80. 5. This amounts to saying that an act is not an external relation, since it assumes in the agent a change, a newness.

p. 80. 6. اذا ابقى الموجود وقتا جاز ان يبقى وقتين, If the existent exists one instant, it is permissible that it should exist two instants, says Ibn

Hazm, op. cit. iv. 85, who also admits the logical possibility of an eternity *a parte post.*

p. 81. 1. We do not perceive identity, which is a rational concept. There is no place for identity (nor for similarity) in a nominalistic and sensationalistic system. Our judgement that we have an identical individual assumes (1) that there is an exterior world, (2) that every change is based on causation. Ghazali, who accepts the Ash'arite principle that there is no natural causation, but that God is the only agent, has no right to assert the identity of individuals, since everything is continually changing and every change depends on a new creative act of God (besides, since hair grows, it is not unconditionally true that the hair on a man's head today is identical with the hair there was yesterday). In addition, we must distinguish between 'This white is the same as that white', which asserts an identity of universals, and 'This is the identical hair', which asserts the identity of an individual. Ibn Hazm, criticizing the Ash'arites (v. 107), says there is no more extraordinary foolishness, لا عجب اعجب من حمق, than to say that the whiteness of snow, the blackness of tar, the greenness of grass are different now from what they were before.

p. 81. 2. Compare Aristotle's argument, *Met. K* 2. 1060ᵃ34: If there are perishable principles for perishable things, we need other perishable principles for them, and so shall have an infinite regress. The difficulty in an infinite regress exists for all relations. All duality implies infinity, since between any two terms there is a middle term, as the Eleatics saw. This had become a well-known argument with the Greek Sceptics and Neoplatonists and the Muslim theologians and Mystics for proving the subjectivity and unreality of relations. The question whether the creating act was different from, or identical with, the thing created was discussed in Islam. The opponents of their duality based themselves on the infinite regress this duality would involve (see Ibn Hazm, op. cit. v. 40). The Mu'tazilite Mu'ammar was widely known in Islam for his acceptance of the infinity of relations (احوال). He regarded them, however, in the Stoic fashion as المعانى, *τὰ λεκτά*, something intermediate between being and not-being (see note 3. 6).

p. 81. 3. Flux, سيلان, *τὸ ῥεῖν*, cf. Aristotle, *De caelo Γ* 1. 298ᵇ29, *πάντα γίγνεσθαι καὶ ῥεῖν . . . ὅπερ ἐοίκασι βούλεσθαι λέγειν ἄλλοι τε πολλοὶ καὶ Ἡράκλειτος ὁ Ἐφέσιος.* It is a curious fact that the two schools, the Heracliteans and the Megarians, who start from opposite premisses, the former that there is no being but only becoming, the latter that there is only being but no becoming, arrive at the same conclusion: that nothing is permanent. Both theories may be spoken of as theories of flux.

p. 81. 4. This is the theory of the famous Ash'arite theologian Baqillani (end of the tenth century). Ibn Hazm, op. cit. iv. 222, gives a quotation

from Baqillani's *Book about the Doctrines of the Qarmates*, where Baqillani says: 'Accidents cannot endure, and their annihilation is necessary in the second instant after their becoming, without an annihilating cause. The accidents annihilate the substances, since they annul the spatial relations and conditions without which the substances cannot exist.' Ibn Hazm adds that this implies the heretical doctrine that God is not the cause of their annihilation.

p. 82. 1. 'does not inhere in a substratum': i.e. the individual substance, e.g. this stone, according to the definition at the beginning of *Cat.* 5: *οὐσία δέ ἐστιν . . . ἣ μήτε καθ' ὑποκειμένου τινὸς λέγεται μήτ' ἐν ὑποκειμένῳ τινί ἐστιν.*

p. 82. 2. This is not quite correct; the individual substance is transient; what he means is that it does not become absolutely non-existent, since its matter and form are eternal.

p. 82. 3. This argument is based on Aristotle's argument against the Megarians, *Phys. Z* 10. 240ᵇ17–30: a thing which is changing must be partially this and partially that, but in the indivisible instant there cannot be a change: it must be wholly this or that, wholly existent or wholly non-existent.

p. 82. 4. i.e. that the accidents should be made a condition for the persistence of the substance.

p. 83. 1. *ἐγὼ δέ φημι, εἰ ἓν ἦν ὁ ἄνθρωπος οὐδέποτε ἂν ἤλγεεν· οὐδὲ γὰρ ἂν ἦν, ὑφ' ὅτου ἀλγήσειεν ἓν ἐών*, I say: if man consisted of a unique substance, he would not suffer, for what would be for this simple existent the cause of his suffering? This sentence is a quotation from the second chapter of Ps.-Hippocrates *Περὶ φύσιος ἀνθρώπου*. In this little treatise, which starts by discussing the view that the human body consists of one unique substance, there is expounded the theory of the four bodily humours: the sanguine, the choleric, the phlegmatic, and the melancholic. Aristotle (*Hist. an. Γ* 3. 512ᵇ12) gives a quotation from the second part of this work, which, however, he ascribes to Polybus. Galen, who regarded the book, or at least the first part of it, as genuine, wrote on it a still extant commentary which was in part translated and abbreviated by Hunain ibn Ishaq (see G. Bergsträsser, *H. ibn Ishaq und die Syr. und Arab. Galen-Übersetz.*, No. 102). The Arabic translation of *De natura hominis*, with Galen's commentary, is still extant in three copies, cf. H. Diels, *Handschriften der antiken Ärzte*, i, p. 101 and Aya Sofya 3632. This same quotation is found in Nemesius, *De natura hominis*, Migne, xl. 629.

p. 83. 2. See note 14. 6.

p. 83. 3. Ghazali's theory might be explained by saying that God wills the annihilation, and then the annihilation occurs. Of course the problem is: What is the relation between the object of His will and His will, in what does His act consist? But this relation is not more obscure for His annihilative than for His creative act, for when God wills 'let it be' and 'it is', why

is it, why is *its being* the act of God? And since by God's power is meant the fact that He can do it, what does He do, besides willing it?

p. 84. 1. The same idea is very well expressed by 'Abu Zaid al-Balkhi', op. cit. ii. 135: 'If it is said that we cannot understand production out of nothing, for, for example, a ring must be made out of silver, it must be answered that the shape of the ring is something new which did not exist and its maker created it out of nothing. If the coming into existence of a new accident is possible, why not the coming into existence of a body out of nothing? The whole question is, do new things appear? well, we see them appear.'

p. 85. 1. The so-called answer of the philosophers is in fact a consequence of the Megarian theory, and Ghazali ought to agree with it. The Megarians are true to the principle that something either is or is not, *tertium non datur*; there is no becoming, since becoming is illogical, and there is no disappearing, which is just as irrational. At one time-atom there was black, at another time-atom there is white; nothing else can be affirmed. Reality is positive, but in becoming and disappearing a non-positive reality seems implied.

p. 85. 2. This answer comes dangerously near the Mu'tazilite proposition that the non-existent exists. It is true that the existence of white implies the non-existence of black; but the truth that the existence of white implies the non-existence of black does not imply the existence or reality of the non-existent black. What we consider as real is the event, the passage, the passing from black into white, the becoming of white, the disappearing of black, but this very passage is denied by the Megarians and Ash'arites. Becoming and disappearance imply time, whereas the laws of identity and contradiction do not imply time. For the laws of thought, as for the principles of mathematics, there is no such process as change; they are valid timelessly.

p. 85. 3. For even God cannot do the impossible; for another instance see, for example, my *Ep. d. Met. d. Av.*, p. 106. Aristotle himself at *Eth. Nic. Z* 2. 1139^{b}10 quotes Agathon's lines:

> For even God lacks this one thing alone,
> To make a deed that has been done, undone.

p. 86. 1. Cf. Aristotle, *Phys. A* 8. 191^{b}13 about *στέρησις*: nothing comes absolutely from not-being, *οὐδὲν ἁπλῶς ἐκ μὴ ὄντος*, but only from what is not-being *per accidens*, *ἐκ μὴ ὄντος κατὰ συμβεβηκός*.

p. 86. 2. Cf. Aristotle, *Phys. E* 6. 229^{b}25: *ἁπλῶς ἐναντίον κίνησις κινήσει, ἀντίκειται δὲ καὶ ἠρεμία, στέρησις γάρ*. Movements are contrary, when the one passes from this opposite to that, and the other from that to this.

p. 86. 3. i.e. not the opposition of two positives.

p. 86. 4. For the contradiction in Aristotle's theory of becoming and *στέρησις* see note 62. 6. The Aristotelians would answer that the movable potentially possesses movement and has therefore a positive *στέρησις* (of course when one speaks of a positive *στέρησις* the opposition of *ἕξις* and *στέρησις*, of possession and non-possession, is annulled).

p. 86. 5. The vitreous humour of the eye الرطوبة الجليدية من العين, *τὸ ὑαλοειδὲς ὑγρὸν τοῦ ὀφθαλμοῦ*. According to the Aristotelian theory of perception the sense-organ receives the form of the object perceived without its matter. According to *De sensu* 2. 438^{a}12 sqq. sight has its seat in the pupil, *κόρη*, which consists of water (cf. *Hist. an. A* 9. 491^{b}21: *τὸ ὑγρὸν τοῦ ὀφθαλμοῦ ᾧ βλέπει, ἡ κόρη*).

p. 86. 6. See note 58. 2.

p. 87. 1. There may be here an allusion to the title of one of Ghazali's books, *The Distinction between Faith and Heresy*.

p. 87. 2. Here, indeed, we have the fundamental difficulty of the Neoplatonic philosophy of emanation and of the theology of the Muslim philosophers. If we admit with the Eleatics that 'becoming' cannot mean anything but 'coming from', and that ultimate Reality is nothing but the absolute, simple monad, how then, from this highest principle, this absolutely simple monad, can the infinite variation of this world of multiple things derive, how can the One provide the plurality it does not possess itself (as Plotinus himself asks, *Enn* v. 3. 15: *ἃ μὴ ἔχει πῶς παρέσχεν;*)? Plurality, if it exists, must consist of units, says Zeno the Eleatic (Diels, *Fr. d. Vors.*[5] i, p. 252. 23 sqq.), and since there cannot be a plurality of units, there is only the One (cf. Arist. *Met. B* 4. 1001^{a}27). The Sceptics reaffirm this Eleatic doctrine, and Aenesidemus says (Sext. Emp. *Adv. Phys.* i. 220): *οὔτε γὰρ τὸ ἓν γενέσθαι δύο δυνατόν ἐστι οὔτε τὰ δύο τρίτον ἀποτελεῖ*, two cannot arise out of the one, nor can the two produce a third (Democritus too had said that one cannot come into existence from two nor two from one, a dictum which Aristotle approves, restricting it, however, to actual existence, see *Met. Z* 13. 1039^{a}9). The Muslim Aristotelians accept the principle that from the one only one can proceed, but use it illogically to explain the emanation of the many from the one according to the Neoplatonic principle of a gradual pluralization, laid down, for example, in Porphyry, *Sententiae* xi: *αἱ ἀσώματοι ὑποστάσεις ὑποβαίνουσαι μὲν μερίζονται καὶ πληθύνονται . . . ὑπερβαίνουσαι δὲ ἑνίζονται* (cf. Plotinus, *Enn.* v. 3. 16). Ghazali's criticism in the following chapter consists in showing the inconsistency of the philosophers in their surreptitiously introducing a plurality both into the One itself and into its emanation.

p. 88. 1. The conception of will as a passivity seems rather strange: one would imagine that it is the activity *κατ' ἐξοχήν*. However, according to Aristotle, the will is ultimately based on pleasure and pain (*De an. B* 2. 413^{b}23) and will is the sign (*σημεῖον*) of pains and pleasures (Arist. *Rhet.*

B 4. 1381a7). Sextus Empiricus says (*Adv. phys.* i. 146): 'Sensation is a kind of alteration. . . . If God, then, has a sensation, He is altered, if He is altered, He is capable of alteration and change . . . and if so, He is also perishable.'

p. 88. 2. i.e. will brings to perfection the qualities of the willer.

p. 89. 1. i.e. man is an agent and therefore a cause; the sun is a cause; therefore we may metaphorically (but not properly) call the sun an agent, the *tertium comparationis* between man and sun being that they are both causes.

p. 89. 2. In the proper sense.

p. 89. 3. There is some confusion in this paragraph. Ghazali reproaches the philosophers who, according to him, admit only a natural causal relation between God and the objects of His acts, with calling God an agent; only a voluntary agent is an agent according to him. At the same time he reproaches them with calling all natural causes agents. The consequence would seem to be that the philosophers do not distinguish between agent and cause. To ascribe an act to a non-living being would seem to Ghazali, to use a modern expression, a kind of animism or fetishism. Non-living beings do not act, according to him; between fire and burning there is only a constant time-sequence. This is also the theory of modern empiricists. However, for the modern empiricist, as well as for the Ash'arite Ghazali, all causal relations (inclusive of voluntary acts) in the empirical world are reducible to a time-sequence. According to Hume, between my will and the movement of my arm there is no other relation than an empirically perceptible sequence in time, and the same is said by the Ash'arites, who, as I shall show later, are dependent on Greek empiricism. (The Ash'arites acknowledge one voluntary essential agent, God, who, however, is not of this world.) But why then speak of animism or fetishism, as the empiricist E. Mach does—e.g. *Die Mechanik*, p. 455—, or why this distinction between agent and cause which Ghazali establishes? Averroës is aware of the contradiction in Ghazali, and in the following passages he puts forward some forceful criticisms.

p. 89. 4. i.e. a voluntary act, like any potential act, is not inseparably conjoined with its agent, but heat cannot be separated from fire. This would imply, in contradiction to Aristotle's theory, a superiority of the potential to the actual; and besides, according to Aristotle, God's act is inseparable from Him—God is eternally in activity.

p. 90. 1. 'Separated' seems to be used equivocally; as used here of God it seems to have the meaning of transcendent.

p. 90. 2. Cf. below, notes 90. 4 and 90. 5.

p. 90. 3. For God's bounty as the motive of creation cf. Plato, *Tim.* 29 d, e and Plotinus, *Enn.* v. 4. 1.

p. 90. 4. This astonishing quotation—which as far as I know has never been discussed—is not found in any of the genuine or spurious works of Aristotle that have come to us. It seems a quotation from a Muslim religious writer rather than from a Greek philosopher. However, by creation *ex nihilo* is not meant here the orthodox conception of a temporal creation *ex nihilo*, but an eternal creation. An eternal creation, as I have tried to show, is a contradictory conception, and of course to regard such a creation as *ex nihilo* emphasizes the contradiction, since logically this can only mean that the creation was preceded by nothingness, although this is explicitly denied. This contradiction does not seem to have been felt by Averroës, but I do not think Aristotle can have expressed this contradiction so manifestly. On the other hand, it does not seem improbable to me that this quotation is in some way connected with Aristotle's dialogue *De philosophia*, the theology of which seems to have been, according to the Epicurean in Cicero's *De nat. deor.* i. 13. 33 (fr. 26 Rose), somewhat confused. In the dialogues Aristotle expresses himself in a more popular way and takes on the exposition of his own ideas (cf. Cicero, *Ad Att.* xiii. 19. 4). The passages of *De philosophia* quoted by Cicero (frr. 12, 22) show that Aristotle regarded the world as an eternal, divine work (*opus*); we find in *De philosophia* the proof for the existence of God, based on the degrees of being (fr. 16, from Simplicius, *De caelo* i. 9, p. 288. 28 Heiberg; this proof is developed by Cleanthes—see Sext. Emp. *Adv. phys.* i. 88–93—and is one of the proofs of Thomas Aquinas); the stars are regarded in this dialogue as having voluntary movements (fr. 24 from Cicero, *De nat. deor.* ii. 16. 44) and, according to a passage in Ps.-Philo, *De aetern. mundi* (fr. 18), Aristotle accused in it those who did not recognize the eternity of the world as guilty of a terrible atheism, δεινὴ ἀθεότης, since they compared the transitory works of man, χειρόκμητα, with such great visible gods, like the sun, the moon, and all the other divine stars.

p. 90. 5. Cf. Ps.-Aristotle, *De mundo* c. 6. 397b9: God is the cause which holds the Universe together: ἡ τῶν ὅλων συνεκτικὴ αἰτία. No nature is sufficient by itself, so that it can be deprived of God's conserving power (οὐδεμία δὲ φύσις αὐτὴ καθ' ἑαυτήν ἐστιν αὐτάρκης ἐρημωθεῖσα τῆς ἐκ τούτου σωτηρίας 397b15). Compare also Aristotle, *Met. Λ* 10 ad init.: order exists in the world as in an army, for the order of the army depends on the leader, whereas the leader does not depend on the army. See also Plotinus, *Enn.* iii. 2. 2 about the ἁρμονία and σύνταξις in the world. The ideal of ἁρμονία is originally Pythagorean. The term συνεκτικὴ αἰτία is of Stoic origin. According to Clement of Alexandria (*Stoic. Vet. Fr.* ii. 121. 25) a synectic cause is one in whose presence the effect remains, while on its being removed the effect is removed. See also note 137. 3 in my *Ep. d. Met. d. Av.*

p. 90. 6. i.e. the composition of matter and form is the *condicio sine qua non* of all individual existence.

p. 91. 1. In the expression 'living being-man' there is a redundancy, because in the definition of man 'living being' is included. For Aristotle there is a difficulty in such expressions as 'snubness (σιμότης) of the nose' which seem redundant, 'for snubness is only found in a nose, so that we must include in its definition the nose, since what is snub is a concave nose' (*Met. K* 7. 1064ᵃ23, cf. *Z* 5.1030ᵇ17).

p. 91. 2. In Avicenna's system there is a tripartite division of reality: the absolute necessary (or necessary by itself), i.e. God; the hypothetical necessary (or necessary through another), i.e. heaven, the absolute possible, i.e. matter. This division conforms to Aristotle's of the unmoved mover, i.e. the first, immaterial, mover; the moved and also moving, i.e. heaven; the moved but non-moving, i.e. matter (*Met. Λ* 7. 1072ᵃ24, *Phys. Θ* 5. 256ᵇ20; *De an. Γ* 10. 433ᵇ13). For Aristotle all reality is in the end based on the actuality of an eternal prime mover, existing of necessity: ἐξ ἀνάγκης ἄρα ἐστὶν ὄν (*Met. Λ* 7. 1072ᵇ10). Cf. notes 164 .4 and 164. 5.

p. 91. 3. I suspect that the meaning of this somewhat obscure sentence is: if you mean by 'agent' a creator who gives existence, perhaps the world can be explained without such an eternal creator; only an eternal prime mover is necessary which brings out, by its setting in motion, potency into act. If this interpretation is correct, Averroës, in order to contradict Avicenna's theory of an eternal creation, which is, in fact, also his own, returns here to a strictly Aristotelian point of view.

p. 92. 1. The natural faculties of the living body are treated by Galen in a special work, *De facultatibus naturalibus*, in which he regards the three biological faculties of genesis, growth, and nutrition through which the animals are directed (διοικεῖσθαι) as acts (ἔργα) of nature, not of the soul. The animal has the faculty of nutrition to maintain itself as long as possible, ὅπως ἕως πλείστου διαφυλαχθῇ (*De fac. nat.* i. 9).

p. 93. 1. Koran xviii. 76.

p. 94. 1. i.e. fire always gives heat, but the voluntary agent has a choice of opposites: e.g. Aristotle, *Met. Θ* 2. 1046ᵇ4.

p. 94. 2. i.e. since, according to the Ash'arites, God creates our acts in us, the action of the human will must, according to them, be an illusion; how can we therefore know that there is such a thing as voluntary action in the Divine World? (Compare note 89. 3.)

p. 95. 1. The first mover in the example given above would be the man who threw the other into the fire.

p. 95. 2. For this type of fallacy, τὸ ἁπλῶς ἢ μὴ ἁπλῶς, see Aristotle, *De soph. elench.* 25.

p. 97. 1. For this argument, which is the logical outcome of the theory that the world is eternally existent, i.e. eternally in act, although it has a

cause, compare Avicenna, *Salvation*, p. 346, where he defends the thesis that it is the existence, not the non-existence of the effect which is related to the agent: العدم للمفعول ليس من الفاعل بل الوجود (see also op. cit., p. 356 and Avicenna, *The Recovery*, *Met.* vi 1, p. 523, ed. Teheran, 1885). It is a significant fact, as showing that this argument destroys the idea of causation, that it forms part of the sceptical refutation of the concept of cause in general. Sextus Empiricus, having asserted (*Adv. phys.* i. 233) that the simultaneous cannot be the cause of the simultaneous, since so far as their existence is concerned both are equivalent, denies that the cause can be prior to the effect, since the effect does not yet exist and the cause cannot be related to something non-existent (cf. also Diog. Laert. ix. 98).

p. 97. 2. i.e. according to Averroës Avicenna neglects potential existence.

p. 98. 1. 'Bringing into existence'; here, of course, the intrinsic contradiction lies in that it brings into existence what already exists from eternity.

p. 98. 2. Averroës fails to solve the difficulty. The philosophical proof of the eternity of the world is, as we have seen, based on the argument that, if the world were in a state of potentiality, a new cause would be necessary to actualize it. Averroës' solution would therefore imply a continual change in the agent. Aristotle himself says, *Met. Θ* 8. 1050ᵇ20, that there is no potentiality in the eternally moved (i.e. heaven), except in the matter of 'whence' and 'whither'. For the whole problem compare note 11. 1.

p. 98. 3. Aristotle himself distinguishes at *Met. Θ* 8. 1050ᵃ30 between actuality in the product and in the agent. Where the product is something different from the action, the actuality is in the product, e.g. the act of building in the thing that is being built, but where there is no product besides the action, the actuality exists in the agents themselves, e.g. the act of seeing in the man who sees. This distinction rests on the ambiguity of the term 'actuality' (ἐνέργεια) which can mean both 'reality' and 'action'.

p. 98. 4. 'Cannot become an effect'; the Arabic is ambiguous and may also be translated 'can be an effect'. This ambiguity conceals the difficulty. An existent can be an effect, when by 'effect' is understood the result, not the process of becoming; but an existent cannot become an effect, i.e. it can no longer become what it is already.

p. 99. 1. This section refers to Avicenna's theory in *The Recovery*, *Met.* vi. 2, p. 525, where he defends the theory of the simultaneity of cause and effect, ان كل علة فهى مع معلولها, against the argument of the theologians that, for example, the building remains when the builder has disappeared. Of course, according to this conception of causation God cannot be regarded any longer as a creator, nor even as a cause of change, as a prime mover. The relation between God and the world is here conceived as static: God is merely ἡ τῶν ὅλων συνεκτικὴ αἰτία, the power which holds the universe together, as it is expressed in Ps.-Aristotle, *De mundo* 6. 397ᵇ9 (see note 90. 5).

p. 99. 2. For this section compare the distinction made by Aristotle in the passage quoted in note 98. 3. Averroës means that there cannot be, for example, a thought (or thinking, for the Aristotelian philosophy does not usually distinguish between these two) without a thinker, for a thought as an effect consists in its relation to a thinker and where there is no thinker there cannot be a thought. But the building can exist when the builder exists no more, since its relation as an effect is not essential to it and it has an existence and a substance or matter of its own. Here we have one of those naturalistic conceptions in Averroës to which I referred in note 31. 1. It is directly opposite to the Neoplatonic idea of the world as an eternal emanation from God, and even to the conception of God as the *αἰτία συνεκτική*, the binding element without which the world would disintegrate. As regards the real problem, Averroës is not aware of the ambiguity of the term 'effect'. If by 'effect' is meant the process of change, it is true that *causa cessante cessat effectus*; if by 'effect' is meant the result of the process, the effect remains when the cause has ceased to act (we saw in note 56. 1 that the Aristotelian philosophy does not distinguish consistently between the process, *ἐνέργεια*, and the result, *ἐντελέχεια*).

p. 99. 3. The thoughts of the celestial bodies are, as pure ideas, reality itself, and have no other existence than as ideas, whereas the thoughts of human beings are, according to the Aristotelian psychology (*De an.* Γ 4), forms abstracted from the matters in which they exist in reality.

p. 100. 1. Aulus Gellius (*Noct. Att.* vii. 13) says that his master, the Platonist Taurus, used to discuss the problem whether—since a man is either dead or alive—he dies when he is alive or when he is dead. The same question is posed by St. Augustine, *De civ. dei* xiii. 11 (see also Sext. Emp. *Hyp. pyrrh.* iii. 111 and *Adv. Math.* i. 269 and ii. 346). There are three answers given to this question: (1) The Platonic answer (*Parmenides* 156 d, e), given by Taurus and St. Augustine, that time is discontinuous and that there is an intermediary between life and death, a timeless passage in the instant, in which a man is neither alive nor dead. (2) The Megarian answer, that time is discontinuous and that there is no passage—a man is either alive or dead, but does not die. (3) The Aristotelian answer, that time is continuous and that there is a process in time during which a man is neither alive nor dead, but dies. One would have expected Ghazali to give the Megarian answer, since according to his Ash'arite conception there is no process in nature, but every change is immediately the effect of God's creative act. But the fear of attaching God's will to the non-existent makes him choose the Aristotelian solution (according to this conception, however, dying is not an existent, although neither is it a non-existent). Ghazali does not realize that voluntary action is always related to the non-existent: in the realm of physics only the actually existing exercises an influence, but in the realm of the soul it is the hope and fear of a not yet existing future—

hope and fear which may even be based on an illusion—that determine its actions. Throughout this passage what is meant by 'effect' is not the result of the process but the process, the passing itself which is caused by the agent; the result is regarded as the consequence of the process, while the initial non-existence of the result is regarded as a necessary condition for causal action.

p. 100. 2. According to the definition that wind is a movement of air, *ὁ ἄνεμος κίνησις ἀέρος* Aristotle, *Meteor. A* 13. 349ᵃ19. The comparison is, of course, lame, for without movement the air remains, whereas, according to this passage, the world, deprived of movement, becomes non-existent.

p. 100. 3. e.g. thunder (*βροντή*, see *Meteor. Γ* 1) and lightning (*ἀστραπή*, see Meteor. *B* 9).

p. 100. 4. It is movement which is eternally 'in becoming'; here, however, Averroës identifies the world with movement, and regards the world as eternally becoming.

p. 101. 1. According to *Cat.* 8 there are four classes of quality: disposition, *habitus*, passive quality, and shape (figure and form).

p. 101. 2. The difference between Avicenna and Averroës, according to his opinion in this section, is very slight, if indeed there is any difference at all. Avicenna says, as does Averroës in many places, that without God's sustaining power the world would become non-existent. Averroës affirms here that, without God as a moving cause and the form bestowed by Him upon the world the world could no longer exist. Averroës seems here to regard the world as having its matter by itself, but as matter cannot exist without form the existence of the world depends entirely on God.

p. 101. 3. He seems to mean that if the water moved later than the hand, the water, when the hand moved, would have first to move out of the hand and then detach itself and start its own movement.

p. 101. 4. This is, of course, a *petitio principii*: the effect cannot be prior to the cause, because in that case it could not be an effect.

p. 101. 5. 'The stable existent' and 'that which exists without moving or resting by nature' i.e. the immaterial Intellects. They stand in another relation to God than the moving world: a timeless relation.

p. 101. 6. i.e. if something happens to it that impedes its action.

p. 102. 1. i.e. action implies change.

p. 102. 2. Ghazali, as his example shows, is here expressing a correct idea wrongly. What he really wants to say is that the causal relation implies time and change, but that the logical relation of ground and consequent is timeless; however, through the ambiguity of language which uses the term سبب for both ground and cause, he is only dimly aware of this fact, and tends

—as his expression shows—to regard the logical relation as also an ontological one (I might have translated, instead of 'cause', 'ground', but the next sentence shows clearly that he confuses ground and cause; of course what we call 'cause' is regarded in the Aristotelian philosophy as only one—the agent or efficient cause—amongst several causes, and in the Aristotelian philosophy there is no consistent distinction between the logical and the ontological).

p. 102. 3. He ought to have said: the consequence of a fact is not the effect of this fact, except metaphorically (the ontological term 'effect' has been substituted for the logical term 'consequence').

p. 102. 4. This sentence invalidates Ghazali's whole argument, according to which God is not only an agent but the sole agent, and stands in flagrant contradiction to what follows. Here, however, it is not the Ash'arite theologian Ghazali who speaks, but Ghazali the mystic, for whom every expression relating to God is but a symbol: 'Alles Vergängliche ist nur ein Gleichnis'.

p. 102. 5. i.e. it is a change; this is in fact the Aristotelian conception of God: an eternal mover.

p. 102. 6. This of course reduces all life to a puppet-show. But compare Sebastian Franck, *Paradoxon*, 264–8: 'Der Vogel singt und fliegt eigentlich nicht, sondern wird gesungen und in den Lüften dahingetragen, Gott ist es, der in ihm singt, lebt, webt und fliegt. Alle Kreaturen tun nur, was Gott will. Diesen Unterschied hat es aber mit dem Menschen, diesem hat er freien Willen gegeben und will ihn mit diesem führen und ziehen.'

p. 103. 1. i.e. that cause and effect are both existents of the same order, and that the relation of cause and effect does not imply an act of God.

p. 103. 2. This refers to Aristotle, *Met. Λ* 3. 1070ᵃ21: *τὰ μὲν οὖν κινοῦντα αἴτια ὡς προγεγενημένα ὄντα, τὰ δ' ὡς ὁ λόγος ἅμα*, the moving cause precedes, but the formal cause is simultaneous. The father, for example, precedes the son as his efficient cause. Averroës means that God as an efficient cause acts eternally, although this eternal action is not implied in the idea of an efficient cause.

p. 103. 3. e.g. according to Simplicius, Aristotle and Plato agree about the problem of creation: Aristotle only denies the coming into existence of the world in time from not-being into being (*Comm. in libr. De Caelo*, p. 103. 4–6). Simplicius says—*In Phys. libr.* 1363. 8–12—that his master Ammonius wrote a special book with many arguments, *πίστεις*, to show that according to Aristotle God is also the efficient cause (*ποιητικὸν αἴτιον*) of the Universe. This book was known to the Arabs, and is mentioned in the *Fihrist*, p. 253, under the title شرح مذاهب ارسطاطاليس فى الصانع, *Explanation of Aristotle's theories about the Creator.*

p. 103. 4. 'Has come to be', i.e. implies a change. All this is to some extent sophistical. It is true, of course, that movement implies a change, but the movement of the world is eternal and uniform and this uniformity does not change (compare note 11. 1). Throughout this passage Averroës identifies mover and creator.

p. 103. 5. According to Aristotle, however, matter and form, the constituents of the world, are eternal.

p. 104. 1. For this principle, *ex uno non fit nisi unum*, as it is expressed by the Schoolmen; see note 87. 2.

p. 104. 2. Here Averroës does not seem to acknowledge this principle. It is, however, acknowledged by him, e.g. in his *Epitome of Metaphysics* (see my translation, p. 135 and note 135. 1). The only criticism of this principle he allows himself is that, following Avicenna—*The Recovery, Met.* v. 6—he asserts that the principle cannot be reversed, i.e. it is true that from duality only duality can proceed, but it is not true that duality can only proceed from duality.

p. 104. 3. This comparison with the carpenter and his instruments, the axe and the saw, is found in Farabi, *The Ideal State* (Dieterici, p. 16. 17).

p. 104. 4. There is a slight confusion in this paragraph. He wants to reproduce the thesis of Farabi and Avicenna that from the One a plurality can only proceed through mediation (see e.g. Avicenna, *The Recovery, Met.* v. 6, where he tries to prove that there cannot be any plurality or matter in the First, and Farabi, loc. cit.), but in fact he reproduces the thesis that no plurality whatever can proceed from the One, even through mediation. Sextus Empiricus (*Adv. phys.* i. 244) says that it would be absurd to say that the cause of the syllable *di* could be only the *d* without the *i*, and he goes on to argue (247) that the plurality of the effect cannot be explained by one unique power in the cause, since the sun dries mud but melts wax, whitens clothes but blackens our faces, an example which Ghazali reproduces here (cf. also p. 321 text).

p. 105. 1. i.e. somewhere unity and plurality will have to meet.

p. 105. 2. i.e. *ex uno unum* is true, but referring to God it has only a symbolic meaning, just as will, when ascribed to God, is attributed to Him only by analogy with our human will. Of course this amounts in fact to a denial of the principle.

p. 106. 1. That the series of final, formal, and efficient causes ends in a supreme cause is proved by Aristotle, *Met. α* 2. For God as pure self-conscious thought, see *Met. Λ* 9.

p. 106. 2. See note 104. 2.

p. 106. 3. This refers to the passages in Aristotle, *Met. A* 4. 985ᵃ2, where Aristotle discusses the theory of Empedocles that love is the cause of good

things and strife of bad, and *Met.* Λ 10. 1075ᵃ25 sqq., where he shows the impossible or paradoxical consequences (ἀδύνατα ἢ ἄτοπα) of those who 'make all things out of opposites', and where, 1075ᵇ1, Empedocles' theory is discussed.

p. 106. 4. Both these comparisons are based on Aristotle, *Met.* Λ 10, where the order of the world is compared to the order of an army through its leader (see note 90. 5) and to the order in a state through its own ruler. This comparison of the world to a state—which is developed in Ps.-Aristotle, *De mundo*—is very frequent in later Greek–Roman philosophy and is found, for example, in Philo, Epictetus, Sextus Empiricus, Plotinus, Cicero, Seneca, Marcus Aurelius.

p. 106. 5. Koran xxi. 22. Even in the Koran a feeble echo is sometimes heard of the all-pervading voice of Greek philosophy. Here we have a vague reminiscence of the Greek (Heraclitean, Pythagorean, Aristotelian, Stoic, Neoplatonic) conception that a unity is needed to prevent the disintegration of opposite principles. That there cannot be two hostile Gods is stated by Plato, *Plt.* 269 e.

p. 106. 6. In an accidental way, κατὰ παρακολούθησιν, as the Stoic term is, i.e. as an accessory phenomenon, not intended but unavoidable. This is one of the principles of the Platonic–Stoic theodicy. The most complete exposition of these principles is found in Plotinus, *Enn.* iii. 2.

p. 106. 7. This is Stoic: the bad happens not uselessly (οὐκ ἀχρήστως) but with respect to the administration (οἰκονομία) of the whole, as in states (cf. Plutarch, *De Stoic. repugn.* 35).

p. 106. 8. According to the optimistic Aristotelian principle (*De gen. et corr.* B 10. 336ᵇ28: βέλτιον τὸ εἶναι ἢ τὸ μὴ εἶναι) that existence is better than non-existence.

p. 107. 1. Cf. Sext. Emp., *Adv. phys.* i. 6: Anaxagoras says, 'All things were together and Intellect came and ordered them'; he assumed that Intellect, which according to him is God, is the efficient cause, ἀρχὴ δραστήριος, and the mixture, πολυμιγία, of the homoeomeries, the material principle.

p. 107. 2. Cf. note 36. 3. It is a pity that Averroës does not tell us whom he intends by those who introduce plurality through instruments. I presume that the difference here between mediators and instruments is that the former are regarded as living beings—e.g. the created gods who are not essentially immortal, *Tim.* 41 a–d, and the eternal movers which, according to the Muhammadan commentators, emanate from the First—the latter not. In that case the instrument is τὸ ὑφ' οὗ, that by which things come to be, which is, according to Aristotle, *Met.* Z 7. 1032ᵃ24, their nature, their form.

p. 107. 3. About Averroës' contemporaries little is known. However, at the court of the Almohad Caliph Abu Yaᶜqub, the patron of Averroës, who favoured the arts and philosophy, who collected books from all parts, and who sought the company of the learned, there must have been a great interest in philosophical speculation. One of his favourites, his chief physician Ibn Tufail, in his well-known work *Hayy ibn Yaqzan*, although admitting the eternity of the world and its eternal emanation from God, does not treat the question which occupies us here, i.e. how this emanation takes place.

p. 107. 4. Averroës here denies explicitly a gradual emanation from God, but by making the immaterial principles ascend to God and form a causal series his theory is identical with the theory he wants to refute and which, indeed, he himself holds in his *Epitome of Metaphysics*. As a matter of fact the idea of a gradual emanation is the basic idea of Arabian Aristotelianism, and cannot be eliminated without destroying the system.

p. 107. 5. The forms in the four elements are the first forms that enter into, or are in, prime matter, matter not yet qualified.

p. 107. 6. This passage is contradictory. The problem is: Do the forms and the matters all emanate from God, or have some, and especially primary matter, an independent existence previously? Averroës affirms both at the same time. The problem is a crucial point even for the Aristotelian philosophy. How, in a monistic system in which everything derives from one supreme principle, can the perishable, the temporal, the finite, derive from the imperishable, the eternal, the infinite? Aristotle saw the difficulty clearly, when he discussed at *Met.* Γ 4. 1000ᵃ5 the *aporia* (problem) whether the principles for the eternal and the perishable can be the same or must be different (cf. note 36. 3, and my *Epitome*, p. xx).

p. 108. 1. It is, however, Averroës's own theory in his *Epitome of Metaphysics* (see my translation, pp. 131–2).

p. 108. 2. ὅλως δὲ ὁ νοῦς ἐστὶν ὁ κατ' ἐνέργειαν τὰ πράγματα . . . (Aristotle, *De an.* Γ 6. 431ᵇ16), Intellect therefore cannot be the cause of any duality (for the problem of the unity in the νοῦς according to Aristotle see my *Epitome*, notes 47. 6 and 124. 1). According to Plotinus, however, Intellect implies a duality, for self-consciousness, as the word συν-αίσθησις indicates, implies a duality and the First is beyond Intellect (*Enn.* v. 3. 13). For the Arabic Aristotelians, who combine Aristotelian elements with others from Neoplatonism, the First, God, is a self-conscious Unit from whom the First Intellect, νοῦς, emanates.

p. 108. 3. i.e. for the agent in the empirical world *ex uno unum* is valid, i.e. each agent has its specific act (fire cannot but burn), but the divine agent is an agent *sui generis*. This, however, does not seem to be the opinion of Aristotle, who affirms at *Met.* Λ 8. 1073ᵃ28 that a single movement can be performed only by a single, eternal mover (τὴν μίαν κίνησιν ὑφ' ἑνός).

p. 108. 4. i.e. the active Intellect; the connexion with the preceding sentence is not very clear; it would almost seem that Averroës identifies God here with the active Intellect; this is, as a matter of fact, Alexander of Aphrodisias' conception (*De an.* 80. 16–92. 11; *Mantissa* 106. 19–113. 24), which is not accepted by Averroës.

p. 108. 5. This is not exact; see note 2. 8. The passive Intellect is the same as the potential or material Intellect.

p. 108. 6. Compare Plotinus, *Enn.* vi. 5. 1: *τὸ ἓν καὶ ταὐτὸν ἀριθμῷ πανταχοῦ ἅμα ὅλον εἶναι κοινὴ μέν τις ἔννοιά φησιν . . .*, that the identical one is wholly everywhere is a common human notion; instinctively we declare that the God who lives in us all is one and identical.

p. 108. 7. The idea (which became one of the principles of Neoplatonism —see e.g. Proclus, *Inst. Theol.*, prop. 7) that the cause possesses in the fullest measure that which it communicates to others, is, with this example taken from warmth, found in Aristotle's *Metaphysics* (α 1. 993^{b}24—ascribed in the ancient world to Pasicles): *ἕκαστον δὲ μάλιστα αὐτὸ τῶν ἄλλων καθ' ὃ καὶ τοῖς ἄλλοις ὑπάρχει τὸ συνώνυμον, οἷον τὸ πῦρ θερμότατον.*

p. 109. 1. This sentence shows up the *petitio principii* in the whole argument: 'since they are many'; but the problem is precisely, How can there be a many—how can the many proceed from the one?

p. 109. 2. i.e. the matter of the sublunary world.

p. 109. 3. The term 'First Intellect' is confusing. The 'First Intellect' corresponds to the *νοῦς* of the Neoplatonic system, according to which the absolute First, the Monad, does not think. But according to the Arabic philosophers God, the First, is Himself intellect—a theory found as early as Simplicius, *Comm. in Enchir. Epict.* c. 38, who asserts that the highest principle, the *ἀρχὴ ἀρχῶν*, the God of Gods, possesses the highest *γνῶσις*.

p. 109. 4. i.e. the sphere surrounding the world assumed by Ptolemy to explain the precession of the equinoxes (see my *Ep. d. Met. d. Av.*, note 112. 6).

p. 110. 1. i.e. these intellects are of a gradually diminishing unification and dignity. According to Proclus, *Inst. Theol.*, prop. 95, the more unified a power, the more capable it is of infinitude. *πᾶσα δύναμις, ἑνικωτέρα οὖσα, τῆς πληθυνομένης ἀπειροτέρα.*

p. 110. 2. For the degree of nobility compare Proclus, *Inst. Theol.*, prop. 129: All divine bodies are divine through the influence of a divine soul, all divine souls through a divine intellect, and all divine intellects through participation in a divine monad.

p. 110. 3. Or from a superior intellect, for this process repeats itself eight times, since there are nine spheres.

p. 110. 4. This sentence invalidates the whole theory; there is an admission here that there is something in the effect which is not found in the cause, that although the Monad is the ultimate Source of everything, the effect cannot be wholly deduced from the cause. The same contradiction is found in Proclus, who, notwithstanding his theory of gradual emanation, admits *αὐθυπόστατα*, self-subsistent entities (*Inst. Theol.*, prop. 40). Further, Aristotle's monism of a First Mover or a First Cause is contradicted by his pluralism, by his acceptance (*Met. Λ* 8. 1073^{a}33) of a number of unmoved movers for the planets.

p. 110. 5. This section contains a succinct exposition of the ingenious theory of emanation, as it is found amongst the Arabic philosophers (e.g. in Avicenna, *Recovery of the Soul*, *Met.* ix. 6 and *Salvation*, pp. 448 sqq., and especially p. 455; Farabi, *The Ideal State*, p. 19; and also in Averroës in his *Ep. d. Met. d. Av.*—see my translation, p. 131—who seems there to accept the general principles of the theory he denies here). This theory combines Aristotle's astronomical theory with the Neoplatonic theory of emanation, and introduces into the Aristotelian framework Proclus' conception of the triadic process of emanation, *μένειν, προιέναι, ἐπιστρέφειν* (*Inst. Theol.*, prop. 35).

Although this theory is by no means consonant with the general naturalistic trend of Aristotle's system, there are two aspects of his philosophy in which it may be defended or from which it can be deduced. (1) In the closing chapters of his theology (*Met. Λ*) God is much more than a mere Prime Mover: the world hangs on God (*ἤρτηται*, 1072^{b}14), it is God who gives unity and order to the world, which without God would disintegrate and become non-existent. (2) Aristotle's idea of God as the Absolute First Cause implies the gradual ascent of a single series of causes to God, and the proposition mentioned in note 108. 7, that the cause contains the effect in a superior way, implies a gradual descent from God—a degradation, i.e. an emanation, from God. The thesis of, for example, Simplicius and Ammonius that God, according to Aristotle, is not only a Prime Mover, but the Eternal Creator of an eternal world, has therefore a certain plausibility (in strict logic the theory of an eternal creation or, what amounts to the same thing, the theory of emanation, implies the contradiction that the world proceeds eternally, i.e. timelessly from God, i.e. is eternally both inside and outside God).

I have not found the theory, described in the text, in any Greek philosopher; it seems to me, however, highly probable, both because of its plausibility and because of the absence of originality in the Arabic commentators, that it is not, as Averroës suggests, an invention of theirs, but must have been found in the later Alexandrian School of Neoplatonic commentators, i.e. the School of Ammonius Hermiae, which combined the exegesis of Aristotle's treatises with a moderate Neoplatonism. It may be remembered

that the idea of the fundamental identity of Aristotle's system and Plato's was widely upheld among the Neoplatonists. We find amongst the works of Porphyry mentioned by Suidas a treatise *Περὶ τοῦ μίαν εἶναι τὴν Πλάτωνος καὶ Ἀριστοτέλους αἵρεσιν*, and there is a treatise, attributed to Farabi, and edited and translated by Dieterici, bearing the same title الجمع بين رايى الحكيمين افلاطون الالاهى وارسطوطاليس (in which the epithet, blasphemous in Muhammadan eyes, of الاهى, *θεῖος*, is given to Plato). In this latter treatise Ammonius and Themistius are mentioned and the *Theology of Aristotle* is referred to, to prove that Aristotle regarded God as the eternal creator of this eternal world, الصانع المبدع لهذا العالم.

p. 111. 1. One would have expected Averroës to say: rational animals . . . moving themselves at the command of these principles. As a matter of fact the whole theory is confused: the principles of the heavenly bodies are their intellects and souls; these intellects and souls are regarded as commanding them, but the heavenly bodies themselves are rational beings, i.e. they include intellects and souls. The theory is based on the metaphors of Aristotle, who regards the relation of God to the celestial bodies as that of the beloved to the lover, *κινεῖ ὡς ἐρώμενον*, 1072ᵃ3, and as the relation of the leader of an army, *στρατηγός*, 1075ᵃ14, to the army; but these metaphors are not equivalent: according to the first, God is passive and only an object of desire (the term 'mover' is ambiguous in Aristotle and can mean both the final cause and the efficient cause of the movement), whereas according to the second, God has a certain activity. According to both, however, the movements of the celestial bodies have their source of movement, their moving cause, in themselves, their souls. The comparison of the world as a State in which the orders of the highest authority are transmitted by proxies is found in Ps.-Aristotle, *De mundo* 6. 398ᵃ6. The conception of the world as a State is general in the Stoics; cf. *Stoic. Vet. Fr.* ii, pp. 327 sqq.: 'mundum esse urbem (vel domum) bene administratam'.

p. 111. 2. *ἐπὶ τῶν ἄνευ ὕλης τὸ αὐτό ἐστι τὸ νοεῖν καὶ τὸ νοούμενον*, Aristotle, *De an. Γ* 4. 430ᵃ4. For this theory compare my *Ep. d. Met. d. Av.*, note 47. 6.

p. 111. 3. No fatigue or weariness; this is based on Aristotle, *De caelo B* 1. 284ᵃ13, where the mover of the world is said to be *ἄπονος*: cf. also Ps.-Aristotle, *De mundo* 6. 400ᵇ10, where He is described as *ἄλυπος, ἄπονος, πάσης κεχωρισμένος σωματικῆς ἀσθενείας*, and Philo, *De providentia* ii. 74 (*Stoic. Vet. Fr.* ii. 201. 10): 'item sine labore et defatigatione est earum (scil. stellarum fixarum) circumactio'.

p. 111. 4. Koran xli. 11.

p. 112. 1. This is Stoic. Man as a reasonable being stands under the obligation of the universal divine law (see e.g. Cicero, *De leg.* i. 12. 33). It is

his first duty to know and acknowledge God's power and majesty. Compare, for example, Seneca, *Epist.* 95. 50: 'primus est deorum cultus deos credere, deinde reddere illis maiestatem suam, reddere bonitatem, sine qua nulla maiestas est', and Epictetus' beautiful words (*Disc.* i. 16. 20): 'what else can I, an old cripple, do but sing for all others my hymns to God. If I were a nightingale, a swan, I would sing like the nightingale and the swan, but since I am a reasonable being, it is in the manner of a reasonable being that I have to sing my hymn to God.'

