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# IBN RUSHD'S METAPHYSICS

*A Translation*  
*with Introduction of Ibn Rushd's Commentary*  
*on Aristotle's Metaphysics, Book Lām*

BY

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## IBN RUSHD AS A COMMENTATOR

Most studies of Ibn Rushd have hitherto concentrated on two aspects of his philosophy: his psychology (and in particular that part of it whose importance was paramount in the eyes of mediaeval thinkers — the theory of the intellect or noetics) and his religious philosophy. This second aspect was privileged for various reasons, among which one can mention the availability and readability of his short treatises such as the *Faṣl al-Maqāl* and the *Manāhij al-Adilla*, and the celebrated debate between al-Ghazzālī and Ibn Rushd in the *Tahāfut*; this debate, in turn, fits into the wider frame of the faith *versus* reason controversy in Islam and in the Christian West. When students of Ibn Rushd's thought want to find out rapidly about his position on any philosophical problem, they tend to refer to the *Tahāfut* which certainly makes better reading than the long-winded and repetitive commentaries, and has the additional (and considerable) advantage of being extant in Arabic, whereas the "great" commentaries, with the notable exception of the *Metaphysics* and of some fragments, are only available in their Latin and Hebrew versions. Some of the main problems dealt with in the *Tahāfut* — creation and emanation *versus* the eternity of the world, the providence of God and so on — have also retained some interest and relevance until today, which is hardly the case for the more abstruse aspects of Aristotelian physics and cosmology.

The main factor in the comparative neglect of the commentaries, however, is precisely the fact that they are commentaries. Besides the unavoidable monotony and repetitiousness of that type of work, it is easily inferred that they are mere developments and explanations of Aristotle's own treatises, as they purport to be, and as such do not contain what could be regarded as Ibn Rushd's philosophy as distinct from Aristotle's. This line of argument calls for some observations.

First of all, since Ibn Rushd's explicit aim was to follow Aristotle's philosophy, which to him was unsurpassable, merely explaining its obscurities and removing the accretions of later centuries, particularly of Arab Neoplatonists like al-Fārābī and Ibn Sīnā, one could argue that it is precisely insofar as Ibn Rushd followed Aristotle that he expounded his own ideas, and that the apparent independence and originality which he displayed in the *Tahāfut* and the other short treatises were deviations