The term تكليف, 'divine command', 'imperative injunction', 'divine law', which corresponds to the Greek *προστακτικόν* and *νόμος*, is a technical term in Muslim theology (cf. Baghdadi, *The Roots of Religion*, Stambul, 1928, pp. 149, 205, 207 sqq., and *Dict. of Techn. Terms* under تكليف, p. 1255), and the important problem it involves, i.e. the problem of the autonomy of ethics, is much discussed in Islam under the influence of Greek philosophy. What is the foundation of moral obligation? What is the foundation of our obligation to know God? According to the Mu'tazilites it is reason; according to the Maturidites it is the command of God which, however, is known by reason; according to the Ash'arites it is the fact that it is written in the Divine Book (see Goldziher, *Vorlesungen über den Islam*, p. 110). The first two conceptions are in accordance with the Stoic view. Right and wrong are autonomous, and exist by nature, *φύσει*, بالطبع, not by convention or tradition, *θέσει*, بالوضع, and it is the law of Nature, which is identical with the law of God, found by reason, which commands what is to be done and forbids what is to be avoided. According to Marcianus (see *Stoic. Vet. Fr.* iii. 77. 34) Chrysippus began his book *Περὶ νόμου* with the words: *ὁ νόμος πάντων ἐστι βασιλεὺς θείων τε καὶ ἀνθρωπίνων πραγμάτων· δεῖ δὲ αὐτὸν προστάτην τε εἶναι τῶν καλῶν καὶ τῶν αἰσχρῶν καὶ ἄρχοντα καὶ ἡγεμόνα, καὶ κατὰ τοῦτο κανόνα τε εἶναι δικαίων καὶ ἀδίκων καὶ τῶν φύσει πολιτικῶν ζῴων προστακτικὸν μὲν ὧν ποιητέον, ἀπαγορευτικὸν δὲ ὧν οὐ ποιητέον.* A thing is not good because God has ordained it, but God has ordained it because it is good. The relativist Carneades, for whom morals exist only in relation to society and who maintained that the terms 'right' and 'wrong' can therefore not be applied to God—see Cicero, *De nat. deor.* iii. 15. 38—had objected that if God had virtue by nature, He would stand under the power of the moral law—cf. Sext. Emp. *Adv. phys.* i. 176. The Mu'tazilites fully grant the inference, and admit that just as in the logical domain God's power is restricted, since even He cannot perform what is logically contradictory, He is also bound by the moral law, and it is of necessity that He has ordained what He has ordained and forbidden what He has forbidden; indeed, He stands under the double bondage of reason: that of pure reason and that of practical. The orthodox Muslim, however, denies that there is any necessity for God in the moral domain. It was possible, جائز, for God to impose other laws than those He has actually decreed.

p. 112. 2. Positions, i.e. they keep a certain order, *τάξις*, in Latin *ordo* (cf. Cicero, *De nat. deor.* ii. 16. 43).

p. 112. 3. Koran xxxvii. 164.

p. 112. 4. Connexion, ارتباط, i.e. their order and union, *σύστασις*, cf. Ps.-Aristotle *De mundo* 5. 396^{b}23: *ἡ τῶν ὅλων σύστασις*.

p. 112. 5. i.e. the systematic study of their works, beginning with logic, cf. Aristotle, *Met. Γ* 3. 1005^{b}2.

p. 112. 6. One may freely accept, says Aristotle, *Top. A* 10. 104^{a}11, that on which the wise agree, when it does not stand in opposition to the opinion of the many. This is contrary to Epicurus' aristocratic view, see Seneca, *Ep.* 29. 10: 'nunquam volui populo placere, nam quae ego scio, non probat populus; quae probat populus, ego nescio'.

p. 113. 1. Cf. e.g. Cicero, *De nat. deor.* ii. 16. 43: 'sensum autem astrorum atque intellegentiam maxume declarat ordo eorum et constantia; nihi lest enim quod ratione et numero moveri possit sine consilio, in quo nihil est temerarium, nihil varium, nihil fortuitum . . . .'

p. 113. 2. Conservation, حفظ, *σωτηρία*, cf. Ps.-Aristotle, *De mundo* 6. 400^{a}4.

p. 113. 3. It was Aristotle who first asserted—*De gen. et corr. B* 10. 336^{a}31—that it was the sun's movement on the ecliptic, *ἡ φορὰ κατὰ τὸν λοξὸν κύκλον*, which influenced all earthly change, all earthly becoming and decay. All that follows agrees with the traditional views of the Stoic theodicy, cf. e.g. Cicero, *De nat. deor.* ii. 19 and ii. 40.

p. 113. 4. Cf. Aristotle, *Meteor. B* 4. 361^{a}7.

p. 113. 5. Koran xiv. 37; xvi. 12.

p. 114. 1. The better being cannot fail to possess in the highest degree the best qualities, i.e. life and reason. The basic idea of this argument is Stoic, cf. Cicero, *De nat. deor.* ii. 14. 38: How can the world, which embraces all things, fail to possess that which is the best? But there is nothing better than intelligence and reason: the world therefore cannot be without them.

p. 114. 2. Koran xl. 59.

p. 114. 3. Cf. e.g. Cicero, *De nat. deor.* ii. 31. 79: if mankind possesses intellect, faith, virtue, whence can these have flowed down to the earth, if not from the gods?

p. 114. 4. For the gods—according to Plotinus (*Enn.* v. 8. 3)—are not concerned with human affairs, they contemplate only the Divine and the Intelligible: *καὶ ἴσασι πάντα, καὶ γιγνώσκουσι οὐ τὰ ἀνθρώπεια, ἀλλὰ τὰ ἑαυτῶν, τὰ θεῖα καὶ ὅσα νοῦς ὁρᾷ.*

p. 114. 5. Koran xli. 10.

p. 115. 1. Cf. e.g. Cicero, *De nat. deor.* ii. 5. 13: when a man goes into a house or a gymnasium or to the market place, and sees the method, the order, the discipline in all things that happen there, he cannot possibly suppose that all this comes about without a cause, but he understands that there is someone who commands and whose orders are obeyed.

p. 115. 2. Koran vi. 75.

p. 115. 3. According to Averroës' *Ep. d. Met.* (see my translation, p. 113) there are forty-five of these movers, if each of the seven planets has its own mover for its daily revolution. 'Seven or eight' seems rather strange; one would have expected 'eight or nine', i.e. one for the daily movement of the heaven of the fixed stars, seven for the daily movement of the planets, and a problematic one to explain the precession of the equinoxes (*μετάπτωσις*). Compare for all this my *Ep. d. Met. d. Av.*, pp. 112–13 and notes.

p. 115. 4. Cf. Plotinus, *Enn.* v. 5. 3: *ὁ δὲ ἐκεῖ βασιλεὺς οὐκ ἀλλοτρίων ἄρχων, ἀλλ' ἔχων τὴν δικαιοτάτην καὶ φύσει ἀρχὴν καὶ τὴν ἀληθῆ βασιλείαν, ἅτε τῆς ἀληθείας βασιλεύς καὶ ὢν κατὰ φύσιν κύριος τοῦ αὐτοῦ ἀθρόου γεννήματος . . . .* In yonder world the king does not govern like a man governs aliens, He exercises the most just and the most natural government, the true kingdom, for He is the King of Truth and has by nature power over all those He has engendered Himself.

p. 115. 5. Koran xix. 94.

p. 116. 1. Koran vi. 75.

p. 116. 2. Probably Averroës thinks here of *τῶν θαυμάτων ταὐτόματα*, 'those marvellous things which move themselves', mentioned by Aristotle, *Met. A* 2. 983^{a}14, at which people wonder who have not yet ascertained their causes.

p. 117. 1. The proof, of course, that it is necessary.

p. 117. 2. For then in the First also the necessity of existence would create a duality. Ghazali's argument is excellent and unassailable, and exposes clearly the surreptitious introduction of duality. The basic idea was put forward by Aenesidemus (Sext. Emp. *Adv. phys.* i. 219 sqq.) in his denial of causation: a cause can only act by either remaining by itself or joining with something else. In the first case, it cannot effect anything but its own nature, in the latter case the two together cannot produce a third; therefore nothing can come into being which did not exist previously.

p. 118. 1. A condition, حالة, *πῶς ἔχον*, something subjective, i.e. not something outside the soul, an external relation (for Averroës often regards all relations as subjective, as is frequent in post-Aristotelian philosophy, or even as negations).

p. 118. 2. i.e. the necessary is that which has no cause (or rather which needs no cause) for its existence; all other entities have (or need) causes for their existence. We shall discuss later this definition of the 'necessary'.

p. 118. 3. Averroës here raises incidentally the important problem of those notions, like 'one' and 'being', which are predicated of everything and are called by the schoolmen *notiones transcendentales* (the *aporia* of 'one' and 'being' is discussed by Aristotle, *Met. B* 3. 998^{b}14: they are not genera, because they have no species), and which Averroës seems here to regard as subjective (unity he regards, in fact, as negative, cf. Aristotle's definition of *μονάς*—*Met. Δ* 6. 1016^{b}24–25—as *τὸ κατὰ τὸ ποσὸν ᾗ ποσὸν ἀδιαίρετον πάντῃ καὶ ἄθετον*).

The whole discussion is irrelevant to Ghazali's argument and does not invalidate his dichotomy: if necessity and possibility do not add anything to existence, then neither the necessary existent nor the possible existent contains a plurality, and the emanation of a plurality out of the Monad remains unexplained.

p. 118. 4. The real possible, matter, is transitory; the first effect is eternal, i.e. necessary, although it is possible. The same contradiction exists for Aristotle: the material world is eternal, i.e. necessary, although matter is potential and nothing potential is eternal. The contradiction rests finally on the confusion between logical and ontological necessity. Cf. notes 53. 6 and 163. 4.

p. 118. 5. We are here involved in a circle: Averroës seems here to regard both 'necessary' and 'possible' as mere negations, 'necessary' being the negation of 'possible' and 'possible' the negation of 'necessary'.

p. 118. 6. He seems to mean that if, through the necessity in it, there were a duality in the necessary existent, the necessary existent would be necessary by itself and at the same time its necessity would be caused by the necessity in it; but then the necessary existent would not be necessary by itself.

p. 118. 7. Cf. Kant, *Krit. d. rein. Vernunft*, A 598, B 626: 'Sein ist kein reales Prädikat d. i. ein Begriff von irgend etwas, was zu dem Begriffe eines Dinges hinzukommen könne.'

p. 118. 8. When we say a thing exists, or a thing is one, 'exists' and 'one' are predicates and therefore, according to Avicenna, accidents (for the discussion of this theory see my *Ep. d. Met. d. Av.*, pp. 8 and 17 and notes).

p. 118. 9. This is not correct; the theory is originally Aristotelian, e.g. *τῶν μὲν δὴ ἕτερον αἴτιον τοῦ ἀναγκαῖα εἶναι, τῶν δὲ οὐθέν, ἀλλὰ διὰ ταῦτα ἕτερά ἐστιν ἐξ ἀνάγκης*, some things have an extraneous cause of their necessity, others not, but are themselves the cause of necessity in other things (*Met. Δ* 5. 1015^{b}10; for the discussion of this theory see my *Ep. d. Met. d. Av.*, p. 150).

p. 119. 1. For Aristotle this composition exists in the generated only: every individual is the synthesis of two things, matter and form, and it is its matter to which possibility is attributed, e.g. *De gen. et corr. B* 9. 335^{a}32: *ὡς μὲν οὖν ὕλη τοῖς γεννητοῖς ἐστὶν αἴτιον τὸ δυνατὸν εἶναι καὶ μὴ εἶναι*. Cf., however, note 141. 2.

p. 119. 2. This is rather a curious way of putting it, since 'relation' is one of the ten categories. As we have seen, the Stoics, the Sceptics, and also the Muslim theologians regarded relations as subjective.

p. 119. 3. This does not seem to me to follow from the sentence he quotes.

p. 119. 4. This seems in absolute opposition to the view held by Aristotle, and by Averroës himself, that all becoming is but the transition of a pre-existent potentiality to actuality.

p. 120. 1. This is the very point Ghazali makes.

p. 120. 2. I think he means that every body has actually a unity, i.e. it is one, but is a synthesis of matter and form, and, since matter represents the potential, is a plurality potentially.

p. 120. 3. For, since it is pure form, it lacks matter—i.e. potency, the principle of plurality.

p. 120. 4. But a thing is either simple or composite—*tertium non datur*.

p. 120. 5. The theory seems something of a *petitio principii*. Ghazali asks: 'How, from the absolutely simple One, can a plurality proceed?' Averroës answers: 'The One is absolutely simple, but contains potentially a plurality, i.e. a plurality proceeds from it.'

p. 121. 1. This form, i.e. this second principle.

p. 121. 2. In the soul of an individual man there are, according to the Arabian Aristotelians, different intellects, e.g. the material and the active intellect, i.e. different forms having different definitions. The second principle would therefore be a composite intellect like the intellect of man.

p. 121. 3. Cf. Thomas Aquinas, *In Met.* lib. xii. 11: 'nec tamen sequitur quod omnia alia a se ei sunt ignota; nam intelligendo se intelligit omnia alia'.

p. 121. 4. Of course this is no answer to Ghazali's objection.

p. 122. 1. The thing known is the perfection of the knower: *δυνάμει πώς ἐστι τὰ νοητὰ ὁ νοῦς, ἀλλ' ἐντελεχείᾳ οὐδέν, πρὶν ἂν νοῇ* (Arist. *De an. Γ* 4. 429^{b}30; however, God's Intellect is eternally in act, eternally in perfection). Avicenna affirms (*Salvation*, p. 404) that God, knowing Himself and knowing that He is the principle of everything, knows everything that emanates from Him, but knows individual things only in a universal way. But Avicenna denies (op. cit., p. 403) that God knows things through the things themselves, for in this case His essence would depend on these things (i.e. if through my free will I perform an act and God knows this act, God's knowledge will depend on my action). The difference between Avicenna and Averroës here consists, therefore, only in the fact that Averroës denies that it is through God's knowledge that He is their principle, that He knows all things. For Averroës the essence of God consists in all things knowable in the noblest

form of knowledge (according to the Aristotelian theory that the Intellect in act is identical with the things known).

p. 122. 2. But compare p. 120 and note 130. 4, and below: 'they need not all have the same degree of simplicity', and p. 123.

p. 123. 1. i.e. the intellect would not know the things as they are.

p. 123. 2. Cf. Aristotle, *Anal. Post. A* i. 71ᵃ1: *πᾶσα διδασκαλία καὶ πᾶσα μάθησις διανοητικὴ ἐκ προϋπαρχούσης γίνεται γνώσεως.*

p. 123. 3. Possibly he is here referring to Alexander of Aphrodisias, who admits that the natural and necessary consequences of God's causation are known to Him (*Quaest. nat.* ii. 21), i.e. that there is in God a *πρόνοια*, a providence for the sublunary world. At *De fato* xxx (see also the passage in Freudenthal, *Die durch Averroës erhaltenen Fragmente Alexanders*, p. 112) Alexander denies the Stoic theory that the gods know future events; for future events are not yet determined, contain a potential element, and are infinite, and are therefore unknowable before they come into actuality. It is unreasonable to attribute even to the gods knowledge of the unknowable; even for them the impossible keeps its character. Avicenna's theory, which I shall discuss later in more detail, seems an elaboration of Alexander's.

p. 124. 1. A similar objection is made by Aristotle (*De an. A* 5. 410ᵇ4 sqq., cf. *Met. B* 4. 1000ᵇ3) to Empedocles, whose theory, according to Aristotle, would imply that God is the most unintelligent, *ἀφρονέστατος*, of beings, since He alone cannot know what every mortal being knows.

p. 124. 2. Koran xviii. 49.

p. 124. 3. 'who think wicked thoughts about God': words used at Koran xlviii. 6.

p. 125. 1. Averroës is here referring probably to *Met. Λ* 8. 1074ᵇ9, where Aristotle says that the arts and sciences in fact *do* perish, and that in the first utterances of science there is something like a divine inspiration, *θείως εἰρῆσθαι*, according to the faulty Arabic rendering followed by Averroës (*Met.*, p. 1687 Bouyges): فسيظن ان ذلك القول الاهى. Human affairs turn in a circle, *φασὶ γὰρ κύκλον εἶναι τὰ ἀνθρώπινα πράγματα, Phys. Δ* 14. 223ᵇ24.

p. 125. 2. Ibn Hazm, op. cit. i. 72. The superhuman origin of the sciences and arts is current in Greek mythology. It is embodied, for example, in the myth of Prometheus (the 'Fore-Thinker'), Hephaestus, and Athena as told by Plato, *Plt.* 274 c. Ibn Hazm says, loc. cit., line 1: 'We know clearly that man could never have acquired sciences and arts guided solely by his own natural powers and without being taught.' He enumerates different sciences (e.g. medicine and astronomy) and arts, which man could never have acquired without divine assistance. One of the examples he gives is language 'which man could never have fixed by convention without using another language or by starting from another language' (according to Aristotle, *De interpr.* c. 2. 16ᵃ19, language, although not the psychological basis of language, is fixed by convention, *θέσει*, or *κατὰ συνθήκην*; Epicurus asserts that language exists by nature, *φύσει*, cf. Diog. Laert. x. 75).

p. 125. 3. The substance, الجوهر, here synonymous with the essence الذات, i.e. the substance or the essence *κατ' ἐξοχήν*: God.

p. 126. 1. God as the reckoner: Koran iv. 7 and xxxiii. 39.

p. 126. 2. According to Aristotle, however (*De an. Γ* 3. 427ᵇ11 and 428ᵃ11), perception, *αἴσθησις*, is always true; only through judgement and imagination are we liable to error. But Zeno affirmed (Cic. *Acad. post.* i. 14. 41) that one should not have faith in all sense-impressions (*visis*, *φαντασίαις*), but only in those that are trustworthy, i.e. *φαντασίαι καταληπτικαί*; against which Epicurus said (Cic. *De nat. deor.* i. 25. 70) that if one single sense-impression were false, none would be true.

p. 126. 3. In normal cases, like the generation of man from man, the father (the proximate agent, *τὸ ἐγγύτατον αἴτιον*, الفاعل القريب) and the son are identical in species (man), but in abnormal cases, like the generation of the mule from a horse and a donkey, they participate only in the genus next above them (cf. Arist. *Met. Z* 8. 1033ᵇ33).

p. 126. 4. He refers here possibly to Strato (see note 251. 1) or the naturalistic theory ascribed to Avicenna, in his *Oriental Philosophy*; see below, note 254. 4.

p. 127. 1. I think he means, by 'abstract principle, connected with the heavenly bodies', one or possibly more immaterial movers of heavenly bodies. A principle inferior to God would be, for example, the World-Soul or the First Intellect.

p. 127. 2. 'elements': the text has الاجرام البسيطة, *τὰ ἁπλᾶ σώματα*, i.e. *τὰ στοιχεῖα*, the elements. The mutual transition of the elements is caused by the movement of the celestial bodies; see Aristotle, *Meteor. A* 2. 339ᵃ21 and ibid. *Δ* 1, ad init.

p. 127. 3. 'the formative faculty', القوة المصوّرة, *ἡ δύναμις ἡ διαπλαστικὴ ἣν δὴ καὶ τεχνικὴν εἶναι λέγομεν*, through which everything has a purpose and nothing is in vain (*ἀργόν*) or superfluous (*περιττόν*), Galen, *De natur. facult.* i. 6. 15.

p. 127. 4. By 'abstract principle' he probably means here Avicenna's *dator formarum* which is the last intellect emanating from God and which is identified with Aristotle's active intellect.

p. 127. 5. i.e. the World-Soul of the Platonists.

p. 127. 6. *ὁ τοῦ σώματος ἡμῶν δημιουργός*, whose substance (*οὐσία*) is unknown to us and who is called by Hippocrates 'nature', *φύσις* (Galen, *De plac. Hipp. et Plat.*, Mueller, p. 809. 6).

p. 127. 7. Cf. my *Ep. d. Met. d. Av.*, p. 44 and note 44. 2.

p. 127. 8. Cf. Aristotle, *De caelo A* 10. 280ᵃ24.

p. 127. 9. Description, رسم, *ὑπογραφή*, a term of Stoic logic. Through the *ὑπογραφή* we describe by their proper qualities those highest concepts which cannot be defined; cf. Simplicius, *In Cat.* 75. 30.

p. 128. 1. This refers to Aristotle, *De an. A* 3. 407ᵃ9–20, where he criticizes Plato's theory of the World-Soul by saying that thought does not possess unity through magnitude, i.e. cannot be divided through the division of the body. For how will Mind think, if it be extended, and through which parts of the extension? (Cf. also 430ᵇ15 ,where it is said that the Intellect thinks through an indivisible mental act, and *De sensu* 7. 449ᵃ3.) The same criticism of a materialistic conception of thought is found in Plotinus, *Enn.* iv. 7. 8. The whole problem will be treated later *in extenso*.

p. 128. 2. Cf. Aristotle, *De gen. et corr. A* 4. 320ᵃ2: *ἔστι δὲ ὕλη μάλιστα μὲν καὶ κυρίως τὸ ὑποκείμενον γενέσεως καὶ φθορᾶς δεκτικόν.*

p. 128. 3. Cf. Aristotle, *De caelo A* 10. 280ᵃ24.

p. 128. 4. Perception is the reception in the soul of the form of the external thing perceived without the matter, Aristotle, *De an. B* 12. 424ᵃ17; intellect is a form which knows or apprehends intelligible forms, Aristotle, *De an. Γ* 8. 431ᵇ20–432ᵃ3 (for this theory compare my *Ep. d. Met. d. Av.*, note 47. 6).

p. 128. 5. Cf. Aristotle, *Met. Λ* 7. 1072ᵇ18: *ἡ δὲ νόησις ἡ καθ' αὑτὴν τοῦ καθ' αὑτὸ ἀρίστου, καὶ ἡ μάλιστα τοῦ μάλιστα.*

p. 128. 6. i.e. the relation of intellectual to sensible existence is like the relation of craftsmanship to its material (*οἷον ἡ τέχνη πρὸς τὴν ὕλην, De an. Γ* 5. 430ᵃ12); the image (*εἴδωλον*) of the craftsmanship, says Plotinus (*Enn.* v. 9. 5), penetrates into the matter, but the craftsmanship itself remains in its identity outside the matter.

p. 129. 1. This is the important Plotinian theory of creative knowledge. If the First Intellect, says Plotinus (*Enn.* v. 9. 5), has to be the creative power of the Universe, it cannot think it, in creating it, as existing in that which does not yet exist. The intelligibles must therefore exist prior to the world, and cannot be an image of the sensible things; on the contrary they are their archetypes . . . . This theory was accepted by both Christian and Muhammadan theologians. *We* know the things because they are; they *are* because God knows them. St. Augustine says (*De trin.* xv. 22): 'with respect to all His creatures, both spiritual and corporeal, He does not know them, because they are, but they are because He knows them' ('non quia sunt, ideo novit, sed ideo sunt, quia novit'). And John Scotus Eriugena, *De div. nat.* Migne, cxxii. 596 B, says: '. . . divina siquidems cientiao mnium, quae sunt, causa est. Non enim ideo Deus scit ea, quae sunt, quia subsistunt, sed ideo subsistunt, quia Deus ea scit.' Compare St. Thomas Aquinas, *Summ. Theol.* i, qu. 14, art. 10. We shall see that this theory is accepted also by Ghazali (cf. too his analogous doctrine that God differentiates things through His choice, not that He chooses them because they are differentiated).

p. 129. 2. For this compare Ptolemaeus, *Hypotheses* (ex Arab. interpret. est L. Nix, Leipzig, 1907), p. 119, and note 115. 1 of my *Ep. d. Met. d. Av.*

p. 130. 1. For it is a basic principle of Neoplatonism that emanation implies a progressive degradation (*ἐξίτηλον*), e.g. *Enn.* iii. 8. 4: *ὁμογενὲς γὰρ ἀεὶ δεῖ τὸ γεννώμενον εἶναι· ἀσθενέστερον μὲν τῷ ἐξίτηλον καταβαῖνον γίγνεσθαι.*

p. 130. 2. In this rather obscure sentence there is of course a contradiction: if the First is the cause of everything, the inferior Intellects cannot create anything. Averroës means evidently that the First is only the first or supreme cause of everything and that the inferior Intellects are subordinate causes. By 'saying[6] each intellect is the cause of its own essence, i.e. the human intellect', I think Averroës means that all these separate (*χωριστός*, cf. *De an. Γ* 5. 430ᵃ17) Intellects are (or are the cause of) the Active Intellect (*ὁ ποιητικὸς νοῦς*) which exists in each human being from birth to death, whenever he thinks.

p. 130. 3. These are God's seven attributes, about which the Muhammadan theologians agree, although they disagree about their nature.

p. 130. 4. i.e. God is the unique efficient cause.

p. 130. 5. The Ash'arites, like the Stoics, ascribe to God knowledge of individual things. Against this the Peripatetics hold (see Alexander of Aphrodisias' argument in *Die durch Averroës erhaltenen Frgm. Alexanders*, p. 113 and my *Ep. d. Met. d. Av.*, p. 145) that the knowledge of individuals, since there is in infinite time an infinite number of them, would imply an infinite actual knowledge, and an actual infinite is impossible even for God.

p. 131. 1. i.e. they could not explain the relation.

p. 131. 2. Averroës refers here to the Stoic argument of the Ash'arites, that everything in the world is transitory and that which is transitory in its parts is transitory as a whole.

p. 131. 3. i.e. there is no objective necessity in them, since the things of this world have no 'natures', characters, dispositions, capacities.

p. 131. 4. This may mean either that there are no *vérités de raison* (the Ash'arites, however—but not orthodox theologians like Ibn Hazm—admitted that the contradictory is not possible even for God) or that the intellect cannot find any necessity in the world.

p. 131. 5. This is a true and profound remark: if there is no necessity in things, there can be no wisdom, no reason, in their maker. For wisdom implies necessity, since reason is the making of inferences, the finding of

objective necessities. It may be added that to ascribe wisdom to God is to deny His omniscience, as was seen by Carneades, who said (Sext. Emp. *Adv. phys.* i. 167–8) that God cannot possess reason (*φρόνησις*) and cannot deliberate (*βουλεύεσθαι*), since one who reasons has not yet found. It is the prerogative of man to reason and to act, because he partly knows, partly does not know. All action implies a supposition and the knowledge of a necessary relation: I can act voluntarily when I know that, if I do *this*, *that* will happen. All reasoning implies an ignorance and the possible knowledge of a necessity: I reason when I want to find that, if, when I do *this*, *that* will happen.

p. 131. 6. This is very true; cf. note 89. 3.

p. 131. 7. i.e. we infer voluntary action in the Divine only by analogy with voluntary action in ourselves.

p. 132. 1. Namely God who possesses attributes.

p. 132. 2. i.e. they proved that the heavens are produced by admitting in them accidents, i.e. transitoriness, and by the argument that that which is transitory in its part is transitory as a whole.

p. 132. 3. i.e. they supposed that this creation had taken place *ex nihilo*.

p. 132. 4. i.e. *ex nihilo*.

p. 132. 5. Koran xxiii. 12–14.

p. 132. 6. Koran xxi. 31.

p. 132. 7. Koran xi. 9.

p. 132. 8. Koran xli. 10.

p. 132. 9. According to the Aristotelians the individuality of a thing is based on its being composed of matter and form; but every atom is an individual by itself, in its simplicity.

p. 133. 1. It is the non-cold (the warm, for *omnis determinatio est negatio*) which takes the place of the cold, when a thing becomes warm. Every negative is just as much an object of the mind as the positive, and possesses therefore a certain reality, according to Aristotle. The non-existent world was, according to the Mu'tazilites, an object of God's thought before the creation of the world. God creates the world by conferring on this object of His thought the attribute of existence (for existence is an attribute for the Mu'tazilites and for Avicenna, though not for the Ash'arites and Averroës).

p. 133. 2. Cf. my *Ep. d. Met. d. Av.*, note 63. 2, for the inherence of corporeality in primary matter.

p. 133. 3. e.g. an individual man has individual transitory qualities, and therefore the individual man is transitory; but man as a universal is a rational being, this rationality which is one generically is eternal and has no first term; therefore, why should man in general be produced?

p. 133. 4. 'necessary', i.e. it is a necessary, evident proposition for the philosophers that *infinitum actu non datur*. But the philoscphers and Ash'arites did not agree about the *infinitum actu*.

p. 134. 1. i.e. the father is the cause of the son, but the father is himself a son, i.e. the effect of another father; if therefore the power the father had to generate a son had to come to him from a father who had generated him, we should have an infinite regress. There must therefore be a power (an all-pervading power, *δύναμις διὰ τῆς ὕλης πεφοιτηκυῖα*, as the Stoics have it) which moves the matter in itself motionless (*ὕλη καθ' αὑτήν ἀκίνητος*) of the Universe, and this power will be God.

This Stoic argument (see Sext. Emp. *Adv. phys.* i. 75–77) is a logical correction and consequence of Aristotle's doctrine of the prime mover. According to Aristotle there is an infinite sequence of fathers and sons, of causes and effects. But all change derives ultimately from a prime mover, itself unmoved, not itself an effect. This prime mover, however, is not at the beginning of the causal series father–son–father, since this series is infinite, but, moving eternally, is so eternal with this series; the prime mover is therefore, in fact, the unique mover, the unique cause, and source of all change.

p. 134. 2. This is in agreement with Aristotle's theory of movement, e.g. *Phys.* Θ 4. 255ᵃ16: we must always distinguish the mover from the moved, just as we see this when a living agent moves a lifeless thing; and *Phys.* Θ 5. 257ᵇ9: the mover is already an actual existent, *τὸ δὲ κινοῦν ἤδη ἐνεργείᾳ ἐστίν*; but I do not see how this refutes the Ash'arite argument.

p. 134. 3. i.e. that there is no causation in the world.

p. 134. 4. 'end': this is just the point; the series father–son–father is infinite, and does not end in an agent which itself is not an effect, i.e. the prime mover, but the prime mover acts eternally and is coeternal with the series, which would not exist at all without this prime mover.

p. 134. 5. This is both Aristotelian and Neoplatonic. For Aristotle everything immaterial is indivisible, *Met.* Λ 9. 1075ᵃ7: *ἀδιαίρετον πᾶν τὸ μὴ ἔχον ὕλην*. In God the thinker and the thought are identical, and the divine thought is eternally indivisible. For Neoplatonism compare, for example, Proclus, *Instit. theol.* v, prop. 47: *πᾶν τὸ αὐθυπόστατον ἀμερές ἐστι καὶ ἁπλοῦν*, 'all that is self-subsistent is without parts and simple', and its proof; and especially Plotinus, *Enn.* v. 4. 1: *τό τε μὴ ἁπλοῦν τῶν ἐν αὐτῷ ἁπλῶν δεόμενον ἵν' ᾖ ἐξ ἐκείνων*, 'that which is not simple needs simple entities for its composition'. This doctrine has profoundly influenced monotheistic theology, Christian (see next note), Muhammadan, and Jewish. In Muhammadan theology the word توحيد, 'God's one-ness', i.e. 'the uniqueness of God', takes also the meaning of God's simplicity. This problem will be discussed later *in extenso*.

p. 134. 6. i.e. they are *termini transcendentales*. For this theory of the Mu'tazilites see, for example, Shahrastani, op. cit. ed. Cureton, i. 30, and Baghdadi, *The Different Sects*, p. 93. That there is no composition in God is also affirmed by the Alexandrian Fathers, e.g. St. Athanasius (Migne, xxvi. 1044 B): *οὐ γὰρ σύνθετος ὁ θεὸς ὁ τὰ πάντα εἰς τὸ εἶναι συντεθεικώς . . .· ἁπλῆ γάρ ἐστιν οὐσία ἐν ᾗ οὐκ ἔνι ποιότης*, God who has compounded everything is not Himself compounded . . . for a substance in which there is no attribute is simple.

p. 134. 7. The Ash'arites assert that God's attributes are distinct from His essence.

p. 135. 1. Cf. e.g. Aristotle, *Met. B* 1. 995^{b}2 and *Top. A* 2. 101^{a}35.

p. 135. 2. 'God's essence exceeds even the understanding of the blessed in their mystical union with God' ('excedit ipsam copulationem intellectus beatorum, qui essentiam Dei vident per copulationem'), says Thomas Aquinas following Dionysius Areopagita, *De divin. nom.* v. 1.

p. 135. 3. Averroës refers here to the theory originally held by the Mu'tazilite Abu Hashim (cf. e.g. Fakhr ad-Din al-Razi, *Compendium of the Opinions of the Ancients*, Cairo, H. 1323, p. 111), that God possesses a positive quality which characterizes Him, i.e. His being God, His divinity (الإلهية), other theologians denied this (see Razi, loc. cit.) and applied to God the method of negation, تنزيه (literally 'removal'; the word is an exact translation of the term *ἀφαίρεσις*), i.e. they asserted that God had to be described by negation, and that there are negative qualities in Him, and that the positive qualities He possesses He does not possess in the way other beings possess them. Negative theology is a characteristic of Neoplatonism (see *Enn.* v. 3. 13, where the First is said to be ineffable, *ἄρρητον*) and, indeed, of all mysticism, since in its ultimate consequence the elimination or synthesis of opposites in the Absolute—as in the self-contradictory assertion of Dionysius Areopagita that nothing positive or negative can be asserted of that which is itself the cause of everything positive and negative, *ἡ πάντων θέσις, ἡ πάντων ἀφαίρεσις, τὸ ὑπὲρ πᾶσαν καὶ θέσιν καὶ ἀφαίρεσιν*—it is the total surrender of reason before the mystery of God. Negative theology is emphasized especially by the later Neoplatonists; e.g. for Damascius, *De principiis* (Kopp, pp. 5 sqq.), the First is neither a cause nor a non-cause, neither a principle nor not a principle, neither at the beginning of the Universe nor transcending it (*ἐπέκεινα πάντων*). Dionysius Areopagita, in his *Mystical Theology*, iv and v, enumerates more than fifty negations about God.

p. 135. 4. This is rather unusual, for according to the Arabic philosophers (Averroës included) the Platonic ideas, i.e. the universals, exist eternally in the mind of God (this synthesis of Plato and Aristotle is found already in Middle-Platonism, Neo-Pythagoreanism, and Philo Judaeus). But by 'universals' Averroës here evidently means the universals that have a

transitory existence in the minds of men and are abstracted from individual things in the way described by Aristotle, *Anal. Post. B* 19. Averroës here employs both the method of theology *per negationem* and that of theology *per analogiam* or *per eminentiam* (*ὑπεροχή*). God has a thought superior to our thought, but none of the attributes of our thought is valid for God's thought. The obvious objection is to ask how God's thought can be regarded as thought at all. According to Dionysius Areopagita, there is a threefold way to the knowledge of God: by absolute negation, by absolute superiority, and by regarding Him as the absolute cause (*ἐν τῇ πάντων ἀφαιρέσει καὶ ὑπεροχῇ καὶ ἐν τῇ πάντων αἰτίᾳ* (*De div. nom.* viii. 3).

p. 135. 5. Cf., however, the argument of Alexander of Aphrodisias against God's knowledge of individuals (note 130. 5), an argument which Averroës copies in his *Epitome* (see my translation, p. 145).

p. 136. 1. The implication of this *petitio principii* would seem to be that the order of the Universe proves definitely the existence of a creative intellect.

p. 136. 2. That existence or being has different degrees is a basic idea of Aristotelian thought: *τὸ δὲ ὂν λέγεται μὲν πολλαχῶς* says Aristotle, e.g. at the beginning of *Γ* 2 of his *Metaphysics*; and at *Met. Γ* 2. 1003^{b}6 he says: some things are spoken of as being, because they are substances, others because they are affections of substance (*πάθη οὐσίας*), others because they lead towards substance . . . and therefore we say that even non-being *is* non-being.

p. 136. 3. A strange conception, but a consequence of a theory of perception without an 'ego'; cf. Aristotle, *De an. Γ* 2. 425^{b}22: *ἔτι δὲ καὶ τὸ ὁρῶν ἔστιν ὡς κεχρωμάτισται· τὸ γὰρ αἰσθητήριον δεκτικὸν τοῦ αἰσθητοῦ ἄνευ τῆς ὕλης ἕκαστον*, i.e. that which sees is, in the act of seeing, in a way coloured, for it receives without its matter the identical form which exists in the coloured object perceived.

p. 136. 4. Imagination, which according to Aristotle differs from sense-perception and is included in thought, is the faculty in virtue of which we say that an image presents itself to us, *ἡ φαντασία καθ' ἣν λέγομεν φάντασμά τι ἡμῖν γίγνεσθαι* (*De an. Γ* 3. 428^{a}1).

p. 136. 5. Memory is imagination consciously referring to an earlier perception of which the image is a copy, Aristotle, *De mem.* 1. 449^{b}24 sqq.

p. 136. 6. That the universe is a unified body, *ἡνωμένον τι σῶμα*, kept together through its one cohesive power, *ἕξις*, is a Stoic doctrine, cf. Sext. Emp. *Adv. phys.* i. 77–78.

p. 137. 1. That the first tendency of the animal is towards its own preservation (*ἡ πρώτη ὁρμὴ ἐπὶ τὸ τηρεῖν ἑαυτό* Diog. Laert. vii. 85, cf. v. Arnim, *Stoic. Vet. Fr.* iii. 43 sqq.) is a Stoic doctrine which is found, for example, in

St. Augustine (*De civ. dei* xi. 28), Thomas Aquinas (*Contr. gent.* iii. 65), Hobbes (*English Works*, Molesworth, iv. 83), and Spinoza ('una quaeque res, quantum in se est, in suo perseverare conatur', *Eth.* iii, prop. 6). According to the Stoic doctrine as exposed by Cicero (*De fin.* iii. 20) there is no conflict between self-love and the equally natural love of humanity: the theatre of the world is open to all, although every spectator has a right to his own seat. And Seneca says (*Ep.* 48. 2): 'alteri vivas oportet, si vis tibi vivere', you cannot but live for others, if you want to live for yourself.

p. 137. 2. i.e. *πνεῦμα, spiritus*, the Stoic life-spirit.

p. 137. 3. The analogy between the world, the macrocosm (the term 'macrocosm' is not found in classical Greek; Aristotle—see below—has *μέγας κόσμος*; it occurs for the first time in its Latin form in Higden, 14th century, but it may well be older, cf. *O.E.D.* s.v.), and the living being (especially man), the microcosm, was maintained by various Greek philosophers, e.g. Democritus (fr. 34 Diels), Plato, Aristotle (*Phys.* *Θ* 2. 252ᵇ24: *εἰ δ' ἐν ζῴῳ τοῦτο δυνατὸν γενέσθαι, τί κωλύει τὸ αὐτὸ συμβῆναι καὶ κατὰ τὸ πᾶν; εἰ γὰρ ἐν μικρῷ κόσμῳ γίνεται, καὶ ἐν μεγάλῳ*), and, especially in its Stoic form of a universal 'sympathy', *συμπάθεια τῶν ὅλων*, had a great influence, both in Orient and Occident, on mystical writings, on alchemy, chiromancy, astrology, magic, and also medicine (al-Kindi, Cardano, Paracelsus, R. Fludd) in the Middle Ages and the Renaissance. It finds its deepest poetical expression in Goethe's *Faust*.

p. 137. 4. That the universe is unified and connected by the all-permeating pneuma, *τὸ πᾶν ἡνῶσθαί τε καὶ συνέχεσθαι πνεύματός τινος διὰ παντὸς διήκοντος αὐτοῦ* is a Stoic doctrine which, however, is denied by Alexander of Aphrodisias, *De mixt.*, p. 223. 25 (*Stoic. Vet. Fr.* ii. 145. 16).

p. 137. 5. Koran xxxv. 39.

p. 137. 6. i.e. in the immaterial celestial world opposites coincide; the one can be many, the identical differentiated.

p. 138. 1. i.e. God.

p. 138. 2. Whether the daily movement of the heaven of the fixed stars and of the spheres of the planets proceeds from one mover, and all the spheres are connected (as would seem to be Aristotle's theory at *Met.* *Λ* 8. 1073ᵇ25), or whether every planet has its own mover for its daily movement (as would seem to be his theory at 1074ᵃ15), forms a point of discussion among the commentators (see my *Ep. d. Met. d. Av.*, p. 113).

p. 138. 3. 'On them'; but, indeed, those immaterial existents are themselves nothing but the forms.

p. 138. 4. According to Aristotle (*Phys.* *B* 7. 198ᵃ25) form and end are identical generally: *τὸ μὲν γὰρ τί ἐστι καὶ τὸ οὗ ἕνεκα ἕν ἐστιν.*

p. 138. 5. I have already discussed Aristotle's theory of God as the prime mover and supreme end (note 22. 4); the theory here exposed shows that in God the opposites coincide—He is the One who contains the Many, He is the form and the end He bestows on others, He is the prime mover and the supreme end—and substantiates Ghazali's accusation of the irrationality of this theology.

p. 138. 6. Through the introduction of the idea of creation Aristotle's conception of God as the ultimate passive end of desire is vitiated. The world tends towards God, but the ultimate motive lies in God's desire to be loved with a love—conscious and voluntary in man, unconscious in the animated (cf. August. *Sol.* i. 2: 'Deus quem amat omne quod potest amare, sive sciens, sive nesciens'), expressed in motion; cf. Bernard of Clairvaux, *Liber de dilig. deo* vii. 22: 'causa diligendi deum deus est . . . nam et efficiens et finalis: ipse dat occasionem, ipse creat affectionem, desiderium ipse consummat'. Neoplatonism distinguishes three kinds of unifying and conjoining force, *ἑνωτικὴ καὶ συγκρατικὴ δύναμις*, three kinds of love in the created (for the Neoplatonic theory of love cf. Plotinus *Enn.* iii. 5 and Proclus, *Comm. in Platonis primum Alcibiadem*, ed. Cousin, vol. ii, pp. 78 sqq. and pp. 137 sqq.; for the terminology see also Dionys. Areop. *De div. nom.* iv. 15):

(1) *ἔρως φυσικός, amor naturalis*, love as the cosmic force of attraction and movement in all natural things (this is based on Eryximachus' speech in Plato's *Symposium* 186–9—cf. Empedocles fr. 17 Diels—and on the passage of Aristotle, *Phys.* *A* 9. 192ᵃ16);

(2) *ἔρως ψυχικός, amor sensitivus*, in man and the living, 'earthly love', i.e. the principle of procreation, a desire for the eternity and duration of the species (the distinction between earthly and heavenly love is based on the distinction between an earthly and a heavenly Aphrodite in Plato's *Symposium* 180 c, d);

(3) *ἔρως νοερός, amor* (or *caritas*) *intellectivus* (or *rationalis*, or *intellectualis*) in man, 'heavenly love', the love for God, the love for the divine, immortal forms, which in its greatest intensity becomes *ἔρως ἐκστατικός*, in which the identity of the lover vanishes in the beloved (for the definition of ecstatic love see Dionys. Areop. *De div. nom.* iv. 13, ad init.).

This Neoplatonic conception of love is found in mystical theology both in East and West; in Islam, for example, in Avicenna's *Treatise on Love* رسالة فى العشق, and there are ideas connected with it in Ghazali's section on Love in the sixth book, fourth section, of his *Vivification of Theology* (for Ghazali primary natural love is self-love, i.e. the desire of everything for its own preservation—see note 137. 1; for Ghazali as for medieval theologians, like Bernard of Clairvaux and Thomas Aquinas, and Renaissance authors like Telesio and Campanella, there is a continuous gradation from self-love to love for God). In the fifteenth century, through the revival of

Neoplatonism it finds a new expression in such works as the *Commentary on the Symposium* of Marsiglio Ficino and the *Dialoghi d'Amore* of Leo Hebraeus (Judah Abravanel). R. Burton in his *Anatomy of Melancholy* (Part III, sec. 1, mem. i, subs. 2) mentions Leo's division of Love in his second dialogue into natural, sensible, and intellectual love. Spinoza took his idea of *amor intellectualis* from Leo Hebraeus. For the poetical expression of this idea compare Dante's sublime words (*Parad.* xxx. 40):

'Luce intellettual, piena d'amore;
Amor di vero ben, pien di letizia;
Letizia che trascende ogni dolzore.'

p. 138. 7. Koran xxxiii. 72.

p. 139. 1. Cf. my *Ep. d. Met. d. Av.*, note 112. 3; astronomical theories, according to the Greeks, are only concerned with phenomena and do not provide knowledge of the underlying reality.

p. 139. 2. The reasons why the action of the highest sphere seems superior are mentioned by Averroës in his *Epitome of the Metaphysics* (see my translation, p. 132 and note 132. 2); the most important are that the highest sphere gives motion to the greatest number of bodies (Arist. *De caelo B* 12. 292^b25) and that what is nearest to the mover must have the most rapid motion (Arist. *De caelo A* 9. 279^a16; *Phys. Θ* 10. 267^b6).

p. 139. 3. For this, compare my *Ep. d. Met. d. Av.*, note 122. 2: Stoic philosophy regarded the sun as the *ἡγεμονικόν*.

p. 140. 1. i.e. if the knowledge of its cause—which is a second effect, surreptitiously introduced—is possible.

p. 140. 2. It has no cause according to the latter alternative; Ghazali's argument is of course perfectly sound; from the One no plurality can be logically deduced.

p. 140. 3. Since according to the theory of emanation the superior includes the inferior (but in this case Ghazali would seem to accept the theory of emanation); or perhaps he only means that the Creator must know His creation.

p. 140. 4. i.e. a proof of one who does not think that knowledge of the effect in the knower implies a duality in the knower.

p. 140. 5. This is of course a *petitio principii*.

p. 141. 1. Cf. e.g. Aristotle, *Met. Δ* 5. 1015^b12: *τὸ κυρίως ἀναγκαῖον τὸ ἁπλοῦν* ('that which is absolutely necessary is the simple'), and *Met. Θ* 8. 1050^b6, 'The eternal is essentially prior to the generated (*φθαρτά*) and nothing eternal is potential'.

p. 141. 2. The fault lies not with Avicenna, whose conception of the necessary is in agreement with Aristotle's, but with the contradiction that there is here in Aristotle's system. According to Aristotle there are several

unmoved, immaterial, eternal movers (this in itself contradicts the theory that matter is the *principium individuationis*). Since nothing eternal is potential, there cannot be any potentiality in these movers, and they seem therefore independent of the First Principle and in any case their relation to the First Principle is nowhere explained. On the other hand, the First Principle is the First Cause, and therefore everything must depend on it; and since these immaterial movers thus receive their necessity from an external cause (*ἕτερον αἴτιον*, *Met. Δ* 5. 1015^b10), there must be an element of potentiality in them, and only their cause, the First Principle, can be *κυρίως ἀναγκαῖον*, absolutely necessary. There is a similar contradiction in Aristotle over the categories. He asserts (*Met. Z* 1. 1028^a29) that substance is the cause (*διὰ ταύτην*) of the other categories, but also (*Met. Λ* 4. 1070^b1) that the categories cannot be deduced from one another (*παρὰ γὰρ τὴν οὐσίαν καὶ τἆλλα τὰ κατηγορούμενα οὐδέν ἐστι κοινόν*). There are both monistic and pluralistic tendencies in Aristotle; the later commentators emphasized the monistic.

p. 142. 1. This refers probably to Aristotle, *De an. B* 7 ad init.: the 'object of sight is the visible . . . and that which is visible in itself (*καθ' αὑτό*) is not visible by its essence (*λόγῳ*) but because it contains in itself the cause of visibility'. Averroës means that colour which exists by itself, i.e. which is something real in a body, is the cause of sight; still the colour does not change by being seen, but only enters into an external relation with the percipient. A cat may look at a king, but the king does not change by being the cause of the cat's seeing him.

p. 142. 2. This would be true only on the assumption (one often made in post-Aristotelian philosophy) that all relations are unreal, and indeed if all relations are unreal, only the One remains.

p. 142. 3. According to Aristotle (*De an. B* 12) perception is the reception of the sensible forms الصور الحسّية, *τὰ αἰσθητὰ εἴδη*, without their matter.

p. 142. 4. Ghazali here raises a delicate point in Aristotelian philosophy. Heaven seems to be a body. Now body is something material, but it is not simply matter, for matter is by definition the unqualified—Plotinus says explicitly (e.g. *Enn.* iii. 6. 7) that matter is *ἀσώματος*—and body possesses dimensions. Although Aristotle nowhere explains how matter can become body (for he seems mostly to have regarded matter as something corporeal) the commentators discuss the question of the form through which prime matter can become body (cf. my *Ep. d. Met. d. Av.*, note 63. 2; the problem has been posed by Plotinus, *Enn.* ii. 7. 3). Since matter and form always exist conjointly and in mutual dependence, there must be two principles for their existence, as Ghazali rightly remarks.

p. 142. 5. One would have expected, instead of 'the second intellect' 'the first intellect', i.e. the first effect; here, however, Averroës seems to regard God as the first intellect.

p. 142. 6. i.e. matter and form are conditions for each other's existence.

p. 142. 7. Here the process of emanation is described in a somewhat different manner from that mentioned above, p. 109.

p. 142. 8. If one understands by 'matter', as Averroës does here, following Aristotle's definition *De gen. et corr. A* 4. 320ᵃ2, the substratum of production and corruption, *τὸ ὑποκείμενον γενέσεως καὶ φθορᾶς δεκτικόν*, heaven does not possess matter (but it can in that case hardly be called body); if, however, by *ὕλη* is meant the substratum of locomotion (as, e.g., *Met. Λ* 2. 1069ᵇ25, where Aristotle says that what is eternal has matter, not a matter which admits of generation, but a matter which only allows motion from one place to another), then the heavenly substance (*αἰθήρ*) possesses or is matter.

p. 142. 9. As a matter of fact, according to Aristotle (*De caelo B* 12. 292ᵃ18), and Averroës himself, the heavens (or spheres or stars) are living beings.

p. 143. 1. 'body in its entirety', i.e. body as composed of matter and form; matter as the substratum and receptacle of forms (*ὑποκείμενόν τι καὶ ὑποδοχὴ εἰδῶν, Enn.* ii. 4. 1), does not emanate from the First.

p. 143. 2. This is a very strange conception; we have seen, however, that Averroës ascribes a definite measure to the sun, a heavenly body; but here Averroës follows Themistius (see note 161. 2).

p. 143. 3. Averroës here avoids the difficulty by passing from a supernatural agent to an agent in the empirical world.

p. 143. 4. For becoming is 'coming from' (see note 87. 2).

p. 144. 1. For our world is one and unique and perfect, *εἷς καὶ μόνος καὶ τέλειος οὗτος οὐρανός ἐστιν* (Arist. *De caelo A.* 9. 279ᵃ10).

p. 144. 2. i.e. the order, the measure of the world, must have been a cause, and this cause must have been determined or specified by an agent, God.

p. 144. 3. Averroës does not, and cannot, explain how this is possible, for how can the universal form of body contain the infinite variety of accidents of the individual bodies?

p. 144. 4. i.e. the Ash'arites believe that God is the only agent, the only cause of everything that happens; the philosophers believe that God is the primary cause, but that there are intermediate causes; the Mu'tazilites believe that at least human actions, since man acts spontaneously and his will is free, are not directly dependent on God, and the Mu'tazilite Muammar believed even (cf. Shahrastani, op. cit., ed. Cureton, p. 46) that God has created bodies alone and that accidents arise by natural necessity from the body.

p. 145. 1. The four elements, *στοιχεῖα*, are called by Aristotle *τὰ ἁπλᾶ σώματα* or *τὰ ἁπλᾶ*, e.g. *Met. A* 3. 984ᵃ6.

p. 145. 2. See above, note 142. 8.

p. 145. 3. For the simple as synonymous with the unmixed, *τὸ ἀμιγές* (opp. *τὸ κεκραμένον*), i.e. the homogeneous, cf. e.g. Aristotle, *De sensu* 7. 447ᵃ18.

p. 145. 4. For, according to both Aristotle (cf. *Phys. B* 8. 199ᵇ26) and Plotinus (*Enn.* iii. 8. 2 ad fin.), Nature, although its acts tend towards an end, does not choose or deliberate.

p. 146. 1. For the *Niche for lights* compare note 69. 2. Ghazali's mediating principle is regarded by him as the mover of the ninth sphere, like Avicenna's First Intellect. The proposition 'ex uno non fit nisi unum' is not mentioned by Ghazali.

p. 146. 2. i.e. there are in the First Effect pluralities which cannot be deduced from the fact that it is a first effect, since as a first effect it ought to be simple.

p. 146. 3. Cf. the analogous argument, p. 24.

p. 146. 4. This seems true enough, but is more closely in agreement with the Stoic denial of possibility than with Aristotle (and with Averroës himself), for whom on the contrary the possible can become, or has to become, necessary through an external agent, and who distinguishes what is absolutely necessary from what is so hypothetically (cf. notes 141. 1 and 141. 2).

p. 147. 1. i.e. the outermost sphere. Ghazali wants to show in what follows that God is the immediate cause of everything, and that He cannot act through mediation, as is the Neoplatonic doctrine, and also his own in the *Niche for Lights*.

p. 147. 2. This amounts to saying that the First Cause and the First Effect are absolutely similar; they both have the same plurality, and notwithstanding their plurality they are both a unity; the opposites of plurality and unity coincide in them both. As Ghazali is going to remark, why then not say that the cause and the effect are identical? For what is their *principium individuationis*?

p. 147. 3. For these two principles are both eternal and immaterial, i.e. not in place; they have no *principium individuationis*.

p. 147. 4. 'things which do not differ from them in time and place', i.e. all heavenly and human souls and all earthly and heavenly bodies; but souls differ from them in time, for they are not eternal, and bodies differ from them in space, since *qua* bodies these bodies are in space. But perhaps one must understand that in the Divine Mind human souls in some incomprehensible way are eternal, and bodies immaterial.

p. 148. 1. Cf. p. 108.

p. 148. 2. For in the absence of a rival he cannot be overtaken; for this proverb see Maidani, ed. Freytag, i, p. 315, ch. xxi. 27.

p. 148. 3. i.e. three; from the First Effect three things emanate.

p. 149. 1. That there is one primary reality: the prime, eternal, immaterial, immovable mover.

p. 149. 2. Cf. Aristotle, Met. *Λ* 8. 1073ᵃ17: we must show that on the number of principles other thinkers have made no clear statement whatever, *ὅτι περὶ πλήθους οὐθὲν εἰρήκασιν ὅ τι καὶ σαφὲς εἰπεῖν.*

p. 149. 3. In the *Almagest* (ed. Halma, t. ii, p. 831) the number of stars, as established by Hipparchus, is given as 1,022, to which the three stars of the *πλόκαμος*, الضفيرة (Coma), which he has omitted, must be added. The number 1,025 was generally accepted by the Arabs, although Abd al-Rahman al-Sufi, *Description des étoiles fixes*, transl. Schjellerup, p. 40, says that there are many more stars which, however, are so faint that they cannot be counted.

p. 149. 4. The Greek astronomers divided the stars according to their apparent magnitude, i.e. their luminous intensity, into six classes, which were again subdivided by al-Sufi.

p. 149. 5. In the *Almagest* (7. 5) six stars are called reddish, *ὑπόκιρρος* (*subrufus*), amongst which is Sirius, which to us today appears white; cf. Schjellerup, op. cit., p. 25. For the statements of the Arabs concerning the colour of some stars compare Nallino, *al-Battani, Opus Astronomicum*, ii. 283–9.

p. 149. 6. As an example of stars in the shape of a man, صورة الانسان, al-Sufi gives, for example, Gemini, الجوزاء (op. cit., p. 40).

p. 149. 7. e.g. the pernicious influence of Sirius is mentioned as early as Homer, *Iliad* xxii. 30, and our expression 'dog-days' (*κυνοκαύματα, dies caniculares*) still testifies to the belief in the influence on the weather attributed to this star (Canicula, the dog-star).

p. 149. 8. For the differences between Hipparchus (in the *Almagest*) and al-Sufi over the luminous intensities of the stars compare the synoptic table in Schjellerup, op. cit., p. 5.

p. 150. 1. For this dangerous theory (for what remains of the *τόδε τι*, the individual substance, when the accidents are eliminated?) compare Aristotle, *Met. E* 2, where the accidental is said to be very near to the non-existent, *τὸ συμβεβηκὸς ἐγγύς τι τοῦ μὴ ὄντος*, and where it is affirmed that there can be no speculation about the accidental, *περὶ τὸ κατὰ συμβεβηκὸς οὐδεμία ἐστὶ θεωρία.*

p. 150. 2. This too is a somewhat dangerous theory; they are not individually different, because they have no matter, and for the same reason (for the genus represents the matter in the definition, cf. Arist. *Met. H* 6. 1045ᵃ34) they are not specifically different; how then can they differ at all?

p. 150. 3. i.e. possibility is only a formal logical concept and does not make a material change in what might possibly exist. As Kant has it

'Hundert wirkliche Taler enthalten nicht das Mindeste mehr als hundert mögliche.'

p. 151. 1. In this passage Averroës, although he affirms that Avicenna's theory is not true, seems to regard it as plausible, neglecting the objections he himself has made; and, indeed, it is the theory of mediation which he himself accepts, the theory of a supreme ruler who governs the world by proxy.

p. 151. 2. The terms 'living through life', 'willing through will', &c., are found in the Ash'arite formulation of God's attributes.

p. 151. 3. This is not the point Ghazali makes. Ghazali reproaches Avicenna with making categorical and, as he believes, absurd assertions about a purely hypothetical entity. Averroës ought to have shown that only from such an hypothesis can the observed facts be reasonably deduced.

p. 152. 1. Celsus (Orig. *Contra Cels.* i. 68) does not regard miracles as a justification of truth, they might equally well be the work of wicked men under the influence of an evil spirit. It may be remarked that Muhammad himself (see Koran xxix. 49, xiii. 27–30, xvii. 92–97) does not really claim to have performed any miracles (the Koranic word is آيات signs; cf. the Christian term *σημεῖα*), although the Muhammadans ascribe to him a number, the greatest of which is the Koran itself (as a proof of this Koran cxix. 48 is quoted). My great compatriot Hugo Grotius uses Muhammad's concession to refute Islam. Jesus wrought miracles—he says—but Muhammad declared that he was sent with arms, not with miracles, 'Mahumetis se missum ait non cum miraculis, sed cum armis' (*De vera religione christiana*, lib. vi).

p. 152. 2. i.e. let us not ask how it happened. بلا كيف 'without the "how" ', i.e. without inquiring how it happened, is the formula by which the Ash'arites express their ignorance of the right way to interpret the too anthropomorphic religious conceptions of the Divine, which, however, they refuse to abandon. Compare the dictum *credo quia absurdum* ascribed to Tertullian.

p. 152. 3. This tendentious saying, ascribed to the Prophet, which, as far as I know, is not found in the canonical Collections of Traditions, seems to recommend the acquisition of worldly knowledge. According to the orthodox conception, however, the religious Muslim ought to avoid all the worldly sciences of the ancients (علوم القدماء); and the equally tendentious tradition of the prayer of Muhammad is often quoted, that God might protect him from useless science (علم لا ينفع) (cf. Goldziher, *Stellung der alten islamischen Orthodoxie zu den antiken Wissenschaften*, Abh. d. K. Pr. Akad. d.

Wiss., Jahrg. 1915, phil.-hist. Kl., No. 8, p. 6; see also Goldziher, *Buch vom Wesen der Seele*, Abh. d. K. Gesellsch. d. Wiss. zu Göttingen, 1907, phil.-hist. Kl., No. 9, p. 60).

p. 152. 4. رحمة, the mercy of God, corresponds to the Hebrew conception of רַחֲמִים and the Christian conception of ἔλεος. That revelation rests on God's mercy is found in Christian theologians also; cf. e.g. Lactantius, *De divin. inst.* i. 1. 6: 'quod quia fieri non potuit, ut homini per seipsum ratio divina innotesceret, non est passus hominem Deus lumen sapientiae requirentem diutius errare . . ., aperuit oculos eius aliquando et notionem veritatis munus suum fecit.' Cf. Koran xxi. 107. It is the Stoics who base their proof of the reality of divination on the love shown by the gods. If there are gods, so it is said (Cic. *De div.* i. 38. 82), and they do not show to man in advance what is going to happen, they do not love man ('si sunt di neque ante declarant hominibus quae futura sunt . . .non diligunt homines').

This passage of Averroës is not in agreement with his usual purely rationalistic attitude; it must, however, be remembered that even his master Aristotle expresses, in *De philosophia*, fr. 10 Rose, his belief in divinely inspired dreams (cf. also the Aristotelic passage from Ps.-Arist., *Problems Λ* 1, in Cic. *De div.* i. 38. 81). It may be added here that the well-known Averroistic conception of religion as threefold, the religion of the masses, of the lawyers, and of the philosophers, is based on the theory of such Stoic and eclectic philosophers as Panaetius, Mucius Scaevola, and Varro; cf. St. Augustine, *De civ. dei* vi. 5: 'tria genera theologiae dicit (i.e. Varro) esse . . . eorumque unum mythicon, alterum physicon, tertium civile'. The first is, according to Varro, the theology of the poets (i.e. for Averroës, of the masses), the second of the philosophers, the third of the State (i.e. for Averroës of the lawyers). Compare also *De civ. dei* iv. 27: 'pontificem Scaevolam disputasse tria genera tradita deorum: unum a poetis, alterum a philosophis, tertium a principibus civitatis'. (There is an allusion to this passage in Gibbon, *Decline and Fall*, ch. ii, where he says: 'The various modes of worship which prevailed in the Roman world were all considered by the people as equally true, by the philosophers as equally false, and by the magistrates as equally useful.') This threefold division must have been widely accepted, for we find it also in Plutarch, *Amator.* 18. 10, where he says that we have received our religious views from three types of men: *ποιηταί, νομοθέται, φιλόσοφοι.* For Origen just as there is a threefold nature in man, body, soul, and spirit, so there is a threefold sense of Scripture, the literal, the moral, and the mystical (Orig. *De princ.* iv. 11: 'sicut ergo homo constare dicitur ex corpore et anima et spiritu, ita etiam sancta scriptura'). Compare the gnostic division of mankind into *ὑλικοί, ψυχικοί, πνευματικοί.* (As early as Aristotle, *Met.* α 3. 995ᵃ6, three kinds of people are distinguished: those who accept only mathematical proof, those who accept proof by example, and those who accept proof by poetical quotation.)

p. 153. 1. This refers, I think, to the passage (*Anal. Post. A* 10. 76ᵇ18) where Aristotle says that the certainty that number exists is not the same as the certainty that cold and warmth exist: *οὐ γὰρ ὁμοίως δῆλον ὅτι ἀριθμὸς ἔστι καὶ ὅτι ψυχρὸν καὶ θερμόν.*

p. 153. 2. i.e. everything has its own specific 'nature', its own specific 'powers', from which its own specific acts follow. If there were no cause, we read in Sext. Emp. *Adv. phys.* i. 202, everything might come from anything and at any place and time. Ghazali, as we shall see later, is well aware of this objection against the denial of cause.

p. 153. 3. The soul is the principle of the living, i.e. of that which has the faculty of self-movement which, in its most simple form, in plants, is limited to nutrition, growth, and decay, *τροφή, αὔξησις, φθίσις* (cf. Arist. *De an. B* 2. 413ᵃ20).

p. 153. 4. e.g. only man can beget man, only the physician can produce health through the concept of health he possesses (see e.g. Arist. *Met. Λ* 4 ad fin.).

p. 154. 1. i.e. if the One were regarded as a universal and if it were regarded as acting *qua* universal. Here Averroës turns against Plato's theory of ideas; however, the word he uses here in the text for universals, حال, is that used by the theologians (a translation of the term *πῶς ἔχον* of the Stoics); he seems therefore to have in mind here those theologians who regard universals not like the ideas of Platonists, which are ultimate realities, but more like the Stoic *λεκτά*, things intermediate between reality and unreality (see note 3. 6). The argument he gives, however, is based on that of Aristotle against the conception of Platonic ideas as causes (e.g. *Met. A* 9. 991ᵃ19 sqq.): How can the identical idea remain in itself and exist apart, and at the same time transfer itself to innumerable things? How can it be at the same time the model and the copy? But Aristotle's conception of becoming exhibits the same difficulty, and the relation of the universal to the individual remains obscure. For when John begets Peter, what John transfers to Peter is not his identity, but a universal form, i.e. humanity, the identical form which every father transfers to his son. But how can the many possess what is identical and transfer it, and how can the individual proceed from the universal?

p. 154. 2. According to the Aristotelian doctrine that what exists primarily and absolutely is the individual substance (cf. e.g. Arist. *Met. Z* 1. 1028ᵃ30).

p. 154. 3. i.e. in a becoming through universals.

p. 154. 4. According to the Aristotelian conception of truth (*Met. Γ* 6. 1011ᵇ26) as the correspondence between thought and reality.

p. 154. 5. See p. 107 and note 107. 2.

p. 154. 6. Avicenna shows in his *Theorems and Notices*, p. 180, the same lack of appreciation for Porphyry whose *'Αφορμαί* he regards as utterly worthless (حشف). St. Augustine (*De civ. dei* xix. 22) shows a greater appreciation of Porphyry, whom he calls 'doctissimus philosophorum, quamvis Christianorum acerrimus inimicus'. But Eusebius, *Praep. Ev.* v. 14. 230a says that Porphyry, whom he calls, ironically, *ὁ γενναῖος Ἑλλήνων φιλόσοφος, ὁ θαυμαστὸς θεολόγος, ὁ τῶν ἀπορρήτων μύστης*, 'this noble philosopher, this marvellous theologian, this adept of the mysteries', tries through his quotation of oracular texts to give the impression that his philosophy—in fact inspired by a demoniac power—contains the secrets of the gods. (For further appreciations of Porphyry see Holstenius, *De vita et scriptis Porphyrii, philosophi*, Rome, 1630, p. 11.)

Averroës refers here probably to the theory of gradual emanation in Porphyry's *'Αφορμαὶ πρὸς τὰ νοητά* (known to the Arabs under the title في العقل والمعقول, cf. A. Mueller, *Die griechischen Philosophen in der arab. Überlieferung*, p. 25).

p. 155. 1. Cf. note 142. 8.

p. 155. 2. i.e. so far as these acts aim at the conservation of the sublunary world; for the less noble cannot be what the more noble aims at (see e.g. Porphyry, *Sententiae* 30).

p. 155. 3. i.e. their efficient causes, i.e. the third principle, *ἡ τρίτη ἀρχή*, (besides matter and form) of which Aristotle says (*De gen. et corr. B* 9. 335^{b}7) that none of his predecessors had been able to establish it, although they had some slight inkling of it.

p. 155. 4. *δύο κινήσεις* (*De gen. et corr. B* 10. 336^{a}34), the two motions of the sun along the ecliptic by which it approaches and recedes from any given point on the earth.

p. 155. 5. See the parallel passage (p. 136 and notes). The question of the common internal sense, *sensus communis*, *αἴσθησις κοινή* (see e.g. *De an. Γ* 1. 425^{a}27) I shall treat later.

p. 156. 1. The world, in the state it exists in, i.e. *our* world, the world as a cosmos, an ordered whole.

p. 156. 2. See note 33. 1; cf. also Ibn Hazm, op. cit. i. 24: becoming implies a prior non-existence, معنى المحدث هو ما لم يكن ثم كان. It may be added here that Zacharias of Mytilene, a contemporary of Philoponus, who in the same way as Philoponus tried to refute Proclus' arguments for the eternity of the world, attempted, in his dialogue *Ammonius seu de mundi opificio*, to rebut Ammonius Hermiae's arguments for this eternity, also asserts that an eternal creation is a contradiction in terms (op. cit., ed. Migne, lxxxv. 1093).

p. 156. 3. Because of the factual evidence, *δι' ἐμπειρίαν*.

p. 156. 4. Aristotle distinguishes, *Met. Θ* 8. 1050^{a}30, the actuality which is in the product, e.g. the house which is being built, from the actuality which is in the exercise of the action itself, e.g. the act of seeing which is in the seeing subject.

p. 156. 5. Cf. pp. 98–99 and notes 98. 3 and 99. 2.

p. 157. 1. The Arabic word I translate by 'has come into being' is حادث. I have translated the same term one line above by 'temporal'; the speciousness of the argument lies in the ambiguity of this term.

p. 157. 2. Aristotle lays down as a condition for the First Principle that it must be itself unmoved, that it must be an unmoved mover, *Phys. Θ* 5. 257^{a}31–257^{b}13.

p. 158. 1. By 'materialistic theory' is meant not only the mechanistic and atomistic conception of nature held by Democritus and Epicurus (for the arguments against Democritus cf. Arist. *De gen. an. E* 8), but also such a system as that of Strato, who denies the need for an immaterial divine principle for the explanation of the universe (cf. Cic. *Acad. Pr.* ii. 38. 121 'Strato . . . negat opere deorum se uti ad fabricandum universum').

p. 158. 2. Aristotle tries to prove (*Met. α* 2), for all four types of cause, that they cannot form an infinite series.

p. 159. 1. See p. 33 and note 33. 2. For the two ways of coming from another thing, the one in which the process is irreversible, the other in which it is reversible, cf. Aristotle, *Met. α* 2. 994^{a}22 sqq. (see also Arist. *De gen. et corr. B* 11. 338^{a}5 about rectilinear, *εἰς εὐθύ*, and circular, *κύκλῳ*, generation). The difficulty of the whole problem lies in this, that when the cause is regarded as prior in time to the effect and time is eternal, the causal series also has to be eternal.

p. 159. 2. The soul, i.e. the soul as totality, the Platonic or Neoplatonic World-Soul; the intellect, i.e. the *νοῦς* as a supramundane entity.

p. 159. 3. e.g. Aristotle, *Met. Λ* 5. 1071^{a}13: *ἀνθρώπου αἴτιον . . . ὁ πατήρ, καὶ . . . ὁ ἥλιος, ἄνθρωπος ἄνθρωπον γεννᾷ καὶ ἥλιος*, *Phys. B* 2. 194^{b}13.

p. 159. 4. This sentence seems to be tautological.

p. 159. 5. First, i.e. nearest to the product of art, but, in fact, last in the series of instruments.

p. 159. 6. This is completely arbitrary; all the instruments are conditions for the existence of the product (cf. also note 11. 3).

p. 159. 7. i.e. from the matter of the dead man a plant comes into being, which through nutrition becomes sperm or menstrual blood (cf. my *Ep. d. Met. d. Av.*, p. 73 and the note 73. 1).

p. 160. 1. See note 142. 8.

p. 160. 2. Body in itself is what is extended in any direction (Arist. *Phys.* *Γ* 5. 204^{b}20: *σῶμα μὲν γάρ ἐστι τὸ πάντῃ ἔχον διάστασιν*) and is perceptible in place (Arist. *Phys.* *Γ* 5. 205^{b}31: *πᾶν σῶμα αἰσθητὸν ἐν τόπῳ.*

p. 161. 1. Cf. the dictum of Zeno of Citium (Sext. Emp. *Adv. phys.* i. 104): the rational is better than the non-rational and the animate better than the inanimate, but nothing is better than the cosmos, therefore the cosmos is rational and animate.

p. 161. 2. This refers, I think, to the passage in Themistius, *Paraphrasis in libr. Λ Metaphys.*, ed. Landauer, 5. 22: 'in omnibus vero, quae mutantur, id quod mutationem subit necessario corpus est quoddam; idcirco substantiae perpetuae [i.e. the heavenly movers which are identified with their bodies] quae generationem et corruptionem non subeunt, cum loco mutentur et ipsae, fieri non potest quin corpora sint.'

p. 161. 3. i.e. they *are* life in themselves; this seems to me, however, an impossible conception, for life or soul is defined by Aristotle in relation to a body which is moved by it; soul is the faculty of self-movement in a body, *De an.* *B* 1. 412^{b}16: *ἡ ψυχὴ λόγος σώματος φυσικοῦ τοιουδὶ ἔχοντος ἀρχὴν κινήσεως καὶ στάσεως ἐν ἑαυτῷ.*

p. 161. 4. For that which can be attributed to a substance is its accidents, and the accidental—cf. e.g. Aristotle, *Met.* *K* 8. 1065^{a}1—is what occurs, but neither necessarily nor for the most part; and what can or cannot occur possesses matter (cf. e.g. *Met.* *Θ* 7. 1032^{a}20).

p. 161. 5. A first cause, according to Ghazali, implies a coming into existence, but a circular process is infinite *a parte post.*

p. 162. 1. i.e. the first cause.

p. 162. 2. That an infinite series of entities not having position is possible does not follow any more than that an infinite series of entities having a position should be impossible.

p. 163. 1. See, however, note 14. 6.

p. 163. 2. Cf. note 14. 6.

p. 163. 3. Leibniz, who, of the great philosophers since Descartes, is the one most strongly dependent on scholastic philosophy (in Spinoza the influence of Stoicism is overwhelming) has this argument in the following form in his *Monadology* (Erdmann, p. 708): The connexion of all contingent things leads us to conclude that outside this connexion there is a necessary Being who is their source and origin.

p. 163. 4. Avicenna, for the reason given by Averroës, places this argument at the beginning of the metaphysical part of his *Recovery* (i. 6–7). He is perfectly justified in ascribing this argument to the philosophers, for it is implied in Aristotle's whole system, and all the elements in it are

found in Aristotle himself: the dichotomy of reality into the eternal and divine and the possible is asserted by Aristotle, *De gen. an.* *B* 1. 731^{b}24; that everything absolutely necessary is eternal, *Eth. Nic.* *Z* 3. 1139^{b}24 (absolutely, *ἁπλῶς*, as distinguished from the hypothetically, *ἐξ ὑποθέσεως*, necessary: see e.g. *Phys.* *B* 9. 199^{b}34); that 'eternal' and 'necessary' are convertible, *De gen. et corr.* *B* 11. 338^{a}1; that the eternal is essentially prior to the perishable, *Met.* *Θ* 8. 1050^{b}7; that the actual is essentially prior to the potential, *Met.* *Θ* 8. 1050^{a}4; that certain things owe their necessity to something other than themselves, others not, but are the cause of the necessity in others, *Met.* *Δ* 5. 1015^{b}9; that nothing which exists necessarily can be potential, *Met.* *Θ* 8. 1050^{b}18; that in its primary and absolute sense the necessary is the simple, *Met.* *Δ* 5. 1015^{b}11; finally, the necessity of an eternal unmoved substance is proved *Met.* *Λ* 6, and it is affirmed at *Met.* *Λ* 7. 1072^{b}10 that the first mover possesses its existence of necessity, *ἐξ ἀνάγκης ἄρα ἐστὶν ὄν.*

The argument is based on the confusion, deeply rooted in Aristotle's system, of the ontological with the logical—here of ontological necessity with logical necessity, of necessity in reality with necessary truth. That the angles of the triangle are equal to two right angles is a necessary universal truth; it is not valid at one time, invalid at another time (see Arist. *Met.* *Θ* 10. 1052^{a}4), but its validity is eternal or rather timeless (this immutability of truth concerns not only the relations of universals but also all past events; for also the past is at rest, forever beyond the sway of time—it is eternally true that once there lived in Athens a man called Socrates; it is the trembling, ever-changing 'now' that alters today's truth into tomorrow's falsehood). This being-valid of truth is confused by Aristotle with ontological being, i.e. the existence of individuals in reality; and he says at *Met.* *Θ* 10. 1051^{b}1 that being in the strictest sense is truth, *τὸ δὲ κυριώτατα ὂν ἀληθές* (about the threefold conception of truth in Aristotle see my *Ep. d. Met. d. Av.*, note 81. 3). So it comes about that the intrinsic necessity attributed to timeless universal truth is transferred to the eternal existence of an individual prime mover, i.e. God. This identification of God and Truth is found in both Christian and Muslim theology; 'te invoco, deus veritas, in quo et a quo et per quem vera sunt quae vera sunt omnia', says St. Augustine, *Soliloq.* i. 1. 3 and 'The Truth (الحق)' is an epithet applied to God by the Muslim theologians with the meaning of 'the necessarily-existing by His own essence' (see Lane, *Ar.–Engl. Dict.*).

p. 163. 5. The theory of the theologians that the possibles in God need for their actualization in time a necessary eternally existent, i.e. God, is nothing but the Jewish–Christian–Muslim conception of creation expressed in Aristotelian terminology.

p. 164. 1. e.g. in his *Recovery*, *Met.* i. 6: فنقول ان الواجب الوجود بذاته لا علة له وان الممكن بذاته له علة. The potential (i.e. matter) needs a cause

for its actualization, and everything in the world except the prime mover has some degree of potentiality, since potentiality implies a capacity for change.

p. 164. 2. See below and note 164. 9.

p. 164. 3. Averroës here means, I think, by 'possible' the transitory, sublunary things, and by 'necessary' the separate Intellects, the eternal celestial bodies, or the world as a whole.

p. 164. 4. i.e. matter, or rather the transient individual.

p. 164. 5. i.e. everything eternal with the exception of God; in this argument there is implied a trichotomy of reality into the absolutely necessary (i.e. the prime mover), the necessary-possible or hypothetically necessary (i.e. everything eternal, with the exception of the prime mover), and the possible (i.e. actualized matter), which corresponds to the Aristotelian trichotomy of the absolute mover, the moving and moved, and the absolutely moved (cf. *De an.* Γ 10. 433^{b}13; *Met.* Λ 7. 1072^{a}24; *Phys.* Θ 5. 256^{b}20).

p. 164. 6. But such an assumption would be false, as Averroës will show below, for there cannot be an infinite series of necessary causes.

p. 164. 7. For material causes cannot proceed from one another endlessly, e.g. flesh from earth, earth from air, air from fire, and so on (Arist. *Met.* α 2. 994^{a}3).

p. 164. 8. i.e. that the world, which is eternal as a whole, has a cause.

p. 164. 9. This formula shows clearly the confusion between the logical and the ontological, for 'cause' is a purely ontological concept and an event is necessary just when it *has* a cause.

p. 164. 10. Ghazali regards it as contradictory that every member of the series should have a cause, but that the whole series should have none. He accepts it, however, here for the sake of argument.

p. 165. 1. i.e. the elements are eternal.

p. 165. 2. Ghazali's argument is irrefutable. It is always the same question: How can an eternal world have a first cause?

p. 165. 3. Averroës means that by proving that the possible transient causes need an eternal necessary cause (heaven, for instance) it is not yet proved that the series of necessary agents is finite. The proof he gives is of course a *petitio principii*, for why should there be more than one eternal mover?

p. 165. 4. Averroës tries to avoid Ghazali's objection by dropping Avicenna's identification of the necessary and the causeless, but the objection remains valid and can be directed against Aristotle himself; for if eternity implies both a necessity and an actuality which need no actualizer, the world as a whole, being eternal, will be both necessary and causeless.

p. 166. 1. i.e. the material causes, flesh, earth, and air are essential, and therefore cannot form an infinite series.

p. 166. 2. Cf. note 165. 4.

p. 166. 3. The eternity of the one eternal being is timeless eternity, αἰών, دهر; see, however, note 70. 5 and p. 37.

p. 167. 1. i.e. Ghazali, as frequently, does not want to make a positive assertion; he wants only to show the futility of the philosophers' arguments; نتيجة ما يرام (*petitio principii*) is a literal translation of the Greek τὸ ἐξ ἀρχῆς αἰτεῖσθαι.

p. 167. 2. i.e. the totality of a finite number of finites is finite (this is, of course, a tautology).

p. 167. 3. i.e. the materialists believe that every member of the series has a cause, but that the members are infinite in number and therefore there is no first cause; he ought really to have said, since he speaks here of a temporal, not a causal series, 'The materialists believe that every part has a beginning, but that the parts are infinite in number and that therefore the series has no beginning'; but since time is, in Aristotelian philosophy, a function of movement (for time is the number of movement in respect of before and after), the time-series and the series of movements are identified.

p. 167. 4. Here, too, Averroës speaks of a causal series, not of the time-series. Genera are eternal according to Aristotle, *De gen. an.* B 1. 731^{b}35: διὸ γένος ἀεὶ ἀνθρώπων καὶ ζῴων ἐστὶ καὶ φυτῶν, e.g. in the series father–son–father every individual is mortal, but the series is infinite and man as a genus is eternal; it is through reproduction and the eternity of their genus that animals participate in the eternal and the divine, cf. Aristotle, *De an.* B 414^{a}29 and Plato, *Symp.* 206 e and 207 a. Cf. also St. Augustine, *De civ. dei* vi. 4: 'alii namque, sicut de ipso mundo crediderunt, semper fuisse homines opinantur. unde ait et Apuleius, cum hoc animantium genus describant: *singillatim mortales, cuncti tamen universo genere perpetui*'.

p. 167. 5. i.e. the philosophers do not object to an infinite series of non-essential causes, but this series must depend on an eternal essential cause outside it.

p. 168. 1. This subjective conception would seem to imply that all finitude and particularity depend solely on our minds, and is in contradiction to p. 33—and also to the following sentence in the text—where the particularity in the heavenly movements serves to explain the particularity and transiency of sublunary affairs. The contradiction is based on the difficulty of, on the one side, guarding the eternal from all contamination with the transitory, and on the other, deriving the transient from the eternal.

p. 168. 2. This sentence is of course tautological: he who does not concede the infinity of a series of causes must admit that this series is finite.

p. 169. 1. i.e. even if some of these imaginary things are regarded as causes of other imaginary things.

p. 169. 2. Cf. p. 12.

p. 169. 3. Cf. p. 14.

p. 169. 4. i.e. of the one eternal soul subsisting by itself.

p. 169. 5. For the origination of the elements from each other see Aristotle, *De gen. et corr. B* 4.

p. 170. 1. i.e. they would be individually different, but would have the species of necessary existence in common. The argument given here by Ghazali is taken from Avicenna's *Salvation*, p. 374, where the author summarizes the argument he gives in *The Recovery* (*Met.* i. 7) by which he tries to prove that the necessary existent can be neither a genus nor a species, but must be the simple Monad. (That the absolute One, *τὸ πάντως ἕν*, cannot be predicated of anything, and therefore cannot be a genus, is proved by Plotinus, *Enn.* vi. 2. 9.) This argument, although its elements are to be found in Aristotle (see note 163. 4), does not occur in his works in this form. It rests on the Platonic, Aristotelian, and Neoplatonic confusion between the logical concept of species and specific difference, and the ontological concept of cause (the word *εἶδος* in Aristotle's philosophy means both the logical concept of species and the ontological concept of 'form', which is for Aristotle a kind of cause; Plato also gives his 'ideas' a dynamic sense—e.g. *Phaedo* 100 d): every plurality has a specific difference which must be caused by an entity, which, if it contained a plurality, would again need a cause. (There is a similar confusion in Aristotle's philosophy between the logical concept of genus and the ontological concept of matter; cf., for example, *Met. Δ* 28. 1024^{b}9.)

p. 170. 2. Avicenna, *Recovery*, loc. cit., says: ليس حقيقة الواجب الوجود الا نفس تاكد الوجود, 'the nature of the necessary existent is simply the establishing of its existence through its essence'; cf. Spinoza, *Eth.* i, prop. iii: 'ad naturam substantiae pertinet existere—ipsius essentia involvit necessario existentiam'. I should agree with Ghazali that the only meaning one can give to this—as to Spinoza's related expression *causa sui*—is that it has no cause whatever. Plotinus also affirms that the existence of the First is identical with His essence: *οὐκ ἄλλο μὲν αὐτό, ἄλλο δὲ ἡ οὐσία αὐτοῦ*, *Enn.* vi. 8. 12.

p. 170. 3. Cf. Aristotle, *Met. Λ* 8. 1074^{a}33: plurality is the consequence of matter, *ὅσα ἀριθμῷ πολλὰ ὕλην ἔχει* . . . humanity applies to many, e.g. to Socrates, &c. . . . but the primary essence has no matter, for it is perfect reality (*ἐντελέχεια*). That the Monad is prior to plurality (*πᾶν πλῆθος δεύτερόν ἐστι τοῦ ἑνός*) is one of the basic principles of Neoplatonism; for its proof, based on the confusion mentioned above, see, for example, Proclus, *Instit. Theol.*, prop. v.

p. 171. 1. i.e. if black is black through its essence and the essence of black is the species 'colouredness', then red will not be a colour; if, on the other hand, the essence of black is black itself, the species (or exterior cause) 'colouredness', which has made it a colour, will be added to it; in this case, however, black ought to be separable from colour in thought or imagination, for something added to an essence by a cause can be separated from it in thought (Ghazali here means, I presume, the non-essential characteristics of a thing, e.g. a man may be thought of as being without hands: cf. Averroës's discussion below), but black is not separable in thought or imagination from colour, and therefore cannot have been made a colour by a cause. The difficulty of the separation of black and colour in thought involved in this argument, in which there is a serious confusion between the logical and the ontological, rests on the common confusion between the meaning of the abstract universal and its representation: black in reality or as represented is indeed a colour, but the abstract term 'blackness' means only the characterization of a colour, not a colour itself, just as 'humanity' does not mean a man. Ghazali's argument seems to refer to the passage in Avicenna's *Salvation*, p. 378, where he raises the difficulty why colour cannot exist in reality without being black or white, although colouredness is not colouredness through either of them.

p. 172. 1. Averroës in his answer implies, of course, what Ghazali denies, that the assertion that the necessary existent exists through its essence has a positive meaning.

p. 172. 2. Averroës seems to mean that everything except the necessary existent needs a cause for its existence, and only the necessary existent has the property of existing through its essence; although the common term 'existing through a cause' cannot be applied to the necessary existent, this property is not denied. This answer implies what Ghazali denies, that the essence of the necessary existent has a positive property.

p. 173. 1. This sentence is of course self-contradictory, for how can existents be differentiated, when they differ neither in species nor individually? As we have seen, the existence of a number of immaterial, independent movers is one of the contradictions in Aristotle's philosophy, which bases all plurality on matter and makes all becoming dependent on one primary cause (cf. note 141. 2).

p. 173. 2. Difference in rank, however, presupposes both a numerical and a specific difference.

p. 174. 1. The tripartite disjunction is: two necessary existents differ (1) either numerically, (2) or in species, (3) or in rank. The third case is true, therefore the necessary existents are one. This is, of course, self-contradictory. What he means is that the third case is false too. There can be only one First.

p. 174. 2. This so-called second proof, that every duality implies a unity prior to it, is simply an elaboration of the first argument. Avicenna in his *Salvation* devotes three sections to proving the uniqueness of the necessary existent, in a passage in which is found the substance of what Ghazali says here: (1) a section entitled 'that the species of the necessary existent cannot be predicated of many', p. 374; (2) a section entitled 'that the necessary existent is one in every way', p. 375; (3) a section entitled 'that there cannot be two necessary existents', p. 375.

p. 174. 3. This implies that to the First not even existence can be attributed, and this, indeed, is asserted by Plotinus (*Enn.* vi. 7. 16), who affirms that even the copula ἔστι cannot be attributed to the First; for nothing at all can be attributed to Him, although we can possess Him, without being able to name Him, feeling as in divine enthusiasm that we possess something god-like in our bosom (cf. *Enn.* v. 3. 14). But this conception, which would logically imply the very negation of God, is identified with the view that God's being, like His unity, is something *sui generis*, that God's existence is a super-existence.

Aristotle had already affirmed (e.g. *Met.* Γ 2. 1003ᵃ33) that being is attributed analogically, i.e. in relation to one central point, to one single nature, πρὸς ἓν καὶ μίαν τινὰ φύσιν (this is the reason why the study of being belongs to one single science i.e. metaphysics), and since this central point is substance and substance in its highest form is pure eternal being, i.e. God, simply from this conception the Neoplatonic, the mystical view of reality, the dream-view of finite reality, may be deduced. It is only God, the Eternal, who in reality exists; it is we, the finite beings, whose very existence is already intermingled with not-being, whose stuff is made of dreams.

p. 174. 4. One should not ascribe to the First even a merely logical duality, says Plotinus, *Enn.* vi. 8. 13: οὐ ποιητέον οὐδ' ὡς εἰς ἐπίνοιαν δύο.

p. 174. 5. For the formula, of which the word is a sign, becomes the definition of the thing (ὁ γὰρ λόγος οὗ τὸ ὄνομα σημεῖον ὁρισμὸς ἔσται, Arist. *Met.* Γ 7. 1012ᵃ24).

p. 175. 1. i.e. they hold that the attributes of God are distinct from His essence.

p. 175. 2. What Averroës affirms here is in contradiction with the passage in Aristotle's *Metaphysics*, discussed in note 174. 3, where he asserts that being is attributed analogically and where he expressly denies that it is attributed equivocally (ὁμωνύμως, Γ 1. 1003ᵃ34).

p. 175. 3. In his *Salvation* (p. 375) Avicenna affirms that the First cannot be divided either quantitatively, or through constituent principles, or through the parts of the definition. Aristotle mentions these three types of division at *Met.* Δ 25, where he gives a fivefold definition of μέρος, part.

p. 176. 1. i.e. attributes which the theologians ascribe to God, but which are denied to Him by Plotinus, for whom God has neither will nor thought, nor even any action, ἐνέργεια, at all; cf. e.g. *Enn.* i. 7. 1 and vi. 9. 6: ὥστε τῷ ἑνὶ οὐδὲν ἀγαθόν ἐστιν, οὐδὲ βούλησις τοίνυν οὐδενός. However, we find in Plotinus the same contradiction as we have already found in Aristotle. For Plotinus, too, God, eternally at rest, ἐν ἡσύχῳ, is at the same time the eternally constant aim and passive object of desire to which everything tends, and the power of everything, δύναμις τῶν πάντων (iii. 8. 10 ad init.), essentially activity and eternal wakefulness, ἐγρήγορσις, (vi. 8. 16).

p. 176. 2. Quiddity, whatness, ماهية, τὸ τί ἐστιν or τὸ τί ἦν εἶναι (generally synonymous with ذات, οὐσία), is an ambiguous term which in this passage means both the definition of a thing and any universal concept.

p. 176. 3. i.e. the universal 'heaven' is eternally realized in the individually existent heaven, but the universal 'man' has a temporary existence in Zaid and Amr.

p. 176. 4. i.e. every 'this' is a 'what', a 'something', but God's 'whatness' is that He is.

p. 176. 5. Man, tree, heaven are only universals, but God is at the same time a universal, a Platonic idea, and an individual existent.

p. 177. 1. See p. 142 and note 142. 8.

p. 178. 1. Its identity or its individuality, i.e. what constitutes its true being, its very nature (cf. e.g. Arist. *Met.* Z 4).

p. 178. 2. Through derivative words, through derivation, باشتقاق الاسم, through paronomasia (cf. Arist. *Cat.* 1. 1ᵃ12): perhaps one might translate 'by analogy', for the meaning of the derivative word bears an analogy to that of the primitive (cf. Arist. *Met.* Γ 2).

p. 178. 3. i.e. we can say of man that he is an animal, for animal is part of his essence; we cannot say of him that he is knowledge, because knowledge is a non-essential attribute, although we can ascribe to him knowing (*which is a word derived from knowledge*) as an accident.

p. 178. 4. This subjectivist conception seems to stand in contradiction to what he has said before, viz. that in immaterial existents no essential attributes can be imagined of which their essence consists.

p. 178. 5. This interesting passage is a not illegitimate interpretation of the theory of certain Greek Fathers—Averroës refers here probably to St. John Damascene—who, to avoid the danger of Tritheism and to safeguard the Unity of God, seem sometimes to regard the distinction of the persons as a purely logical one. Post-Aristotelian philosophers (and the Arabs followed their example, as we have seen), in order to solve certain philosophical difficulties, often employ the argument of subjectivity and

relativity, and the Greek Fathers made an abundant use both of it and of the term *κατ' ἐπίνοιαν* (according to thought, i.e. purely logical). According to St. John Damascene there exists between the three divine Persons a compenetration (which he calls *περιχώρησις*, circumincession); the divine Persons have but one will and one activity, and the son (*logos*) and the Spirit (*pneuma*) are faculties (*δυνάμεις*) of the Father, the distinction between Them resting only on reason, *ἐπινοίᾳ δὲ τὸ διῃρημένον* (*De fide orthod.*, Migne, xciv. 828).

p. 179. 1. Averroës identifies reality and truth, and here gives Aristotle's transeunt definition of truth, *Met. Γ* 7. 1011^{b}26: *τὸ μὲν γὰρ λέγειν τὸ ὂν μὴ εἶναι ἢ τὸ μὴ ὄν εἶναι ψεῦδος, τὸ δὲ τὸ ὂν εἶναι καὶ τὸ μὴ ὂν μὴ εἶναι ἀληθές*, of which Thomas Aquinas (*Contra gent.* i. 59) gives the following interpretation: 'veritas intellectus est adaequatio intellectus et rei, secundum quod intellectus dicit esse quod est, vel non esse quod non est'.

p. 179. 2. This is scarcely correct, according to Aristotle. When he defines truth (*De an. Γ* 8. 432^{a}11) as a *συμπλοκὴ νοημάτων* he regards it as a relation inside the mind, and has abandoned the transeunt conception.

p. 179. 3. He means: when we ask whether something exists or not, this 'something' must be an entity in the mind, since we are not yet sure that it exists in reality.

p. 179. 4. According to Aristotle (e.g. *Met. B* 3. 998^{b}22) being is not really a genus; for 'being' as used with reference to the ten categories see, for example, Aristotle, *Met. Θ* 10. 1051^{a}34 and *Met. Δ* 7. 1017^{a}24.

p. 179. 5. I do not know whether Averroës here has in view the Neoplatonic mystical conception that the highest reality in itself is one, and that it is thought that originates multiplicity; it is through the dialectical process of the *νοῦς* (according to Plotinus, *Enn.* vi. 7. 13) that all differentiation comes into being; it is the nature of the *νοῦς* to differentiate universally, *φύσιν ἄρα ἔχει ἐπὶ πᾶν ἑτεροιοῦσθαι*. It may be, however, that Averroës means that by regarding existence solely as the true, another aspect of existence is neglected.

p. 179. 6. Entity, ذات, and thing, شيء, are translations of the Stoic term *τὶ*, the highest genus of all being, including the existent and the non-existent.

p. 179. 7. Cf. note 174. 3.

p. 179. 8. Aristotle does not clearly distinguish between 'being' ('that which is', *τὸ ὄν*) as a substantive and 'being' ('to be', *τὸ εἶναι*) as a verb. If one takes 'being' as a verb, it is plausible to regard existence as an accident, for in the sentence 'a thing is', 'is' as an attribute is an accident; taken, however, as a substantive, being, *τὸ ὄν*, is the equivalent of *ἡ οὐσία*, i.e. substance. Avicenna takes the former, Averroës the latter view. For Averroës

existence is the existent thing itself or the genus of existing things (though, regarded as a genus, it can be predicated and is an accident). See also my *Ep. d. Met. d. Av.* pp. iv–v.

p. 180. 1. The existents of first intention (الوجه الاول, *πρώτη θέσις*, *prima intentio*, in scholastic terminology), i.e. first intention of the mind, are the individual things in the external world of which the ten categories or predicaments are the highest genera; the existents of second intention (الوجه الثانى, *δευτέρα θέσις*) are the concepts in the mind of which the five predicables, genus, species, differentia, property, and accident, are the highest genera. As early as Aristotle (*Cat.* 5. 2^{a}14) we find the term *δεύτεραι οὐσίαι* for the genera and species, which, however, are regarded in his philosophy as having some objective existence, although not an independent, separate (*χωριστός*) one.

p. 180. 2. Since the things in the mind are in conformity with the things outside the mind.

p. 180. 3. There is some confusion here; the 'true' means an existent in the mind, but this existent in the mind seems to be aware of an existent outside the mind and able to compare itself with it. The confusion is based on the common error of not distinguishing between thought, the thinking as an act, the meaning in an active sense, and thought—the object of thought, the thing meant. The former may be said (by a spatial metaphor) to be *in* the mind; to the latter there belongs everything thinkable, existing or non-existing, possible or impossible, false or true; it is neither in your mind nor in mine, for exactly the same thing may be meant by you and by me.

p. 180. 4. i.e. you cannot know *what* a thing is before you know *that* it is; cf. Aristotle *Anal. Post. B* 7. 92^{b}4: *ἀνάγκη γὰρ τὸν εἰδότα τὸ τί ἐστιν ἄνθρωπος ἢ ἄλλο ὁτιοῦν, εἰδέναι καὶ ὅτι ἔστιν.*

p. 180. 5. This sentence is not found in the *Categories*. Averroës seems to take it as an interpretation of the beginning of *Cat.* cap. 5, where it is said that the individual cannot be predicated and that it is the universal which predicates the individual.

p. 180. 6. Cf. Aristotle, *De an. B* 5. 417^{b}22: *τῶν καθ' ἕκαστον ἡ κατ' ἐνέργειαν αἴσθησις, ἡ δὲ ἐπιστήμη τῶν καθόλου.*

p. 180. 7. Aristotle does not say explicitly that the universal exists only in the mind (the forms existing in the individuals express a universality; cf. note 180. 1), although according to him knowledge refers always to the essential, the universal (cf. e.g. *Met. Z* 6. 1031^{b}20: *τὸ ἐπίστασθαι ἕκαστον τοῦτό ἐστι τὸ τί ἦν εἶναι ἐπίστασθαι*); Averroës here follows an interpretation which is found as early as Alexander of Aphrodisias, *De an.* (Bruns), p. 90. 5: *νοούμενα δὲ χωρὶς ὕλης κοινά τε καὶ καθόλου γίνεται, καὶ τότε ἐστὶ νοῦς, ὅταν*

νοῆται, εἰ δὲ μὴ νοοῖτο, οὐδὲ ἔστιν ἔτι, ὥστε χωρισθέντα τοῦ νοοῦντος αὐτὰ νοῦ φθείρεται. Of course this conception destroys the definition of truth as conformity between things inside the mind and things outside it.

p. 180. 8. 'by it': i.e. by its existence; existence is not an accident, but the essence itself, according to Averroës.

p. 181. 1. Cf. my *Ep. d. Met. d. Av.* pp. 8–9. Aristotle himself had seen this difficulty, and denied (cf. note 179. 4) that existence or being was a genus; however, his own conception that even the non-existent, since it *is* a non-existent, possesses being in a certain way, implies the same infinite regress, for if the non-existent is, then the non-existence of the non-existent is, and so on.

p. 181. 2. The theory here expounded, that the plurality of negations and relations attributed to God does not destroy His unity, is found in Avicenna, *Salvation*, pp. 408 sqq., and *Recovery*, *Met.* viii. 7–8. The basic principle, that all determination of God is either negative or relative, is found in Plotinus: negative, e.g. *Enn.* vi. 8. 11 (cf. v. 3. 14): *ἐν ἀφαιρέσει πάντα τὰ περὶ τούτου λεγόμενα*, relative, *Enn.* vi. 9. 3: *ἐπεὶ καὶ τὸ αἴτιον λέγειν οὐ κατηγορεῖν ἐστι συμβεβηκός τι αὐτῷ, ἀλλ' ἡμῖν, ὅτι ἔχομέν τι παρ' αὐτοῦ ἐκείνου ὄντος ἐν αὐτῷ.*

p. 181. 3. 'apprehended', معلوم, *καταληπτός*. We are able, says Plotinus (*Enn.* v. 3. 14), to apprehend Him without being able to name Him, *ἔχειν δὲ οὐ κωλυόμεθα, κἂν μὴ λέγωμεν.* This seems more closely in agreement with Averroës than with Avicenna, who seems to regard existence as a positive determination in God, whereas all the other attributes determine this existence either relatively or negatively; cf. *Salvation*, p. 410: الصفة الاولى لواجب انه ان وموجود ثم الصفات الاخرى يكون بعضها المتعين فيه هذا الوجود مع اضافة وبعضها هذا الوجود مع السلب, the first attribute of the necessary being is that it is (انّ) and exists; the other attributes determine this existence either relatively or negatively. Compare also Plotinus, *Enn.* vi. 7. 38, where it is said that 'is', *ἐστί*, cannot be predicated of God, but points to His essence, *τὸ δέ ἐστιν οὐχ ὡς κατ' ἄλλου ἄλλο, ἀλλ' ὡς σημαῖνον ὃ ἔστι.*

p. 181. 4. This is part of the Aristotelian definition of substance (the individual), *Cat.* 5. 2ª11: *οὐσία δέ ἐστιν . . . ἣ μήτε καθ' ὑποκειμένου τινὸς λέγεται μήτ' ἐν ὑποκειμένῳ τινί ἐστιν.* It is negative, since *individuum est ineffabile*; it is experienced, but beyond description.

p. 182. 1. To this negative definition of intellect Averroës objects, as we shall see on p. 186. It is, however, in agreement with Avicenna, op. cit. p. 410: واذا قيل عقل . . . لم يعن بالحقيقة الا ان هذا الوجود مسلوبا عنه جواز مخالطة المادة وعلائقها, when He is called intellect, this only

means that His existence cannot be mixed with matter and its accompaniments.

p. 182. 2. Here there is a reference to the problem of self-consciousness as set forth by Aristotle (*De an.* *Γ* 2. 425ᵇ12–25; *Γ* 4. 430ª2–9): if perception (or thought) needed another perception (or thought) to become conscious of itself, we should have an infinite regress. The difficulty had been seen already by Plato, *Charmides* 168 d, e. The problem is mentioned by Avicenna in his *Salvation*, pp. 399–400, in the chapter in which he sets out to prove that the necessary existent is in itself the thought, the thinker, and the object of thought.

p. 182. 3. According to Aristotle (*De an.* *Γ* 4. 430ª5) there is an intermission in the process of our thinking.

p. 182. 4. For Clemens Alexandrinus, *Strom.* vii. 7. 42, the mark which distinguishes God's action from the action of fire is will: God is not involuntarily good (*ἄκων ἀγαθός*) as the fire is involuntarily productive of warmth; in Him the imparting of good things is voluntary, *ἑκούσιος*.

p. 182. 5. This whole passage seems to refer to Plotinus, *Enn.* vi. 8. 12–13. The presence (*παρουσία*) of the good is not accidental in God, according to Plotinus, *Enn.* vi. 8. 13. His essence is not external to His will. The good in Him implies a will which does not destroy His unity. In addition God's act cannot be differentiated from His essence, *εἰ μὲν οὖν ἐστί τις ἐνέργεια ἐν αὐτῷ, καὶ ἐν τῇ ἐνεργείᾳ αὐτὸν θησόμεθα, οὐδ' ἂν διὰ τοῦτο εἴη ἂν ἕτερον αὐτοῦ* (*Enn.* vi. 8. 12). Each of us, through his body, is far distant from the Essence; through his soul he participates in the Essence, but he is not fundamentally essence (*κυρίως οὐσία*) and therefore not master of his essence (*Enn.* vi. 8. 12).

p. 183. 1. 'in second intention', *κατὰ παρακολούθησιν*, as a necessary consequence (the term is Stoic), for the Universe in itself is not an end, but a consequence. For the theory based on Plato that the visible world has not been created by intention, *λογισμῷ*, but by necessity, *ἀνάγκῃ*, see, for example, Plotinus, *Enn.* iii. 2. 2.

p. 183. 2. Cf. Plotinus, *Enn.* vi. 4. 3: God remains in Himself, and from Him all powers emanate to everything, *δυνάμεις δὲ ἀπ' αὐτοῦ ἰέναι ἐπὶ πάντα.*

p. 183. 3. This seems to be based on the Aristotelian distinction between the theoretical and the practical Intellect (e.g. *De an.* *Γ* 9. 432ᵇ26) and the commentators' division of the Aristotelian philosophy into the theoretical and the practical.

p. 183. 4. Cf. the passage in Clemens Alexandrinus, *Protr.* c. iv, 63, Stählin, i. 48. 18, where he says that God creates merely through His will; the effect follows His mere willing immediately, *ψιλῷ τῷ βούλεσθαι δημιουργεῖ καὶ τῷ μόνον ἐθελῆσαι αὐτὸν ἕπεται τὸ γεγενῆσθαι.*

p. 183. 5. It seemed to me, says Plotinus (*Enn.* v. 8. 7), that if we ourselves were the archetypes, the essence, and the forms all together, and if the form which produces the sublunary things were our essence, we should create without exertion, *ἐδόκει δέ μοι, ὅτι καί, εἰ ἡμεῖς ἀρχέτυπα καὶ οὐσία καὶ εἴδη ἅμα, καὶ τὸ εἶδος τὸ ποιοῦν ἐνταῦθα ἦν ἡμῶν οὐσία, ἐκράτησεν ἂν ἄνευ πόνων ἡ ἡμετέρα δημιουργία.*

p. 183. 6. Cf. Aristotle, *De mot. an.* 7. 701ᵃ35: *ἡ ἐσχάτη αἰτία τοῦ κινεῖσθαι ὄρεξις, αὕτη δὲ γίνεται ἢ δι' αἰσθήσεως ἢ διὰ φαντασίας καὶ νοήσεως.*

p. 184. 1. Life belongs also to God, says Aristotle (*Met. Λ* 7. 1072ᵇ26 *καὶ ζωὴ δέ γε ὑπάρχει*); we say therefore that God is a living being, eternal, perfectly good, so that life and timeless eternity, continuous and unending, belong to God; *φαμὲν δὴ τὸν θεὸν εἶναι ζῷον ἀΐδιον ἄριστον, ὥστε ζωὴ καὶ αἰὼν συνεχὴς καὶ ἀΐδιος ὑπάρχει τῷ θεῷ.* According to Plotinus, *Enn.* vi. 5. 12, an inexhaustible and infinite life-stream proceeds from God, whose nature is as it were boiling over with life, *φύσιν . . . ἐν αὐτῇ οἷον ὑπερζέουσαν ζωῇ.*

p. 184. 2. '*not* for an end which refers to Himself'; this is, as Avicenna says (*Salvation*, p. 411), a negative attribute. Cf. Plotinus, for example, *Enn.* vi. 9. 6: *ἀλλ' ἔστιν ὑπεράγαθον καὶ αὐτὸ οὐχ ἑαυτῷ, τοῖς δ' ἄλλοις ἀγαθόν, εἴ τι αὐτοῦ δύναται μεταλαμβάνειν*, He is the' hypergood': He is the good not for Himself, but for the others who can participate in Him. The doctrine of God's generosity (*ἀφθονία*) goes back to the *Timaeus*-passage 29 d: He was good, and the good can never grudge anything to anything. And being generous, He desired that all things should be as like Himself as they could be.

p. 184. 3. Avicenna gives, for example, in his *Theorems and Notices*, Forget, p. 159, this definition of generosity: الجود افادة ما ينبغى لا لعوض. Generosity is giving in the right way, not for the sake of reward. In his *Recovery*, *Met.* vi. 5, he has a long passage about generosity.

p. 184. 4. For badness as a *στέρησις* or *ἀπουσία* (or *ἔλλειψις*) *ἀγαθοῦ* see Plotinus, *Enn.* i. 8. 3. The basic idea that the cause of badness lies in matter as non-being is to be found already in Plato, *Tim.* 46 c, 46 e, 48 a.

p. 184. 5. For the highest good as the order (*τάξις*) of the universe cf. Aristotle, *Met. Λ* 10. 1075ᵃ11.

p. 184. 6. 'the lover and the beloved'; cf. Plotinus, *Enn.* vi. 8. 15 (ad init.): *καὶ ἐράσμιον καὶ ἔρως ὁ αὐτὸς καὶ αὐτοῦ ἔρως.*

p. 184. 7. The doctrine of God's joy as based on His thought goes back to the passage of Aristotle, *Met. Λ* 7. 1072ᵇ14 sqq.

p. 185. 1. And if God is always in this happy condition in which we sometimes are, says Aristotle (*Met. Λ* 7. 1072ᵇ24), this is wonderful, and if in a still happier condition, this is still more wonderful.

p. 185. 2. That all the expressions used to describe God are only metaphorically used (*οὐκ ὀρθῶς*), since even for thought He is not a duality (*οὐδ' ὡς εἰς ἐπίνοιαν δύο*), is stated by Plotinus, *Enn.* vi. 8. 13.

p. 186. 1. Cf. note 182. 1.

p. 186. 2. i.e. Plato in the interpretation of Plotinus. God is anterior to thought, says Plotinus, *Enn.* vi. 9. 6: *πρὸ γὰρ κινήσεως καὶ πρὸ νοήσεως.*

p. 186. 3. The philosophers, however, do not say what this essence is, i.e. who or what the owner is of these attributes.

p. 187. 1. As, for instance, the Ash'arites believe.

p. 187. 2. The example of the hand is to be found in Aristotle, e.g. *De gen. an. A* 19. 726ᵇ22: *ἡ χεὶρ ἄνευ ψυχικῆς δυνάμεως οὐκ ἔστι χεὶρ ἀλλὰ μόνον ὁμώνυμον*, without the faculty of the soul a hand is only a hand equivocally; another example is the finger, *δάκτυλος* (cf. especially *Met. Z* 10. 1035ᵇ25) or the eye, *ὀφθαλμός* (*De gen. an. B* 1. 735ᵃ8) and generally *ὁ νεκρὸς ἄνθρωπος ὁμωνύμως*, a corpse is a man equivocally (*Meteor. Δ* 12. 389ᵇ31).

p. 188. 1. This principle that the cause contains the effect in a superior way is found already, with the example of fire, in Aristotle's *Metaphysics*, i.e. in Book *α*, which was ascribed by many among the ancients to Pasicles: *ἕκαστον δὲ μάλιστα αὐτὸ τῶν ἄλλων, καθ' ὃ καὶ τοῖς ἄλλοις ὑπάρχει τὸ συνώνυμον, οἷον τὸ πῦρ θερμότατον* (*Met. α* 1. 993ᵇ24). This principle, which implies a gradual degradation in the causal process, in the process of becoming, or in emanation (in coming from), became one of the fundamental truths of Neoplatonism. It is the *νοῦς ποιητικός*, which is for Alexander of Aphrodisias identical with God, the *κυρίως νοητόν*, which is the cause of the intelligibility of everything else: *τὸ μάλιστα δὴ καὶ τῇ αὐτοῦ φύσει νοητὸν εὐλόγως αἴτιον καὶ τῆς τῶν ἄλλων νοήσεως* (Alex. Aphrod. *De an.*, Bruns, 89. 5).

p. 188. 2. Here he seems to have in view the so-called *notiones transcendentales*; in the following, however, he regards certain attributes as being constituted through relation.

p. 188. 3. Cf. Aristotle, *De An. A* 2. 403ᵇ25: *τὸ ἔμψυχον δὴ τοῦ ἀψύχου δυοῖν μάλιστα διαφέρειν δοκεῖ, κινήσει τε καὶ τῷ αἰσθάνεσθαι*, the animate seems to differ from the inanimate through two things: motion and perception.

p. 188. 4. For this theory compare Aristotle, *Met. H* 6.

p. 189. 1. i.e. if the dependent one also were regarded as a necessary existent, this necessary existent would be causally related. Of course the whole argument in this paragraph is tautological. If the dependence of attribute on subject is identified with the dependence of effect on cause, every attribute will require a cause.

p. 189. 2. All this, of course, is a pure tautology.

p. 189. 3. i.e. they admit certain attributes in the Creator.

p. 190. 1. i.e. the denial of absolute duality in the proof given above by Ghazali is, according to him, a *petitio principii*; cf. p. 191.

p. 190. 2. The receptive cause *τὸ δεκτικόν* (cf. Arist. *Met. I* 4. 1055ᵃ29) is the matter in which the forms or attributes inhere. That the First cannot have a receptive cause seems to be understood in the sense that it cannot itself be receptive of attributes (cf. note 190. 4).

p. 190. 3. Or to call matter a material cause.

p. 190. 4. i.e. the impossibility of an infinite series of receptacles or receptive causes does not imply that the First cannot itself be a receptive cause, i.e. receptive or in possession of attributes.

p. 191. 1. i.e. their argument was an *argumentum ad hominem* (for the *argumentum ad hominem* cf. Arist. *Top. B* 5).

p. 191. 2. Cf. Aristotle, *Top. A* 1. 100ᵃ27 sqq.: Necessary proof depends on our knowledge of the real causes and principles of things; the dialectical syllogism—which Aristotle calls also *ἐπιχείρημα*—is deduction from opinions: *ἀπόδειξις μὲν οὖν ἐστιν, ὅταν ἐξ ἀληθῶν καὶ πρώτων ὁ συλλογισμὸς ᾖ, ἢ ἐκ τοιούτων ἃ διά τινων πρώτων καὶ ἀληθῶν τῆς περὶ αὐτὰ γνώσεως τὴν ἀρχὴν εἴληφεν· διαλεκτικὸς δὲ συλλογισμὸς ὁ ἐξ ἐνδόξων συλλογιζόμενος.*

p. 192. 1. i.e. that which has a cause.

p. 192. 2. i.e. the Mu'tazilites deny the existence of any eternal attributes as distinct from the nature or essence of God, whereas the Ash'arites affirm them.

p. 193. 1. A receptive cause, i.e. matter. For the composition of the compound of matter and attributes an efficient cause is needed, according to the philosophers.

p. 193. 2. This seems to me nothing but a *petitio principii*: since the Ash'arites admit exterior or additional attributes, their First Principle is not absolutely simple, whereas the First Principle has to be absolutely simple. The Christians, i.e. the Alexandrian and Cappadocian Fathers, do indeed regard God as of an ineffable simplicity. For Origen, e.g. *De principiis* i. 6, God is 'ex omni parte *μονάς* et ut ita dicam *ἑνάς*', He is a 'simplex intellectualis natura'. St. Augustine (*De civ. dei* viii. 6), praises the Platonists for having understood that God's attributes are identical with His essence: 'quia non aliud illi est esse, aliud vivere, quasi possit esse non vivens; nec aliud illi est vivere, aliud intellegere, quasi possit vivere non intellegens; nec aliud illi est intellegere, aliud beatum esse, quasi possit intellegere non beatus; sed quod est illi vivere, intellegere, beatum esse, hoc est illi esse.' This is the Aristotelian conception of God as an eternal, thinking, living, blessed existence, in *Met. Λ* 7.

p. 193. 3. i.e. whether the First Agent must have matter.

p. 194. 1. i.e. matter is the *principium individuationis*; cf. Aristotle, *Phys. A* 7. 190ᵇ24: *ὁ μὲν γὰρ ἄνθρωπος καὶ ὁ χρυσὸς καὶ ὅλως ἡ ὕλη ἀριθμητή· τόδε γάρ τι μᾶλλον*, for man and gold and generally matter are numerable unities, and still more is the particular individual such, i.e. this man is numerically different from that man through his matter.

p. 194. 2. i.e. if the First Agent possessed matter, it would be a matter *sui generis*, not the matter which is common to all material things.

p. 194. 3. The argument seems to me rather confused: Averroës seems to imply that even this matter *sui generis* would have to be a body. In the theory that matter is the *principium individuationis* the bodily nature of matter is always assumed, for it is impossible to understand how matter as the absolutely undifferentiated can be the ground of individual differentiation. Of course such a theory can neither explain the individuality of my 'ego' nor of God's 'ego' which thinks itself. Aristotle, however, also regards the form as *principium individuationis*; cf. e.g. *Met. Z* 6. 1031ᵃ17.

p. 194. 4. Such an attribute: i.e. an attribute additional to its essence; the argument seems to me fairly plausible.

p. 195. 1. Aristotle (cf. e.g. *Met. Δ* 30. 1025ᵃ30) distinguishes (*a*) the essential attribute *συμβεβηκὸς καθ' αὑτό*, لازم which, although it is not its essence, is possessed universally by a thing in virtue of itself, e.g. the possession by a triangle of angles equal to two right angles, from (*b*) the mere *συμβεβηκός*, لاحق, which happens to a thing only in certain particular cases, like the paleness of a musician. There is an ambiguity in the term *συμβεβηκός* which in *συμβεβηκὸς καθ' αὑτό* means quality generally, whereas used absolutely it can mean the accidental in opposition to the essential. But the verb *συμβαίνειν*, لحق (or also *ὑπάρχειν*), meaning 'supervene', implies a sequence.

p. 196. 1. Or possible or transitory; 'permissible', جائز, means originally the morally permissible, permissible according to the religious law. It is a curious and significant fact that the classification of actions into five groups in Islam was taken over from Stoicism. The dutiful, necessary act, واجب, فرض, corresponds to the Stoic *κατόρθωμα, recte factum*; the commendable act, مندوب, مستحب, to *προηγμένον, commodum*; the morally indifferent act, جائز, مباح to *ἀδιάφορον, medium*; the unbecoming act, مكروه, to *ἀποπροηγμένον, incommodum*; and the sinful act, حرام, to *ἁμάρτημα, peccatum*. It may be added that the long controversy in Islam whether there is or is not a middle term between belief and unbelief is inspired by Stoic thought. The Stoics originally believed that virtue can neither be increased nor decreased, *οὔτε ἐπιτείνεσθαι οὔτε ἀνίεσθαι*, that there is no intermediate term between virtue and sin, *μηδὲν μέσον εἶναι ἀρετῆς καὶ κακίας* (Diog. Laert. vii. 227), and that all sins are equal, *ἴσα ἐστὶ τὰ ἁμαρτήματα*; for whether a man is

a hundred stadia from his aim or only one stadium, he is equally not there (cf. Sext. Emp. *Adv. log.* i. 422 and Diog. Laert. viii. 120); and those theologians who asserted that belief is based only on تصديق, assent (i.e. the Stoic *συγκατάθεσις*; for faith as a *θεοσεβείας συγκατάθεσις* see, for example, Clem. Alex. *Strom.* ii. 2. 8), held that faith can be neither increased nor diminished. The term جائز takes, then, also the meaning of the logically permissible, i.e. the non-contradictory, the logically possible, and in this way, since for them everything is possible but the logically impossible, it becomes synonymous for the theologians with ممكن, the possible.

p. 196. 2. For according to the theologians only God, the simple, unique immaterial efficient cause, who connects the condition and the conditioned in a transitory conjunction, is eternal.

p. 196. 3. i.e. the theologians regard God, the efficient cause, as acting in time through a prior knowledge and will, as we imagine empirical, rational beings to act, but the philosophers assume an eternal unique connexion between an eternal unifying principle and an eternal world.

p. 196. 4. 'the assumption of the philosophers': the text has 'their assumption', but I presume from the context that the philosophers are meant here. Here Averroës, in opposition to Avicenna, seems to regard these attributes in God as something positive. But according to Averroës's conception here—which, however, is quite in agreement with Aristotle, for whom, too, the essence is the end of the process of becoming, e.g. *Met.* Δ 4. 1015ᵃ10: *ἡ οὐσία . . . ἐστὶ τὸ τέλος τῆς γενέσεως*—an essence is not a subject of attributes, but is constituted by the attributes, and through this the Aristotelian opposition of essence and attributes is destroyed.

p. 197. 1. Both philosophers and theologians describe God as the self-sufficient, الغنى, *ὁ αὐτάρκης*, cf., for example, Aristotle, *Met.* N 4. 1091ᵇ18. The term الغنى is an epithet given to God in several places in the Koran. I believe its meaning there is 'the rich one', the one, as Muhammad says, 'to whom belongs all that is in the heavens and on earth', but the word is later interpreted under the influence, I think, of Greek philosophy, as meaning 'self-sufficient'.

p. 197. 2. This seems in contradiction to the assertion on p. 196 that every essence is perfected by attributes.

p. 198. 1. i.e. according to the Asha'rite (Stoic) doctrine that what cannot be free from the temporal is itself temporal.

p. 198. 2. For this compare Aristotle, *Phys.* Γ 1. 200ᵇ26: the mover is the active, *τὸ ποιητικόν*, and the moved the passive, *τὸ παθητικόν*, and the moved is moved through the action of the mover, *τὸ κινητὸν κινητὸν ὑπὸ τοῦ κινητικοῦ*.

p. 198. 3. For this compare Aristotle, *Phys.* E 2. 225ᵇ33, where it is proved that there is no absolute generation, no generation of the substance, i.e of

the compound *qua* compound, no generation of generation, since absolute generation would imply an infinite regress and one could never arrive at a first compound. On the other hand, the series of possibles or moved movers ends in an eternal necessary existent or unmoved mover.

p. 198. 4. i.e. a cold thing, for example, cannot become warm—cold being potentially warm and the privation of warm—without an agent which actualizes the warmth, 'for from the potentially existing the actually existing is always produced by an actually existing . . .; there is always a first mover and the mover exists already actually' (cf. Arist. *Met.* Θ 8. 1049ᵇ24).

p. 198. 5. *ἅπαν τὸ κινούμενον ἀνάγκη ὑπό τινος κινεῖσθαι* (Arist. *Phys.* H 1 ad init.).

p. 198. 6. i.e. the concrete substance (*ἡ σύνολος οὐσία*) composed of matter and form, cf., for example, *Met.* Z 11. 1037ᵃ30.

p. 199. 1. Cf. Aristotle, *Met.* N 2. 1088ᵇ14 sqq., where Aristotle asserts that what consists of elements must have matter, i.e. potentiality, and that the potential can either be actualized or not.

p. 200. 1. It may be remarked here that the Arabic word for 'substance' or 'essence' is جوهر, a word which by origin means 'jewel'. Averroës remarks in his *Ep. d. Met.* (see my translation, p. 11) that this name was given to substance because it is the most valuable of the categories.

p. 200. 2. This problem will be discussed more fully later. The whole problem of God's knowledge is clearly stated as early as Plato's *Parmenides*, 134: only God can know the universal, and nothing can be known to God but the perfect truth of ideas; there is an unbridgeable chasm between God and men; it is impossible for the divine and eternal to know the things of men, *τὰ ἀνθρώπεια πράγματα*, and equally for our fleeting human knowledge to reach the divine truth. Plotinus repeats this idea at *Enn.* v. 8. 3: the gods eternally possess their wisdom in an impassible, immutable, and pure intellect (*ἐν ἀπαθεῖ τῷ νῷ καὶ στασίμῳ καὶ καθαρῷ*); they know everything, however, not the things of men, *τὰ ἀνθρώπεια*, but the things divine. But to this Plotinus adds, *Enn.* v. 8. 4, the idea which so strongly influenced Leibniz: in the intelligible world everything comprises everything in itself and beholds everything in everything else, everything is everywhere, everything is everything, each thing is anything, and the splendour is infinite (cf. Leibniz: 'chaque monade est un miroir vivant, représentatif de l'Univers suivant son point de vue'). The idea of a difference in value between God's knowledge and man's is found also in Aristotle. Thinking in its purest form, i.e. God's thought, is concerned with the highest good, i.e. with itself (cf. *Met.* Λ 7. 1072ᵇ18: *ἡ δὲ νόησις ἡ καθ' αὑτὴν τοῦ καθ' αὑτὸ ἀρίστου, καὶ ἡ μάλιστα τοῦ μάλιστα*). There is a parallelism between thinker and thought. However, it is one of the disturbing consequences of Aristotle's theory (or

rather of one side of his theory) that, in fact, material, individual things cannot be the object of thought at all, since thought is only concerned with the universal, i.e. the unalterable, the eternal.

p. 201. 1. It seems true enough, indeed, that Zaid's knowledge of his own individuality is not identical with his knowledge of other things, but then it cannot be true that man's knowledge of other things is identical with the knowledge of his own essence, i.e. his individuality. This dilemma exists for all theories (Hume's as well as Aristotle's) which do not distinguish between the subject of thought, the Ego, and its object.

p. 201. 2. According to Aristotle's theory that thought and the object of thought are identical (*ταὐτὸν νοῦς καὶ νοητόν*), Aristotle even says (*De an.* *Γ* 6. 431^{b}16): *ὅλως δὲ ὁ νοῦς ἐστιν ὁ κατ' ἐνέργειαν τὰ πράγματα νοῶν*, the intellect when it thinks is the things. But the things exist also when the intellect does not think them, and the intellect does not add anything to the things by its thinking, since, when it thinks, it is identical with the things. Thought therefore is nothing. (Aristotle himself says, *De an.* *Γ* 4. 429^{a}22, that the intellect is nothing at all actually, before it thinks, *ὁ νοῦς . . . οὐδέν ἐστιν ἐνεργείᾳ τῶν ὄντων πρὶν νοεῖν.*) The difficulty of conceiving the intellect without making it falsify reality by adding something to it through thinking caused Aristotle to adopt a theory which annuls thought itself (the same view was held by Plotinus even more emphatically, *Enn.* v. 3. 5: contemplation must be identical with the contemplated, the intellect with the intelligible; without this identity one cannot possess the truth, since instead of possessing realities, one would only have an impression, *τύπος*, of them which would be different from the realities and therefore not the truth). However, Aristotle also regards the intellect as an existent in which the concepts exist: the *νοῦς* is a *δεκτικὸν τοῦ εἴδους*. In some passages, too, Aristotle tries to express the character of thought as an act, and he conceives it then as a touching (*θιγγάνειν*) or a participation (*μετάληψις*): the thinker touches the object of thought, cf. *Met.* *Θ* 10. 1051^{b}24 and especially *Met.* *Λ* 7. 1072^{b}20, where this contact is mentioned in connexion with the identification of thought and its object: *αὐτὸν δὲ νοεῖ ὁ νοῦς κατὰ μετάληψιν τοῦ νοητοῦ· νοητὸς γὰρ γίγνεται θιγγάνων καὶ νοῶν, ὥστε ταὐτὸν νοῦς καὶ νοητόν.* These conceptions are complicated still more by the introduction of his obscure theory of an active and a passive intellect.

p. 201. 3. Cf. Aristotle, *Met.* *Z* 7. 1032^{b}22: artificial production starts from the knowledge in the soul of the artisan. That which produces and from which the movement starts in artificial production is the form in the soul, *τὸ δὴ ποιοῦν καὶ ὅθεν ἄρχεται ἡ κίνησις . . . ἐὰν μὲν ἀπὸ τέχνης, τὸ εἶδός ἐστι τὸ ἐν τῇ ψυχῇ.*

p. 201. 4. In second intention, i.e. by way of implication and consequence (*παρακολούθησις*), i.e. not through deliberation (*λογισμῷ*), but through logical

necessity (*ἀνάγκῃ*), just as, according to Plotinus, *Enn.* iii. 2. 2, the sensible world emanates from the intelligible.

p. 202. 1. i.e. the forms in matter, which are called by Alexander of Aphrodisias *ἔνυλα εἴδη*.

p. 202. 2. Cf. Aristotle, *De an.* *Γ* 4. 430^{a}2: *ἐπὶ μὲν γὰρ τῶν ἄνευ ὕλης τὸ αὐτό ἐστι τὸ νοοῦν καὶ τὸ νοούμενον.*

p. 203. 1. For Avicenna God cannot know individuals (at least not as individuals), but His knowledge is limited to unalterable, eternal universals. (Porphyry, *Sentent.* xxiii, expressed the difference between the universal intellect and the particular in this way: in the universal intellect the particular existents also exist universally, whereas in the particular intellect both the universal and the individual exist individually.) Averroës goes beyond this: God knows through a knowledge which is neither the knowledge of universals nor the knowledge of individuals, and is superior to the knowledge of men and incomprehensible to them. This, of course, makes the term 'knowledge' as applied to God not only incomprehensible but meaningless.

p. 203. 2. Although Aristotle regards the individual existent alone as the truly real, from which through abstraction the universals are acquired, he asserts all the same that the universal, as form and essence of things, by its nature and absolutely, is prior to the individual (cf. e.g. *Anal. Post.* *A* 2. 17^{b}33). Averroës here follows Alexander of Aphrodisias, for whom the universal is also by its nature posterior to the individual, since the existence of universals depends on the existence of the individuals; cf. Simplicius, *In Arist. Cat. Comm.*, Kalbfleisch, c. 5, p. 82, 1. 22: *ὁ μέντοι Ἀλέξανδρος ἐνταῦθα καὶ τῇ φύσει ὕστερα τὰ καθόλου τῶν καθ' ἕκαστα εἶναι φιλονεικεῖ . . . κοινοῦ γὰρ ὄντος, φησίν, ἀνάγκη καὶ ἄτομον εἶναι· ἐν γὰρ τοῖς κοινοῖς τὰ ἄτομα περιέχεται.*

p. 203. 3. 'in potency'. This is a consequence of the conception that the universal is posterior by nature to the individual, and would imply something very different from what Aristotle maintained, namely that knowledge of the individual is superior to knowledge of the universal. However, even Aristotle regards the genus, the more universal, in the definition as representing the matter, i.e. the potential, whereas the *differentia specifica* represents the form: cf. Aristotle, *Met.* *H* 6. 1045^{a}34.

p. 203. 4. 'the active powers which . . . are called natures'; cf. Aristotle, *De gen. an.* *B* 4. 740^{b}35: *ἡ ποιοῦσα δύναμις . . . ἡ φύσις ἡ ἑκάστου, ἐνυπάρχουσα καὶ ἐν φυτοῖς καὶ ἐν ζῴοις πᾶσιν.*

p. 204. 1. Cf. Aristotle, *Met.* *α* 1. 993^{b}24.

p. 205. 1. That not even the weight of an atom, either in heaven or on earth, escapes God is stated in the Koran, xxxiv. 3 (cf. note 275. 1).

p. 205. 2. That universals are infinite does not seem to be the opinion of Alexander of Aphrodisias, who in a passage transmitted by Averroës (see

Freudenthal, *Die durch Averroese rhaltenen Fragmente Alexanders*, p. 133. 5) argues against the Stoics, who assert that the divine Providence is concerned with individuals, saying that this would imply a knowledge of the infinite future, which is impossible, since the measure of the infinite is impossible, and what is impossible is impossible also for the gods (cf. also Alex. Aphr. *De fato*, Bruns, p. 200. 22). ('Infinite', however, is ambiguous and can mean 'eternal').

p. 206. 1. According to Aristotle (see *De An. Γ* 3. 428b10 sqq.) the representation, *φαντασία*, does not occur apart from sensation, *ἄνευ αἰσθήσεως*, and is similar to sensation, and in sensation the common properties, like movement and size, are preserved. That is why Averroës can say that the plurality of representations resembles plurality in space.

p. 206. 2. 'which we may call being': Aristotle himself, as we have seen already—see note 179. 4—denies explicitly that being, *τὸ ὄν*, is a genus, but the older Stoics seem to regard being, since it has itself no genus, as the highest genus (cf. Diog. Laert. vii. 61); and in any case the Stoics include everything in one highest genus: *ἐπὶ πάντων ἓν γένος λαμβάνουσιν* (Plotinus, *Enn.* vi. 1. 35).

p. 206. 3. i.e. being.

p. 206. 4. Cf. note 203. 3.

p. 208. 1. According to Aristotle, *Met. Δ* 15. 1021a23, the relation father–son is one of those which by their very essence are related to something else, *τῷ ὅπερ ἐστὶν ἄλλου λέγεσθαι αὐτὸ ὅ ἐστιν*. Cf. also the (tautological) Stoic definition of relation, Sext. Emp. *Adv. log.* ii. 162: *πρός τι δέ ἐστι τὰ κατὰ τὴν ὡς πρὸς ἕτερον σχέσιν νοούμενα καὶ οὐκέτι ἀπολελυμένως λαμβανόμενα*, the relative is what is conceived in relation to another thing, neither of them being apprehended separately.

p. 209. 1. Since they all fall under the most universal genus of 'being' or of 'something' (*τί*, شيء).

p. 209. 2. Cf. the passage in Aristotle, *Met. Λ* 7. 1072b20 quoted in note 201. 2: *αὐτὸν δὲ νοεῖ ὁ νοῦς κατὰ μετάληψιν τοῦ νοητοῦ*, 'the intellect thinks itself through partaking of the thing known'. 'Self-knowledge' is here ambiguous; it means both self-consciousness, the fact that in all *cogitare* an 'ego' is implied (cf. note 201. 2) and all the knowledge an individual 'self' has acquired. It is on this very ambiguity that the theory is built that God in knowing Himself knows all other things.

p. 209. 3. The logic of facts forces the Aristotelians to establish distinctions which—since in their system there is no subject, no 'ego', and they identify the things known with the knowledge of things—they are not entitled to make—i.e. the distinctions between (1) self-knowledge, (2) the knowledge the individual 'self' possesses, (3) the things known. By 'unity of knowledge' is here meant the unity of experience and knowledge in each of

us through the unity and identity of his 'self'. Unity of knowledge, *ἐπιστήμης ἑνότης*, is affirmed by Aristotle in another sense, when he declares (*Met. Γ* 2. 1003b21) that the study of all species of being *qua* being belongs to a science which is generically one, whereas the study of the several species of being belongs to the specific parts of this science. But it is not true that knowledge, although the knower is a unity, need not possess plurality, when the things known form a plurality, for knowledge is dependent on the things known and has to conform to their nature. What is true, and seems to me a primary truth, although it is denied both by the idealist and by the relativist, is that the object of knowledge is not affected by the fact of being known. A cat may look at a king, and the king is not affected by the cat's awareness of him. All knowledge implies being, implies facts that can be known and that are independent of this knowledge. Being is prior to knowledge (and even the possibility of being which enables us to act through knowledge is prior to knowledge). If the object of knowledge were affected by its being known, nobody could twice perceive an identical thing, nor could the same object be perceived by many or the same thought be common to many; and however inexplicable it may be, we are aware of living in one unique common universe and of communicating our thoughts, and even the relativist and the idealist are forced to admit that at least their theories would be true, i.e. correspond to the facts, even if no one ever held them. God, therefore, is not affected by our loving Him or our knowing Him, but as to His knowledge, either God's knowledge is dependent on our decisions and acts in so far as it follows them; or God knows them from eternity, and then the human drama is but a puppet-show; or the eternal sequence of becoming and passing away is eternally beyond His ken.

p. 210. 1. i.e. if a man perceives a thing, he is either completely plunged in the contemplation of that thing and is unaware that he is the perceiver, or if he perceives that he perceives there is a limit to the series, i.e. there is not an infinite series of his perceiving that he perceives that he perceives....

p. 210. 2. i.e. God, the Unknowable, the Ineffable, can be understood only by His works and His providence. This tendentious tradition is quite alien to primitive Islam and is inspired by the study of Greek and Christian philosophy. Cf. St. Theophilus, *Ad Autolyc.* (Migne, vi. 1032A): Just as the soul of man cannot be seen, but can be understood through the movement of his body, God cannot be seen by the eyes of man, but must be understood by His Providence and His works; and St. Gregory of Nyssa, *De an. et resurrect.* (Migne, xlvi. 28C): Just as, through observing the universe, the macrocosm, and the omnipotent wisdom (*ἡ παντοδύναμος σοφία*) which pervades it, we arrive at an intellect which is above sense-perception, *ὑπὲρ αἴσθησιν*, so in contemplating man, the microcosm, we can infer from the visible appearances the hidden and imperceptible intellect; and Maximus

Confessor, *Ambigua* (Migne, xci. 1285–7): Just as our human intellect, which is one and invisible in itself, yet manifests itself in words and deeds and expresses its thought in letters and figures, so the Divine Essence which is far above the reach of our intellect manifests itself in the created universe. Compare with this Wisdom of Solomon xiii. 5: 'For from the greatness of the beauty even of created things in like proportion does man form the image of their first maker', and Romans i. 20: 'For the invisible things of Him since the creation of the world are clearly seen, being understood by the things that are made, even His everlasting power and divinity', in both of which Stoic influence is unmistakable.

p. 210. 3. This is the orthodox conception. That miracles by themselves are not an absolute proof of the mission of the prophet is not only affirmed by the Mu'tazilites, but even by the Ash'arite Baqillani, who held that miracles might also be performed by a sorcerer or a saint (for the whole problem cf. Ibn Hazm, op. cit. v. 2–12). Already Celsus (Orig. *Contra Cels.* i. 68) had asked: 'Since sorcerers can perform the same feats as Jesus, must we admit that they too are "sons of God"?'

p. 210. 4. Compare with this the passage in St. Gregory of Nyssa, *De vita St. Greg. Thaumat.* (Migne, xlvi. 901), where he speaks of the internal discord, ἐμφύλιος πόλεμος, of the Greek philosophers over the Divine, and praises the stable word of faith, which in its simplicity is proclaimed to all equally and does not find its strength in some logical jugglery and artificial constructions of logic, λογικῇ τινι περιεργίᾳ καὶ τεχνικαῖς πλοκαῖς, since, indeed, the transcendent nature, ἡ ὑπερκειμένη φύσις, is inaccessible, ἀνεπίβατος, to human reason.

p. 211. 1. This seems to imply that even negations have a certain objective existence.

p. 211. 2. This is rather badly expressed, for if there are concepts, there is already a plurality. The meaning is: 'The terms of the relation constitute with the relation a unity, or the terms of the relation are nothing additional to the relation.'

p. 211. 3. This seems to mean that the father and the son have an existence in reality independent of their relation to each other, but that in our thoughts fatherhood implies sonhood and the thought fatherhood–sonhood constitutes a unity. However, we can think of the father without thinking of the son.

p. 211. 4. 'the first knowledge': i.e. my knowing a thing includes my consciousness of my knowing this thing. This seems to me a sound theory: in all perception and knowledge the consciousness of an 'ego' is included.

p. 212. 1. Averroës seems to mean that the series 'the knowledge that I know that I know' can be infinitely extended, and its infinity is implied in

the idea of knowledge. This infinity, however, according to Averroës, is only a potential infinity (which is admissible), not an actual infinity (which is impossible).

p. 212. 2. i.e. God's knowledge does not depend on the reality of the things known; God does not know things because they exist, but God's knowledge is a creative knowledge, and the things exist because God knows them. Of course, if *esse* = *percipi*, even our human knowledge does not depend on the reality of things; and for Kant the mere possibility of knowledge implies a creative element—which, however, implies that my thought that thought is creative is itself creative.

p. 212. 3. i.e. by their doctrine of God's unalterable unity, توحيد.

p. 212. 4. Ghazali had written three treatises on Logic: *The Touchstone of Science in Logic*, معيار العلم فى فن المنطق, *The Touchstone of Speculation in Logic*, محك النظر فى المنطق, and *The Just Balance*, القسطاس المستقيم.

p. 213. 1. This refers to Ghazali's curious work, mentioned in the preceding note, *The Just Balance*, in which he extracts the principles of Logic from verses of the Koran, and where (p. 20, ed. Kabbani, Cairo, 1900) he bases his belief that the principles of Logic can be deduced from the Koran on the verses at the beginning of Sura lv, the Merciful, where it is said that God taught man demonstration (or articulate speech), البيان, and 'set the balance that in the balance ye should not transgress'.

p. 214. 1. i.e. when he is plunged in the contemplation of something else. For Ghazali, therefore, the inference *cogito ergo sum* would not be valid, since according to him thought or consciousness does not imply the self-consciousness of an 'ego'.

p. 214. 2. Since the addition of a non-essential accident does not change the individuality of a thing.

p. 214. 3. i.e. two individual entities keep their individuality even when they are conjoined. The conception of God's attributes as here expressed is in agreement with al-Ash'ari, cf. Shahrastani, *Relig. and Philos. Sects*, pp. 66–67.

p. 214. 4. This criticism is not altogether illegitimate. For Aristotle God is pure form, pure being, or pure thought, i.e. a universal existing independently and so individually; i.e. God is an individual universal or a universal individual.

p. 215. 1. Since only substances (in which attributes inhere) exist by themselves. St. Augustine, *De trinit.* vii. 5, just because he asserts that no attributes can inhere in God, declares that *in deo substantia abusive dicitur.* Only transient compound things are truly called substances. But since it is impious to say that goodness inheres in God instead of saying that God's essence is goodness, God can be in truth only called essence, not substance

('nefas est autem dicere ut subsistat et subsit Deus bonitate sua, atque illa bonitas non substantia sit vel potius essentia, neque ipse Deus sit bonitas sua, sed in illo sit tamquam in subiecto: unde manifestum est Deum abusive substantiam vocari').

p. 215. 2. That the religious texts of the past (i.e. Homer and Hesiod) address themselves to the masses in a language intelligible to them, the deeper sense of which, *ὑπόνοια*, can be understood by the philosopher only is one of the more general theses of the Greek age of enlightenment. Antisthenes, the father of Cynicism, had declared that Homer had only in part spoken the truth; in another part, however, *κατὰ δόξαν*, he had spoken in agreement with vulgar opinion, and therefore his words needed philosophical interpretation (cf. Dio Chrysost. *Orat.* liii). It was the Stoics who more than any others practised the principle of *ἀλληγορία*, allegorical exposition.

p. 215. 3. Koran xix. 43.

p. 215. 4. Koran xxxvi. 71.

p. 215. 5. Koran xxxviii. 75.

p. 216. 1. Cf. Themistius, *Orationes*, xxvi. 319 b: It was a special characteristic of Aristotle to believe that the same teachings were not suited for the masses and the philosophers, just as the same drugs (*φάρμακα*) or provisions are not suited both for the perfectly healthy and for those of a precarious health, but for the former the really wholesome and for the latter that which agrees with their actual bodily state. He therefore called some exoteric (*θυραίους*) and made them generally accessible (*ἀνέτους ἐποιήσατο*), and shut some within (*εἴσω ἀπέκλεισε*) and communicated them only to a few in security. We find an analogous conception in Averroës's great Jewish contemporary, Maimonides, who says (*Guide of the Perplexed*, i. 33) that the Scriptures, since they had to be understood by children, women, and the masses, could not be written in philosophical language; this would have been like rearing an infant on wheaten bread, meat, and wine, which would certainly kill it. Compare Spinoza, *Tract. theol. polit.* xii: 'primis Iudaeis religio tamquam lex scripta tradita est, nimirum quia tum temporis veluti infantes habebantur'. See also 1 Cor. iii. 1–2: 'And I, brethren, could not speak unto you as unto spiritual (*πνευματικοῖς*) but as unto carnal (*σαρκίνοις*) even as unto babes in Christ. I have fed you with milk and not with meat (*βρῶμα*, i.e. solid food), for hitherto ye were not able to bear it, neither yet now are ye able.' This metaphor is found already in Philo, *De agricult.* (Cohn), 9, p. 96, 26: *ἐπεὶ δὲ νηπίοις μέν ἐστι γάλα τροφή, τελείοις δὲ τὰ ἐκ πυρῶν πέμματα, καὶ ψυχῆς γαλακτώδεις μὲν ἂν εἶεν τροφαὶ κατὰ τὴν παιδικὴν ἡλικίαν τὰ τῆς ἐγκυκλίου μουσικῆς προπαιδεύματα.*

p. 216. 2. For Themistius also the physician is a favourite metaphor for the philosopher, see, for example, *Oration.* v. 63 b, xxiv. 302 *b*, and the

metaphor is ascribed to Antisthenes (Diog. Laert. vi. 1. 4 and 6). In later Greek philosophy, and in Roman, the image of philosophy as a *medicina mentis* is a commonplace, e.g. Cicero, *Tusc.* iii. 6: 'est animi medicina (*φάρμακον*) philosophia', and it is found in Plutarch, Seneca, Epictetus, and Marcus Aurelius among others.

p. 216. 3. Cf. Aristotle, *Met. H* 3. $1043^{b}1$: *τὸ γὰρ τί ἦν εἶναι τῷ εἴδει καὶ τῇ ἐνεργείᾳ ὑπάρχει*, and *Met. Λ* 8. $1074^{a}35$: *τὸ δὲ τί ἦν εἶναι . . . ἐντελέχεια.*

p. 217. 1. i.e. nutrition and generation; cf. Aristotle, *De gen. an. B* 4. $740^{b}34$.

p. 217. 2. i.e. perception; cf. Aristotle, *De an. B* 2. $413^{b}1$.

p. 217. 3. For each substance (even the inorganic) is a kind of actuality and nature, *ἐντελέχεια καὶ φύσις τις ἑκάστη* (*οὐσία*): Aristotle, *Met. H* 3. $1044^{a}9$.

p. 217. 4. Cf. e.g. Aristotle, *Met. H* 1. $1042^{a}32$: *ἐν πάσαις γὰρ ταῖς ἀντικειμέναις μεταβολαῖς ἐστί τι τὸ ὑποκείμενον.*

p. 217. 5. Cf. Aristotle, *Met. Θ* 8. $1050^{b}2$: *τὸ εἶδος ἐνέργειά ἐστιν*, and Aristotle, *De gen. et corr. A* 4. $320^{a}2$: *ἔστι δὲ ὕλη . . . τὸ ὑποκείμενον γενέσεως καὶ φθορᾶς δεκτικόν.*

p. 217. 6. 'ultimate basis of existence': the Arabic is عنصر, a translation of the Greek *στοιχεῖον*, element (i.e. fire, air, water, earth), but the term *στοιχεῖον* is also used of matter, e.g. Aristotle, *Met. N* 2. $1088^{b}27$: *τὰ στοιχεῖα ὕλη τῆς οὐσίας* the elements are the matter of substance.

p. 217. 7. Cf. e.g. Aristotle, *De an. Γ* 4. $430^{a}7$: *ἄνευ γὰρ ὕλης δύναμις ὁ νοῦς τῶν τοιούτων* (*τῶν ἐχόντων ὕλην*), for the intellect is the power to become the things possessing matter without their matter.

p. 217. 8. Averroës is here referring to Aristotle's theory (*Met. H* 6. $1045^{a}30$) that in the definition which consists of the genus and the *differentia specifica* the genus represents the matter, the *differentia specifica* the form: *ἔστι δὲ τῆς ὕλης ἡ μὲν νοητὴ ἡ δ' αἰσθητή, καὶ ἀεὶ τοῦ λόγου τὸ μὲν ὕλη τὸ δὲ ἐνέργειά ἐστιν, οἷον ὁ κύκλος σχῆμα ἐπίπεδον*, i.e. plane figure is the generic element of 'circle'.

p. 218. 1. Cf. Aristotle, *Met. Θ* 8. $1049^{b}5$: *φανερὸν ὅτι πρότερον ἐνέργεια δυνάμεώς ἐστιν*, i.e. the active element, the form, is prior to the purely passive element, matter.

p. 218. 2. Here Averroës, in opposition to the general trend of his book, drops the pretence that the inner sense (*ὑπόνοια*) of revealed religion may express the highest truths of reason. Here he follows the unalloyed rationalism of classical philosophy, and professes, as Plato did, that the truth can only be attained by the systematic and strenuous thought of the philosophical few.

p. 218. 3. According to Aristotle, *Met. Λ* 7.

p. 219. 1. i.e. according to the Ash'arites the attributes inhere in an immaterial substratum which has no characteristic of its own, and one might therefore ask: 'Who or what then is the possessor of these attributes?' But I think the question cannot be answered: *individuum est ineffabile*, description and definition express only the universal. And if God, like man, is conscious, the individuality of His consciousness is as difficult to describe and define as the individuality of the human ego. However, al-Ash'ari gives a kind of Neoplatonic solution of this problem, i.e. he affirms that in God the opposites are destroyed, for he asserts according to Shahrastani, op. cit., p. 67, that one may neither say that God's attributes are identical with God, nor different from Him, nor that they are not God, nor not different from Him: لا يقال هى هو ولا غيره ولا لا هو ولا لا غيره.

p. 219. 2. Cf. note 135. 3. Perhaps he is here referring to the Ash'arites Ibn Furak and Baqillani, who, according to Ibn Hazm, op. cit. iv. 214, v. 32, affirmed that God has but one name, although He has many appellations (تسميات)—which implies the magical theory that names exist by nature and express the essential nature of the object named, or to Abu Ishaq al Isfaraini, who held, according to Shahrastani, op. cit., p. 72, 3 that the most proper description of God is that His being compels us to differentiate Him from all other beings, (instead of تميزه) اخص وصفه هو كون يوجب تمييزه عن الاكوان كلها.

p. 219. 3. The hidden highest name, 'the most great name', of God, since it expresses His real essence, would confer unlimited power on the man to whom it was revealed. For 'the most great name of God' cf. Frazer, *The Golden Bough*, vol. iii, p. 390.

p. 220. 1. Cf. Origen, *De princip.* i. 1. 6: 'Deus . . . *ἑνάς*, et mens ac fons ex quo initium totius intellectualis naturae vel mentis est'.

p. 221. 1. Cf. Plotinus, *Enn.* v. 4. 1: It is necessary that above everything there must be something simple, different from everything else, independent in no communion (*οὐ μεμιγμένον*) with what depends on it.

p. 221. 2. The First is without any conjunction and composition: *συμβάσεως ἔξω πάσης καὶ συνθέσεως*, Plotinus, *Enn.* v. 4. 1. Plotinus asserts (*Enn.* vi. 2. 17) that even if, in one way, we may call the First the Good (*τὸ ἀγαθόν*), the Good is not a genus, for it cannot be predicated of anything else, since otherwise this would be equally the Good. According to Aristotle the First has no contrary, *οὐ γάρ ἐστιν ἐναντίον τῷ πρώτῳ οὐθέν* (*Met. Λ* 10. 1075^{b}22).

p. 221. 3. Cf. note 195. 1.

p. 221. 4. That neither 'the one' nor 'being' can be a genus is asserted by Aristotle (*Met. B* 3. 998^{b}22: *οὐχ οἷόν τε δὲ τῶν ὄντων ἓν εἶναι γένος οὔτε τὸ ἓν οὔτε τὸ ὄν*) since otherwise unity and being would have to be predicated of the differentiae of this genus also.

p. 221. 5. One may call the First, according to Plotinus, *Enn.* vi. 8. 8, principle, *ἀρχή*; from another point of view, however, so far as this would imply a constituent of its essence, the First is not a principle.

p. 222. 1. Description رسم, *ὑπογραφή*; *ὑπογραφή* is a technical term of Stoicism; description does not indicate the essence of a thing as the definition does, but omits its *proprium* (cf. Simplicius, *In Arist. Cat. Comm.*, Kalbfleisch, 29. 21: *ὁ μὲν ὑπογραφικὸς λόγος τὴν ἰδιότητα τῆς οὐσίας ἀφορίζει, ὁ δὲ ὁριστικὸς τὸ τί ἦν εἶναι ἑκάστου καὶ τὴν οὐσίαν αὐτήν*). The categories cannot be defined, but only described (cf. Simplicius, op. cit. 75. 36).

p. 222. 2. This is part of the Aristotelian definition of substance, i.e. the individual existent, this man, this horse, *Cat.* 5. 2^{a}11: *οὐσία δέ ἐστιν ἡ κυριώτατά τε καὶ πρώτως καὶ μάλιστα λεγομένη, ἣ μήτε καθ' ὑποκειμένου τινὸς λέγεται μήτε ἐν ὑποκειμένῳ τινί ἐστιν.* It was objected to this definition—says Simplicius, op. cit. 81. 5—that it is purely negative, that it is like saying that a man is neither a horse nor a dog. But—he answers—first, it is not a definition but a description, and where there is a trichotomy, the denial of two members affirms the third.

p. 222. 3. 'a genus in the accident': i.e. an accident which would constitute a genus.

p. 222. 4. This argument does not seem to me correct. The objection against this definition is not that it does not indicate whether the thing defined exists, for no definition does indicate this; the objection is that it does not indicate what it is that exists ('Sein ist kein reales Prädikat, d. i. ein Begriff von irgend etwas, was zu dem Begriffe eines Dinges hinzukommen könne', says Kant), i.e. of what the individuality of the individual existent consists. There is no answer: *individuum est ineffabile.*

p. 222. 5. And 'being' cannot have a specific difference; see note 221. 4.

p. 222. 6. Cf. the section in Avicenna's *Salvation*, p. 374 ان نوع واجب الوجود لا يقال على كثيرين اذ لا مثل له ولا ضد that the species of the necessary cannot be predicated of a plurality, since it has neither equal nor contrary.

p. 222. 7. That being is predicated analogically is affirmed by Aristotle, *Met. Γ* 2 ad init. Also, according to Plotinus (*Enn.* vi. 2. 17), 'the good' can be predicated analogically; there is in everything possessing the good a gradation *per prius et posterius*, *πρώτως καὶ δευτέρως καὶ ὑστέρως*, and a subordination, and the whole series depends upon the Good beyond (*τοῦ ἐπέκεινα*).

p. 222. 8. According to Averroës this is not a real definition, since it does not determine the quiddity of the soul, but only indicates its relation to the body.

p. 223. 1. i.e. if 'being' were an essence, a thing could be defined by it,

since it is defined by its essence, but a thing is also qualified by its *proprium*; however, if being were a *proprium*, this *proprium* could not qualify a thing, since 'Sein ist kein Begriff von etwas, was zu dem Begriffe eines Dinges hinzukommen könne'. Quiddity, says Avicenna (*Salvation*, p. 340), is, for example, man, horse, soul, intellect, which is then qualified as being existent and being one. Therefore understanding the quiddity of anything is different from understanding that it is one (the text is corrupt; evidently the word فهمك has been omitted before وفهمك) and therefore unity is neither the essence of anything nor a constitutent of the essence, but a necessary attribute of the essence.

p. 223. 2. Because, in the example in the preceding note, Avicenna mentions man, horse, soul, and intellect; but man and horse, being sensible material substances, are essentially different from soul and intellect, which are intelligible immaterial substances. But, says Plotinus (*Enn.* vi. 1. 2), there cannot be a common genus for the sensible substance, and for the intelligible, since otherwise there would be another substance superior to both, which could be predicated of them.

p. 223. 3. For Farabi's book about demonstration, i.e. his commentary on the *Posterior Analytics*, compare Prantl, *Geschichte der Logik im Abendlande*, ii. 311 sqq., and Steinschneider, *Al-Farabi*, Mém. de l'Acad. Imp. des Sciences de St. Pétersbourg, série VII, t. xiii, n. 4, pp. 43 sqq. It seems to have been a most important work of this philosopher, of whom Maimonides said that, for the understanding of logic, the study of his works alone would be sufficient. In his commentaries on the *Anal. Post.* Averroës often quotes this work and often attacks it. It may be that there existed a Latin translation of it, and that Albertus Magnus knew it, as is perhaps suggested by his words (Prantl, op. cit. 312. 51): 'et haec, quae dicta sunt de scientiis Arabum, sunt excerpta, quorum commentum super hunc posteriorum librum ex sententia Alfarabi Arabis ad nos devenit'. The passage in our book is quoted by Steinschneider, op. cit., p. 53. Farabi's conception would be in agreement with such passages in Aristotle as *Met. Z* 1. 1028ᵃ31–32: *τὸ πρώτως ὂν καὶ οὐ τὶ ὄν ἀλλ' ὂν ἁπλῶς ἡ οὐσία ἂν εἴη, πρῶτον πάντων λόγῳ*, substance is that which exists primarily, not in a qualified sense, but absolutely, and is primary in definition.

p. 223. 4. It has really nothing to do with the Arabic language. The term موجود means 'existent'; a sentence like 'Socrates is existent' is of the same form as 'Socrates is a votary of the Muses', *ἔστι Σωκράτης μουσικός*, which, according to Aristotle, *Met. Δ* 7. 1017ᵃ33, means that this is true. In the sentence 'Socrates is existent', 'existent' as a predicate is an accident.

p. 224. 1. He means that the true is not something in the external world, but something existing only in the mind; second predicates refer to something in the mind, primary predicates to something in the external world.

p. 224. 2. *The Book of the Letters*, كتاب الحروف: about this treatise see Steinschneider, op. cit., p. 118, who quotes this passage (erroneously, however, rendering 'Zufälliges' instead of 'accident'). This book is quoted a few times by Averroës and by others (see Steinschneider, loc. cit., and Prantl, op. cit. ii. 311. 50). The title of this treatise is rather mysterious; perhaps the book treated in part of words and language in the same way as the Stoics, who regarded phonetics and linguistics as a part of dialectics, and a passage in Maimonides (see Steinschneider, loc. cit.) makes this seem plausible. 'The book of letters' is, however, also one of the names by which Aristotle's *Metaphysics* was known among the Arabs, and Farabi himself composed a treatise about the intentions of Aristotle in his *Book of Letters*, i.e. his *Metaphysics*.

p. 224. 3. For Aristotle 'paronymous' words, like 'healthy' from 'health', 'medical' from 'medicine', express a secondary mode of being (see *Met. Γ* 2 ad init.). The word موجود 'existent' is 'derived from', i.e. is the passive participle of, the verb وجد, 'to find', and means originally 'what is found', *ce qui se trouve, was vorgefunden wird.*

p. 224. 4. مثال, *σύμβολον*. Words, according to Aristotle, are symbols of things (*De interpr.* 2. 16ᵃ28), and primitive words express primary things.

p. 224. 5. There seems to be some confusion in this sentence through Averroës's ignorance of Greek and of the differences between Greek and Arabic. Neither Greek nor Arabic need normally express the connexion between subject and predicate. *Σωκράτης μουσικός* ascribes to Socrates his being a votary of the Muses, and زيد مريض, literally 'Zaid ill', means that Zaid is ill. However, in both languages the connexion may be expressed by the copula (copula, in Greek *συμπλοκή*, in Arabic الرابط or الرابطة). The copula is expressed in Greek by *εἶναι* (and we may say *ἔστι Σωκράτης μουσικός*), in Arabic by the personal pronoun هو, he, it (and we may say زيد هو مريض or زيد انه مريض, literally, 'Zaid he ill'). Averroës knows that the word used as the copula in Greek is related to the words signifying substance and existence in that language, but he seems to think that in Greek also the copula is expressed by a pronoun. The term هوية (literally 'it-ness') which is translated into Latin as *haeceitas*, is used synonymously with موجود (see, for example, Arist. *Metaph. Δ* 7 on *τὸ ὄν* in Bouyges's edition); it corresponds to the Aristotelian term *τόδε τι* (المشار اليه) which originally designates an individual thing existing here and now, and expresses the it-ness or this-ness of a thing, i.e. its individuality. For Averroës existence is the existent, *τὸ ὄν*, the individual, *τόδε τι*, it is the substance, *ἡ οὐσία*, it is the subject, *τὸ ὑποκείμενον*, of a sentence; for Avicenna existence is to exist, *τὸ εἶναι*, it is added to the subject as a predicate in such sentences as 'Socrates exists', and as a predicate is an accident.

p. 224. 6. e.g. in 'Socrates exists', 'exists' signifies the true, and one may know about Socrates without knowing whether he exists.

p. 224. 7. i.e. one can know of a compound substance, i.e. a transient individual thing composed of matter and form, without knowing whether it exists; but knowledge of a simple, i.e. an immaterial, eternal substance, implies its existence.

p. 224. 8. Aristotle, *Phys. A* 2 and *A* 3, see especially *A* 3. 186ᵃ24, where Aristotle reproaches Parmenides with treating 'being' as having one meaning, whereas it has many, *ἁπλῶς λαμβάνει τὸ ὂν λέγεσθαι, λεγομένου πολλαχῶς.*

p. 225. 1. That the existent is one is the thesis of Parmenides, which asserts something of the existent; but since an accident is always attributed to a subject, the subject, if being were exclusively an accident, would have no being: the existent would be non-existent (cf. Arist. *Phys. A* 3. 186ᵃ34: *τὸ γὰρ συμβεβηκὸς καθ' ὑποκειμένου τινὸς λέγεται, ὥστε ᾧ συμβέβηκε τὸ ὂν οὐκ ἔσται, ἕτερον γὰρ τοῦ ὄντος*).

p. 225. 2. For an eternal being is simple and the genus is like the substratum or matter for the specific differences; e.g. Arist. *Met. Δ* 6. 1016ᵃ26: *τὸ γένος . . . τὸ ὑποκείμενον ταῖς διαφοραῖς.*

p. 226. 1. Cf. Aristotle, *Met. Δ* 3. 1014ᵇ12: *ᾧ μὲν γὰρ ἡ διαφορὰ ὑπάρχει καὶ τὸ γένος ἀκολουθεῖ;* where the differentia exists, there the genus also is present.

p. 226. 2. For all the elements in a definition must form a unity, since the definition is a formula which is one and which defines a substance (Arist. *Met. Z* 12. 1037ᵇ24: *δεῖ δέ γε ἓν εἶναι ὅσα ἐν τῷ ὁρισμῷ· ὁ γὰρ ὁρισμὸς λόγος τίς ἐστιν εἷς καὶ οὐσίας*).

p. 226. 3. According to Aristotle (e.g. *Met. H* 6. 1045ᵃ34: *ἀεὶ τοῦ λόγου τὸ μὲν ὕλη τὸ δὲ ἐνέργειά ἐστιν*) part of the definition is always matter (i.e. potential), part actuality.

p. 226. 4. The recipient is the matter, the thing it receives the form; one of them, i.e. the matter, e.g. wine or the matter of wine, becomes vinegar by receiving acidity, but actually is wine, having received the form, the sweetness of wine.

p. 227. 1. This sentence is very confused and as a matter of fact it is contradictory, for it affirms that potency can be accidentally its opposite, actuality. The contradiction lies in the theory of Aristotle himself, for whom the relation of matter to form expresses both a relation of sequence, i.e. the relation of priority and posteriority (the wine turning vinegar is the matter of the vinegar) and a static relation, the relation of substance and accidence; and Aristotle identifies matter with potentiality and form with actuality. Now one has the right to say that the wine is potentially the vinegar, but there is no sense in saying that the matter exists potentially in the combination of matter and form which constitutes the actually existing individual, and it is a contradiction to say that the actual existent consists in part of a potential existent, or that the actual existent is a combination of the actual and the potential. According to Averroës the matter, by existing in the actually existing individual, is accidentally actual; the form, by existing in matter, the potential, is accidentally potential.

p. 227. 2. For becoming is found only in substance, and there is no generation and destruction of accidents; cf. Aristotle, *Met. E* 5. 1026ᵇ24: *τῶν δὲ κατὰ συμβεβηκὸς οὐκ ἔστι γένεσις καὶ φθορά.*

p. 227. 3. For plane, line, and point are units, and units are indivisible either in quantity or in form; cf. Aristotle, *Met. Δ* 6. 1016ᵇ23: *πανταχοῦ δὲ τὸ ἓν ἢ τῷ πόσῳ ἢ τῷ εἴδει ἀδιαίρετον.*

p. 227. 4. 'this': i.e. that it cannot have receptivity or matter.

p. 227. 5. Since the potential intellect, which is immaterial, receives the active intellect.

p. 227. 6. For this attribute is its essence or its form, since all transient individuals consist of matter and form.

p. 227. 7. The only potentiality that exists in the heavenly body is its capacity to change its place, but there is no possibility of change in its substance; cf. Aristotle, *Met. Λ* 7. 1072ᵇ5. See also p. 142 and notes 142. 4 and 142. 8.

p. 227. 8. Whether this substratum be an eternal heavenly body or a transient material body (man).

p. 228. 1. Cf. Aristotle, *Met. Λ* 10. 1075ᵇ17: *καὶ τοῖς δύο ἀρχὰς ποιοῦσιν ἄλλην ἀνάγκη ἀρχὴν κυριωτέραν εἶναι,* those who assume two principles must assume a higher principle, i.e. an efficient cause.

p. 228. 2. According to Aristotle there is no contrary to the First (see note 221. 2).

p. 229. 1. Cf. the end of Aristotle, *Met. Λ* 10: those who introduce a number of independent principles make the substance of the world episodic (*ἐπεισοδιώδη τὴν τοῦ παντὸς οὐσίαν ποιοῦσιν*), where he concludes with Homer's words, *Iliad* ii. 204: *οὐκ ἀγαθὸν πολυκοιρανίη· εἷς κοίρανος ἔστω,* the rule of many is not good; let one man be the ruler.

p. 229. 2. Which would have to be its cause.

p. 229. 3. See page 189.

p. 229. 4. This seems to mean that we can have the concept of colour in our mind without thinking of black and red; which is certainly true, but would seem in contradiction to Ghazali's own nominalism.

p. 229. 5. This seems to mean that any colour in real existence must be a definite colour, red or black or yellow, &c., and so far the definite colours are a condition for the real existence of colour; they are, however, not individually a cause for the real existence of colour. Ghazali repeats here what Avicenna says, *Salvation*, p. 379, that no definite colour is a condition for the concept 'colour'; all definite colours are a condition for colour in real existence, but not individually.

p. 230. 1. This last sentence does not fit in very well here. It is not a part of the proof of the philosophers, but part of Ghazali's arguments against it which Averroës repeats in the following passage.

p. 230. 2. Infinite terms or rather indefinite terms ('infinite' is the rather unhappy translation of Boethius which has become current in scholastic philosophy) are the *ὀνόματα ἀόριστα* (Arab. الاسماء المعدولة like *non-homo, non-albus* (cf. Arist. *De interpr.* 2. 16ᵃ32). Infinite terms are privative (*στερητικός*), they are not absolute non-being; cf. the parallel passages in Aristotle, *Phys. Γ* 2. 201ᵇ26 and *Met. Θ* 9. 1066ᵃ15: *αἱ στερητικαὶ ἀρχαὶ ἀόριστοι.*

p. 231. 1. i.e. if red is the cause of the existence of colour, black cannot be the cause of colour, and therefore there cannot be any specific differentiation between colours; but this is not true (I take 'and this is not true' as the words of Ghazali; Averroës, I believe, restricts himself here to repeating Ghazali's argument).

p. 231. 2. i.e. black and red do not enter into the definition of colour, but any existing colour has to be a definite colour (the speciousness of the whole argument rests on the ambiguity of the term 'condition' which can mean a physical cause or a logical relation, i.e. that genus implies species, that without a species there cannot be a genus, that species is a condition for genus; here 'condition' is taken in a logical sense and is not a 'cause').

p. 231. 3. i.e. since, for the First, essence and existence coincide, any specific difference in the First would have to be a condition, i.e. a cause both for the essence and the existence of the First.

p. 232. 1. This is not true; Ghazali did not say here that for the philosophers existence is added as an accident to the quiddity. Their whole argument, according to him, is built on the principle that in God alone essence, what He is, and existence, that He is, coincide—a theory which Averroës also holds, although he affirms also that, since everything is something, every essence is an existence, and confuses the being of an object of thought—what is meant (and what is non-existent may be meant)—with existence.

p. 232. 2. i.e. existence.

p. 232. 3. For it would mean that black and red exist only in reality, but not as concepts.

p. 232. 4. Averroës wants to express that colours can also be differentiated conceptually, not only when they exist (which nobody will deny). Since for him every essence is an existence, and he must all the same distinguish between colours only thought of and colours in real existence, he speaks of the latter as existing in act; 'in act', however, is simply another expression for 'existing'.

p. 232. 5. The simple and the compound are opposites (see, for example, Arist. *Phys. Γ* 5. 204ᵇ11), and once the thesis is accepted that the highest principle is simple (*τὸ πρῶτον καὶ κυρίως ἀναγκαῖον τὸ ἁπλοῦν ἐστίν*, Arist. *Met. Δ* 5. 1015ᵇ12), it follows necessarily that it cannot have any composition.

p. 232. 6. 'Through the term only', i.e. through homonymy. That some things are one formally, others generically, others analogically, i.e. through a relation to some thing, is asserted by Aristotle, *Met. Δ* 6. 1016ᵇ31.

p. 233. 1. The first agent, the ultimate form, the ultimate end, the ultimate matter are but different names for God, the One. That God is regarded as the ultimate matter may seem rather strange, but as early as Aristotle, *Met. α* 2, ad init., it is asserted that there is some first principle, *ἔστιν ἀρχή τις*, and it is proved that none of the four causes can form an infinite series but that they all must end in a first term.

p. 233. 2. 'angels': i.e. the philosophers identify the Aristotelian concept of a separate intellect with the Persian–Jewish concept of an angel. The identification of angels with concepts taken from Greek philosophy takes place when Judaism comes into contact with Greek philosophy, and is found already in Philo Iudaeus, who identifies the angels with the Platonic *ἰδέαι* and the Stoic *λόγοι* (cf. Philo, *De somn.* i. 115: *ἀθανάτοις λόγοις, οὓς καλεῖν ἔθος ἀγγέλους*). In the scholastic philosophy of the thirteenth century this identification of angel and separate intellect by the Arabic philosophers was known, but it was often denied, as by Albertus Magnus, *II Sent. dist.* II. iii; however, Dante, *Conv.* ii. 5, says: 'Li movitori di quello (terzo cielo) sono sustanze separate da materia, cioè intelligenze, le quali la volgare gente chiama angeli . . . e chiamale Plato Idee, che tanto è a dire, quanto forme e nature universali. Li Gentili le chiamavano Dei e Dee; avvegnachè non così filosoficamente intendessero quelle, come Plato.'

p. 235. 1. تابع 'consequent' is a literal translation of *τὸ παρακολουθοῦν*, a constant attribute, inseparably connected (cf. Arist. *Cat.* 7. 8ᵃ33, *Met. I* 2. 1054ᵃ14).

p. 235. 2. i.e. it is not impossible for the First to have a necessary attribute.

p. 235. 3. Its impossibility: i.e. the impossibility that the First should have an essence besides its existence.

p. 236. 1. In this book, which has been edited by Muhyi al-Din Sabri al-Kurdi, A.H. 1331, Ghazali proposes (p. 2) simply to relate the theories of

the philosophers, since it is necessary to know their theories before refuting them, as he proposes to do afterwards (i.e. in his *Incoherence of the Philosophers*). The book consists of three parts, Logic, Metaphysics, and Physics, was translated into Latin in the Middle Ages and exercised a considerable influence on medieval Scholasticism. It was published in its entirety in Venice in 1506, and there is a new edition by Muckle of the Metaphysics and Physics (entitled, however, Algazel's *Metaphysics*) published in Toronto, 1933.

p. 236. 2. This refers to the passage, in the book mentioned in the preceding note (Part II, section 3, p. 139), where Ghazali gives the following proof of the thesis that, for the necessary existent, essence and existence are identical (ان يتّحد انّيته وماهيته): existence is an accident of the quiddity, and every accident is an effect, for if it were an existent by itself, it would not be an accident of something else. Now the cause of the existence of the necessary existent would have to be either its quiddity or something else: if something else, the existence of the necessary existent would be an accident and an effect, and would not be a necessary existent; however, it cannot be its quiddity itself, for the non-existent cannot be a cause of existence, and the quiddity before its actual existence would have to be a non-existent, since if it were already an existent it would not need a second existence, and if we admit a second existence, we shall have an infinite regress. Therefore there is no cause for its existence, and its essence and existence are identical.

p. 236. 3. That the existence of a thing is prior to its quiddity is Averroës's own theory, based on the Aristotelian thesis that the copula implies being or existence: since everything is something, it has to *be*, prior to its being something; from which it would follow that the non-existent also is or exists, a consequence which Aristotle fully accepts.

p. 236. 4. i.e. it is a concept in the mind.

p. 236. 5. This refers to Aristotle, *Anal. Post. A* 2. 71ᵇ9: *ἐπίστασθαι δὲ οἰόμεθ' ἕκαστον ἁπλῶς . . . ὅταν τήν τ' αἰτίαν οἰώμεθα γινώσκειν δι' ἣν τὸ πρᾶγμά ἐστιν, ὅτι ἐκείνου αἰτία ἐστί, καὶ μὴ ἐνδέχεσθαι τοῦτ' ἄλλως ἔχειν*, we believe that we know something absolutely when we believe we know the cause on which its existence depends, i.e. when we know that this is its cause and that it must be so and not otherwise.

p. 237. 1. I do not think he means asking whether God has a necessary attribute which determines His existence, for this would contradict his previous denial that God has a necessary attribute; I suppose he means asking whether the idea of God (i.e. the concept we have of God, which he calls 'the true') is such that we must judge that He necessarily exists. But of course the whole theory is confused and obscure.

p. 237. 2. i.e. by the Stoic term *τί*, which signifies anything whatever that

can be meant, the false and the non-existent included: Averroës means that 'existent' is here a concept in the mind.

p. 237. 3. Analogy according to Aristotle is the nexus between different genera; even when things are generically different the same genus can be attributed to them by analogy (as an example see e.g. *Met. Θ* 6. 1048ᵇ6).

p. 237. 4. This strange theory is based on Averroës's denial of being or existing as an accident. According to Avicenna, in a sentence like 'Socrates is' 'is' is a predicate and therefore an accident. Averroës sees rightly that 'Sein ist kein reales Prädikat, das zu dem Begriff eines Dinges hinzukommt' (Kant), but he identifies essence and existence, from which it follows that there is no distinction between an essence that exists and one that does not. However, as he has to admit this distinction, he regards 'is' in a sentence like 'Socrates is' (or perhaps the whole sentence) as something in the mind. He sees that this something in the mind must have a counterpart outside the mind, since things exist in reality, and he regards it as existing potentially—a dubious kind of reality which he attributes also to universals as entities outside the mind. This use of 'potential' derives from the ambiguity of the term 'actuality' in Aristotle, for whom 'actuality' may mean really existing and being perceived; a colour, for example, as long as it is not actually perceived is only potentially perceived, and we have therefore the contradiction that although it is actual, i.e. really existing, it is also potential, as long as it is not perceived. Cf., however, note 232. 4.

p. 237. 5. Since there would be no cause for its beginning; according to Aristotle movement must be eternal and can never be interrupted: *δεῖ κίνησιν ἀεὶ εἶναι καὶ μὴ διαλείπειν* (*Phys. Θ* 6 ad init.).

p. 237. 6. i.e. the movement of heaven, which is eternal as a whole, but temporal in its parts.

p. 237. 7. Aristotle shows (*De caelo B* 3, *De gen. et corr. B* 10, *Meteor. A–Γ*) how earthly changes proceed from the different positions of the heavenly bodies and especially of the sun.

p. 238. 1. Averroës's objection seems to me purely verbal: Avicenna calls the existent necessary through another (i.e. heaven) an existent possible in itself (كل ما هو واجب الوجود بغيره فانه ممكن الوجود بذاته, *Salvation*, p. 367), whereas Averroës calls heaven necessary in its substance, but possible in its local movement, combining in this instance necessity and possibility.

p. 238. 2. The Ash'arite term صفات نفسانية, 'mental qualities', corresponds to the Stoic term *ἐννοήματα*, i.e. 'universals', but neither for the Ash'arites nor for the Stoics does this term correspond to the Aristotelian term 'forms', *εἴδη*, since neither the Ash'arites nor the Stoics believed that universal entities existed outside the mind.

p. 238. 3. Koran xxi. 31.

p. 238. 4. Koran xli. 10.

p. 239. 1. The nature of the possible, i.e. matter.

p. 239. 2. This refers to the tradition found in the canonical books of tradition of Muslim (ايمان 211) and Ahmad ibn Hanbal (vi. 106) سئل النبى عن الوسوسة فقال تلك محض الايمان: they asked the prophet about the whisperings of Satan and he said 'This is an act of pure faith.'

p. 239. 3. 'an existent the non-existence of which can be supposed': this is rather badly expressed; he ought to have said 'an essence' instead of 'an existent', which would include both Socrates (who does not exist any more) and a non-existent golden mountain.

p. 239. 4. i.e. since the First has no essence, its essence is a non-existent whose existence is asserted.

p. 239. 5. i.e. absolute, unrelated existence is but 'ein leerer Begriff', an empty concept, as Kant would say.

p. 240. 1. i.e. since the causeless implies an entity, viz. an essence which is causeless, this essence cannot be denied, i.e. represented as non-existent.

p. 240. 2. i.e. the philosophers identify quiddity and existence in the First, but do not deny that it has a quiddity, its quiddity being its existence. However, Ghazali is quite right in regarding this as a denial of the quiddity.

p. 241. 1. I do not know whether he means here to imply that necessity is a purely mental attribute. The Stoics define necessity as the true that cannot become false, *ἀναγκαῖον δέ ἐστιν ὅπερ ἀληθὲς ὂν οὐκ ἔστιν ἐπιδεκτικὸν τοῦ ψεῦδος εἶναι* (Diog. Laert. vii. 75). The true, however, is for the Stoics incorporeal, *ἀσώματον*, and unreal, *ἀνυπόστατον* (Sext. Emp. *Hyp. Pyrrh.* ii. 81).

p. 241. 2. This is the Stoic and Ash'arite argument.

p. 242. 1. Averroës seems here to be referring to p. 131, where he says that since the Ash'arites accept eternal attributes in God, there must exist an eternal compound of essence and attribute (and according to Averroës every compound is material), which contradicts their theory that every compound is temporal. Here, however, his argument seems to be that their proof that the whole whose parts are temporal is itself temporal is invalid, because although the individual accidents are temporal there is in them a constant element, namely their being accidents inhering in a substratum and forming a compound with it.

p. 243. 1. An eternal composite: i.e. an eternal simple body having a soul; in other words, heaven.

p. 243. 2. This is a rather curious statement; probably he means that this argument is valid against the method by which philosophers like Avicenna try to arrive at an immaterial and transcendent first principle; cf. also below, p. 257.

p. 243. 3. 'that the essence is the cause of its attributes' is a consequence Averroës himself draws, one which Ghazali denies, and which the Ash'arites would deny also.

p. 244. 1. The First Principle must be unique and must possess unity.

p. 244. 2. i.e. the quiddity is only denied because it implies plurality; one must, however, admit a quiddity, since its denial is absurd, and therefore a plurality is implied in the First.

p. 244. 3. Cf. Plotinus, *Enn.* v. 5. 10, where infinite power is ascribed to the First, *τὸ δ' ἄπειρον ἡ δύναμις ἔχει*; for the First as the ultimate source of movement cf. Plotinus, loc. cit.: *ἀπ' αὐτοῦ κίνησις ἡ πρώτη*.

p. 245. 1. Everything that comes into being possesses matter, *ἅπαντα δὲ τὰ γιγνόμενα . . . ἔχει ὕλην* (Arist. *Met. Z* 7. 1032ᵃ20); body cannot come into being from the incorporeal (Arist. *De caelo Γ* 6. 305ᵃ16).

p. 245. 2. Generation takes place only within the same species: man begets man (Arist. *Met. Z* 7. 1032ᵃ24); Aristotle and his school admit also a *generatio aequivoca*, but only for certain primitive organisms.

p. 245. 3. There is no absolute becoming, for everything must come into being out of something and this something must itself be ungenerated, *ἀγένητον*, cf. Aristotle, *Met. B* 4. 999ᵇ5.

p. 245. 4. The doctrine that the principle of the individual is the individual, *ἀρχὴ γὰρ τὸ καθ' ἕκαστον τῶν καθ' ἕκαστον* (Arist. *Met. Λ* 5. 1071ᵃ20): Peleus is the principle of Achilles.

p. 245. 5. In a univocal way, when the father is regarded as the cause of the son, because both belong to the same species; in an analogical way, when the cause and effect are not really in the same genus. Aristotle says that different things, i.e. things not in the same genus, have identical causes and elements only by analogy (*Met. Λ* 5. 1071ᵃ24: *ἄλλα δὲ ἄλλων αἴτια καὶ στοιχεῖα . . ., πλὴν τῷ ἀνάλογον*).

p. 245. 6. That fire and water have a special corporeality is not an Aristotelian theory. There is here a reference to a problem not found in Aristotle. Although for Aristotle matter is the absolutely indefinite, he often seems unconsciously to regard it as spatial—which is only natural, for how, if it were not spatially extended, could anything enter into it?—and he never asks the question how matter becomes spatially extended. Plotinus, whose theory of matter is inspired both by Plato's *Timaeus* and by Aristotle, regards magnitude, *μέγεθος* (*Enn.* ii. 4. 8), as a form which enters into matter, but which itself is incorporeal, *ἀσώματον*. For Avicenna the first form which enters into matter and is common to all matter is that of corporeality,

through which matter receives the three dimensions and continuity and divisibility (cf. my *Ep. d. Met. d. Av.*, p. 64). According to Plato (*Tim.* 53 c sqq.) fire has the shape of a pyramid (tetrahedron), air that of an octahedron, water that of an icosahedron, earth that of a cube; and he explains the transmutability of water, air, and fire by the fact that their surfaces are composed of right-angled scalene triangles; but to an Aristotelian like Averroës such a theory, refuted by his master (see e.g. *De caelo Γ* 8. 306^{b}3 sqq.), could not be acceptable, and it is not easy to see what he means here by 'special corporeality' (cf. also my *Ep. d. Met. d. Av.*, pp. 65–66).

p. 245. 7. Warmth, θερμόν, cold, ψυχρόν, moist, ὑγρόν, dry, ξηρόν are the basic qualities of the elements; cf. Aristotle, *De gen. et corr. B* 2. 329^{b}24. That the production of the elements from each other is caused by the movement of the heavenly bodies is a doctrine found in Aristotle, *Meteor. A* 2. 339^{a}21.

p. 246. 1. For this theory of Avicenna cf., for example, his *Salvation*, p. 461, ll. 1 sqq., and my *Ep. d. Met. d. Av.*, p. 44.

p. 246. 2. He refers here, for example, to Themistius, *Paraphr. in Arist. Met. Λ*, Landauer, 9. 3–10. 5; cf. my *Ep. d. Met. d. Av.*, loc. cit.

p. 246. 3. The principal argument would seem to be that in matter there are realized resemblances, ὁμοιότητες, with the forms of the separate principles. Equivocal generation, therefore, is not in conflict with the thesis that *omne vivum ex vivo* (cf. the passages indicated in the two preceding notes). For the Neoplatonic conception of equivocal generation cf., for example, Plotinus, *Enn.* iv. 3. 8 at the end, and Porphyry, *De Antro Nymph.* 18 where he speaks of the βουγενεῖς ψυχαὶ εἰς γένεσιν ἰοῦσαι. Avicenna depends on this Neoplatonic conception, which has in it Platonic and Stoic elements (in its theory of λόγοι σπερματικοί).

p. 246. 4. This, with what follows, is in agreement with Aristotle, who teaches that proofs are valid only for one and the same genus and may not be transferred from one genus to another (cf. Arist. *Anal. Post. A* 7 ad init.: οὐκ ἄρα ἔστιν ἐξ ἄλλου γένους μεταβάντα δεῖξαι).

p. 247. 1. i.e. if the teleological argument is given for God's existence, and if it is said that the size of the world was chosen for the sake of the order of the world, and that therefore there must be a spiritual principle and the material world cannot be the highest principle.

p. 247. 2. The first effect, i.e. the νοῦς, the first Intellect.

p. 247. 3. Cf. with this argument of Ghazali Carneades' denial that the *convenientia consensusque naturae* implies the acceptance of a divine spiritual principle (Cicero, *De nat. deor.* iii. 11. 18). This passage, which is a refutation of the teleological argument, is contradictory: to say that the special size of the universe exists for the sake of the order of the universe, is to admit the

teleological argument, since 'for the sake of' implies an intention. There is an ambiguity in the word 'necessary', which can mean at the same time a necessity in God, a necessary choice for God (who, if He wanted the order of the universe, had to choose this special measure), and the natural necessity of cause and effect without any choice being involved. It is, indeed, one of the difficulties of the teleological argument that it has to assume a necessity of choice in God, since it limits God's choice to what is best and to the means conducive to the best. There is, however, some justification for Ghazali's argument: if, as both Aristotle and Plotinus assert, there is no will in God, but all action of spiritual forces takes place through purely natural necessity (cf. Plotinus, *Enn.* iv. 4. 6), the apparent final causes in this sublunary world will not prove the existence of a conscious spiritual force. Indeed, both Aristotle and Plotinus are guilty of a contradiction, for one cannot admit final causes and at the same time deny conscious intention; unconscious intention is a contradiction in terms. There is here an insuperable difficulty; we cannot rid ourselves of final causes in biology: concepts like that of instinct, for example, imply in their definition the idea of design, since instinctive actions are those which seem to have a design, although they are regarded as being performed by the animal without conscious intention. (According to Cicero, *De nat. deor.* ii. 49. 125, Aristotle gave the various instincts of animals as an argument in his teleological proof for the existence of God.)

p. 247. 4. i.e. why did the Eternal Will create the world at a certain definite moment? (cf. p. 18 and note 18. 3).

p. 248. 1. There seems to be some confusion in this passage: if the distinction between certain sizes is unessential to the order of the Universe, it is not possible to answer the question why the actual size was chosen instead of an equivalent one, and one might say it has not been chosen, but was always there; on the other hand, if the order of the world depends on its actual size, this size seems to have been intentionally chosen; it is true that for the realization of this order no other size was possible, but 'not possible' means here that God had necessarily to choose this definite size. What Ghazali wants to express is this: for an eternal world there cannot be a creator, since creation implies a becoming in time, nor can there have been a design, since design, will, and intention imply temporal priority to the thing designed, willed, and intended.

p. 249. 1. i.e. must be valuable in itself or more valuable than any other thing possible in the same conditions. According to the Ash'arites God is absolutely free, His choice is not determined by anything, and a thing is valuable because God willed it. According to the philosophers, God willed it because it was valuable, the Will of God being determined by the value of the thing.

p. 249. 2. Cf. Plato, *Laws* X 902 e: *μὴ τοίνυν τόν γε θεὸν ἀξιώσωμέν ποτε θνητῶν δημιουργῶν φαυλότερον*, let us not, then, deem God inferior to human workmen.

p. 249. 3. Since no art or wisdom would be necessary for the artisan.

p. 249. 4. This conception, which implies that nature is the art of God and art the nature of man, presents grave difficulties. On the one hand, how can man, being simply God's creature, himself become a creator, or being simply an effect, himself become a cause? *Natura non nisi parendo vincitur*, says Francis Bacon paradoxically, but he offers no solution. If man is but a *res creata* and a part of nature, how can he conquer nature? For man will not have any more power over nature than the falling stone, as Spinoza believed. On the other hand, if God stands to nature as man to his artefact, God's action will be determined by His own nature and the exigencies of His material. Aristotle himself was unable to distinguish satisfactorily between art and nature (cf. my *Ep. d. Met. d. Av.*, p. 205).

p. 250. 1. i.e. the theologians following the Stoic argument.

p. 250. 2. Mixture, امتزاج, *μίξις*, cf. Aristotle, *De gen. et corr. A* 16; alteration, استحال, *ἀλλοίωσις*; *ἀλλοίωσις μεταβολὴ κατὰ τὸ πάθος*, cf. Aristotle, *Met. Λ* 2. 1069^{b}12.

p. 250. 3. He means that we see the temporal body coming into existence through a cause (however, its matter is eternal). Averroës does not see that he is here accepting Ghazali's assertion that a cause implies a coming into existence.

p. 250. 4. *De Caelo et Mundo*, i.e. *De Caelo*; Averroës is here referring to *De caelo B* 14, where Aristotle explains the spherical shape of the earth by asserting that all its parts tend towards their natural place, which is the centre of the world, and says at *B* 14. 297^{b}14 sqq.: 'If the earth has been generated . . . it must have come into existence in the shape of a sphere; if the earth, however, is ungenerated and everlasting it must have the same shape as it would have as a result of generation.'

p. 251. 1. There is here some confusion; by 'the beginning of things' he cannot of course mean a beginning in time, but the beginning of a causal series; according to him the materialists admitted as the supreme cause of all change and becoming the eternal movement of the heavens. This would imply the passivity of everything else, and so this cause would not be a supreme cause and the termination of a causal series, but the only cause and a cause simultaneous with its effect. At the same time, however, Ghazali regards the movement of the heavens as a sequence of causes and effects. He seems to have here in mind the theories of such naturalistic Peripatetics as Strato of Lampsacus, of whom Cicero declares (*Acad. pr.* ii. 38. 121): 'negat opera deorum se uti ad fabricandum mundum'.

p. 251. 2. 'this causal series', i.e. the series of forms and accidents.

p. 251. 3. Koran vi. 75.

p. 251. 4. i.e. the Ash'arites regarded God as the sole cause, creating and re-creating the Universe at every instant.

p. 252. 1. i.e. the materialists might say the material world exists by itself without a cause.

p. 252. 2. This may mean that it is necessary to inquire whether the body of the heavens possesses matter, i.e. the principle of possibility.

p. 252. 3. Averroës's objection to this proof seems here to be that it cannot be used as an *a priori* proof—as Avicenna seems to use it, putting it at the beginning of his *Metaphysics* (in the *Recovery*)—but that it is only valid *a posteriori*, after the study of the physical universe. In the next paragraph he is, however, much more sceptical about the value of this argument.

p. 253. 1. i.e. it is not proved that it is a spiritual substance possessing thought.

p. 253. 2. Since the world as a whole is eternal, and according to Aristotle 'eternal' and 'necessary' are convertible (cf., for example, Arist. *De gen. et corr. B* 11. 338^{a}1: *ὥστ' εἰ ἔστιν ἐξ ἀνάγκης, ἀίδιόν ἐστι, καὶ εἰ ἀίδιον, ἐξ ἀνάγκης*).

p. 254. 1. i.e. through procreation the animal also participates in eternity.

p. 254. 2. This passage is not found, so far as I know, in any of the Greek texts that have come down to us. It is, however, in harmony with the general trend of Alexander's philosophy (cf., for example, his *Quaest. nat.* ii. 3). In an Arabic work ascribed to Alexander *On the Principles of the Universe* which is not known in Greek or mentioned by Greek authors (cf. note 113. 6, p. 245 in my *Ep. d. Met. d. Av.*), but which on the whole agrees with Alexander's *Quaestiones naturales* i. 1 and ii. 3 and which has been edited by 'Abd ar-Rahman Badawi (Cairo, 1947) in a collection of treatises entitled *Aristotle among the Arabs* (pp. 253–77), we find (p. 273, l. 18) the following passage: 'just as there is in the one city one leading principle (مدبر i.e. the Stoic *ἡγεμονικόν*), so we can say that there is one spiritual force which pervades the whole world and unites its parts; and just as there is in a city only one leading principle which is either its prince or its law, so the world is a unique eternal body unified by an unchanging (read p. 274, l. 2 غير متغير) principle which holds it together and keeps it in its order through a spiritual force which pervades all its parts.'

p. 254. 3. The Arabs had collected the *Hist. an.*, the *De part. an.*, and the *De gen. an.* into one work. This refers to Aristotle, *De part. an.*, where it is said (*B* 10. 656^{a}8) that the genus man, among the animals known to us, either alone participates in the Divine or participates in it in the highest degree (*ἢ γὰρ μόνον μετέχει τοῦ θείου τῶν ἡμῖν γνωρίμων ζῴων ἢ μάλιστα πάντων*) and

where it is said (*Δ* 10. 686ᵃ28), that the function of what is most divine is intelligence and thought (*ἔργον τοῦ θειοτάτου τὸ νοεῖν καὶ φρονεῖν*).

p. 254. 4. On this book cf. Nallino, 'Filosofia "orientale" od illuminativa', in *Riv. degli Studi Orientali*, x. 433–367, and Nallino, *Raccolta di scritti editi e inediti*, vol. ii, p. 467. The *Oriental Philosophy*, which seems to have been unknown to Averroës, is preserved in manuscript in Constantinople. The *Theorems and Notices* seems to bear the same relation to it as the *Salvation* to the *Recovery of the Soul*, i.e. to be a compendium of it. Compare also Madkour's Introduction p. 22 to the first volume of Avicenna's *Logic*, Cairo 1952.

p. 254. 5. *On the principles*, i.e. *On the principles of the Universe*. The argument (op. cit., p. 257, l. 1) is as follows: that which is the cause in everything of the perfection which characterizes its nature must be of a greater excellence, and necessarily the cause of the movement of the divine body must be its longing for the highest pitch of excellence. Cf. Alexander Aphrodisiensis, *Quaestiones naturales*, ed. Bruns, p. 4, ll. 18 sqq.: *μάλιστα γὰρ ὀρεκτὸν τῇ αὐτοῦ φύσει τὸ τῇ αὐτοῦ φύσει καλὸν μάλιστα . . .* (that which is most desirable in its own nature is that which has in its own nature the greatest excellence).

p. 255. 1. This would imply that it does not need a cause for its bodily substance, and so invalidate the idea of an eternal creation which Averroës holds also. Of course, strictly speaking, since movement is eternal it will be according to Aristotle necessary and therefore in no need of a cause.

p. 255. 2. The meaning is that the world as a whole is eternal, although individual sublunary things are liable to change. According to Aristotle the world, form, and matter are eternal. But how can matter, the possible, be eternal, since everything eternal is necessary?

p. 255. 3. The actuality of thought is life, says Aristotle, *ἡ γὰρ νοῦ ἐνέργεια ζωή* (*Met. Λ* 7. 1072ᵇ28).

p. 255. 4. According to the Stoic principle that every living being is self-conscious, *παντὶ ζῴῳ συνείδησις τῆς αὐτοῦ συστάσεως* (Diog. Laert. vii. 85).

p. 256. 1. 'God an eternal man'; there is here an allusion to Aristotle, *Met. B* 2. 997ᵇ8, where Aristotle raises against the Platonists the objection that by assuming eternal ideas, an eternal ideal man, an eternal ideal horse, an eternal ideal health, they are acting like the anthropomorphizers who make of their gods eternal men, *ἀιδίους ἀνθρώπους*. Compare also Sext. Emp. *Adv. phys.* i. 46: And again, when the ancients had imagined a long-lived man, they prolonged his lifetime to infinity, and reaching the concept of eternity by the combination of the present, the past, and the future, they declared that God was eternal.

p. 256. 2. i.e. if God is an eternal man, man is differentiated by eternity and temporality.

p. 256. 3. According to Aristotle, *De an. B* 1. 412ᵇ16 (see also ᵃ27), all life consists in the power of self-motion.

p. 256. 4. Averroës here identifies will with non-rational desire, *ἄλογος ὄρεξις*, which is found also in animals.

p. 257. 1. An increase in the desire would only cause the act when the desire was an *ἄλογος ὄρεξις*. According to Aristotle, *De an. Γ* 9 ad fin., moderate men, although they have desire and appetite, do not follow their desire, but obey reason.

p. 257. 2. i.e. this practice is only an internal act of the soul; it is not combined with external actions, e.g. movements, as is the case with the practical arts. For thought as action cf. Aristotle, *De an. B* 5. 417ᵇ18 sqq.

p. 258. 1. Analogy قياس (or تمثيل; مثل is example) is regarded by the Muhammadan jurists as one of the 'roots' of Muhammadan law. When the Koran and the sayings and actions traditionally attributed to Muhammad fail to give an indication which legal practice is to be followed, new legal prescriptions may be obtained through applying to them reasoning by analogy. The Zahirites do not admit the legitimacy of analogical inference. The theory of inference by analogy was first formulated by Aristotle in his theory of reasoning by example (*παράδειγμα*), *Anal. Pr. B* 24: if it was wrong that the Thebans should fight their neighbours the Phocians, it is equally wrong that the Athenians should fight their neighbours the Thebans, because from the antecedent the general principle may be inferred that it is wrong to fight one's neighbour. The term *συλλογισμὸς κατὰ τὸ ἀνάλογον* is found in Galen's *Introductio*, and the schoolmen speak of a *ratiocinatio per analogiam*; the term قياس 'analogy', 'reasoning by analogy', comes, in Arabic, to mean syllogism in general. According to the Stoics (cf. Sext. Emp. *Adv. ethic.* 250–1) all knowledge transcending the evidence of the senses proceeds by way of analogical inference, *μετάβασις ἀναλογιστική*. The practice of judging by analogy in law is not confined to the Muhammadan jurists, but is generally acknowledged. It consists in inferring from the individual case, i.e. the precedent (in Roman law, *exemplum*), the underlying *ratio legis*; if it can be assumed that a complex *ABC* has the judicial consequence *F* because of *A* as its *ratio iuris*, the consequence of *ADE* will equally be *F*.

p. 259. 1. For the rhetorician tries to convince by stirring the emotions (*πάθη*) of his audience (cf. Arist. *Rhet. A* 2. 1356ᵃ10).

p. 259. 2. Cf. e.g. Avicenna's *Salvation*, pp. 267 sqq.; this is the Platonic (cf. Plato, *Phaedo* 61 b) and Neoplatonic (cf. Plotinus *Enn.* i. 2. 3) theory of *κάθαρσις*: freed from the bodily passions, the soul contemplates the intelligibles and assimilates itself to the Divine.

p. 260. 1. It is interesting to note that Ghazali, the theologian, arranges all his syllogisms in a hypothetical form. In this he follows the Stoic logicians,

whose examples are always given in hypothetical syllogisms. Ghazali himself, in his *Touchstone of Knowledge* (Cairo, 1911), p. 88, declares that the hypothetical syllogism is most useful in all juridical matters.

p. 260. 2. Assuming the minor premiss in a mixed hypothetical syllogism (*συλλογισμὸς ὑποθετικὸς κατὰ μετάληψιν*, قياس شرطى استثنائى) is called by the Arabian logicians استثناء, i.e. literally 'excepting', 'excluding' (the conjunction 'but' introducing the minor—e.g. '*but* it is not in matter'—is called by them حرف الاستثناء, the particle of exception). The Peripatetics call this *μετάληψις* (the Stoics *πρόσληψις*) and the minor premiss itself *τὸ μεταλαμβανόμενον* المستثنى). The term استثناء seems to be a translation of *διάζευξις* and *διαίρεσις*, 'disjunction', and indeed a major of the form 'If it is not day, it is night' is equivalent to the disjunction 'Either it is day or it is night'; but when both major and minor are positive it seems somewhat illogical to regard the minor, as the Arabic logicians seem to, as part of a disjunction. (In Greek also the minor in a disjunctive syllogism is called *τὸ μεταλαμβανόμενον*.) The other terms used in describing the hypothetical syllogism are all borrowed from the Peripatetics: *τὸ ἡγούμενον*, the antecedent, is called in Arabic المقدم; *τὸ ἑπόμενον*, the consequent, التالى; *τὸ συμπέρασμα*, the conclusion, النتيجة.

p. 260. 3. This refers to p. 88 in the edition quoted in the last note but one. Ghazali there gives the same examples as here, and shows that neither the assumption of the opposite of the antecedent nor the assumption of the positive consequent leads to a conclusion.

p. 260. 4. Cf. e.g. Aristotle, *Met.* Θ 8. 1050^{b}2: *τὸ εἶδος ἐνέργειά ἐστιν*. The form is *ἐνέργεια* (*ἐνέργεια* in its double sense of 'actuality', 'reality' and 'activity').

p. 260. 5. Cf. e.g. Aristotle, *Met.* Δ 2. 1013^{a}27: *τὸ εἶδος ἐστὶν ὁ λόγος τοῦ τί ἦν εἶναι*.

p. 260. 6. For according to Aristotle purpose and form do not differ essentially (cf. *Met.* H 4. 1044^{b}1: *ἴσως τὸ εἶδος καὶ τὸ τέλος ἄμφω τὸ αὐτό*).

p. 260. 7. Why the active potencies are only particular and not common, whereas the passive potencies can be either particular or common, I do not know; nor is it clear which potencies are active and which passive—all we know is that they are opposites; there is some confusion in this passage, since the opposition of active and passive potencies is reduced to that of actuality (or activity) and potentiality, or form and matter.

p. 261. 1. Cf. Aristotle, *Met.* H 6. 1045^{b}17: *ἡ ἐσχάτη ὕλη καὶ ἡ μορφὴ ταὐτὸ καὶ ἕν, τὸ μὲν δυνάμει, τὸ δὲ ἐνεργείᾳ*: the proximate matter and the form are one and the same, the one potentially and the other actually.

p. 261. 2. According to Aristotle it is only the active intellect which is separate from matter (*χωριστὸς καὶ ἀπαθὴς καὶ ἀμιγής*, *De an.* Γ 5. 430^{a}18).

p. 261. 3. Cf. Aristotle, *De an.* B 12, ad init.: *ἡ μὲν αἴσθησίς ἐστι τὸ δεκτικὸν τῶν αἰσθητῶν εἰδῶν ἄνευ τῆς ὕλης*.

p. 262. 1. This refers to the passage in *De an.* Γ 7. 431^{a}4–7, where it is said that perception is not a passivity and cannot be compared to the other movements in which there is something imperfect, since activity in the absolute sense is the activity of that which has reached perfection (*τοῦ τετελεσμένου*). Aristotle, does not, however, offer any further explanation. The theory of perception expounded in this passage is difficult to understand. Perception, according to Aristotle, is an activity of the soul, but when we ask what this activity is, the only answer is that the percept (*αἰσθητόν*) makes (*ποιεῖ*) an actual percipient (*αἰσθητικόν*) of a potential. This would imply that perception is a passivity rather than an activity; but this Aristotle denies. The crux of the problem lies in the term *αἰσθητόν*, 'the percept or perceived' (not here to be translated by 'the perceptible'), for the percept (whether we take it to mean the perceived object or the perceived matterless form—in the latter case the perception of any material object would be impossible) is here regarded as the cause of perception; but it has also to be its effect, i.e. the perception itself. We find in Aristotle the two tendencies which run through the history of philosophy: (1) to regard the thing perceived in perception both as a cause and as an effect of perception; (2) to reduce the act of perception to a state (a state of the organ, according to Aristotle; the existence of sensations in a consciousness, according to the moderns).

p. 262. 2. Cf. Aristotle, *Met.* Λ 7. 1072^{b}14–1073^{a}13: God as pure intellect and pure actuality.

p. 262. 3. Inference, Arabic لزوم, Greek *ἐπιφορά* (the concept and the term are Stoic). Theophrastus (cf. Alexander of Aphrodisias in *Anal. Pr.* Wallies, 388. 17) had asserted that the minor in the mixed syllogism must itself be accepted through induction, or through another hypothesis, or from self-evidence (*ἐνάργεια*), or through a syllogism. Compare with Averroës's passage Sext. Emp. *Adv. log.* ii. 329, where the latter discusses Epicurus' proof for the existence of the void: If motion exists, the void exists; but motion does exist, therefore the void exists. The premisses of this syllogism—says Sextus—are not generally accepted; the Peripatetics deny the major, and Diodorus Cronus the minor and the conclusion.

p. 263. 1. The conjunction is that of matter and of absence of thought; the disjunction, *διάζευξις*, is that reality is either material (or attached to matter) or thought—the proposition 'If it does not think, it is in matter' is equivalent to this disjunction (cf. note 260. 2).

p. 263. 2. i.e. the argument in the form of the mixed hypothetical syllogism should not be as Ghazali gives it, but should run: 'If the First does not think, it is in matter; but the First is not in matter, therefore it thinks'.

p. 264. 1. Cf. e.g. Plotinus, *Enn.* iii. 2. 2: *γέγονε δὲ οὐ λογισμῷ τοῦ δεῖν γενέσθαι, ἀλλὰ φύσεως δευτέρας ἀνάγκῃ*: i.e. the world has not come into being because of God's reasoning that He had to create it, but because of the necessity that there should be a secondary nature.

p. 264. 2. This argument is nothing but a *petitio principii*. It is true that will implies the possibility of choice between opposites, i.e. that I know that I can do a thing or refrain from doing it (or, as Aristotle has it, e.g. *De an. Γ* 10. 433ᵃ29: *πρακτὸν δ' ἐστὶ τὸ ἐνδεχόμενον καὶ ἄλλως ἔχειν*), but in a world in which there was no will there would be no choice of opposites.

p. 265. 1. Compare the Epicurean argument (e.g. Lucretius, *De rerum natura*, ii. 1095) that the gods are unable to rule all the events in the infinite world (*regere immensi summam*). Ghazali here means by 'knowledge' knowledge of the purpose and of the means to its attainment; and indeed will seems to imply such a preliminary knowledge (although there is here a difficulty; e.g. I can only will to lift my arm, when I know that I can lift it; but how can I know that through my will I can lift my arm, when I have never willed it?). There may, however, be foreknowledge, even for human beings, of some of the consequences following the attainment of the purpose, although these consequences are indifferent to the willer.

p. 266. 1. i.e. when one denies the divine will and temporal creation, one has to regard God as a natural cause acting by necessity and through mediation, and such a cause cannot know the mediate effects which constitute the world.

p. 266. 2. Cf. Carneades' argument inSext. Emp. *Adv. phys.* i. 139–42, and Cicero, *De nat. deor.* iii. 13. 32, that the senses imply transiency and death: *omne igitur animal confitendum est esse mortale.*

p. 267. 1. 'representation', i.e. *φαντασία*; cf. Aristotle, *De an. Γ* 10. 433ᵇ28 sq.: *ὀρεκτικὸν δὲ οὐκ ἄνευ φαντασίας· φαντασία δὲ πᾶσα ἢ λογιστικὴ ἢ αἰσθητική*. As man is concerned, Averroës here means the *φαντασία λογιστική*.

p. 267. 2. i.e. God's knowledge, for Ghazali, means God's purpose, God's intention; and intention implies will.

p. 268. 1. 'to every intelligent being', i.e. both in the temporal world and in the eternal.

p. 268. 2. As a matter of fact, Ghazali's assertion that God can only know the purpose of His own action, and that He cannot know the consequences of these actions through mediate causes, would ascribe to Him ignorance of all human actions; and the only way to avoid this consequence would be the Ash'arite doctrine of regarding God as the real cause of all human actions also. It is noteworthy that Geulinx in his *Metaphysica vera et ad mentem peripateticam* propounds a theory which has a certain resemblance to Ghazali's: according to Geulinx nothing acts which does not know what it is doing; since man does not know how he moves his hand, he cannot do it himself, but God, when a man wills to move his hand, takes this opportunity (*occasio*) to set his hand in motion. All human actions, both for the Ash'arites and for the occasionalists, are performed by God, the difference between the two schools being apparently that whereas for the occasionalists the will of man, e.g. to move his hand, is dependent on himself, for the Ash'arites even this volition is caused by God.

p. 268. 3. i.e. the more knowledge an intellect possesses, the nobler it is.

p. 270. 1. See note 255. 2.

p. 270. 2. See note 255. 3.

p. 270. 3. This is the well-known argument of Zeno (Sext. Emp. *Adv. phys.* i. 104): *τὸ ἔμψυχον τοῦ μὴ ἐμψύχου κρεῖττόν ἐστιν.*

p. 271. 1. Ghazali follows the same line of reasoning as Alexinus, the Megarian (Sext. Emp. *Adv. phys.* i. 108) in his opposition to Zeno's argument. Alexinus observed: 'One might in this way argue that the Universe was not only animate, but also poetical, grammatical, and possessed of the other arts, since the possession of all these is better than their absence.'

p. 271. 2. This trichotomy is a difficult point in the Aristotelian philosophy. One of the distinctions between natural and voluntary acts is that in inanimate natural things there is a necessity (*ἀνάγκη*) of becoming which does not exist for activities based on will (*προαίρεσις*), where there is a choice between two contraries (cf. Arist. *Met. Θ* 5. 1048ᵃ1). On the other hand, there is also in nature the accidental, for—says Aristotle, *De interpr.* 9. 19ᵃ9—in what is non-eternal and transient there is always the possibility of being and non-being (*ὅτι ὅλως ἔστιν ἐν τοῖς μὴ ἀεὶ ἐνεργοῦσι τὸ δυνατὸν εἶναι καὶ μή*. For the failure of the Aristotelian philosophy to distinguish between nature and art see my *Ep. d. Met. d. Av.*, pp. 204–5.

p. 272. 1. This is rather a strange theory for a philosopher who regards God as the Prime Mover. What Averroës seems to mean here is that God, being incorporeal, cannot set things in motion through the movement of his body as man does. The Sceptics and Stoics held that the incorporeal was incapable of any action (cf. Sext. Emp. *Adv. phys.* i. 151: *οὐδὲν δυνάμενον ἐνεργεῖν τὸ ἀσώματον*).

p. 272. 2. Cf. note 264. 2. We may add here that this conception is opposed to Aristotle's explicit statement (*Phys. B* 8. 199ᵇ26) that in nature, although it acts according to an end, there is no deliberation (*βούλευσις*), i.e. no conscious choice (*προαίρεσις*). It is the characteristic of nature (see note 271. 2) that in it there is no choice between two contraries.

p. 272. 3. Cf. Aristotle, *Met. Δ* 4. 1015ᵃ14: *ἡ πρώτη φύσις καὶ κυρίως λεγομένη ἐστὶν ἡ οὐσία ἡ τῶν ἐχόντων ἀρχὴν κινήσεως ἐν αὑτοῖς ᾗ αὐτά*: the

primary and foremost meaning of nature is the essence of those things that have in themselves, as such, a principle of motion.

p. 272. 4. There is more purpose and more beauty in the works of nature than in those of art, says Aristotle, *De part. an. A* 1. 639^{b}19: *μᾶλλον δ' ἐστὶ τὸ οὗ ἕνεκα καὶ τὸ καλὸν ἐν τοῖς τῆς φύσεως ἔργοις ἢ ἐν τοῖς τῆς τέχνης.*

p. 272. 5. e.g. naturalistic Peripatetics like Strato.

p. 272. 6. Cf. Aristotle about 'wonderful automata', *τῶν θαυμάτων ταὐτόματα*, e.g. *Met. A* 2. 983^{a}14; *De gen. an. B* 1. 734^{b}10.

p. 272. 7. Cf. Aristotle, *Met. A* 3. 984^{b}15: *νοῦν . . . ἐνεῖναι, καθάπερ ἐν τοῖς ζῴοις καὶ ἐν τῇ φύσει τὸν αἴτιον τοῦ κόσμου καὶ τῆς τάξεως πάσης*: 'that there is intellect in nature, just as in animals, and that it is the cause of all order and arrangement'.

p. 273. 1. Cf. p. 266.

p. 273. 2. But Averroës does not accept the universal maxim: no universal maxim applies to God's uniqueness. This of course implies that nothing can be attributed to God, since every attribute is a universal.

p. 273. 3. i.e. being dead, like being blind, is a privation, a *στέρησις*, of that which would naturally be in the possession of the subject: cf. Aristotle, *Met. Δ* 22. 1022^{b}24.

p. 273. 4. i.e. the Aristotelian principle that every individual is generated from what is synonymous with it (*ἑκάστη ἐκ συνωνύμου γίγνεται οὐσία*), e.g. that man begets man, would thereby be violated.

p. 274. 1. This is the same answer as the Stoics gave to refute Alexinus' argument against Zeno (see note 271. 1): Zeno had chosen—they said—the absolutely superior, *τὸ καθάπαξ κρεῖττον*, namely reason (Sext. Emp. *Adv. phys.* i. 109).

p. 275. 1. Avicenna says in his *Salvation* (p. 404, l. 4; cf. the parallel passage in his *Recovery, Met.* viii. 6): 'To ascribe to God a plurality of thoughts is just as much attributing to Him a deficiency as to ascribe to Him a plurality of acts: God knows everything, only in a universal way; still no single thing, not even the weight of an atom, is hidden from Him (according to the Koran xxxiv. 3; x. 62). This is something very wonderful, the understanding of which needs great intellectual subtlety.'

p. 275. 2. The example of the eclipse is taken from Avicenna (*Recovery, Met.* viii. 6, and *Salvation*, p. 405).

p. 276. 1. A node is one of two points at which the orbit of a planet intersects the ecliptic; the ascending node is that encountered by the heavenly body in its northward passage, the descending that encountered in its southward passage.

p. 276. 2. 'in its desire to assimilate itself to God'; for Aristotle the heavens move through love for God, and here the Platonic *τέλος*, 'assimilation', *ὁμοίωσις τῷ θεῷ κατὰ τὸ δυνατόν*, is added to this conception. For the question whether this assimilation can be realized through movement, whereas God is the eternally stable, see below.

p. 276. 3. The whole of this interesting passage is based on Avicenna, *Recovery, Met.* viii. 6 and the parallel passage *Salvation*, pp. 404 sqq. Avicenna's position about God's knowledge or ignorance of the individual is far from clear, and indeed his thesis that God can know every individual thing in a universal way, being contradictory, cannot be understood. (On the fundamental problem of the relation between the individual and the universal, as an empiricist Aristotle asserts the priority of the individual to the universal, as a Platonist the priority of the universal to the individual, and this contradiction is still more evident in the Neoplatonic commentators; cf. my *Ep. d. Met. d. Av.*, notes 81. 5 and 126. 2). But the conclusion Ghazali, following Avicenna, mentions here does not really concern God's knowledge or ignorance of the individual—His knowledge, indeed, is here assumed—but is the logical outcome of any theory which ascribes to God a timeless eternity, for no actual relation can exist between the timeless and the transitory. If we admit in God omniscience, and foreknowledge of all future events, He will know the sequence of things in an eternal 'now', for He will know time as a sequence of events which are earlier and later (just as we know in the present an eternal and stable sequence of past events). But there is another aspect of time, the passing of the future through the present into the past, i.e. the living indefinable experience of the ever-fleeting, the ever-new 'now'. God, not being in a fleeting present, can never have experience of it. He may know that such-and-such actions are subsequent to my birth, but He cannot know *now* that I am acting or have acted in such-and-such a way, for in God's stable timeless 'now', in God's stillness, there can be no experience of the indefinable fleeting 'now' in which we live and act and die. This was clearly seen by Avicenna. He says (cf. e.g. *Salvation*, p. 406. 14 sqq.): 'If you know eclipses in as far as you exist' (I take this to mean: in as far as you exist without any reference to time) 'or in as far as you exist eternally, and if you have knowledge not of the eclipse in general, but of any eclipse whatever, then the existence or non-existence of any definite eclipse will not produce a change in you or your knowledge, for what you know is that one definite eclipse is later than another; and this knowledge of yours will be true during, before, and after any eclipse. But when you introduce the concept of time, and know at one definite moment that the eclipse is not actual and at another that it is, then your knowledge is not unalterable. The First, however, who is not in time or subject to its rule, can never refer to anything in this or that definite time, since this would imply that He Himself was in it and would imply in Him a new judgement

and a new knowledge' (Aristotle had already distinguished, *Met.* Θ 10, between two types of truth, eternal and transitory, cf. my *Ep. d. Met. d. Av.*, pp. 220–1).

p. 276. 4. Possibly this is Avicenna's conception, but his theory (which I shall not try to analyse here) in the chapter mentioned in the preceding note is both confused and contradictory. In any case Avicenna ascribes to God only conceptual knowledge, since for Him there is neither a *hic* nor a *nunc*, and denies sense-perception to Him; he repeats (e.g. *Salvation*, 405. 9) Aristotle's assertion that an individual of any species can only be known by being a 'this', a τόδε τι, المشار اليه, by being pointed at, i.e. through direct perceptual experience, المشاهدة الحسية (cf. e.g. *Cat.* 5. 3b10, where Aristotle says that every individual substance seems to signify a 'this'). However, this view cannot be upheld. It is true that in perception everything perceived stands in relation to a 'here' (a most mysterious relation, since 'here' is the place where my body is, and 'my body' assumes a relation between something non-spatial, i.e. my spiritual self, and a spatial entity). But in thought an individual can be completely determined in space and time without direct reference to any 'here' or 'now', although it may be conceded that without any perception of spatial relations we should not have any conception of space. It may be remarked that *hic* and *nunc* are not in every sense analogous. The 'now', the present moment, is involved in the concept of time, whereas the 'here' does not enter into the definition of space, but needs space for its own definition (the place in which my body is), and is individually subjective, whereas any interaction between individuals assumes the simultaneity of a 'now'. Another point is that if God is deprived of perception of the individual He cannot have knowledge of the universal either. It is one of the fundamental cruces of philosophy that perception and conception seem to imply each other; there is no individual percept that has no qualities (Aristotle knew that there is no 'that' which is not a 'what'), and there is no universal which does not stand either directly or indirectly in some relation to something perceived.

p. 277. 1. Conditions, احوال, πῶς ἔχοντα: see note 3. 6.

p. 278. 1. I have not found this tripartite division in Avicenna who, however, in his *Recovery*, *Met.* iii. 10, has a long discussion about relations (the difficult concept of relation was much discussed in later Greek philosophy, see e.g. the long discussion in Simplicius, *Comm. in Cat.*, Kalbfleisch, 155. 30 sqq.; the Peripatetic Boethus dedicated a whole book to the discussion of this problem, according to Simplicius, op. cit. 163. 6). Avicenna there refutes, for example, the view held by the Greek sceptics, the Muslim theologians and some moderns (Bradley, for example—*Appearance and Reality*[2], pp. 31 sq.—some of whose negative theories may be found in Sextus Empiricus) that relation, since it implies an infinite regress, can have no

reality, and I do not know to which Arabic author Ghazali is here referring. The tripartite division which he mentions here is illogical and confused, for there is only room here for two classes of relations, essential (or internal) and non-essential (or external), and the example of Ghazali's second kind of condition implies an essential relation: when a man stops moving, although his capacity to move has not changed, there is an actual change in him from action to rest. This tripartite division seems to refer to the equally confused distinction between πρός τι πῶς ἔχον, πῶς ἔχον, and πρός τι in Stoicism (cf. Simplicius, op. cit. p. 165, 32 and v. Arnim, *Stoic. Vet. Fr.* ii. 132. 21). The first condition would be the πρός τι πῶς ἔχον, i.e. an accidental relation (see loc. cit., l. 26, where 'to the right', δεξιόν, is given as an example); the second would be the πῶς ἔχον, which is a non-essential characteristic of a thing (as an example of such a non-essential characteristic Plotinus, *Enn.* vi. 1. 30, gives acting—τὸ ποιεῖν πῶς ἔχον); the third would be, when a thing in its distinct existence of its own—i.e. when it is a ποιόν—implies a relation to something else, and is therefore essentially relative, like any state, knowledge, and perception (v. Arnim, op. cit. ii. 132. 45 ὅταν μὲν κατὰ διαφοράν τι διακείμενον πρὸς ἕτερον νεύσῃ, πρός τι μόνον τοῦτο ἔσται, ὡς ἡ ἕξις καὶ ἡ ἐπιστήμη καὶ ἡ αἴσθησις).

p. 278. 2. 'like a mere relation', i.e. like a mere external relation.

p. 278. 3. This of course is false; Ghazali has evidently not seen the point. If God had created in us an everlasting knowledge that Zaid will come tomorrow, this knowledge, if true today, would be false tomorrow and ever afterwards. On the other hand, if God had created in us an everlasting knowledge that Zaid has come, or will come, the former would be false up to the moment he has actually come, but true ever afterwards, whereas the latter would be true till he has actually come and false ever afterwards.

p. 279. 1. This sentence is rather confused, but I am well aware of the difficulty of the problem of relations in general and of the problem of knowledge in particular. The words 'whenever the relation becomes different' mean 'whenever the knowledge becomes different' (because of the change in the object of knowledge in reality); again, by 'the thing which has this essential relation' knowledge is understood; according to this view knowledge both *is* a relation and *has* an essential relation to the thing known.

I think knowledge (knowing) can only be conceived as a unique and indefinable relation implying two terms, the knower and the objective thing known; if it is represented—as it so often is—as a separate entity having some independent existence in a mind, two new relations will be needed, one to a mind and the other to the objective thing. I think it is correct to say that when an object known or perceived changes, the percipient who notices this change changes too through the change in his knowing and perceiving. The last part of Ghazali's sentence—i.e. that

whenever this differentiation and this sequence arise there is a change—is a tautology.

p. 279. 2. One might answer: 'There might be in God one single cognitive relation to the whole world, just as in one human act of perception or thought a whole consisting of a plurality may be apprehended; my perception of a complex, e.g. the face of a friend, does not consist in my perception of all its parts individually—every complex forms a new unity in which the individual constituents are merged.' Indeed, if the act of perception were identical with the object perceived, not only would the perception of a magnitude be itself a magnitude, but it would consist like the magnitude itself of an infinite number of points (cf. Arist. *De an. A* 3. 407ᵃ6 sqq., where he rejects the view that thought, *νόησις*, is a magnitude, *μέγεθος*).

p. 279. 3. That universals are infinite is not accepted by the Aristotelians, and would not fit easily into their conception of a spatially limited universe. They argue, however, against the Stoic theory of a divine providence for all individuals, saying that, since time is infinite, this would imply in God knowledge of the infinite (cf. my *Ep. d. Met. Av.*, p. 145). Cf. note 205. 2.

p. 279. 4. Ghazali misses the point: time is a condition of change; a timeless knowledge is allowed in God, not a temporal changing knowledge.

p. 280. 1. Since human knowledge enters into the essence of the knower.

p. 280. 2. Cf. Aristotle, e.g. *De an. B* 5. 417ᵇ22: *τῶν καθ' ἕκαστον ἡ κατ' ἐνέργειαν αἴσθησις, ἡ δ' ἐπιστήμη τῶν καθόλου.*

p. 280. 3. He seems to mean: if the human mind possessed a highest genus, e.g. 'being', or 'something' (which are the highest genera according to the Stoics) by which it could comprehend (the word is used equivocally and can mean both 'grasp' and 'include') all the genera and species, it would also comprehend all the individuals; but one should not compare the divine understanding with the human mind, since for the divine intellect the opposition between universal and individual is obliterated.

p. 280. 4. 'a passive intellect and an effect': i.e. our human intellect; it is regarded here as passive and an effect, because in its knowledge it is dependent on reality, our knowledge being posterior to reality; whereas God's knowledge, being the cause of reality, either precedes it (as a cause, but not in time) or, being identical with the things, coexists with them without any priority or posteriority (cf. *Enn.* v. 9. 5: *οὐ γὰρ ἔστιν οὔτε πρὸ αὐτοῦ οὔτε μετ' αὐτόν*, viz. *τὰ ὄντα*).

p. 280. 5. This theory of God's active or creative knowledge goes back to Plotinus (cf. especially *Enn.* v. 9. 5), who quotes Parmenides' important statement that thought and being are identical, *τὸ γὰρ αὐτὸ νοεῖν ἐστίν τε καὶ εἶναι* (*Parmenides, Fr.* 3 Diels). According to Plotinus the *νοῦς* is pure act and is eternal; by its absolute being it thinks and creates (*ὑφίστησιν*) things, which cannot exist as something outside itself, *ἑτέρωθι*. Thinking its own self, in its own self it thinks the things, which therefore are identical with it: *ἔστιν ἄρα τὰ ὄντα*. This theory, the so-called theory of intellectual intuition, is found also in Christian philosophy and theology. Cf. e.g. St. Augustine (*Confess.* xiii. 38. 53): 'nos itaque ista quae fecisti videmus, quia sunt; tu autem quia vides ea, sunt'. Kant expresses this in his *De mund. sens. atque intell. form. et princip.* ii. 10: 'intuitus nempe mentis nostrae semper est passivus . . . divinus autem intuitus, qui obiectorum est principium, non principiatum, cum sit independens, est Archetypus et propterea perfecte intellectualis'.

p. 281. 1. Of course one might ask how, if intellect can be only attached to the existent, the non-existent can form an object of thought, or how the intellect can plan the non-existing future, remember the non-existing past, be subject to illusion and doubt. We have, however, seen that for Averroës even the objectively non-existing has some existence, existing subjectively, i.e. in the mind, as a representation. We have here an example of the fatal reification of thought, regarding the act of thought as the existence in the mind of some mental atoms, which has so deeply warped philosophical speculation.

p. 281. 2. *veritas adaequatio intellectus et rei.*

p. 281. 3. Compare the scholastic principle *Esse est Deus*, which is Eckehart's fundamental principle. Both Sufism, i.e. Muslim mysticism, and Western medieval mysticism are based on Neoplatonic conceptions (in Sufism there are also Hermetic and Gnostic elements). The resemblance between those two schools, which are geographically so far apart, is often so great that many affirmations of German medieval mystics like Eckehart, Tauler, or Suso might be taken for translations from some Arabian or Persian mystic.

p. 281. 4. Namely, in plants, animals, men, and heaven.

p. 281. 5. The Mu'tazilites seem to have been aware of the difficulty that to attribute to God a knowledge of the changing affairs of the world implies a change in Him. According to Shahrastani (*Religious and Philosophical Sects*, p. 60), Jahm said, 'God cannot know a thing before creating it, for either (1) God's knowledge is unchangeable, and if He knew that it would be before He created it, He would be in error (the text has 'ignorance', جهل), when it was or had been and He still thought that it would be; or (2) His knowledge would be changeable, but only the created can change.' (Ibn Hazm, op. cit. ii. 130, says that the Mu'tazilites asked: 'When does God know that Zaid has died? For if God knows it eternally, this implies Zaid's eternal death.' Ibn Hazm's answer on this problem runs on the same lines as Ghazali's.) At the same time, according to Shahrastani, Jahm affirmed that God had new knowledge, not, however, in a substratum (لا فى محل i.e.

not in God Himself). It is to this latter assertion that Ghazali is evidently referring, but it seems to contradict the other assertion that God's knowledge cannot change. Probably Jahm regarded God's knowledge as a separate entity emanating from Him (there is here probably some vague relation to the Philonic Logos-theory), and used 'knowledge of God' in an ambiguous way, meaning at one time an attribute of God, at another an effect of God.

p. 281. 6. See note 2. 6.

p. 281. 7. Cf. 74. 2; and since nothing that changes can be eternal, that which is eternal (i.e. God) cannot be subject to change.

p. 282. 1. i.e. it is impossible that time should have a beginning, although the series of causes is limited. We have already shown the fallacy of this view.

p. 282. 2. i.e. every movement of the spheres is temporal, since all movement implies time and there is a continual beginning and ending of these movements, just as time changes eternally and a new 'now' continually occurs.

p. 282. 3. i.e. according to their system time arises from the timeless; time is the effect of a timeless cause.

p. 282. 4. i.e., if the temporal can proceed from the timeless, should not temporal knowledge, i.e. knowledge of the temporal, proceed from the timeless knower? However, the idea of an emanation of knowledge from the knower seems to make very little sense.

p. 282. 5. 'coloured', for according to Aristotle it is only colour or that which possesses colour that is seen (*De an.* Γ 2. 425^{b}18: *ὁρᾶται δὲ χρῶμα ἢ τὸ ἔχον*).

p. 282. 6. For this conception of vision cf. e.g. *De sensu* 2. 438^{a}12 sqq.

p. 283. 1. For knowledge as the supreme end of man see, for example, Aristotle, *Met. A* 2; *Eth. Nic. K* 7.

p. 283. 2. Since the terms used are equivocal.

p. 283. 3. i.e. since illumination or light is, according to Aristotle (*De an. B* 7. 419^{a}9), the actuality of the transparent, the substance of the transparent is not changed through the illumination.

p. 285. 1. See note 256. 1.

p. 285. 2. 'man a mortal god', *homo quasi deus mortalis*: this refers to the beautiful words ascribed to Aristotle in Cicero, *De finibus* ii. 13. 40 (fr. 61 Rose): man whose destiny is thought and action is like a mortal god: 'sic hominem ad duas res—ut ait Aristoteles—, ad intellegendum et agendum, esse natum quasi mortalem deum'.

p. 285. 3. St. Thomas Aquinas, who regards it as probable that the stars are moved by angels, asserts, *Sum. c. gent.* ii. 70, that from the religious point

of view it is indifferent whether it be declared that heaven is animated or not: 'hoc autem quod dictum est de animatione coeli non diximus quasi asserendo secundum fidei doctrinam, ad quam nihil pertinet sive sic sive aliter dicitur'. However, among the 219 opinions ascribed to the Latin Averroist Siger of Brabant and condemned by the Church in 1277, we find this proposition (prop. 92 in Denifle, *Chart. Univ. P.* i, p. 548): 'quod corpora celestia moventur a principio intrinseco, quod est anima; et quod moventur per animam et per virtutem appetitivam, sicut animal. Sicut enim animal appetens movetur, ita et coelum.' (St. Thomas Aquinas believed that the movement of the stars depended on an external animated principle.)

p. 285. 4. 'by perception': *φαίνεται*, as Aristotle says, *De caelo B* 8. 289^{b}1; for another example of an argument based on the evidence of the senses, *διὰ τῶν φαινομένων*, cf. *De caelo B* 14. 297^{b}1. Although in the following Ghazali seems to be referring to Avicenna's *Salvation*, pp. 422 sqq. (and the parallel passages in the ninth book of the metaphysical part of his *Recovery*), his argument differs considerably from the discussion by Avicenna; but in any case its principle is derived from Aristotle's *De philosophia*. Aristotle, in the passage of this lost dialogue quoted by Cicero, *De nat. deor.* ii. 16. 44 (fr. 24 Rose), bases his argument on the disjunction that all movement either takes place by nature or is constrained or is voluntary (*aut natura aut vi aut voluntate*). He rules out the possibility that the stars might be moved by nature, since all movement by nature is either downward or upward, and the stars have a circular movement; their movement cannot take place by constraint, for what could possess a greater force than the stars? It is therefore voluntary.

p. 286. 1. The meaning is: if the fact of being a body implied its movement, every body would be in motion; there must therefore be a cause of motion, i.e. everything moved is necessarily moved by something (Arist. *Phys. H* 1, ad init., 241^{a}34: *ἅπαν τὸ κινούμενον ὑπό τινος ἀνάγκη κινεῖσθαι*).

p. 286. 2. It is interesting to note that this sentence is a free translation (with, however, a slight, but important difference) of one in Aristotle, *Phys. Θ* 5. 256^{a}14: *εἰ δὴ ἀνάγκη πᾶν τὸ κινούμενον ὑπό τινός τε κινεῖσθαι, καὶ ἢ ὑπὸ κινουμένου ὑπ' ἄλλου ἢ μή, καὶ εἰ μὲν ὑπ' ἄλλου [κινουμένου], ἀνάγκη τι εἶναι κινοῦν ὃ οὐχ ὑπ' ἄλλου πρῶτον, εἰ δὲ τοιοῦτο τὸ πρῶτον, οὐκ ἀνάγκη θάτερον*: if therefore everything moved necessarily must be moved by something either moved by another or not by another; and if it is by a thing moved, it is necessary that this should be a first mover not moved by something else, and if such a mover is found there is no need for another mover. We see that the Arabic has substituted for a first mover a voluntary mover moving its body by itself, and the argument which Aristotle uses to establish the existence of an unmoved first mover, i.e. God, is used here to prove

the existence of an eternal soul which moves the body of heaven by a first movement, i.e. a movement on which all the other movements of the world depend. As a matter of fact there is no reason why Aristotle should have made his first mover transcendent, and why the mover of heaven should not be immanent in the world and be the soul of heaven. Of course, if this argument is offered to prove the soul of heaven, it can no longer be offered to prove the existence of God; and if the existence of God is still accepted, He can no longer be the source of all movement and action, for the soul, even the human soul, does not set in motion through a mover (although for a motive), but by itself, i.e. its will and desire. That the soul cannot be moved is acknowledged by Aristotle himself, *De an. A* 4. 408^{b}30.

p. 286. 3. i.e. the universal relation of the world to God cannot explain motion: if the fact of being created and a body itself implied movement, every body would be in motion.

p. 286. 4. This example is found in Avicenna, *Recovery, Met.* ix. 4.

p. 287. 1. According to Aristotle (*De caelo A* 2), however, the movement of the stars is a natural one, i.e. natural to things which possess an element more sublime than the four sublunary ones. Avicenna also, in his *Salvation*, p. 424, regards the heavenly movement as caused by an inclination (ميل, ὁρμή or ῥοπή) which may be called natural; however, he adds 'This natural inclination is inspired by a soul and renewed by its representation.' (For the problem caused by the contradiction in the Aristotelian texts, cf. my *Ep. d. Met. d. Av.*, note 108. 2; Alexander of Aphrodisias and Averroës deny that the celestial bodies can have φαντασία, i.e. any representations.)

p. 287. 2. This refers to Ghazali's words: 'every mover receives its impulse from the moved itself'; but this is only a verbal quibble, for Ghazali means the same as Averroës.

p. 287. 3. In fact this is a tautology; what he wants to say is that it is self-evident that things have intrinsic natures by which they are moved.

p. 287. 4. i.e. if things had not an intrinsic nature, and everything depended solely on the will of God, as the Ash'arites hold, earth might move upward just as easily as fire.

p. 287. 5. Things which are sometimes at rest, sometimes in motion, can receive by constraint a movement opposed to their natural one, and can therefore execute two opposite movements, cf. Aristotle, *De caelo A* 2. 269^{a}7: a simple body can receive the motion of another body by constraint (βίᾳ), granted that a single body has only one natural movement.

p. 287. 6. Aristotle argued (*De caelo A* 4) that there can be no movement contrary to the circular motion of the stars; heaven cannot be constrained to move by another movement than its own; cf. op. cit. *A* 3. 270^{a}9. Since, according to Averroës—see below in the text—the motion of the stars is not natural, a proof of the cause of their movement must be given.

p. 288. 1. That the soul of the heavenly bodies is only equivocally (ὁμωνύμως) called a soul is stated by Alexander of Aphrodisias, *On the Principles of the Universe*, ed. cit., p. 255.

p. 288. 2. 'Nature' is a most ambiguous word, both in common language and in Aristotle. For the meaning intended here of 'a rational principle' see e.g. Aristotle, *De gen. an. A* 23. 731^{a}24: εὐλόγως ἡ φύσις δημιουργεῖ 'nature works rationally'.

p. 288. 3. In fact heaven is excluded from physics only so far as its spiritual elements, the separate intelligibles, are in question, since, according to Aristotle (*Met. E* 1. 1025^{b}26), physics theorizes about substances which are capable of motion and have forms, but about these forms only so far as they are inseparable from matter (cf. also the beginning of *De caelo*).

p. 288. 4. That there cannot be a body outside heaven is argued by Aristotle, *De caelo A* 9. 278^{b}25 sqq.

p. 289. 1. 'without any act he deliberately chose', since according to Ghazali's theory God's will is not selective (i.e. it does not choose between distinct cases), but creative (i.e. it creates the distinctions themselves).

p. 290. 1. Although we moderns can explain the fact that fire moves upward and stones downward by attributing it to a general characteristic of matter, Averroës is right in asserting that the differentiation of individuals having their special characteristics cannot be deduced from a general principle: there is no answer to the question why this stone is not that stone or that flower. Still, both Averroës and Ghazali, when asked why things are as they are, would answer that everything depends upon the will of God; both would assert that God's eternal will was not comparable with our human will and that God's action was wholly creative. (It is curious to see that, in the matter of God's knowledge, Averroës reproaches Ghazali for not observing that it is wholly creative, whereas in the matter of God's volition he reproaches him for regarding it as wholly creative.) Both would assert also that this was the best of all possible worlds, not only implying by this a deliberation and choice in God, but fixing a limit for His illimitable power.

p. 290. 2. The Ash'arite view will be discussed below at length.

p. 290. 3. This is Aristotle's own thesis, *De caelo A* 2. 269^{b}5–14, where he proves that circular motion is natural to the body which has this motion, and 269^{b}14–17, where he proves that there is a fifth element (i.e. the ether), superior to the sublunary elements, to which the circular movement is natural. If by 'natural movement of the ether' is meant that it moves by itself (Aristotle derives the word αἰθήρ from ἀεὶ θεῖν, 'to run always'), there is no need to accept movers for the spheres.

p. 290. 4. This is based by Aristotle on the principle that a thing can have only one contrary, ἓν ἑνὶ ἐναντίον (cf. *De caelo A* 2. 269^{a}10), and he

holds the strange theory (strange, for circular motion implies a movement in opposite directions) that circular motion has no opposite and that the ether is free from all opposition. Still, according to Aristotle himself the heaven of the fixed stars turns from right to left, that of the planets from left to right.

p. 290. 5. According to the principle that God moves as does the beloved, it would seem that movement *qua* movement was the supreme aim; but Plutarch, *De defect. orac.* xxx, emphasizes the variety and changes (*μεταβολαί*) implied in movement, and says that, to judge from the motion of the heavens, the Divine really enjoys variety and is glad to survey movement.

p. 290. 6. The heavy, according to Aristotle, is that whose nature it is to move towards the centre, the light that whose nature it is to move away from the centre; according to *De caelo A* 3. 269^{b}30, the body whose movement is circular can have neither weight nor lightness, for neither naturally nor unnaturally can it move either towards or away from the centre.

p. 290. 7. i.e. whether the heavenly bodies have consciousness and which kind of consciousness.

p. 291. 1. According to Aristotle an external force moving heaven would involve an effort, whereas the movement of heaven is *ἄπονος*, effortless; he says that we should not believe the traditional myth about Atlas (cf. *De caelo B* 1. 284^{a}11–22).

p. 291. 2. Aristotle in his criticism of Thales' view that the earth rests on water (*De caelo B* 13. 294^{a}28) says that then one would have to ask the same question over again: for what supports the water?

p. 291. 3. Cf. Aristotle, *De caelo A* 9. 279^{a}8: *ὕλη γὰρ ἦν αὐτῷ τὸ φυσικὸν σῶμα καὶ αἰσθητόν*: the matter (of the whole universe) is natural perceptible body.

p. 291. 4. That the elements are transitory, *γενητά*, is argued by Aristotle, *De caelo Γ* 6.

p. 291. 5. All generation and decay on earth are caused through the motion of the sun along the ecliptic; cf. Aristotle, *Meteor. A* 9.

p. 291. 6. For Aristotle (cf. e.g. *Phys. Γ* 2. 202^{a}8) all motion is based on touch; even in thought the thing thought of is touched by the thinker (cf. *Met. Θ* 10. 1051^{b}24 and *Λ* 7. 1072^{b}20).

p. 291. 7. It is interesting to note that Averroës sees that there is a resemblance between the Stoic theory and the Ash'arite. We have tried to show above that there is, in fact, a relation between these two views.

p. 292. 1. i.e. the Ash'arites, not the Stoics.

p. 292. 2. 'accidental', since it was there only by constraint.

p. 292. 3. i.e. movement *qua* movement, without any reference to a special place or time, is a universal; and if the heavenly bodies desire this movement, they are moved by a concept, something in the soul. Averroës's argument, however, is not only a *petitio principii*, i.e. not only is it used to prove that the heavenly bodies are animated, but it is also contradictory, for it first denies the objective existence of movement absolutely, and then admits that a movement exists in the individual moving thing, although not permanently (this is in opposition to Arist. *Phys. Δ* 4. 228^{a}20, where it is asserted that the movement which is absolutely one [and particular] is that which is continuous, without any restriction as to time; cf. also Avicenna, *Salvation*, 180. 11). Averroës's assertion is a reminiscence of the animistic view that all movement is based on love or desire, which we discussed above in our note on love. It may be added that this view survives in modern philosophy in one form or another. Schopenhauer, for example, regards movement as the objectivation of will, and at vol. i, p. 119 of his *Die Welt als Wille und Vorstellung* he quotes with approval the passage of St. Augustine, *De civ. Dei* xi. 28: 'si essemus lapides . . . non tamen nobis deesset quasi quidam nostrorum locorum atque ordinis appetitus, nam velut amores corporum momenta sunt ponderum, sive deorsum gravitate, sive sursum levitate nitantur: ita enim corpus pondere, sicut animus amore.'

p. 292. 4. This would seem to imply that the souls of the heavenly bodies possess imagination (*φαντασία*), and indeed Avicenna asserts this. Averroës, however, denies it—see my *Ep. d. Met. d. Av.*, note 109. 6—and we must regard the representation he mentions here as a kind of intellectual act. Alexander of Aphrodisias also denied *φαντασία* to the intellectual movers: see below, 301. 3.

p. 293. 1. Aristotle did not see this difficulty in ascribing natural motion to heaven (see note 290. 4).

p. 293. 2. In the following passage Ghazali refers to the chapter in Avicenna's *Salvation* (pp. 429 sqq.) about the aim of the movement of heaven; cf. also ib., p. 490.

p. 293. 3. The basic idea of this deeply religious assertion, that God should be loved for His own sake, not out of hope for reward or fear of punishment, is found already in Aristotle, *Eth. Eud. H* 3 ad init., where he lays down as a condition of love a certain equality, *ἰσότης*, between the lover and the beloved, and where he says that it would be ridiculous to expect God in His majesty to repay the love with which He is loved (cf. Spinoza, *Eth.* v, prop. xix: 'qui deum amat, conari non potest, ut deus ipsum contra amet'). Plotinus, *Enn.* ii. 2. 2, says that the stars, wherever they are, rejoice in surrounding God, and this not by reason, but by a natural necessity (*ἕκαστον γὰρ οὗ ἐστι περιειληφὸς τὸν θεὸν ἀγάλλεται οὐ λογισμῷ ἀλλὰ φυσικαῖς ἀνάγκαις*).

p. 293. 4. 'The angels in His proximity', i.e. the Hebrew Cherubim, are mentioned in the Koran iv. 170. We have here an example of the identification mentioned above, note 233. 2, of Judaeo–Christian–Muslim concepts with the entities of Aristotelian–Neoplatonic philosophy. Avicenna, *Salvation*, p. 490, does not use the term 'Cherubim' (he uses the term, however, in other writings, for instance, in his *Refutation of the Astrologists*), but says that the spiritual abstract angels, الملائكة الروحانية المجردة, of the highest degree are called intellects, whereas the angels of the second degree, the active angels, i.e. the movers of the stars, are called souls. In Qazwini's *Cosmography* (ed. Wüstenfeld, pp. 55 sqq.) there is given a long list of angels who are inhabitants of heaven, سكان السموات, and at p. 59 the Cherubim are mentioned, who, according to Kazwini, are continuously, day and night, wholly absorbed in adoration of God. He mentions also the movers of the stars, of whom (he says) there are seven, but according to him the exact number of angels is known only to God. Muslim angelology was influenced by Neoplatonism (cf. Plotinus *Enn.* iii. 5. 6), which regarded the stars as gods of a secondary order, subsidiary and related to the intelligible gods and dependent on them, *θεοὺς δευτέρους μετ' ἐκείνους καὶ κατ' ἐκείνους τοὺς νοητούς, ἐξηρτημένους ἐκείνων*. St. Thomas Aquinas, too, distinguishes between angels who move stars and those who do not; the former he calls *intelligentiae*, e.g. *Contra gent.* iii. 23. Like the Muslim philosophers he regards the differentiation of individual angels as a differentiation of species.

p. 294. 1. 'there is no potency in them'; since they are eternally absorbed in the contemplation and adoration of God, there is no change, no possibility of change in them, 'their assimilation to God is made perfect in stability', تم تشبهه به بالثبات (Avicenna, op. cit., p. 431. 15).

p. 294. 2. When the body of the heavens is actually in one position in the heavenly sphere, it is potentially in another, says Avicenna—op. cit., p. 432. 10—in agreement with Aristotle who says, *Met. Λ* 7. 1072^{b}5, that so far as heaven is moved there is a possibility for it of being otherwise, if not in substance, at least in place.

p. 294. 3. 'specifically', specifically and successively, بالنوع والتعاقب, says Avicenna, op. cit., p. 432. 13; the term 'specifically' according to Averroës—see below in the text—is unintelligible.

p. 294. 4. It is unfortunately not true that the unattainable cannot be desired.

p. 294. 5. This might be thought to be more closely in agreement with the words of Aristotle, *Met. Λ* 8. 1073^{a}23: *ἡ μὲν γὰρ ἀρχὴ καὶ τὸ πρῶτον τῶν ὄντων ἀκίνητον καὶ καθ' αὑτὸ καὶ κατὰ συμβεβηκός, κινοῦν δὲ τὴν πρώτην ἀΐδιον καὶ μίαν κίνησιν*: the principle and the first of all beings is immovable both essentially and accidentally, setting in motion the eternal and single movement. And indeed Plotinus, *Enn.* iv. 4. 8, says that it is not the proper function of the stars to contemplate the places they pass, for this is not essential to them, since they possess a uniform life, *ζωὴν τὴν αὐτὴν ἔχοντα*, and their movement is vital rather than local, *ὡς μὴ τοπικὸν ἀλλὰ ζωτικὸν τὸ κίνημα εἶναι*.

p. 294. 6. Cf. Aristotle, *Met. Θ* 8. 1050^{b}24, where he says that the heavenly bodies suffer no fatigue, since there is not for them, as there is for transitory things, that possibility of the opposite which makes continuity of movement laborious, the substance of the latter being matter and potentiality, not actuality; cf. also *De caelo B* 1. 284^{a}4.

p. 295. 1. Cf. Plotinus, *Enn.* vi. 9. 6: *ἀρχὴ δὲ οὐκ ἐνδεὲς τῶν μετ' αὐτό, ἡ δ' ἀπάντων ἀρχὴ ἀνενδεὲς ἁπάντων*: a principle is in no need of what is under it, and the principle of everything is in no need of anything. Cf. also Plotinus, *Enn.* iv. 4. 6: *ἀλλ' οὐδὲ περὶ τῶν ἀνθρωπίνων αὐτοῖς ἐπίνοιαι καὶ μηχαναὶ ἐξ ὧν διοικήσουσι τὰ ἡμέτερα*: the heavenly bodies do not think about human affairs, nor have they the means to administer them.

p. 295. 2. The conception of this circular movement of the stars as based on a desire to assimilate themselves to God, the unmovable, the object of this love, is an extremely strange one, and Theophrastus, whose *Metaphysics*, was known to the Arabs, felt its difficulty. It is difficult to see, he says (*Met.* 5^{a}25), how, having a physical desire, the stars do not pursue rest instead of movement, especially when this view is combined with the Platonic theory of imitation (*μίμησις*).

p. 296. 1. The comparison is of course wrong: guarding a city against the enemy may be called an approach to God, because the intention of the act is praiseworthy; but then the approach to God is a consequence of the good intention of the act; approach to God, i.e. assimilation to God, is not its primary intention.

p. 296. 2. Koran xvii. 39.

p. 296. 3. e.g. *Phys. E* 4. 228^{a}20; see note 292. 3.

p. 296. 4. Specifically one, i.e. so far as they are movements. This, however, is by no means what Aristotle understands by 'a movement specifically one'. He says (*Phys. E* 4. 228^{a}3) that when Socrates undergoes an alteration (*ἀλλοίωσις*) specifically (*τῷ εἴδει*) identical, repeated at different times, these alterations (i.e. movements) will be specifically one, but numerically different, although similar.

p. 297. 1. Compare Plotinus, who asks (*Enn.* iii. 3. 3) 'Has one to attribute the character of every being to its creator, if there is one, or to the creature itself, or should one not ask for a reason at all?' He answers that to ask for a reason why plants are created without perception, or why animals do not behave like men, would be like asking why men are not gods.

p. 298. 1. All this is in agreement with Aristotle's view that the side from where movement in animals starts is the right; cf. e.g. *De inc. an.* 6. 706^{b}25–707^{a}13.

p. 298. 2. This rather strange conception is based on Aristotle's view that right and left are only to be found in moving living beings, for only living beings have in themselves a principle of motion (cf. *De caelo B* 2. 285^{a}27), and that motion starts from the right and tends towards the right. This implies that both the sphere of the fixed stars and the spheres of the planets move towards the right, although they move in opposite directions, and according to Aristotle the northern hemisphere is the lower in relation to the diurnal movement but the upper in relation to the motion of the planets (cf. *De caelo B* 2. 285^{b}15). Aristotle and Averroës have it both ways; they regard right and left as relative to an observer and as absolutely attributable to the universe (cf. Arist. *Phys. Γ* 5. 205^{b}33). According to the latter view Averroës holds that only the heaven of the fixed stars tends to the right, and this because the right side is the nobler; according to the former view he holds that all the heavens tend to the right.

p. 298. 3. Since it can only revolve on its axis.

p. 298. 4. Literally: like an ambidextrous foot. According to Aristotle (*Hist. an. B* 1. 497^{b}31) only man among the animals is ambidextrous.

p. 298. 5. Contrary, namely in their direction—in their approach to the earth and recession from it.

p. 298. 6. Cf. e.g. Aristotle, *De caelo B* 3. 286^{b}1 sqq.; generation implies more than one revolution of heaven; if there were only one revolution the relations between the four elements would remain stable, but the four elements imply generation by their nature, since none of them is eternal.

p. 299. 1. 'Why does the heaven revolve?', Plotinus asks at the beginning of *Enn.* ii. 2. 1, and the answer is that it is because it imitates the Intellect, *ὅτι νοῦν μιμεῖται.*

p. 299. 2. This kind of argument, which is very frequent, is used, for example, by Favorinus against the astrologers in Aulus Gellius' *Noct. Att.* xiv. 1: The shortness of human life prevents the perception and interpretation of such relations between events as are assumed by the astrologers.

p. 299. 3. Literally *On the particular influences of the spheres.* But that *τὰ ἀστρολογικὰ θεωρήματα* is meant can be seen from the fact that in his commentary (comm. 68) on *De caelo B* 10. 291^{a}29, where Aristotle himself seems to refer to this work (other references are found in *Meteor. A* 3. 339^{b}7 and *A* 8. 345^{b}1), Averroës says: 'Aristoteles autem fecit librum de hoc qui dicitur de regiminibus coelestibus' (*regimina* corresponds exactly to the Arabic تدبيرات, which I have translated by 'influences'). About the astrological meaning of the word *θεώρημα* Cicero informs us at *De fato* i. 6. 11 where he translates the word *θεωρήματα* by *percepta*, and where he gives as an example of such a *perceptum* the fact that if so and so is born at the rise of the dog-star, he will not be drowned at sea. The correct English translation for *θεώρημα* in its astrological meaning would seem to be 'judgement'. 'As it is said' seems to imply that Averroës himself had not seen the book.

p .299. 4. 'Chaldaeans' in Greco-Roman literature is often almost synonymous with 'astrologers'; cf. e.g. Cicero, *De divin.* i. 1. 2.

p. 300. 1. Cf. Aristotle, *De part. an. A* 1. 641^{b}12.

p. 300. 2. For a great number of signs of providence (the *ratio naturae intellegentis*) indicative of terrestrial things, compare, for example, Cicero, *De nat. deor.* ii. 47. 120 sqq.

p. 300. 3. 'thousand years'; this number makes it plausible that Averroës borrowed the assertion from some Greek author, and indeed Theophrastus, as quoted by Ps.-Philo, *De aeternitate mundi* (145), says that science was invented barely a thousand years ago, *μόλις πρὸ χιλίων ἐνιαυτῶν.* Compare Lactantius, *De ira* c. 13. 10 (*Stoic Vet. Fr.* ii. 337. 2): '(Stoici) aiunt enim multa esse in gignentibus et in numero animalium quorum adhuc lateat utilitas, sed eam processu temporum inveniri, sicut iam plura prioribus saeculis incognita necessitas et usus invenerit.'

p. 300. 4. Cf. Aristotle, *Met. Λ* 8. 1074^{a}38; compare also Cicero, *De Divin.* ad init. 'Mysterious indication', رمز, corresponds to Greek *μυστήριον*, 'divine, inspired truth': cf. e.g. *Corp. herm.* i. 16.

p. 300. 5. This is, of course, a sophism: if rest is taken as the opposite of movement, God is not at rest, since He is not spatially determined; but if rest is taken as the opposite of change it will apply also to God (representing the universe in spatial images, man in general, and Aristotle in particular, have a tendency to regard all change as motion: a moving in and out).

p. 300. 6. 'the indelible tablet' اللوح المحفوظ. The indelible tablet is mentioned in the Koran, lxxxv. 21: 'it is a glorious Koran written on the indelible tablet'. It is regarded by the Muhammadans as the depository of all the events decreed by God. The allegorical interpretation of the philosophers takes the indelible tablet as the symbol of the Universal Soul. Jurjani in his *Definitions*, ed. Fluegel, p. 204, distinguishes four tablets: (1) the first Intellect; (2) the Universal Soul which is identical with the indelible tablet; (3) the particular souls of the heavens in which everything which has shape or form or magnitude in this world is inscribed; (4) matter.

p. 300. 7. There is a passage in Plutarch, *De defect. orat.* 40 (p. 432 c), in which he gives the Posidonian view of prophecy and compares the prophetic faculty, *τὸ μαντικόν*, with a tablet, not written on, irrational and indeterminate in itself, *γραμματεῖον ἄγραφον καὶ ἄλογον καὶ ἀόριστον ἐξ αὑτοῦ*, but

capable through the reception of representations and forebodings of grasping the future without reasoning, ἀσυλλογίστως. And he says (op. cit. 39) that the prophetic faculty should not surprise us, for the soul possesses also its counterpart, memory, which preserves what has been the present, but no longer is: in a mysterious way the soul lays hold both on the not yet existing and on the no longer existing. Compare also Cicero, *De divin.* i. 56. 128: it is not astonishing that soothsayers can predict things that are nowhere, for everything 'is', although not (really) in time (*sunt enim omnia, sed tempore absunt*).

p. 300. 8. Cf. Farabi, *The Gems of Wisdom* (Dieterici), p. 77. Farabi asserts that neither the tablet nor the pen—see next note—is a concrete thing.

p. 301. 1. 'The Pen' is the name of Sura lxviii of the Koran. In Muhammadan tradition it is affirmed that the first thing God created was the pen with which He wrote down all future events.

p. 301. 2. The images in this sentence are rather mixed; the pen, or rather the burin, is regarded as the instrument of the divine engraver, but is also personified as His knowledge. In any case for the allegorical interpretation the pen is regarded as the active element, i.e. the First Intellect, the tablet as the receptacle or the effect of its action, the Universal Soul.

p. 301. 3. Cf. Alexander of Aphrodisias, *The Principles of the Universe*, ed. cit., p. 255, where it is stated that the heavenly bodies do not need those faculties which serve only for preservation. For Avicenna's theory that the heavenly bodies have representations or imagination cf. my *Ep. d. Met. d. Av.*, pp. 117–18.

p. 301. 4. According to Aristotle (*De an.* Γ 3. 428ᵃ10) all animals have sensations, but not all animals have imagination; for instance, the ant, the bee, and the grub do not possess it.

p. 301. 5. i.e. they possess only the intellectual part of the soul.

p. 301. 6. The will follows the end and not the end the will, says Avicenna, *Salvation*, 446. 2; cf. Aristotle, *Rhet.* Γ 16. 1417ᵃ18: ἡ προαίρεσις ποιὰ τῷ τέλει. The opposite was held by Spinoza, for whom the good, or rather the good for me, is what is desired by me (*Eth.* iii, prop. 39, schol.).

p. 302. 1. This is proved by Avicenna, e.g. *Salvation*, pp. 426 sqq. (cf. the parallel passage, *Recovery*, ix. 4): the Universal Will, الارادة الكلية, cannot cause a movement from one definite point to another.

p. 302. 2. Avicenna (*Salvation*, p. 463) says that the celestial bodies influence the terrestrial through the qualities which are proper to them and which flow out from them into this world; and they also influence the souls of this world; through this we know that the nature which leads (ἡγεμονεῖ) these terrestrial bodies, like their perfection and their form (read الصورة),

receives its existence from the soul which is dispersed over heaven, or through its collaboration.

p. 302. 3. The accidental finding of a treasure, when one is digging for another reason, is a standard example among the Peripatetics of an event occurring by accident, ἀπὸ τύχης and unpredictable; cf. Aristotle, *Eth. Nic.* Γ 5. 1112ᵃ27 and Alexander of Aphrodisias, *De fato*, 172. 25. 'What can be the connexion between the universe and the finding of a treasure?' asks Cicero, *De divin.* ii. 14. 33.

p. 302. 4. All this is Stoic determinism; compare, for example, Cicero, *De divin.* i. 56. 127: if there were a man who saw the connexion of all causes, he would never fail in any prediction, for he who knows the causes of future events will necessarily know all future events; but since this is only possible for a god, man cannot predict the future except by certain signs.

p. 303. 1. Avicenna affirms in his *Recovery*, *Met.* x. 1, that the souls of the heavenly bodies know the particular individual in a way which is not purely intellectual.

p. 303. 2. Muslim dream-interpretation depends largely on Greek principles, especially on those of the Stoics (Chrysippus, Diogenes of Babylon, Antipater, and Posidonius all wrote books on divination and dreams, cf. Cicero, *De divin.* i. 3. 6). The basic idea of prophetic inspiration is found in the famous passage of Aristotle's *De philosophia* (fr. 10 Rose) quoted by Sext. Emp., *Adv. phys.* i. 20: The conception of gods arose among men from two principles, from what befalls the soul and from the aspect of the heavens; it arose from what befalls the soul because of inspirations in sleep and prophecies. For (he says) when the soul retires in sleep to itself it takes on its proper nature, and prophesies and predicts the future. It is also in this state when, at the point of death, it is severed from its body. Posidonius—cf. Cicero, *De divin.* i. 30. 63—took over this view from Aristotle. One of the three reasons given by Posidonius for the divine inspiration of dreams is the kinship of the human soul with the divine (Cic. op. cit. 64), or, as Cratippus (ap. Cic. i. 32. 70) says: 'Outside the human soul there is a divine soul from which the human takes its origin.' Compare also the passage quoted by Cicero (op. cit. 61) from Plato's *Republic* ix. 571 sq., where the latter says that when, in sleep, the irrational parts of the soul are pacified and the rational part shines forth, a man's dreams will be peaceful and reliable (tum ei visa quietis occurrent tranquilla atque veracia). Avicenna's relation to astrology is much the same as Plotinus', or rather it depends on it. Both Plotinus and Avicenna accept the Stoic idea of a natural sympathy through which all parts of the Universe stand in relation to each other, and changes in one part can give indications of changes in others. But they both reject the extravagant claims of the astrologers (cf. Plotinus, *Enn.* iii. 1. 5 sqq.; Avicenna, e.g., in a short treatise on the question) with arguments

derived ultimately from Carneades; and both inconsistently try to safeguard free-will, notwithstanding the dependence of everything on one supreme principle and the emanation of everything from it.

p. 303. 3. Aristotle, in *De divin. per somn.* 2, denies that dreams are divinely inspired (*θεόπεμπτα*), since animals also dream, and otherwise only the wisest would be able to foresee the future, whereas common men and even the demented and melancholic are capable of doing so. He holds that dreams depend on an unconscious and irrational perception of signs which the imagination symbolizes. Therefore, says he (op. cit. 2. 464^{b}5), the best interpreter (*τεχνικώτατος*) of dreams is one who can perceive the similarities.

p. 303. 4. Cf. Plutarch, *De gen. Socr.* 24, who says that the chosen few are sometimes, but rarely, in direct contact with the Divine, whereas the common man receives only the signs which form the subject-matter of soothsaying (*τὸ θεῖον ὀλίγοις ἐντυγχάνει δι' αὑτοῦ καὶ σπανίως, τοῖς δὲ πολλοῖς σημεῖα δίδωσιν*).

p. 304. 1. Cf. note 301. 4.

p. 304. 2. Cf. Aristotle, *Met. Z* 8. The carpenter gives the form of the cupboard, which is always a universal, to the matter, i.e. all art proceeds from universal rules; but such a theory can never explain the individual differences in works of art, and the fact that in his work of art the artist expresses his individuality.

p. 304. 3. 'by nature', i.e. by instinct.

p. 304. 4. According to Aristotle, however, animals have no notion of the universal, but only representation of the particular (*τῶν καθ' ἕκαστα φαντασίαν*) and memory, cf. *Eth. Nic. H* 5. 1147^{b}5.

p. 304. 5. 'the definition of a thing', i.e. the concept of it.

p. 304. 6. This distinction between a universal representation and the concept (form) is not found in Aristotle.

p. 304. 7. The problem of the instinct of animals seems to have interested the Stoics especially. 'How is it,' asks Seneca (*Epist.* 121. 19), 'that the hen does not flee from the peacock or the goose, but from the hawk, which is much smaller and which it does not even know?' ('quid est, quare pavonem, quare anserem gallina non fugiat, at tanto minorem et ne notum quidem sibi accipitrem?'), and he asks from where the bees get their ingenuity in building their cells, and the unity of their collaboration (22): 'non vides, quanta subtilitas apibus ad fingenda domicilia, quanta dividui laboris obeundi undique concordia.' And the answer is that their art is innate, not acquired: 'nascitur ars ista, non discitur' (cf. n. 334. 3). Origen, *De princip.* iii. 108 (*Stoic. Vet. Fr.* ii. 288. 2), says that some animals have by instinct an imagination which leads them to some specified action, the bees, for example, to the building of cells.

p. 304. 8. i.e. the artisan who does not genuinely possess his art, but proceeds empirically.

p. 305. 1. He means that the king who arranges his armies for a battle is not occupied with the individual men, but only with the armies as a whole. Averroës seems here to confound 'whole' and 'universal'.

p. 305. 2. Aristotle says (*Eth. Nic. Γ* 5. 1112^{a}21) that there can be no deliberation about that which is eternal (since it is eternally fixed, and therefore no will can alter it).

p. 306. 1. Irenaeus (*Contra haer.* i. 9. 4) had protested against the Gnostics that they transferred expressions and terms from their natural sense to an unnatural (*λέξεις καὶ ὀνόματα μεταφέρουσιν ἐκ τοῦ κατὰ φύσιν εἰς τὸ παρὰ φύσιν*).

p. 306. 2. Both the terms 'universal aim' and 'universal will' which he identifies here have very little sense. If he means, however, that when a man has decided to go immediately to Mecca, no movement occurs, this is not correct: all his subsequent movements depend on this decision and are simply the means to attain his end.

p. 307. 1. i.e. the straight line is perfectly determined, and to follow it one needs no other determination.

p. 307. 2. This is in fact Anselm's (and Augustine's) doctrine of *fides quaerens intellectum*. It would be negligent, in a person capable of understanding, not to proceed from the means to the end, from belief to understanding.

p. 308. 1. The former would be the Stoic view, the latter the Peripatetic.

p. 308. 2. Averroës seems rather undecided about this question, but perhaps he means the same as Cicero, *De nat. deor.* ii. 65. 164: 'licet contrahere universitatem generis humani eamque gradatim ad pauciores postremo deducere ad singulos', i.e. if the gods care universally for man, one may deduce from this that providence extends to every individual man.

p. 309. 1. 'in a created soul', since, for God, knowledge of the infinite is not impossible. For Augustine also (*De civ. dei.* xii. 19) God can comprehend the infinite, and His knowledge transcends number as infinity transcends number: 'infinitas itaque numeri, quamvis infinitorum numerorum nullus sit numerus, non est tamen incomprehensibilis ei, cuius intelligentiae non est numerus'.

On the other hand, Alexander of Aphrodisias (*De fato* xxx. 201. 9) asserts that, since the infinite cannot be measured, the infinite future events cannot be known to the gods. For the gods what is impossible remains impossible, and they do not seek to overcome it, since this would make any assertion meaningless. For this reason it is impossible for the gods to know definitely of a thing contingent by nature that it will be or will not (op. cit. 200. 23)

(Alexander's thesis against Stoic determinism is that there are things contingent by nature and that chance exists). It is rather astonishing that Ghazali, for whom as an Ash'arite there is no objective necessity at all, and for whom there is no certainty in any foreknowledge, since any future event depends solely on God's pleasure, does not attack (as Alexander does) the basic Stoic thesis of the necessary concatenation of all events.

p. 309. 2. i.e. in a body.

p. 309. 3. i.e. through a body.

p. 309. 4. There is here, perhaps, some reference to the difficult problem in Platonic ethics and Greek ethics generally of the dual nature of man, divine through his spiritual, intellectual being, profane through his earth-bound life. If man's aim lies solely in the perfection of his intellect, in a purification from all earthly desire, in a flight of the alone to the Alone (*φυγὴ μόνου πρὸς μόνον*), his relation to his fellow men would seem irrelevant. But it would be presumptuous in earth-bound man, says Protarchus (cf. Plato, *Philebus* 62 b), to seek only the eternal and divine; to find his way home man should consider also the less pure and less perfect particular knowledge. It is, according to Greek ethics, in and through society that man, being by nature a gregarious animal, will develop his moral character. And since kings ought to be philosophers, some philosophers ought to be leaders of men. Compare Cicero, *De fin.* iii. 20. 68: the wise man should desire to engage in politics and government, since we see that man is designed by nature to safeguard and perfect his fellows; cf. Spinoza, *Eth.* iv. 73 (Spinoza certainly knew the *De finibus*; compare, e.g., *De fin.* iv. 1. 14 with *Eth.* v. 20 demonstr., and *De fin.* iv. 7. 16 with *Eth.* iv. 20 demonstr.).

p. 310. 1. i.e. the soul is all the individuals potentially, because on the one hand in perception it can become all the individuals actually, and on the other it receives from the intellect a knowledge of the permanent (stable, *στατικός*) intelligibles which comprehend potentially all the individuals.

p. 310. 2. According to Plotinus the soul stands in an intermediary position between the Intellect and the sublunary world; it is a unity–plurality, *πλῆθος ἕν*, and otherwise could not produce a plurality so far distant from unity (cf. *Enn.* vi. 2. 5).

p. 310. 3. I think Averroës is here referring to the passage p. 309, l. 10, where Ghazali admits the possibility that the soul of heaven may know all particular events, but where he limits this knowledge to the present and therefore partially accepts, partially rejects the philosophical theory, and where by this arbitrary limitation he refutes the philosophical theory of prophecy. Of course Ghazali admits foreknowledge in God of the infinity of all particular events. St. Augustine (*De civ. Dei* v. 9) says that this foreknowledge, according to Cicero, *De divin.*, implies fate (*concessa scientia futurorum ita esse consequens fatum ut negari omnino non possit*), and that therefore Cicero rejects it. So did the Peripatetics, as we have seen, and for the same reason. The implication seems to me evident, but St. Augustine is not of this opinion.

p. 310. 4. The irascible soul, *θυμός*, the concupiscent soul, *ἐπιθυμία*, i.e. the two irrational parts of the soul according to Plato (cf. *Rep.* iv. 436 a); to contemplate the soul in her primordial purity, she should be viewed in her immortal yearning for the divine which is akin to her, and as cleansed from the incrustation due to her earth-bound state (cf. op. cit. x. 611–12).

p. 311. 1. For an historical view of the division of the sciences from the Alexandrian commentators on Aristotle, especially Ammonius Hermiae, who is the originator of this type of philosophical literature, to the end of the scholastic period, see L. Baur, 'Gundissalinus, de divisione philosophiae', *Beitr. z. Gesch. d. Philos. d. Mittelalt.* iv. 2–3, pp. 325 sqq. Both Farabi and Avicenna wrote treatises on the division of the sciences, Farabi's treatise being called *On the Enumeration of the Sciences* and Avicenna's *On the Divisions of the Intellectual Sciences*. Avicenna's division is based on Ammonius' scheme of *διαίρεσις* (division) into practical and theoretical sciences; *ἐπιδιαίρεσις* (secondary division), e.g. the tripartite division of the theoretical sciences into physics, mathematics, and theology; and *ὑποδιαίρεσις*, subdivision, e.g. the subdivision of the physical sciences. The division of physics into eight parts, each based on a special treatise of Aristotle, is a common feature of the Muslim commentators. The sequence of these parts and the enumeration of the books of Aristotle is taken from Philoponus, in *Phys. comm.* (Vitelli i. 1. 20); Philoponus, however, subdivides the part that treats of animals into a class that treats of them as wholes and a class that treats of their parts.

p. 311. 2. Classes, اصول, i.e. literally 'roots', radices; subdivisions, فروع, i.e. ramifications, rami.

p. 311. 3. Not only is time, according to Aristotle, a consequence of movement (*ἀκολουθεῖ τῇ κινήσει ὁ χρόνος*, *Phys.* Δ 11. 219b16), since time is the number of movement, but he seems to regard space as posterior to movement, and not the reverse, for he says (*Phys.* Δ 1. 208b8): 'The movements of the elements show not only that there is a space, but that it has a certain function (*καὶ ἔχει τινὰ δύναμιν*).'

p. 311. 4. The same definition is found in Avicenna's *On the Divisions of the Intellectual Sciences*, which Ghazali in his enumeration of the seven subdivisions follows very closely. The Aristotelian definition of medicine is: *ἡ ἰατρικὴ τέχνη ὁ λόγος τῆς ὑγιείας ἐστίν* or *τῆς ἰατρικῆς τέχνης τέλος ὑγίεια* (e.g. *Met.* Λ 3. 1070a30; *Eth. Nic.* A 1. 1094a8). By regarding medicine as a species of physics, the primary division of the sciences into practical and theoretical is vitiated, as Averroës observes below. Aristotle (*Eth. Nic.*, loc. cit.) gives medicine as an example of a practical science.

p. 311. 5. The possibility of physiognomy is admitted by Aristotle, *Anal. Pr. B* 27. 70b7, when it has first been conceded that body and soul can change at the same time: anger and desire, for example, find their expression in physical movements. Pythagoras (cf. Hippolytus, *Refut.* i. 2. 5) was regarded as the inventor of physiognomy (φυσιογνωμικὴν ἐξεῦρε), and Alexander of Aphrodisias (*De fato* 171. 11) tells a story of Zopyrus, the physiognomist, who from an examination of Socrates' exterior attributed many vices to him—a story also mentioned by Cicero, *Tusc.* iv. 37. 80 and *De fato* 5. 10. The treatise on physiognomy ascribed to Aristotle is not genuine.

p. 311. 6. The telesmatic art is the art of charms, amulets, talismans, &c. (the word 'talisman' is derived, through the Italian *talismano*, from the Arabic طلسم, itself a derivative of τέλεσμα, one of the many Greek words for 'charm' or 'amulet'). The telesmatic art differs from magic in that the magician needs no external instrument. Compare the long chapter dedicated to this art in Ibn Khaldun, *Prolegomena*, ed. Quatremère, *Notices des Manuscrits de la Bibl. Imp.*, vol. xviii, p. 124. Among the Arabs the best known authors on magic are Jabir ibn Hayyan and Maslama ibn Ahmad al-Majriti.

p. 311. 7. In this art there is only a combination of earthly virtues. Averroës—see below—regards it as a kind of conjuring.

p. 312. 1. For alchemy compare also Ibn Khaldun, op. cit., pp. 191 and 229. Jabir ibn Hayyan, mentioned in the last note but one, was regarded among the Arabs as the greatest authority on alchemy, which is sometimes called the science of Jabir.

p. 312. 2. This is not true according to Aristotle, who regards it as purely rational and based on a syllogism of the first figure, when the major and middle terms are convertible (*Anal. Pr. B* 27. 70b32).

p. 312. 3. Ibn Khaldun develops this idea for his refutation of alchemy, op. cit., p. 236: Alchemy is the reproduction of nature by art. We should have to follow in detail all the processes which nature uses in the formation of metals, and know all the particular circumstances of their development and all their effects. These, however, are infinite and beyond man's grasp; it would be as if man were to create a man or an animal or a plant.

p. 313. 1. 'existing by themselves'; this is of course in opposition to the Aristotelian theory that the soul is the form of the body, a theory rejected by Plotinus in the fragment quoted by Eusebius, *Praep. ev.* xv. 10, since according to such a theory the soul could not be separated from the body. Avicenna holds both theories, the Aristotelian theory of the soul as the form of the body and the Platonic and Plotinian of the soul as a substance and an entity separable from the body; he does not seem to be aware of the contradiction.

p. 313. 2. According to Plotinus (*Enn.* iv. 7. 9), who follows Plato (*Phaedo* 105 c–106 d), the principle of movement and life cannot itself be mortal. Compare also, for example, Avicenna, *Salvation*, p. 302, where it is argued 'that the soul does not die through the death of the body', since body and soul are both substances.

p. 313. 3. In opposition to the Koran, which teaches the resurrection of the flesh; compare, for example, Sura lxxxi. 7, where in speaking of the resurrection the phrase is used 'when souls shall be paired with their bodies'.

p. 313. 4. Hume (*Enquiry concerning Human Understanding*, § 10), who does not believe in laws of nature any more than the Ash'arites do, and who does not believe in miracles either, defines a miracle as a violation of the laws of nature. He says, however, that it is a miracle that a dead man should come to life, because that has never been observed in any age or country; this, of course, is not a valid reason—many (in a sense, all) things happen quite 'naturally' that have never been observed before. According to this definition, a miracle does not abolish the idea of a law of nature but on the contrary assumes it. Nor is it true that a miracle abolishes the concept of cause and effect. A miracle is attributed to God as a cause, as an immediate interference of God with the causes and the course of nature. Strictly speaking there are no miracles for the Ash'arites, nor has the word 'nature' any meaning for them; or perhaps one might say that for them all miracles are natural, and all nature miraculous.

p. 313. 5. For the changing of Moses' rod into a serpent see Koran ii. 21.

p. 313. 6. Cf. Koran, Sura liv, which begins: 'the hour draws nigh and the moon is split asunder'. This is sometimes interpreted later as a miracle performed by Muhammad, but it can be explained as one of the signs of the resurrection.

p. 313. 7. Some of the older Mu'tazilites were already regarded as thorough-going rationalists, e.g. Hisham ibn Amr al-Futi and Nazzam (see e.g. Shahrastani, *Relig. and Philos. Sects*, i. 51; 40). For a rationalistic exegesis compare also Cl. Huart, 'Le Rationalisme musulman', in *Revue de l'histoire des religions*, vol. l, p. 201. One must distinguish the rationalistic interpreters from those numerous mystics who give to the religious text a symbolic meaning in accordance with their spiritualistic doctrines.

p. 313. 8. Compare, for example, Avicenna, *Theorems and Notices*, p. 213, and Farabi, *The Gems of Knowledge* (Dieterici), p. 76.

p. 313. 9. Intellectual acuteness (حدس, ἀγχίνοια): the term is defined by Aristotle, *Anal. Post. A* 34. 89b10 as the capacity of a man to arrive at the middle term quickly; such a man, for example, will quickly understand that the moon receives its light from the sun. According to Avicenna, *Salvation*, p. 273, whom Ghazali here follows very closely, intellectual acuteness

differs among men qualitatively and quantitatively: on the one hand there are men who are absolutely devoid of it, on the other there are those, the prophets, in whom it reaches such excellence that the forms of the active intellect are immediately imprinted on it.

p. 314. 1. This is a quotation from the mystical verse of the Koran, xxix. 35: 'God is the light of the heavens and the earth; His light is as a niche in which is a lamp, and the lamp is in a glass, the glass is as though it were a glittering star, it is lit from a blessed tree, an olive neither of the west nor of the east, the oil of which would well-nigh give light though no fire were in contact with it, light upon light . . .'.

p. 314. 2. This example is found in Plutarch, *Quaest. conv.* v. 7. 3 (*ἐπίνοιαι γὰρ ἀφροδισίων ἐγείρουσιν αἰδοῖα* and again *τὰ σπέρματα τῶν ἀνθρώπων μᾶλλον ἅπτεσθαι, ὅταν ἐρῶντες πλησιάζωσιν*; Thomas Fienus says, *De viribus imaginationis*, p. 59: 'qui imaginatur Venerem, ei coles excitatur et spiritus moventur versus genitalia, et non ad aliam partem'), where 'fascination' (*καταβασκαίνειν*) and the 'evil eye'—which is admitted and explained, in *Theorems and Notices*, p. 221, and in the psychological part of his *Recovery*, iv. 4, by Avicenna in the same way as by Plutarch, by an explanation which is, I presume, of Stoic origin—are attributed to the influence of the emotions of the soul on the body.

p. 314. 3. The example of the plank is taken from Avicenna, *Theorems and Notices*, p. 219 and *The Recovery*, loc. cit. Ibn Khaldun, who reproduces as he says the theories of the philosophers, also mentions it, op. cit., p. 132. It is interesting to note that the same example is quoted in a well-known passage of the *Pensées* of Pascal (in the section 'Imagination'): 'Le plus grand philosophe du monde, sur une planche plus large qu'il ne faut, s'il y a au dessous un précipice, quoique sa raison le convainque de sa sûreté, son imagination prévaudra.' Pascal took this example from Montaigne, *Essais*, ii. 12: 'Qu'on jette une poutre entre deux tours (de Notre Dame de Paris) d'une grosseur telle qu'il nous la faut à nous promener dessus, il n'y a sagesse philosophique de si grande fermeté qui puisse nous donner courage d'y marcher comme si elle était à terre.' Emile Coué, *De la suggestion et ses applications*, Nancy, 1915, p. 5, also has this example. The example is found in R. Burton, *The Anatomy of Melancholy*, part I, sect. 2, mem. 3, subs. 2, who ascribes it to Peter Byarus. He means evidently Petrus Bairus (Pietro Bairo), a famous Genoese physician and an elder contemporary of Montaigne, who in his book *De pestilentia* (chapter *de cibo et potu*) had a long quotation from Avicenna's *Psychology* with our example. Doubtless Montaigne with his great interest for medicine found it there. Thomas Aquinas has this example, *Contra gentiles* iii. 103. He rejects, however, the consequence Avicenna draws and declares that a spiritual substance cannot make an impression on a body, except by means of

local movement. The examples given in our text all concern the involuntary influence of imagination on our body or behaviour; but the magician, as a performer of miracles, acts voluntarily. The fundamental problem of the relation of body and mind, the fact that my immaterial ego is in contact with the physical universe (and, another mystery, that through physical means it can communicate with other immaterial egos), and that through its will it can influence my material body and by its intermediation change the face of the world—this problem, which has struck moderns since Descartes with wonder, was never properly seen by the ancients, although St. Augustine (*De civ. Dei* xxi. 10) said: 'modus quo corporibus adhaerent spiritus omnino mirus est, nec comprehendi ab homine potest; et hoc ipse homo est'. Plotinus, on whom Avicenna's mystical theories largely depend, explains all magical influence by the Stoic concept of a 'sympathy' which all things have for each other (cf. *Enn.* iv. 4. 40–42).

p. 314. 4. This is the theory of Avicenna, found in *The Recovery* and in *Theorems and Notices*, p. 220: certain souls may exercise an influence on other bodies than their own. It is repeated by Ibn Khaldun, op. cit., pp. 132–3. Burton says, loc. cit: 'Nay more, they (i.e. witches and old women) can cause and cure not only diseases, maladies, and several infirmities by this means, as Avicenna, *De anima* libr. iv. sect. 4, supposeth in parties remote, but move bodies from their places, cause thunder, lightning, tempests, which opinion Alkindus, Paracelsus, and some others approve of'. Burton gives in this section a bibliography on the subject of 'The Force of Imagination'. Fienus, whom Burton calls 'the pick of the bunch' ('*instar omnium*'), says, op. cit., p. 25, cf. pp. 40 sqq., that Avicenna's theory was held, for instance, by Albertus Magnus, Marsilius Ficinus, Pomponatius, and Paracelsus. Compare also H. C. Agrippa, *De occulta philosophia*, i. 65.

p. 314. 5. The swallowing up of the earth with its inhabitants as a punishment is mentioned in the Koran (xxxiv. 19); 'God made the wind subservient to Solomon', ibid. xxxiv. 11; 'God struck the inhabitants of Ad and Thamud with a thunderbolt', ibid., e.g. xli. 12, and ' "rained a rain" on the people of Lot', ibid. vii. 82.

p. 314. 6. Warmth, for example, is commonly produced by the soul in its body (says Ibn Khaldun, op. cit., p. 132) in a state of pleasure and joy. Compare also Thomas Aquinas, loc. cit.

p. 315. 1. That philosophy implies virtue is a Stoic idea: 'philosophia studium virtutis est, sed per ipsam virtutem . . . cohaerent inter se philosophia virtusque' (Seneca, *Epist.* 89. 8).

p. 315. 2. i.e. without physical contact.

p. 315. 3. i.e. which is not logically impossible, *ἀδύνατον ἁπλῶς*.

p. 315. 4. 'that they are of this kind', i.e. not logically impossible. The whole sentence is ambiguous, everything depends on what he understands

by 'logically impossible'. From what follows it would seem that he does not admit that prophets can interrupt the course of nature, but is unwilling to express it too clearly.

p. 315. 5. See note 152. 1.

p. 315. 6. He is doubtless here referring to the chapter in Ghazali's book *The Preserver from Error* entitled 'On the reality of prophecy and its necessity for all men', where the prophet is regarded as a man who by his special qualities is in contact with the occult, and where it is expressly stated that one should not base one's belief in prophecy on such facts as the changing of a rod into a serpent or the cleavage of the moon.

p. 316. 1. i.e. they are not relative, but cause (say the sceptics) is something relative, for it is a cause of something and occurs to something, e.g. the lancet is the cause of something, i.e. cutting, to something, i.e. flesh; relatives, however, do not exist, but are only subjective (Sext. Emp. *Adv. phys.* i. 207–8).

p. 316. 2. This, the denial of any logical nexus, is the fundamental thesis of Greek empirical medicine: for we find the consequent through experience, but not as implied by the antecedent; and therefore none of the empiricists say that one thing implies another, although they will certainly assert that certain facts follow or precede other facts or are simultaneous with them (*εὑρίσκεται μὲν κἀκ τῆς πείρας τὸ ἀκόλουθον, ἀλλ' οὐχ ὡς ἐμφαινόμενον τῷ ἡγουμένῳ. καὶ διὰ τοῦτο τῶν ἐμπειρικῶν οὐδεὶς ἐμφαίνεσθαί φησι τῷδε τινι τόδε τι. καίτοιγε ἀκολουθεῖν λέγουσι τόδε τῷδε καὶ προηγεῖσθαι τόδε τοῦδε καὶ συνυπάρχειν τόδε τῷδε*): Galen, *De meth. med.* ii. 7 (K. x. 126 F; Deichgräber, op. cit. 123. 24).

p. 316. 3. The example of burning is given by Sext. Emp. *Adv. phys.* i. 241 sqq. The argument given there is that if fire were the cause of burning, it would either burn by itself or need the co-operation of the burning matter; in the former case, it would burn always and in all circumstances, in the latter it would not burn exclusively through its own nature.

p. 317. 1. 'simultaneity': Hume would have regarded this rather as a sequence.

p. 317. 2. According to Stoicism also God is the only active principle and matter is passive or, as Ghazali would say, dead. The Stoic God is immanent in the world; He does not act voluntarily, but Himself is Law, Fate, and Necessity. In a way Aristotelianism also, as we have seen, implies God as the Unique Agent; for He is the one principle of movement, the constant mover of Heaven, on whom all earthly change depends, and in the next sentence in the text Ghazali quite rightly draws this conclusion.

p. 317. 3. Aristotle's own theory of procreation is confused and obscure; life and soul are not body, but cannot exist without body, which either is

warmth, not fire (*θερμὸν οὐ πῦρ*), or *pneuma*, and something more divine than the so-called elements (*σῶμα θειότερον τῶν καλουμένων στοιχείων*) and related to the matter of stars (*ἀνάλογον τῷ τῶν ἄστρων στοιχείῳ*); cf. *De gen. an. B* 3. 736b29 sqq. For the theories of Avicenna and Averroës compare my *Ep. d. Met. d. Av.*, pp. 40 and 44 and notes.

p. 317. 4. This is rather a strange argument in a refutation of the causal nexus between phenomena, since it admits and implies such a nexus. The arguments seems somehow related to the equally bad argument of Chrysippus quoted in Cicero's *De fato* 18. 41–19. 45, by which Chrysippus wanted to safeguard free-will without abandoning the idea of a universal causal concatenation, and where he distinguishes between *causae perfectae et principales* and *causae adiuvantes et proximae*. We cannot, he says, give our consent (*assensio*, *συγκατάθεσις*) to a thing seen without the form of the visible object making an impression on our soul, but this impression is only a *causa adiuvans* of the consent, which depends on our own nature. Compare also Cicero, *Top.* 15. 58, for the Stoic distinction of two types of causes, the efficient, 'unum quod vi sua id quod sub ea subjectum est certo efficit' (*αἴτιον δι' ὅ*), 'alterum quod naturam efficiendi non habet sed sine quo non potest effici' (*αἴτιον οὗ οὐκ ἄνευ* or *αἴτιον προκαταρκτικόν*). In Ghazali's example the light of the sun is a cause of the former type, the opening of the eyelids of the latter. For a further classification of causes by the Stoics see, for example, Clement of Alexandria, *Strom.* viii. 9. 25 (*Stoic Vet. Fr.* ii, pp. 119–21).

p. 317. 5. i.e. the celestial bodies.

p. 317. 6. Whom does he mean? In a well-known passage in Book XII of his great commentary on Aristotle's *Metaphysics* (Bouyges, p. 1498, quoted already by Renan, *Averroes et l'Averroisme*[3], p. 109) Averroës distinguishes the different opinions held by philosophers on the relation between God and the world; according to him, besides the Muslim theologians only the Christian philosophers like John Philoponus professed that all the potentialities of the created reside in God. However, according to Neoplatonism and the Neoplatonic commentators all forms derive ultimately from God, and so all the Muhammadan Aristotelians may be meant here. But it is strange that Ghazali should give them the designation of 'true philosophers'.

p. 318. 1. This is perfectly true; if the only function of the human mind were the registration of isolated sense-impressions, as the empiricists or sensationalists or positivists have it, or if *esse* were *percipi*, there could be no investigation, no search for explanation or causes, since nothing could be known but the experienced and the given. All search, all research, all questioning, all wonder implies belief in causation. All knowledge, as both Plato and Aristotle knew, arises from questioning and wonder: *διὰ γὰρ τὸ θαυμάζειν οἱ ἄνθρωποι καὶ νῦν καὶ τὸ πρῶτον ἤρξαντο φιλοσοφεῖν* (Arist. *Met. A* 2. 982b12; cf. Plato, *Theaet.* 155 d), and transcends the actually perceived.

p. 318. 2. 'evident', I think, would be better than 'self-evident'; the evident is that whose cause is known, the unknown that of which the cause is not yet perceived. We believe that we know a thing—says Aristotle, *Anal. post. A* 2. 71^{b}9—when we believe that we know its cause. (See above, note 236. 5.)

p. 318. 3. This is Aristotle's argument against the Heraclitean flux (*Phys. A* 2. 185^{b}19): all things would be one, right and wrong, man and horse, would be identical; indeed one would not even speak any more about the identity of all things but about their nothingness: *οὐ περὶ τοῦ ἓν εἶναι τὰ ὄντα . . . ἀλλὰ περὶ τοῦ μηδέν.*

p. 318. 4. This also seems to me to be true. All conceptual thought implies the idea of identity, and all identity in the real implies a conformity to law, a sameness of action under the same conditions, i.e. that in such-and-such conditions a certain entity will necessarily act in such-and-such a way; the concept of fire, for example, implies a fore-knowledge of hypothetical necessities: if fire acted in different ways under the same conditions, the concept of fire would not convey any meaning.

p. 318. 5. Since 'one' and 'being' are convertible (cf. e.g. Arist. *Met. I* 2. 1053^{b}25).

p. 319. 1. In this sentence his belief in absolute causal necessity would seem to be shaken, and indeed Averroës holds with Aristotle that there are accidental events: i.e. when something does not happen always or in the majority of cases, *ἐπὶ τὸ πολύ* (cf. e.g. *Met. E* 2. 1026^{b}32). From the following, however, it appears the he means here only that under different conditions things may act differently.

p. 319. 2. i.e. the body of someone capable of sensation.

p. 319. 3. Condition (or presupposition, *ὑπόθεσις*: the word *ὑπόθεσις* with this sense is found in Theophrast. *Hist. Plant.* 4. 13. 4, where it is said that the root is the presupposition of the tree) is a logical concept; a substratum (*ὑποκείμενον*) is a real entity, but, as we have seen, ancient philosophy does not distinguish clearly between the logical and the real. As we have seen, too, the theologians do not accept the Platonic–Aristotelian–Stoic concept of matter; they do, however, accept the idea of the inherence of accidents in a substratum (and they accept the Platonic and Aristotelian idea of a *scala naturae*—see below); and in their logic, which is based on Stoic logic and which uses hypothetical propositions for preference, relations of inherence can be included, as in the example given in the text: life is the condition or presupposition of knowledge, i.e. if there is no life there is no knowledge, and there can be knowledge only in the living (from Kant's treatment of the hypothetical judgement, *Kr. d. r. V.*, tr. An. 9. 3, it has often been erroneously assumed that the hypothetical judgement expresses a causal relation, the categorical a relation of inherence).

p. 319. 4. Forms, being universals, are not admitted by the theologians; for them there are no universal entities *in rerum natura*, and universals are psychological entities, things of the mind (*ἔννοιαι*).

p. 319. 5. i.e. they acknowledge that not only is God, who is invisible, a cause, but there are also visible causes.

p. 319. 6. 'sign' (دليل, *σημεῖον*) is one of the more important concepts of Stoic logic (cf. Sext. Emp. *Hyp. Pyrrh.* ii. 96 sqq.; *Adv. log.* ii. 140 sqq., 149 sqq.). Stoic logic, in opposition to the Platonic and Aristotelian, does not try to establish relations between concepts, but contents itself with finding an external connexion between certain observed facts, e.g. the fact that a woman has milk is a sign or indication that she has conceived. The empirical physicians do not try to explain the connexion, i.e. to find a more universal law from which it may be deduced, nor do they regard this connexion as necessary, but only as probable; and the question how often such a connexion has to be observed to give a reasonable probability was much discussed (the fact that the probability is greater the greater the number of observations can, however, only be explained by the fact that a real causal connexion becomes more probable). The fact that science tries to explain such connexions and does not regard them as a mere expression of empirically stated coincidence, but holds them to be invariable and necessary, shows that we assume them to be based on a causal relation.

p. 319. 7. This is a Stoic proof (cf. Sext. Emp. *Adv. phys.* i. 78 sqq.); instead of 'harmony' one might translate 'sympathy', i.e. the Stoic *συμπάθεια* which holds all things together and through which, when a finger is cut, the whole body shares in its condition.

p. 319. 8. This is a well-known dictum; cf. note 16. 5. Sextus Empiricus says (*Adv. phys.* i. 204 and *Hyp. Pyrrh.* ii. 19; 23) that the man who denies cause does so either without a cause or with a cause—but in the former case his assertion is worthless.

p. 320. 1. This is a telling question, and I do not know how, for example, Hume would answer it. If causation is really a habit in man, what makes it possible that such a habit can be formed, or what is the objective counterpart of these habits? Is it simply our good luck that nature repeats the same connexions over and over again? The most important question, however, that which the Greek dogmatists asked the empiricists, viz. how many times such a connexion must be observed, before it can be relied upon (cf. e.g. Galen, *On Medical Experience*, Walzer, viii. 8), or before such a habit can be formed, is one he does not ask. Besides, how can we act at all, before such a habit is formed? For we shall not be able to act, not knowing the consequences of our actions, or rather not knowing that we can act at all. Have we to pass through a period of inertia where we observe and wait till in one way or another the habit arises? (see also note 324. 4). Proverbial wisdom,

however, has it that once bitten is twice shy, that a burnt childe dreadeth the fire, that he that stumbleth twice at one stone is worthy to break his shin.

p. 320. 2. Koran xxxv. 41–42.

p. 320. 3. Habit (*ἔθος*), says Aristotle (*Rhet. A* 10. 1369^{b}6) is what one does through having done it often.

p. 320. 4. For nature, according to Aristotle (*Rhet. A* 11. 1370^{a}7) is concerned with the invariable, as habit with the frequent, *ἡ μὲν φύσις τοῦ ἀεί, τὸ δὲ ἔθος τοῦ πολλάκις*. However, Aristotle often says that things that happen by nature happen invariably or in a majority of cases (e.g. *Phys. B* 8. 198^{b}35); and Averroës repeats this below in the text.

p. 321. 1. Cf. note 317. 3.

p. 321. 2. He is here referring of course to the Stoics, not the Epicureans. According to Aristotle colours come into existence from the fundamental colours, black and white, through mixture (*μίξις*); cf. *De sensu* 3. 439^{b}18–440^{b}25. About the Stoic theory of colours nothing is known except a few words ascribed to Zeno (*Stoic Vet. Fr.* i. 26. 1–3), according to which colours are the first configurations (*σχηματισμοί*) of matter, or colour is the surface-stain (*ἐπίχρωσις*) of matter.

p. 321. 3. The sun hardens mud and melts wax, says Sext. Emp. *Adv. log.* ii. 194; *Adv. phys.* i. 247; for this whole passage compare Sext. Emp. *Adv. phys.* i. 246–9.

p. 321. 4. This example is also found in Sextus Empiricus, loc. cit.: *ὁ ἥλιος . . . λευκαίνει μὲν τὰ ἐσθήματα, μελαίνει δὲ τὴν ἡμετέραν ἐπιφάνειαν*: the sun whitens clothes, but blackens our complexion.

p. 322. 1. The elemental fire, i.e. the fire which has its natural place directly under the heavenly spheres and which surrounds the air (cf. Aristotle, *De caelo B* 4. 287^{a}33; *Meteor. A* 4. 341^{b}14). For Averroës's theory compare my *Ep. d. Met. d. Av.*, p. 182.

p. 322. 2. Compare, however, what Averroës says himself, p. 288.

p. 323. 1. Koran iii. 5. It is hardly necessary, I think, to draw attention to the ambiguity of Averroës's religious views.

p. 324. 1. With the whole of this section compare Sext. Emp. *Adv. phys.* i. 202–4, where it is said that if there were no causes anything might come from anything at any time and place; a horse might come from a man, a plant from a horse, snow might congeal in Egypt, there might be a drought in Pontus, things happening in summer might occur in winter and vice versa; and again, *Hyp. Pyrrh.* iii. 18, where we have again as an example the horse which might come from mice, or, as another example, elephants that might come from ants.

p. 324. 2. It is to be remembered, however, that for the Ash'arites the possible is the realized.

p. 324. 3. The conjecturing power, i.e. حدس, *ἀγχίνοια*, which we met in Avicenna, see note 313. 9.

p. 324. 4. This is of course an absurd theory, and condemns man to absolute passivity. Such an absolute passivity, however, is the consequence of any sensationalistic theory which reduces causation to a mere sequence of events, since for such a theory the words 'I do', 'I act', 'I think' are completely devoid of sense. Ghazali admits activity in God, but does not define the word; he would hardly be able to hold (as Averroës sees) that God's action is nothing but a habit in Him, i.e. an habitual sequence of events.

p. 325. 1. The formula in itself leaves the question open; if knowledge is simply the recording of external data, there is no objection to Ghazali's theory; it belongs, however, to man to foresee, to intend, and to act, which implies law and a knowledge of law; and this is what Averroës wishes to express, as can be seen from what follows.

p. 325. 2. i.e. if the agent, God, could do anything, and anything could be done to the creature, i.e. the substratum. (However, the omnipotence of the creator already implies the possibility of omniformity in the creature.)

p. 325. 3. i.e. if anything may happen in the future.

p. 325. 4. I do not think that Averroës's position is very acceptable from a theological point of view, for it does not leave any liberty to God whatever, since God must conform to the law. One might perhaps say that God has chosen the law Himself; however, once this law is chosen He can no longer infringe it.

p. 325. 5. 'created', i.e. revealed or inspired.

p. 325. 6. This seems to mean that even revealed or inspired knowledge must be in agreement with what is possible according to the laws of nature.

p. 325. 7. I think this means that if we know that an event is possible—and we may know this either through revelation or through reason or through both—there must be in reality potentialities which make this event possible.

p. 325. 8. This contradicts what he said on p. 320 (see note 320. 4).

p. 325. 9. i.e. knowledge, even divine creative knowledge, implies always a thing known with which it is in agreement.

p. 325. 10. 'the nature of the actually existent', i.e. the fact that Zaid is coming.

p. 325. 11. This seems to mean that knowledge can only refer to facts, an assertion which is surely false.

p. 326. 1. i.e. through God's knowledge, Zaid's coming (for example) is attached to Zaid. This would seem to imply that God's knowledge is the only cause of everything that happens. See, however, the next sentence in the text and the next note. The whole passage is of course very confused; the

term 'nature' is used in a very vague and indefinite sense and the concept of creative knowledge involves in fact a *contradictio in adiecto*. The general sense of the passage, however, seems to be that God cannot infringe natural law.

p. 326. 2. i.e. through our ignorance of the causal laws which determine (for example) Zaid's coming.

p. 326. 3. It would seem from the next sentence in the text that opposites are always in equilibrium in themselves, since the cause of their actualization, i.e. the preponderance given to the one over the other, seems to lie in 'the knowledge of the existence of this nature', i.e. God's knowledge that this opposite will be realized.

p. 326. 4. Koran xxvii. 66.

p. 326. 5. Cf. note 320. 4.

p. 326. 6. The consequences mentioned, pp. 323–4.

p. 326. 7. In this section Ghazali abandons the Ash'arite theory of the denial of causation, and reverts to the rationalistic supernaturalism of the Muslim philosophers (i.e. their attempt to justify supernatural facts by rational arguments, by theories, for example, of influences emanating from the soul or of a universal natural sympathy) which ultimately derives from Stoicism. The philosophers limit supernatural possibilities arbitrarily to certain categories; but the Ash'arites, who do not show any logical consistency, assert that, once philosophical principles are admitted, there is no limit to God's omnipotence but the logically impossible and absurd. The whole problem was much discussed in Scholastic philosophy. Leibniz's position on this question is almost identical with the Ash'arite view.

p. 327. 1. Compare Leibniz, *Theod.* 1, 'Discours de la conformité de la foi avec la raison', 3: 'Il se peut qu'il y ait des miracles que Dieu fait par le ministère des anges, où les lois de la nature ne sont point violées, non plus que lorsque les hommes aident la nature par l'art, l'artifice des anges ne différant du nôtre que par le degré de perfection.' It is interesting to see that Newton's discovery of the law of gravitation was used for the explanation of such possibilities; cf. Leibniz, op. cit., 19: '. . . le célèbre M. Locke a déclaré, en répondant à M. l'évêque Stillingfleet, qu'après avoir vu le livre de M. Newton, il rétracte ce qu'il avait dit lui-même, suivant l'opinion des modernes, dans son Essai sur l'entendement, savoir qu'un corps ne peut opérer immédiatement sur un autre qu'en le touchant par sa superficie et en le poussant par son mouvement: et il reconnaît que Dieu peut mettre des propriétés dans la matière qui la fassent opérer dans l'éloignement.'

p. 327. 2. For plants as composed of earth, cf. Aristotle, *De an.* Γ 13. 435^{b}1.

p. 327. 3. Blood is the final form of food, ἐσχάτη τροφὴ τὸ αἷμα, cf. e.g. Aristotle, *De gen. an.* A 19. 726^{b}3.

p. 327. 4. For the theory of sperm as coming from blood see Aristotle, *De gen. an.* A 17–20.

p. 327. 5. In the sperm there is the form of the animal; cf. Aristotle, *De gen. an.* B 1. 733^{b}32 sqq.

p. 327. 6. The theologians and Ghazali admit a *scala naturae*, a necessary order and succession, τὸ ἐφεξῆς, in all things; cf. Aristotle, *Hist. an.* H 1. 588^{b}4 sqq. and also *De an.* B 414^{b}28: sensation, for example, is a condition of intellect, nutrition of sensation, &c. Compare Thomas Aquinas, *Contr. gent.* iii, c. 99, where he declares that God can produce an effect without its proximate causes.

p. 327. 7. Cf. Leibniz, op. cit. 2: 'il est donc vrai que ce n'est pas sans raison que Dieu les (i.e. les lois générales) a données, car il ne choisit rien par caprice, et comme au sort, ou par une indifférence toute pure; mais les raisons générales de bien et de l'ordre, qui l'y ont porté, peuvent être vaincues, dans quelques cas, par des raisons plus grandes d'un ordre supérieur.'

p. 328. 1. According to Aristotle's principle of synonymity, everything comes into existence from the synonymous, e.g. warmth from warmth; cf. *Met.* Z 9.

p. 328. 2. For the spontaneous generation of worms, the so-called 'earth-guts', γῆς ἔντερα, see Aristotle, *De gen. an.* Γ 11. 762^{b}27, and *Hist. an.* Z 16. 570^{a}15; see also *Hist. an.* E 19. 550^{a}1 for the spontaneous generation of grubs, σκώληκες; for the spontaneous generation of mice compare the curious passage in Aristotle, *Hist. an.* Z 37. 580^{b}30, and Pliny, x. 85, who says that according to Aristotle the generation of mice takes place *lambendo, non coitu*. Scorpions according to Aristotle (fr. 367 Rose) are generated from rotten bergamot-mint, ἐκ τῶν σισυμβρίων σαπέντων; as to serpents, they are oviparous (see Arist. *Hist. an.* Z 1. 558^{b}1), and Aristotle nowhere says that they might be generated spontaneously.

p. 328. 3. 'non pas par caprice, et comme au sort, ou par une indifférence toute pure'.

p. 328. 4. Although Aristotle himself does not seem to admit the possibility of the generation of men from earth (see Arist. *De gen. an.* Γ 11. 762^{b}28), there was an old Greek tradition that such a generation had taken place (cf., for example, Plato, *Plt.* 269 b and Herodotus viii. 55).

p. 329. 1. In these two examples, although they are logically impossible, something more than the simultaneous affirmation and negation of one isolated entity is involved: in the definition of will, for example, a relation to knowledge is implied. All definition states a necessary relation between two concepts, and to deny the logical implication is logically impossible since it destroys the definition.

p. 329. 2. There is some confusion here. There is no logical impossibility in the supposition that God creates purposeful actions in a dead man (or in a living animal that acts by instinct). But the Ash'arites hold that God is the sole agent, and that the actions of living men are created by Him, and then the question arises what difference there can be between voluntary and involuntary action in man (for the distinction between voluntary and involuntary action see Galen, *De motu musc.* ii. 5). The same objection was made against the Stoics: if no atom can move without God's will, if everything depends on fate, there is no longer any sense in man's deliberation and will (cf. Plut. *De comm. not.* 34; Alexander Aphrod. *De fato* i. 33; Nemesius, *De nat. hom.* 39). Another unavoidable consequence is that vice occurs not only of necessity or according to fate, but also in accordance with the Reason of God and with what is best (cf. Plut. *De Stoic. rep.* 34).

p. 329. 3. Aristotle expresses the principle of contradiction in the same way: opposites cannot inhere in the same substratum simultaneously (*Met.* Γ 3. 1005^{b}26).

p. 329. 4. Leibniz (op. cit. 19) does not seem to regard this as impossible; he thinks the dogma of the real and substantial participation may be explained perhaps by the fact that one body can have an immediate influence on others; divine omnipotence might perhaps cause one body to be present in others, there being no great difference between immediate influence and presence.

p. 329. 5. I do not know to whom Ghazali is referring; perhaps it is to Ibn Hazm, according to whom God can do also what is logically impossible (cf. op. cit. ii. 181); but as a matter of fact it is the theory which the Ash'arites and Ghazali himself hold, since according to them God at every moment re-creates afresh the whole world, in which there is no stable element nor any connexion. For Aristotle, however, whose theory Ghazali (cf. *Phys.* A 6–10) is going to reproduce, change implies a substratum, a matter which changes and is the underlying stable element to which the changes occur.

p. 330. 1. He should, of course, say 'the illusion of power', for if God acts in us we do not act ourselves, although we may in 'voluntary action' labour under the illusion that we do. 'Power' seems here to be a translation of τὸ ἐφ' ἡμῖν and Ghazali, following al-Ash'ari, who also distinguishes between voluntary action and a reflex action like shivering (see Shahrastani, *Relig. and Philos. Sects*, i. 68), here gives the answer of the Stoics to their critics (see, for example, Aulus Gellius, *Noct. Att.* vii. 2): although everything is determined by fate, everything acts according to its nature; if, for example, you throw down a stone the impulse is given by you, but the stone rolls according to its own nature, and man acts according to his nature when he acts deliberately and by will. The ultimate dilemma, and that not only for the Stoics and the Ash'arites, is this: I am only responsible for those acts which I have freely chosen, and my choice depends on my character (or nature). But there are only two factors which determine my character: the internal initial characteristics transmitted to me by my parents, and the external conditions in which I find myself; and I have freely chosen neither of these factors. The whole problem belongs to that of objective possibility, which I have discussed before: My will implies the possibility of doing or not doing, but only when all the conditions are fulfilled can the possible happen; then, however, it is necessary.

p. 330. 2. I think he means that we attain the knowledge that these movements are performed by a living being like ourself, possessing will. I do not think he means God here.

p. 331. 1. This is badly expressed; what he means is that certain acts which are expected need not necessarily occur.

p. 331. 2. Since the theologians admit definitions, and in the definition, according to Aristotle, the genus takes the place of matter, the specific difference the place of form (cf. e.g. Arist. *Met.* Δ 6. 1016^{a}28).

p. 331. 3. i.e. in sublunary living beings.

p. 331. 4. The theologians admit, as we have seen (p. 319), that life is a condition of rationality; i.e. they accept the definition of man as a rational animal, but do not regard warmth and moisture, which are the active qualities of the elements (cf. *De gen. et corr.* B 2. 329^{b}24), as a condition of life, because these qualities do not enter into the definition of life. For the Aristotelians, however, there is a steady progress, an uninterrupted *scala naturae*, from the simple elements through the homogeneous parts (ὁμοιομερῆ) and the organic towards man, in whom earthly nature finds its highest perfection and its supreme end: the lower is a condition of the higher, which is its end (cf. Arist. *De part. an.* B 1. 646^{a}12). It is warmth (or *pneuma*) which generates life according to Aristotle (*De gen. an.* B 3. 736^{b}29 sqq.).

p. 331. 5. Every organ is adapted to its function, whose means it is; shape and function are intimately related (cf. Arist. *De an.* A 3. 407^{b}13).

p. 331. 6. For the hand as an organ of the intellect see Aristotle, *De part. an.* Δ 10. 687^{a}7 sqq.

p. 332. 1. i.e. every species has its peculiar qualities, ἴδια, which do not define the species although they characterize it (cf. Arist. *Top.* A 4. 101^{b}19).

p. 332. 2. Koran xxiii. 12–14.

p. 332. 3. We have seen that some Greek authors also believed this.

p. 332. 4. Such a theory is in fact akin to those theories (see e.g. J. S. Mill, *Syst. of Logic*, ii. 7. 5) which derive the laws of thought from experience. Averroës here refers to Ibn Hazm, who (op. cit. ii. 181) distinguishes four

classes of the impossible, declares that the third class, that of the logically impossible, e.g. that a man should at the same time sit and stand, is possible for God in another world, although we know necessarily by the actual organization of our mind (بنية العقل) that it is not possible in this. The Ash'arites do not assert that the logically impossible is possible for God (see Ibn Hazm's polemics against them, op. cit. v. 214).

p. 333. 1. It is rather strange that Shahrastani in his *Religious and Philosophical Sects*, pp. 70–71, reproaches Abu Ma'ali (i.e. Juwaini, surnamed the Imam of the two Holy Towns, an Ash'arite and the teacher of Ghazali) for acknowledging a causal nexus in nature and coming near to the philosophical point of view.

p. 333. 2. Koran xxxiii. 62; xxxv. 41; xlviii. 23.

p. 333. 3. Cf. note 332. 4, and see also Ibn Hazm (op. cit. ii. 182), where he says that what is logically impossible for our understanding is so only because God has made it impossible; if God had wished, it would no longer be impossible, and a thing both could be and could not be at the same time, or a body could be at the same time in two places or two bodies in the same place.

p. 333. 4. i.e. since the soul has no spatial magnitude it cannot be localized anywhere.

p. 333. 5. In the following, Ghazali summarizes Avicenna's doctrine found, for example, in his *Salvation*, pp. 259 sqq., from which, however, he deviates in certain points of terminology, as I shall indicate.

p. 333. 6. It seems contradictory to say that although the soul is not impressed on a body its faculties are so impressed; the same difficulty exists for Aristotle also, but the question will be discussed at length below. It may be added that both in Greek and in Arabic the term for sensation, αἴσθησις, حاسّة, can also mean 'sense-organ'.

p. 333. 7. The term 'internal sense' is not found in Aristotle. But Aëtius tells us (*Plac.* iv. 8. 7; *Stoic. Vet. Fr.* ii. 39) that the Stoics called Aristotle's 'common sense' ἐντὸς ἁφή, internal touch (touch, in accordance with their general materialistic view), a term translated by Cicero as *tactus interior* (*Acad. post.* 7. 20); and Alexander of Aphrodisias opposes the objects of φαντασία (for the relation of φαντασία to common sense see note 334. 1) as internal percepts, αἰσθητὰ ἐντός, to the objects of the senses, αἰσθητὰ ἐκτός (*De anima*, Bruns, 68. 31). The expression, 'internal perception', ἡ αἰσθητικὴ ἡ ἔνδον δύναμις, is used in Neoplatonism (cf. e.g. Plotin. *Enn.* iv. 8. 8), and Augustine under Neoplatonic influence speaks of an internal sense which is conscious of its own perception and in which everything the external senses provide is collected (e.g. *De lib. arb.* ii. 4 and ii. 23).

p. 333. 8. The location of sensation in the brain is based on the discovery of the nerves and the anatomical study of the brain by the Greek physicians Erasistratus and Herophilus.

p. 334. 1. Aristotle in his theory of the common sense, ἡ κοινὴ αἴσθησις, made a first and interesting attempt to explain the unity of the perceiver and the thing perceived, i.e. to explain (1) the fact that the same man (the same ego) can perceive sensations of different senses or compare the different sensations of one and the same sense (he did not observe the fact that he is conscious of his own identity, although he attributes to the common sense the faculty of perceiving that we perceive); (2) the fact that, for example, when we perceive yellow honey, we are aware that it is sweet, although we only see it (cf. *De an.* Γ 1. 425ᵃ22). On the second point Aristotle confuses the unity of the qualities in the external thing (although he does not doubt the objectivity of these qualities) with our conviction that the identical thing which is seen may be touched and eventually tasted (one must distinguish of course between the unity of the external object and our knowledge, or our imagining, that it is a unity of such-and-such qualities) and with some faculty in our soul of unifying the subjective sensations; if, as a matter of fact, the external world were simply a construction out of sensations, there ought to be such a unifying faculty (the primitive and irreductible fact that the self-same thing which is seen can be touched belies the possibility of such a construction, for a visual sensation, even if visually extended, can never be touched, since by definition it is not in the objective space in which we move: heterogeneous sensations cannot be combined). As to φαντασία (representation, imagination), it is primarily, according to Aristotle, a function which transcends the actual sensation (cf. *De an.* Γ 3. 428ᵃ9). Since, however, there is also in the *sensus communis* an awareness of a non-actual sensation (as in the example of honey given above), he cannot delimit φαντασία from common sense; and indeed he ascribes to φαντασία some of the functions he attributes to the *sensus communis*, e.g. awareness that the white object actually perceived has such-and-such non-perceived qualities (cf. *De an.* Γ 3. 428ᵃ28) and also (428ᵇ22) awareness of the common sensibles (which, for instance at *De an.* Γ 1. 425ᵃ17, he attributes to the common sense). The commentators saw the difficulty, and, for example, Ps.-John Philoponus tries—*Comm. in de an. libr.*, Hayduck, 507. 16—to establish a distinction between common sense and φαντασία: common sense is the receptacle of the sensible forms through the medium of the particular sense, αἴσθησις μερική, whereas φαντασία receives them both through the common sense. The confusion in the Aristotelian theory is increased still further in Muslim philosophy through certain Stoic developments, as I shall show, and also through terminological difficulties, the terms used here for the first three internal senses being different translations (whose sense is not absolutely fixed) of the Greek word φαντασία; the word, for example, which I translate by 'representative

faculty' (القوة الخيالية) is used by Avicenna (who calls it also (القوة المصوّرة) for what Ghazali calls the 'conservative faculty', whereas Avicenna designates the *sensus communis* by the Greek word (in Arabic transcription, فنطاسيا). For the expression 'judging element' compare note 334. 6.

p. 334. 2. The estimative faculty (القوة الوهمية): the term is one of the different translations of the term *φαντασία*, but has acquired a special sense—in the Latin translations it is called *vis aestimativa*.

p. 334. 3. The intentions, المعانى (in the Latin translation *intentiones*). The word المعانى, as we have seen—note 3. 6—is a translation of the Greek *τὰ λεκτά*, and instead of 'intentions' I might have translated it 'meanings' or 'significations'. The term shows that here we have Stoic influence, and indeed the Stoics define *λεκτόν* through *φαντασία*: *λεκτὸν δὲ ὑπάρχειν φασὶ τὸ κατὰ λογικὴν φαντασίαν ὑφιστάμενον*, an intention is what subsists in conformity with a rational presentation (Sext. Emp. *Adv. log.* ii. 70). Now the Stoics distinguish six classes of *φαντασίαι* (Diog. Laert. vii. 51; *Stoic. Vet. Fr.* ii. 24. 15): the sensational (*αἰσθητικαί*), the non-sensational (*οὐκ αἰσθητικαί*), the rational (*λογικαί*), the non-rational (*ἄλογοι*), the artful (*τεχνικαί*), and the artless (*ἄτεχνοι*), i.e. natural, unmethodical; the non-sensational apprehend through insight (*διάνοια*) the incorporeals and the other conceptual notions; the rational exist only in man and are thoughts (*νοήσεις*), whereas the non-rational, which animals possess, have no name (*οὐ τετυχήκασιν ὀνόματος*). It seems to me from this that the later Stoics may have recognized a non-rational, but at the same time non-sensational, *φαντασία* on which the instinct of animals depends, and that the Arabs may have applied to this *φαντασία*, to which the Greeks had not given a distinctive name, the term 'estimative faculty'. In any case, that there is Stoic influence here may be seen from Seneca's epistle 121, where he asserts that animals also have a *constitutionis suae sensus* (*constitutionis suae sensus* is the translation of *συνείδησις*, the Stoic counterpart of Aristotle's *sensus communis* in so far as *sensus communis* means the consciousness of one's own activity), and to this *sensus* he ascribes all the instinctive actions of animals and, for example, the fact that the hen flees from the hawk, but not from the peacock or the goose (I have not met in classical literature the example of wolf, sheep, and lamb which seems to be a common example among the Arabs and which, e.g., is found in Farabi's *Gems of Wisdom* and in Ghazali's *Vivification of Theology*, vol. iii, p. 7). Cf. note 304. 7.

p. 334. 4. The forms, i.e. the individual sensible forms which exist in the *sensus communis*.

p. 334. 5. According to Avicenna this faculty is located at the end of the middle ventricle of the brain (*Salvation*, p. 266).

p. 334. 6. Aristotle distinguishes between *φαντασία αἰσθητική* (or *βουλευτική*) and *φαντασία λογιστική* (*De an.* Γ 10. 433^{b}29), sensational and intellectual or deliberative *φαντασία* (a term which in a way is a *contradictio in adiecto*, since *φαντασία* is by definition *αἰσθητική*, an image); but he does not indicate how the animals can perform their actions by mere *φαντασία* (and desire), without any rational element (on the other hand, he regards sensation already as having a kind of rational element akin to judgement, *De an.* Γ 7. 431^{a}8, and in *De memoria* 1. 450^{a}15 he regards *all φαντασία* as having a conceptual element), and John Philoponus simply says (op. cit. 515. 9): 'You must know that what in us is the intellect is in an animal the *φαντασία*'; from which it would appear that the imaginative faculty can perform what the estimative faculty is supposed to do, and the estimative faculty is therefore superfluous, as Averroës asserts later (p. 336).

p. 334. 7. Here, too, there is some Stoic influence. The Stoics (but not Aristotle) have the term *φαντασία συνθετική*, 'combining *φαντασία*' (cf. Sext. Emp. *Adv. log.* ii. 276), and Ps.-John Philoponus (op. cit. 509. 16) distinguishes two kinds of *φαντασία*, one that accepts the forms and one that combines at will representations of phantastic beings.

p. 334. 8. Avicenna says, loc. cit., that this faculty is located in the middle ventricle of the brain near the vermiform process (فى التجويف الاوسط من الدماغ عند الدودة).

p. 334. 9. See note 335. 2.

p. 334. 10. Galen, *De plac. Hippocr. et Plat.* vii. 3 (K. v. 605), says that anatomical research on the brain has shown that a lesion in the last ventricle affects the sensibility and motive power of the animal more than a lesion of the middle ventricle, and a lesion in the middle ventricle more than one in the first. Aristotle himself regarded the heart as the central organ of sensation (see e.g. *De iuvent.* 2. 469^{a}11).

p. 334. 11. This is a very questionable logic, especially in view of the fact that representation itself implies memory; but the comparison with water is found also in Avicenna, loc. cit. It is inspired by a passage in Aristotle's *De memoria* 1. 450^{b}1–3, where he says that people in violent emotion do not remember well; it is as if a seal were stamped on running water. And Plotinus says, *Enn.* iv. 7. 6, that if one should imagine sense-impressions to be impressed on a liquid like water, they would run away and there would be no memory.

p. 334. 12. Avicenna calls the memorative faculty the retentive-memorative: القوة الحافظة الذاكرة. In this distinction of two memories, one for sensible affections, one for thoughts, there seems to be some Neoplatonic influence, for Plotinus in his subtle and profound discussion of memory (*Enn.* iv. 3. 25–33) distinguishes between them and attributes the former to

the lower soul, the latter to the higher (*Enn.* iv. 3. 15–22). He has, however, a much more idealistic view of memory, which, according to him, belongs exclusively to the soul, and at *Enn.* iv. 3. 26 he refutes the Stoic view which compares memory with the imprint of a signet-ring on wax (a view which, however, Chrysippus did not share, cf. Sext. Emp. *Adv. log.* i. 229).

p. 335. 1. What Ghazali relates here of the motive faculties is almost (see note 335. 4) a textual quotation from a passage in Avicenna, *Salvation*, p. 259. It is, although simplified, materially in agreement with Aristotle, cf. e.g. *De an.* Γ 10. 433 ^{b}13 sqq. Aristotle has simply the term φαντασία: the appetitive animal cannot be without φαντασία (433^{b}28).

p. 335. 2. There is here some terminological confusion. Ghazali here copies Avicenna, who understands by 'representative faculty' the fourth internal sense, whereas Ghazali meant by it the first. According to what Ghazali says (p. 334) about the relation between the third internal sense and the motive faculty, one would have expected him to have mentioned this third faculty here. But I admit that the meaning of all these terms is very evasive.

p. 335. 3. This is the only sentence Ghazali adds to this passage.

p. 335. 4. Cf. Aristotle, *De an.* Γ 10. 433^{b}25: all animals move by pushing and pulling, ὦσις καὶ ἕλξις; there must therefore be in them a fixed point from which the movement starts (cf. also Arist. *Phys.* H 2. 243^{b}15).

p. 335. 5. 'discursive' from 'discourse' (i.e. speech). By this I translate ناطقة, derived from نطق like λογιστικός from λόγος, both the Greek and the Arabic word meaning both 'speech' and 'reason'.

p. 335. 6. This is also stated by Avicenna, loc. cit.

p. 335. 7. 'Conditions' and 'modes' are here synonymous; by these terms the theologians expressed the unreality of universals, which existed only for the mind (cf. note 3. 6).

p. 335. 8. This is a very simplified summary of Avicenna's chapter 'On the faculty of the speculative soul and its degrees', op. cit., p. 269. The idea that the soul receives its vices by inclining to the body and being subjected by it, and its virtue by contemplation of intellectual realities, is derived from Neoplatonism; cf. e.g. Plotinus, *Enn.* i. 6. 5–6.

p. 336. 1. The soul is not really subsistent by itself for Aristotle (it is so for Plotinus), since it is the form of the body; but although it is incorporeal it performs its functions (except the highest, the intellectual) through organs in which it is located, and only the active part of the intellect is separable from the body (how this is possible, when the soul is regarded as a unity, is another question). The arguments that will be given try to prove the

intellect's independence of any bodily organ (the terms 'intellect', νοῦς, and 'soul', ψυχή, are often confused).

p. 336. 2. I think Averroës here means by 'imaginative faculty' imagination in the more general sense of φαντασία, common to men and animals.

p. 336. 3. This sentence is rather confusing. Avicenna evidently does not think that the estimative faculty in the animal replaces the cogitative in man, nor could Avicenna mean (if indeed he said that the ancients called the estimative faculty the imaginative) that the estimative faculty and the imaginative are identical, as Averroës seems to imply, but only that the ancients did not distinguish clearly between them.

p. 336. 4. i.e. to the *sensus communis*; shape (σχῆμα), being a kind of magnitude, is one of the common sensibles and is apprehended through motion by the *sensus communis* (Arist. *De an.* Γ i. 425 ^{a}16) which, according to the Muslim philosophers, is located in the front part of the brain.

p. 336. 5. i.e. the imaginative faculty is not mere imagination, but perceives what happens in the external world.

p. 336. 6. i.e. they are not derived from sensible experience; this seems to contradict the Aristotelian principle 'nihil in intellectu quod non prius in sensu'.

p. 336. 7. Nothing is found in the *De sensu* about this question, but Averroës is probably referring to *De memoria* 1. 450^{a}15, where Aristotle says that animals possess φαντασία, because it is primarily a perception and not one of the conceptual faculties, although it is accidentally such a faculty (it seems to be, like memory, something intermediate between perception and thought; cf. ibid. 449^{b}26).

p. 337. 1. This is the thesis of Avicenna (*Salvation*, p. 285) in the chapter on the immateriality of the substratum of the intelligibles. See below in the text.

p. 337. 2. Some theologians held that thought was located in an atom in the heart. The Stoics also had placed the ἡγεμονικόν in the heart (or in the brain; according to Plutarch, *De comm. not.* 45, the Stoics regarded it as a πόρος στιγμαῖος, a passage not bigger than a point, in the heart).

p. 337. 3. The question of the indivisibility or divisibility of time, space, and matter was discussed copiously by the Muslim theologians. How well the Greek arguments for either point of view were known can be seen from the long discussion of this question by Ibn Hazm, and his refutation of Ash'arite atomism, op. cit., vol. v. 92–108 (the arguments for indivisibility are mainly based on Aristotle). Curiously enough the older theologians were also interested in this question.

p. 337. 4. i.e. of a plurality in the atom, since this atom would have two sides and would therefore be divisible. This is the argument found in

Aristotle, *Phys. Z* 1 (ad init.): indivisibles could not touch, because they would not have parts and therefore their wholes would coincide. It is also given by Avicenna, p. 286, in the chapter mentioned in note 337. 1.

p. 338. 1. Throughout this problem perception and *φαντασία* are regarded as images on an extended substratum, and, of course, Ghazali is right in regarding it as impossible, as the philosophers hold in the case of other universals, that an abstract entity like hostility should be impressed on a surface.

p. 338. 2. But this is not an argument against the intelligibles, for the philosophers do not hold that intelligibles can be impressed on matter, although inconsistently they hold this to be possible for hostility. On the contrary it is an argument against the materialism which Ghazali has set out to defend.

p. 338. 3. This argument against the philosophers is correct, if by 'knowledge' is meant sensible knowledge, i.e. perception and *φαντασία*.

p. 338. 4. This is a curious remark, since Ghazali has just argued that there can be no relation between hostility and a body. It can only mean here: 'like the relation of hostility to the body according to the philosophers, a conception I have shown to be false'.

p. 339. 1. i.e. the colour white, for example, is evenly extended over the whole body, and when you take a part of the body you take also a part of the white, and the white of the part is the same white as the white of the body.

p. 339. 2. Here there is another conception of sensation; i.e. it is conceived not as an impression, but as a faculty, a capacity for action (and reception), and therefore shapeless ('without a specific shape', says Averroës, but this seems to me a *contradictio in adiecto*); but how can the shapeless be extended over the extended? There is here a reference to the theory found in Aristotle, *De an. A* 5. 411ᵃ26. Cf. note 343. 2.

p. 339. 3. i.e. sight, which is an attribute of the eye, is, like whiteness, found in every part of its substratum, i.e. the eye, but some eyes or some parts of the eye have a greater receptivity for sight than others, and in old age this receptivity of some parts of the eye becomes less and therefore the old see less well than the young (Aristotle says, *De an. A* 4. 408ᵇ21, if an old man could acquire the eye of a young man, he would see as well as a young man).

p. 339. 4. i.e. sight and (the same shade of) white have in all individuals the same definition, but they are quantitatively divided, i.e. spatially and through being in different individuals.

p. 339. 5. He probably means by 'that they cannot be divided into any particular part whatever' that, for example, some eyes lose in part their receptivity for sight.

p. 339. 6. i.e. the part which has vanished acts (or acted) with a greater intensity.

p. 339. 7. Even colours cannot be divided absolutely, for they terminate in a point at which they cannot be seen any more (namely at a certain distance). This refers to Aristotle, *De sensu* 7. 449ᵃ22 sqq.

p. 339. 8. This refers to *De sensu* 6. 445ᵇ28, where Aristotle says that only the continuous *per se* (*καθ' αὑτό*) falls into a finite number of equal parts.

p. 340. 1. He means that Ghazali treated estimation as if it were an impression, whereas it is a faculty; Averroës, however, has not shown in any way how Ghazali's argument could be refuted by regarding estimation as a faculty.

p. 340. 2. In the chapter quoted in note 337. 1.

p. 340. 3. This completion is given by Avicenna in the chapter indicated in note 346. 6.

p. 341. 1. Curiously enough this is nowhere explicitly stated by Aristotle. The argument is found in Avicenna (see below). It may be inferred from the passage at the beginning of *De an. Γ* 4, where Aristotle agrees with Anaxagoras that the mind must be unmixed, *ἀμιγής*, and asserts that it cannot be mixed with the body or have an organ, and cannot have a form of its own, since the appearance of such a form would obstruct everything else. This connects with the passage (*De an. B* 5. 417ᵃ2) where he asks why the sense-organs cannot have a perception of themselves.

p. 341. 2. This is the argument given by Avicenna (*Salvation*, p. 290). It is based on the argument found in Aristotle, *De an. A* 3. 407ᵃ2 sqq., where Aristotle attacks Plato's conception, found in the *Timaeus*, of the soul as implying magnitude. Aristotle says in substance that, the meaning Plato gives to 'soul' being undoubtedly 'intellect', the unity of the intellect is not the unity of a magnitude. If it were a magnitude, with which of its parts would it think? And if it thought with some only of its parts, the others would be superfluous; besides, if the term 'parts' means points, there would be an infinity of them and infinity cannot be traversed, and if all the parts collectively were in contact with the thing thought, what could be meant by this contact?

p. 342. 1. Cf. Aristotle, *Eth. Nic. Z* 1. 1139ᵇ4: *ἢ ὀρεκτικὸς νοῦς ἡ προαίρεσις ἢ ὄρεξις διανοητική, καὶ ἡ τοιαύτη ἀρχὴ ἄνθρωπος*: will is either desiring reason or reasoning desire, and such a principle is man (in his totality).

p. 343. 1. This in a way contradicts what he said on p. 339, where he regarded this second class as that of things by definition divisible through the divisibility of the substratum, although with different degrees of intensity.

p. 343. 2. The problem of the faculties is discussed in *De an. A* 5. 411ᵃ 26 sqq., where Aristotle asks what it is that holds the soul together if it can be

divided by nature through the different operations of its organs. Should we not rather say that each of the operations of the soul belongs to the soul in its entirety? Is not the soul a unity? However, although in this passage he seems to regard the soul as a unity, he regards only the intellect as self-subsistent and imperishable, for, says he, if there were anything that could destroy it, it would be decrepitude (*De an. A* 4. 408^{b}18–20).

p. 343. 3. After the passage where Aristotle asserts that only decrepitude could destroy the intellect, he says that the same thing seems to apply to the sense-organs; and then the sentence quoted by Averroës follows: *εἰ γὰρ λάβοι ὁ πρεσβύτης ὄμμα τοιονδί, βλέποι ἂν ὥσπερ καὶ ὁ νέος* (loc. cit., ^{b}21).

p. 343. 4. Aristotle says, loc. cit., ^{b}22: 'Decrepitude is not due to some affection of the soul, but to that in which it resides, just as in drunkenness and illnesses.' However, for Aristotle sleep and fainting, *λιποψυχία*, are not due to any affection of any sense-organ, but to the inactivity of the central sense, the *sensus communis* (cf. *De somn.* 2. 455^{a}26 sqq.).

p. 343. 5. It is found that plants and certain insects live when they are cut in two, and it seems that the same soul resides specifically, although not numerically, in the two parts (Arist. *De an. A* 4. 409^{a}9; cf. *B* 2. 413^{b}16).

p. 343. 6. Koran xvii. 87.

p. 343. 7. The parts, i.e. the organ and the soul: the organ becomes inactive, and the soul remains both in sleep and in death (but can it be active after death?). But this is not the conception of Aristotle, for whom both waking and its opposite, sleep, are common to body and soul (cf. *De somn.* 1. 1) and due, as we have seen, to the inactivity of the central sense; the term 'common sense', however, is ambiguous and may mean either the central organ (in animals that have blood this is the heart) or its counterpart in the soul; both meanings are intended here. For Aristotle (cf. *De gen. an. E* 1. 778^{b}30) sleep is a borderland (*μεθόριον*; افق is the Arabic term, well known in Muslim mysticism) between life and death, between existence and non-existence. Sleep is the first state of the animal, because through it it passes from non-existence to existence (the Homeric metaphor of Sleep as the brother of Death was well known in Islam, see, for example, Ghazali, *Vivification of Theology*, iv. 291).

p. 343. 8. Koran xxxix. 43.

p. 344. 1. Compare note 342. 1; for Aristotle, however, man in his totality consists of his body and soul, for Ghazali's materialism, in his body exclusively.

p. 344. 2. If the soul is a unity, as Averroës has just asserted, there is certainly such an analogy, as Aristotle also holds (see next note).

p. 344. 3. Both Aristotle and Averroës hold at the same time three different theories about sensation: (1) that sensation is an impression on a

sense-organ; (2) that it is a faculty of a soul in which all faculties are united; (3) that it is a faculty of that (for Aristotle, at least, inseparable) synthesis of body and soul which constitutes man. Here Averroës seems to hold that one ought really to say that the eye sees, and that 'a man sees' is only an idiomatic expression. Aristotle, however (*De an. A* 4. 408^{b}13), says: *βέλτιον γὰρ ἴσως μὴ λέγειν τὴν ψυχὴν ἐλεεῖν ἢ μανθάνειν ἢ διανοεῖσθαι, ἀλλὰ τὸν ἄνθρωπον τῇ ψυχῇ*: 'It would perhaps be better not to say that the soul has pity or learns or thinks, but that the man does so through his soul.'

p. 345. 1. 'Judgement of his sight.' For Aristotle there is in sensation already a cognitive element (*De an. B* 10. 424^{a}5; cf. 432^{a}16).

p. 345. 2. Such absurdities are a consequence of all materialization of mental phenomena; compare with this section Plutarch, *De comm. not.* 45. This theory is directed against the materialism, Stoic in origin, of those theologians for whom all reality consists only in body, and for whom the soul is nothing but the material vital spirit (*πνεῦμα*, spiritus, روح) which is dispersed through the whole body (cf. e.g. Alex. Aphr. *De an. libr. mant.* 115. 6, Bruns; *Stoic. Vet. Fr.* ii. 218. 25) although its principle is in the heart (or the brain). The origin of the argument is unknown to me, and seems to have been so to Averroës, too, but it is based on problems discussed by the Stoics; Chrysippus objected to the impression-theory on the ground that, if the mind thought at the same time of a triangle and a quadrangle, the same body would be at the same time triangular and quadrangular (cf. Sext. Emp. *Adv. log.* i. 229). It may have been offered either by someone who believed the seat of the soul to be an indivisible body, an atom, or by one who believed the soul to be an indivisible immaterial substratum (if the latter, one should not be shocked by the idea that it is said to be in a place; Aristotle himself calls the intellect a *τόπος εἰδῶν*, *De an. Γ* 4. 429^{a}27, a place for universals, and our modern philosophers say that things are *in* a consciousness). It asserts that, since we cannot assert two opposite ideas at the same time and cannot, for example, possess at the same time ignorance (regarded as something positive) and knowledge, there must be room in the soul for only one of two opposite notions, and therefore it must be indivisible. The last sentence of the passage means that the theologians might retort that in *one* indivisible place ignorance and knowledge could be opposed, since in *one* place they might form a unity—i.e. the notion that ignorance is not knowledge; but their adversary can then object *ad hominem* that the Stoic conception, that the principle of the soul is in the heart or in the brain and that at the same time it is a unique vital force extended over the whole body, is contradictory. This objection seems legitimate, but if such a vital force is acknowledged it destroys the assailant's thesis also. (It is curious to see that Plotinus argues the other way round. He says, *Enn.* iv. 7. 8, that if the soul were the entelechy of the body and therefore dispersed through the whole

body, a human being could have only one sentiment and never be in discord with itself. In a little treatise, '*On happiness and on the ten arguments for the substantiality of the soul*'—published in *Seven Treatises by Avicenna*, Haiderabad, H. 1353, and where Avicenna follows largely Plotinus—Avicenna says, p. 8, that if the intelligible form were in a body, it would be impossible to perceive at the same time two opposites.

p. 345. 3. Compare Chrysippus' definition: *ἡ ψυχὴ πνεῦμά ἐστι σύμφυτον ἡμῖν συνεχὲς παντὶ τῷ σώματι διῆκον* (*Stoic. Vet. Fr.* ii. 238. 33). Plants and animals are joined through one single *ἕξις*, junction (Sext. Emp. *Adv. log.* i. 102; *Adv. phys.* i. 81: three cohesive forces are distinguished, *ἕξις* for the inorganic, *φύσις* for the plants, *ψυχή* for the animals).

p. 346. 1. Aristotle, e.g. *Anal. Pr. A* i. 24ᵃ21: *τῶν ἐναντίων εἶναι τὴν αὐτὴν ἐπιστήμην.*

p. 346. 2. Bodily or in the body; as we have seen, Aristotle also confuses a theory of the common sense as a faculty of the soul subsisting in the body with a theory of the common sense as corporeal. The intellect distinguishes or joins intellectual opposites, the common sense sensible opposites.

p. 346. 3. i.e. this fifth argument.

p. 346. 4. *ἀλλὰ κατὰ μίαν δύναμιν καὶ ἄτομον χρόνον μίαν ἀνάγκη εἶναι τὴν ἐνέργειαν*, i.e. a single faculty can have only one activity at the same moment (Arist. *De sensu* 7. 447ᵇ17).

p. 346. 5. This takes place through the common sense.

p. 346. 6. This is proved by Avicenna, op. cit., p. 292, cf. note 341. 1.

p. 347. 1. Cf. note 260. 2; we have the following mixed hypothetical syllogism: if the intellect perceives the intelligibles through a bodily organ, it does not know itself; but it knows itself, therefore it does not perceive the intelligibles through a bodily organ.

p. 347. 2. It would perhaps be better to translate: 'It does not see the eyelid' (since colour is the condition of sight (*ὁρᾶται δὲ χρῶμα ἢ τὸ ἔχον*) Arist. *De an. Γ* 2. 425ᵇ18).

p. 347. 3. What is placed on the sense-organs is not perceived, but what is placed on the flesh is (Arist. *De an. B* 11. 422ᵇ34).

p. 347. 4. This would be difficult for Averroës to explain according to Aristotelian theory, since for Aristotle the sense-organ receives the form of the percept without its matter; nor is there any duality in the act of seeing, for 'to act' here means for Aristotle 'actuality' (the verb becomes a substantive), and either the percipient becomes the percept or the percept the percipient.

p. 348. 1. Through this theory of identity not only is thought about other things abolished, but also self-consciousness itself. It was just because of the

duality in all thought that Plotinus denied it to the First. As was said above, the idea that thinking by adding something to reality falsifies it led Aristotle to a theory which annuls thought itself.

p. 348. 2. The sixth proof is identical with the fifth: if the intellect perceived through a bodily organ, it could know neither itself nor its organ, which would be itself or part of itself; it is in this way that the thesis is set out by Avicenna, loc. cit.

p. 348. 3. That of all animals only the crocodile moves the upper jaw was a fact already known to Herodotus (ii. 68). Aristotle mentions the fact in different passages, e.g. *Hist. an. A* ii. 492ᵇ23: *κινεῖ δὲ πάντα τὰ ζῷα τὴν κάτωθεν γένυν, πλὴν τοῦ ποταμίου κροκοδείλου· οὗτος δὲ τὴν ἄνω μόνον.* This is given as an example against induction by Sextus Empiricus, *Hyp. Pyrrh.* ii. 195: since most animals move the lower jaw, only the crocodile the upper, the premiss that every animal moves the lower jaw is false. The general argument against induction (*ἐπαγωγή*, استقراء) is given op. cit. ii. 204: *ἐπεὶ γὰρ ἀπὸ τῶν κατὰ μέρος πιστοῦσθαι βούλονται δι' αὐτῆς* (i.e. *ἐπαγωγῆς*) *τὸ καθόλου, ἤτοι πάντα ἐπιόντες τὰ κατὰ μέρος τοῦτο ποιήσουσιν ἢ τινά. ἀλλ' εἰ μὲν τινά, ἀβέβαιος ἔσται ἡ ἐπαγωγή, ἐνδεχομένου τοῦ ἐναντιοῦσθαι τῷ καθόλου τινὰ τῶν παραλειπομένων κατὰ μέρος ἐν τῇ ἐπαγωγῇ· εἰ δὲ πάντα, ἀδύνατα μοχθήσουσιν, ἀπείρων ὄντων τῶν κατὰ μέρος καὶ ἀπεριορίστων*: when one tries to reach the universal through induction, one can do this by examining either all the instances or some; if the latter, the induction will be unreliable, since some of the neglected cases may be in opposition to the universal, if the former, one is attempting the impossible, since the particulars are infinite and inexhaustible. Curiously enough, Nemesius, *De natura hominis*, ii (Migne, xl, col. 548), uses exactly the same argument to refute Cleanthes' opposite thesis that nothing incorporeal can partake of the corporeal, *μηδὲν ἀσώματον σώματι συμπάσχειν*. The *De natura hominis* was known to the Arabs.

p. 348. 4. What follows is a free interpretation of Avicenna's proof (op. cit. p. 292) that, if the intellectual faculty thinks through an organ, it must always be conscious of that organ (يجب ان تعقل آلتها دائماً). Avicenna, however, speaks only of the organ, not of the body (compare Averroës's answer below in the text).

p. 349. 1. Compare William James, *The Principles of Psychology*, vol. i, p. 291: 'In its widest possible sense, however, a man's Self is the sum total of all that he can call his, not only his body and his psychic powers, but his clothes and his house . . ..'

p. 349. 2. The organ of smell (consisting of the two olfactory nerves) is, according to Galen (*De usu part.* viii. 6, Helmreich, i. 469), the only one in the skull placed in the foremost ventricle of the brain.

p. 349. 3. Cf. Aristotle, *Top. A* 1: induction based on common opinions or the opinions of the majority or the wise (*ἔνδοξα δὲ τὰ δοκοῦντα πᾶσιν ἢ τοῖς πλείστοις ἢ τοῖς σοφοῖς*) has only dialectical value, and its conclusions provide only probability.

p. 350. 1. Aristotle, *De an. Γ* 1 ad init., proves that there cannot be more than five senses.

p. 350. 2. e.g. the *sensus communis* and *φαντασία* are neglected.

p. 351. 1. This argument, which is given by Avicenna, *Salvation*, p. 294, whom Ghazali follows almost verbally, is found in Aristotle, *De an. Γ* 4. 429ᵃ29 (cf. *Γ* 2. 426ᵃ30), with the exception that the tiredness of the intellect is not discussed and therefore is not ascribed to the imaginative faculty; in fact this addition invalidates the whole argument, for thought is constantly accompanied by imagination (*οὐδέποτε νοεῖ ἄνευ φαντάσματος ἡ ψυχή*, *De an. Γ* 7. 431ᵃ16).

p. 352. 1. For the Greeks forty years is the *ἀκμή* of a man, both physically and mentally; the Arabs, however, ascribe greater wisdom to the old.

p. 352. 2. i.e. from 'if *a* is, then either *b* is or not-*b*' no inference can be drawn. But Ghazali does not seem to see that through this exception the whole argument is invalidated. Of course, it may be that for different reasons the sense-organs and the intellect decline in old age, and that it is this which the argument sets out to prove; but this is a new thesis or hypothesis. The argument is taken from Avicenna (op. cit. p. 295), who first gives as a proof of the immateriality of the intellect that it does not decline with age whereas the senses do, and who then makes the objection that the intellect also declines through illness and dotage, an objection which he rebuts in the way indicated by Ghazali below in the text. (That the objection was made can be seen from Galen, *Quod animi mores corporis temperamenta sequuntur*, where he asks, 3 (Mueller 9. 11): 'Why, if the soul is immortal as Plato has it, does it leave the body when the brain is too cold or too hot, too dry or too moist, and why does a great loss of blood, or the taking of hemlock or a high fever, make it leave it? And', he adds ironically, 'if Plato were still alive, I should be delighted to learn it from him.') The argument is based erroneously on the passage of Aristotle (*De an. A* 4. 408ᵇ18) discussed above, over the interpretation of which the commentators differ; there it is said that the senses decline through the decay of the organ, not through the decay of the faculty, and Aristotle admits (408ᵇ24) that the intellect declines in old age.

p. 352. 3. The conception of fear as a disease is Stoic. Any permanent disposition to a violent emotion is called by the Stoics *νόσημα*, disease (cf. *Stoic. Vet. Fr.* iii. 105. 6).

p. 353. 1. According to the Stoics man acquires reasoning power during the first seven years of his life (Aët. *Plac.* iv. 11. 4); in the second seven years, or thereabouts, he acquires the notions of right and wrong (Aët. *Plac.* v. 23. 1). According to Varro—see Censorinus, *De die natali*, 14—life is divided into five equal epochs, each of fifteen years, except the last. The first epoch which lasts to the fifteenth year embraces childhood.

p. 353. 2. Natural heat, i.e. *πνεῦμα*.

p. 353. 3. This passage is closely related to a passage in Plutarch, *De Ei apud Delphos*, 18 (p. 392 c). I give it here in the translation of Montaigne, who quotes it in his *Apologie de Raymond Sebond* (ad fin.): 'De façon que ce qui commence à naistre ne parvient jamais jusques à perfection d'estre, pour autant que ce naistre n'acheve jamais, et jamais n'arreste, comme estant à bout, ains, depuis la semence, va tousjours se changeant et muant d'un à autre; comme de semence humaine se fait premierement dans le ventre de la mere un fruict sans forme, puis un enfant formé, puis, estant hors du ventre, un enfant de mammelle; aprés il devient garson, puis consequemment un jouvenceau, aprés un homme faict, puis un homme d'aage; à la fin decrepité vieillard: de maniere que l'aage et generation subsequente va tousjours desfaisant et gastant la precedente.' The idea of the Heraclitean flux, the constancy of inconstancy, is a favourite subject in later Greco-Roman philosophy. Compare also, for example, Seneca, *Epist.* 58. 22: 'nemo nostrum idem est in senectute qui fuit iuvenis, nemo nostrum est idem mane qui fuit pridie. corpora nostra rapiuntur fluminum more. quicquid vides, currit cum tempore. nihil ex iis quae videmus manet et ego ipse, dum loquor mutari ista, mutatus sum': none of us is in old age the same as he was in youth, none of us is in the morning the same as he was the previous day. Our bodies are carried away like streams. Everything you see hastens away with time. Nothing of what we see remains. And while I am saying that all this is changing, I myself am changed.

p. 353. 4. This proof is Platonic and Neoplatonic. At the end of the *Cratylus* (440 a) Socrates says: 'Can we truly say that there is knowledge, Cratylus, if all things are continually changing and nothing remains? For knowledge cannot continue to be knowledge unless it remains and keeps its identity. But if knowledge changes its very essence, it will at once lose its identity and there will be no knowledge. And if it is for ever changing, knowledge will for ever not be and there will be no one to know and nothing to be known. But if the knower exists and the known exists and the Beautiful and the Good and everything real exist, then I do not think that we can truly say what we just asserted, that they are, as it were, in flux and transition.' 'Every body is in flux and in perpetual movement'—says Plotinus, *Enn.* iv. 7. 3—'and the world would immediately perish, if everything were body'.

As for Plotinus, we have also the beautiful and important passage in *Enn.* iv. 7. 10: *δεῖ δὲ τὴν φύσιν ἑκάστου σκοπεῖσθαι εἰς τὸ καθαρὸν αὐτοῦ ἀφορῶντα*

ἐπείπερ τὸ προστεθὲν ἐμπόδιον ἀεὶ πρὸς γνῶσιν τοῦ ᾧ προσετέθη γίγνεται. σκόπει δὴ ἀφελών, μᾶλλον δὲ ὁ ἀφελὼν ἑαυτὸν ἰδέτω, καὶ πιστεύσει ἀθάνατος εἶναι, ὅταν ἑαυτὸν θεάσηται ἐν τῷ νοητῷ καὶ ἐν τῷ καθαρῷ γεγενημένον. ὄψεται γὰρ νοῦν ὁρῶντα οὐκ αἰσθητόν τι οὐδὲ τῶν θνητῶν τούτων, ἀλλ' ἀϊδίῳ τὸ ἀίδιον κατανοοῦντα: 'one should contemplate the nature of everything in its purity, since what is added is ever an obstacle to its knowledge; contemplate therefore the soul in its abstraction, or rather let him who makes this abstraction contemplate himself in this state, and he will know that he is immortal, when he sees himself in the purity of the intellect; for he will see his intellect contemplating nothing sensible, nothing mortal, but apprehending the eternal through the eternal.' These words suggested to Avicenna (in the psychological part of his *Recovery*, v. 7) the example of a man veiled, hanging in mid-air without the possibility of any sensation even of his own body, who would still be conscious of his ego, his immaterial intellect. (This conception sins against the Aristotelian principles that all thought is accompanied by φαντασία and that *nihil in intellectu quod non prius in sensu*; however, so does Aristotle's own conception of the self-consciousness of God.) I do not know whether Avicenna had any direct knowledge of the passage in Plotinus; the beginning of chapter iv in the so-called *Theology of Aristotle* also refers to it. 'He', it says, 'who is able to divest himself of his body and to quiet his senses and their suggestions and movements, will be able to revert with his thought to his own essence and to ascend with his intellect into the intelligible world.' But the Plotinian and Cartesian principle, that one should contemplate things in their purity abstracted from all extraneous matter, though mentioned by Avicenna, is not in the *Theology of Aristotle*.

p. 353. 5. This is an answer any Stoic would have given, since the Stoics, as we have seen, acknowledged three material unifying forces, ἕξις, φύσις, ψυχή. Not only is the identity and unity of our Self a mystery, but the unity and identity of any reality, be it organic or inorganic, is a problem, the whole being more than the parts.

p. 354. 1. i.e. it is not a τόδε τι.

p. 354. 2. Cf. Aristotle, *Anal. Post. A* 4. 73^{b}26: καθόλου δὲ λέγω ὃ ἂν κατὰ παντός τε ὑπάρχῃ καὶ καθ' αὑτὸ καὶ ᾗ αὐτό. φανερὸν ἄρα ὅτι ὅσα καθόλου ἐξ ἀνάγκης ὑπάρχει τοῖς πράγμασιν: I call universal that which is valid of everything, *per se*, and so far as it is this thing; it is therefore clear that everything that is universal pertains to things necessarily. The intellect is receptive of the form and potentially like the form (Aristotle, *De an.* Γ 4. 429^{a}15).

p. 354. 3. The theory of the theologians which will be expounded here is essentially the same as the sensationalism of the Stoics (cf. e.g. Sext. Emp. *Adv. log.* ii. 58–60; *Adv. phys.* i. 393–5). The essence of all nominalistic and sensationalistic theories (ancient or modern—*plus ça change, plus c'est la même chose*) is that thought is reified and regarded as a joining or severing of

mental impressions, that in fact thought and representation are identified; and since there are no representations of universal things—you can represent a particular hand, but not a universal hand—the existence of universals is denied (the theories are mostly so confused—one cannot be a consistent nominalist—that they both do and do not deny the universal). Berkeley's theory in his introduction to the *Principles of Human Knowledge*, Intr. §§ 10–12, is practically identical with Ghazali's conception. 'I can consider', he says, 'the hand . . . separated from the rest of the body, but whatever hand . . . I imagine must have some particular shape. . . . I believe we shall acknowledge, that an idea which, considered in itself, is particular, becomes general, by being made to represent or stand for all other particular ideas of the same sort.' But how can a particular idea represent—whatever the word means—all particular ideas of the same sort and become general in this singular fashion, and what do 'the same sort' and 'general' mean on a theory which only acknowledges particular ideas? Ghazali, too, both affirms and denies universals at the same time; he asserts that one shape of hand can represent, or, as he expresses it, can be related to, both a big white hand and a small black hand; he too may be asked how this can come about.

p. 355. 1. i.e. the individual impression which is retained in the soul.

p. 355. 2. 'the thing thought of', this is how I here translate معقول (which can also mean 'intelligible'), since I take it that Ghazali here means something outside the mind.

p. 355. 3. The Aristotelian term 'form' probably means here both sensible form and external shape (it is susceptible of both meanings in Aristotle himself).

p. 355. 4. i.e. the only immaterial being is God.

p. 356. 1. Cf. e.g. Aristotle, *Met. Z* 8. 1033^{b}5: οὐδὲ τὸ εἶδος γίγνεται οὐδ' ἔστιν αὐτοῦ γένεσις. Concepts are timeless, every real thing may be inconstant, but the concept 'inconstancy' is constant.

p. 356. 2. i.e. the absolutely individual cannot be shared, cannot be communicated: *individuum est ineffabile*, this is the basic argument against all nominalism.

p. 356. 3. As I have said before, this theory of identity rests on the confusion of the identity of the thing thought with the identity of the thinker. Zaid and Amr may have an identical thought just as they may perceive an identical thing, for we all live in one common universe; but this does not imply that Zaid and Amr, the thinkers, are identical.

p. 356. 4. This would seem to mean that in the soul also there is a *principium individuationis* through which the soul of Amr, even if it is separated from his body, is distinguished from the soul of Zaid. However, such a view could not be ascribed to the most famous philosopher of them all, Aristotle. (Cf., however, note 14. 4.)

p. 356. 5. i.e. for Ghazali the animality in Zaid is numerically identical with the animality in Khalid. It is as if one said that Zaid carried the numerically identical book that Khalid carried at the same time, but two cannot be one and the same book cannot be in two places at the same time. Ghazali, as Averroës rightly observes, confuses the identity of the individual with that of the universal.

p. 356. 6. Averroës omits to mention the second proof, which is (Ghazali, *Incoherence*, Bouyges, 339. 10) that no immaterial substance can perish (كل جوهر ليس فى محل فيستحيل عليه العدم), but of course this second proof is a part of the first. Avicenna, op. cit. 302, has two propositions: (1) that the soul does not die with the death of the body; (2) that the soul is absolutely incorruptible.

p. 357. 1. This is the principal Platonic argument (*Phaedo* 102 a–107 b): a concept can never change into its opposite, and since life belongs to the concept of the soul, it can never be changed into its opposite, death (Plotinus, who wrote a special treatise on Immortality, *Enn.* iv. 7, gives this argument at iv. 7. 11). The argument rests on a confusion between the universal and the individual (it belongs to the paradoxes of the history of philosophy that Plato, for whom all individual things are transitory, regards the human personality, individuality *par excellence*, as eternal), and it certainly cannot prove the immortality of the individual soul; but if it is true that the living can only proceed from the living, life itself would seem to have no origin—and indeed the origin of life and of consciousness remain insuperable cruces for any theory of evolution.

p. 357. 2. This has been shown in Chapter II.

p. 357. 3. Avicenna accepts, as does Plato, the immortality of the soul, but denies with Aristotle its pre-existence (which invalidates, of course, all his Platonic arguments for the eternity of the soul). There can be no pre-existence of the soul, says Avicenna, *Salvation*, pp. 300 sqq.; for either all souls would form a unity before their union with the body, which brings about many impossibilities, as Averroës says, or they would be individually differentiated; but they can only be individually differentiated by matter, i.e. their bodies. But how, then, can they be individually differentiated after death? This is a question to which Avicenna has no satisfactory answer.

p. 357. 4. Here and throughout this passage Averroës leaves his Aristotle and accepts the notions of the Stoics and the Neoplatonists. The passage is rather confused, and Averroës does not seem to distinguish clearly between the souls of the *δαίμονες* (intermediaries, like the *λόγοι σπερματικοί*, between God and man) and the disembodied souls of men. According to Plotinus the souls of the *δαίμονες* have bodies of air or of fire, *σώματα ἀέρινα ἢ πύρινα* (cf. *Enn.* iii. 5. 6). According to Sext. Emp. *Adv. phys.* i. 71–73, the Stoics held that souls consist of fine particles not less like fire than like

πνεῦμα. Compare also for the *δαίμονες*, e.g. Sext. Emp. *Adv. phys.* i. 87, and especially Plutarch, *De orac. defectu* (cf. G. Soury, *La Démonologie de Plutarque*, Paris, 1942).

p. 358. 1. See note 127. 6.

p. 358. 2. 'the soul creates and forms the body', i.e. it makes its matter a living organism. This sentence is not Platonic, but Plotinian. Plato and Plotinus seem to have been often confused by the Arabs. The sentence refers to *Enn.* iv. 7. 11: *ἢ πάθος ἐπακτὸν τῇ ὕλῃ λέγοντες τὴν ζωήν, παρ' ὅτου τοῦτο τὸ πάθος ἐλήλυθεν εἰς τὴν ὕλην, αὐτὸ ἐκεῖνο ἀναγκασθήσονται ὁμολογεῖν ἀθάνατον εἶναι*: if it is said that life is a condition imposed on matter, one is forced to admit that the principle which has given this condition to matter must be immortal.

p. 358. 3. The functions attributed by late Greek philosophers to the *δαίμονες* are ascribed by Muslim authors to the Jinn.

p. 358. 4. The bestower of forms is identified by Avicenna with Aristotle's active intellect.

p. 358. 5. Averroës seems to assume here that the idea of a bestower of forms implies a temporal creation, a change both in the giver and in the receiver; but the only change permitted in the celestial world according to Aristotle is a change of place. However, for the theory of emanation the giving is timeless and changeless. What is in the giver is simultaneous in the receiver, and emanation is a timeless immutable transaction. This is a self-contradictory theory, but Averroës also accepted it.

p. 358. 6. It is not clear from this isolated sentence what is meant here by 'material intellect'; if the counterpart of the active intellect is meant (which is its usual meaning), Averroës here identifies the active intellect with God, as does Alexander of Aphrodisias. But he may understand here by 'material intellect' simply an intellect in contact with this world, whereas the absolutely immaterial intellect, God, is free from all earthly contact. However, Allah knows best!

p. 358. 7. Cf. Aristotle, *Met. A* 3. $984^{b}15$. Averroës here identifies Anaxagoras' *νοῦς* with the Aristotelian prime mover.

p. 359. 1. In the last chapter of his *Incoherence* Ghazali attacks the arguments of the philosophers, who in their eschatological theories, taken from late Greek philosophy, deny the resurrection of the flesh and interpret the materialistic conceptions expressed in the Koran symbolically in accordance with their system. According to Ghazali a literal interpretation is possible (cf. *Incoherence*, 355. 4), and the philosophers through their denial of the express words of the Koran place themselves outside the community of Islam. Averroës in his last chapter touches on this problem only slightly, but he aims at defending the philosophers against the accusation of heresy.

His approach to religion is pragmatic and utilitarian. He asserts that religion has no other aim than philosophy in its search for the *summum bonum* and the development of those moral qualities upon which the order of society depends and which the masses never could attain without the guidance of divinely inspired men. His attitude stands midway between the materialistic and utilitarian view of religion which sees in it an astute human invention, aiming at enforcing moral conduct on the masses through the fear of an invisible and omnipresent supervisor (*ἐπίσκοπος*, see Sext. Emp. *Adv. phys.* i. 54), and the supernatural conception of religion as the revelation of the supreme divine truth. With the latter it considers religion as inspired and expressing the one fundamental truth of the existence of a supreme spiritual deity; with the former it takes the purely pragmatic view of regarding religious dogmas, which are amenable to a rational interpretation and in which an element of pious fraud seems to be involved, as a means of establishing the order and the preservation of society, which forms the condition of all human activity. It had not been difficult for an acute dogmatist like Ibn Hazm to confute this line of thought (cf. op. cit. i. 94), which is based—as I have shown—on Stoic ideas, was already followed by Farabi, and was later adopted by Spinoza in his *Tractatus theologico-politicus*.

p. 359. 2. Indications of a belief in bodily resurrection are few and late in the Old Testament; they are found in Daniel and especially 2 Maccabees, and there is a suggestion of resurrection in Psalm lxxxviii. 11. How well the Arabs were informed about Judaism and Christianity may be seen from the lengthy exposition and criticism of both religions in Ibn Hazm, op. cit. i. 116–ii. 75.

p. 359. 3. Cf. Ibn Hazm, op. cit. i. 35. 5: وكان الذى ينتحل الصائبون اقدم الاديان على وجه الدهر والغالب على الدنيا, the religion of the Sabaeans was the oldest and the most widely accepted. About the Sabaeans there was some confusion in Islam. They are mentioned in the Koran (ii. 59, v. 73, xxii. 17), but there a sect in Mesopotamia seems to be meant, also called Mandaeans. The sect whose dogmas are described under this name by the Muhammadan authors (e.g. Shahrastani in his *Rel. and Philos. Sects* and Ibn Hazm) was a Gnostic sect in the city of Harran, an ancient city of Hellenistic culture; a strong Neoplatonic influence can be discerned in its tenets and it may have contributed to the spread of Neoplatonic ideas in Islam.

p. 359. 4. i.e. his *εὐδαιμονία*.

p. 359. 5. For the distinction between ethical and dianoetic virtues compare Aristotle, *Eth. Nic. A* 13. 1103ᵃ3.

p. 359. 6. 'The practical virtues', i.e. the moral virtues.

p. 359. 7. Cf. e.g. Francis Bacon, *Advancement of Learning*, i. 5. 1: 'The knowledge of man is as the waters, some descending from above, and some springing from beneath; the one informed by the light of nature, the other inspired by divine inspiration.'

p. 360. 1. Cf. Spinoza, *Tract. theol.-polit.* xiv. 14: 'fidem non per se, sed tantum ratione oboedientiae salutiferam esse'.

p. 360. 2. This is a Stoic doctrine; cf. Seneca, *Epist.* 5. 4: 'hoc primum philosophia promittit: sensum communem, humanitatem et congregationem.' Cf. also Sext. Emp. *Adv. phys.* i. 131: *ἡ δικαιοσύνη κατά τινα κοινωνίαν ἀνθρώπων πρὸς ἀλλήλους καὶ ἀνθρώπων πρὸς θεούς νενόηται*: justice is a certain brotherhood between men and men, and between men and the gods.

p. 361. 1. Spinoza, op. cit. ii. 1, is opposed to this view: the prophets were not men of special intellectual gifts, but had a strong moral sense and a strong 'imaginatio' (*φαντασία*); prophecy has never made prophets learned men (op. cit. ii. 3).

p. 361. 2. This well-known saying may possibly come from a Jewish source.

p. 361. 3. Koran xiii. 35.

p. 361. 4. There are, however, many traditions giving a realistic description of Muhammad's vision of heaven during his ascension (معراج). Cf. Asín y Palacios, *La escatología musulmana en la Divina Comedia*, 2nd ed., Apéndice I, p. 425.

p. 361. 5. i.e. the words we apply to the other world are meant in a sense absolutely different from the ordinary; cf. e.g. Spinoza, *Eth.* i, prop. xvii schol.: 'intellectus et voluntas, qui Dei essentiam constituerent, a nostro intellectu et voluntate toto coelo differre deberent, nec in ulla re, praeterquam in nomine, convenire possent; non aliter scilicet, quam inter se conveniunt canis, signum coeleste, et canis, animal latrans.' Even Spinoza does not seem to have seen that this absolutely deprives these words, as applied to the Divine, of any sense. Many traditions were attributed to Ibn Abbas, a paternal cousin of Muhammad; this one seems to have been inspired by an anti-literalist. To the same Ibn Abbas is attributed a tradition of a realistic character about Muhammad's ascension. Cf. Asin, op. cit., p. 432.

p. 362. 1. Simulacrum: *εἴδωλον*—see for this word and the theory Porphyry, *Sentent.* 32. For the theory of the pneumatic or astral body compare also Plotinus (*Enn.* iii. 5. 6). Proclus (*Inst.* 205) and Iamblichus (*Myst.* 5. 12) call this body *ὄχημα*.

p. 362. 2. He refers here to Ghazali's *Balance of Action*, Cairo, H. 1328, where, p. 5, Ghazali distinguishes four classes of people as to their opinions about the life hereafter. The third class to which the Sufis belong declare that in death the soul is for ever severed from the body.

p. 362. 3. Universal consent, اجماع, in Islam confers the sanction of

legitimacy on a dogma. The idea seems inspired by the Stoic notion of universal consent, 'omnium consensus naturae vox est' (Cic. *Tusc.* i. 15. 35); 'apud nos veritatis argumentum est aliquid omnibus videri' (Seneca, *Epist.* 117. 6).

p. 362. 4. In his 'Ignominies of the Allegorists' (p. 11 of the text in Goldziher's *Gazali's Streitschrift gegen die Batinijja*) Ghazali repeats his attacks on the denial of a bodily resurrection.

p. 363. 1. I have not found the exact sentence in Galen. Galen says, however, *De facult. natur. subst.* iii. 10: those who want to know anything better than do the masses must far surpass all others by nature and by early training; such people, however, can be only very few in number, *εἷεν δ' ἂν ὀλίγοι παντάπασιν οὗτοι*. It was in the Stoic tradition that the wise man was rare, as rare as the phoenix which is born once in five hundred years (cf. Seneca, *Epist.* 42. 1).

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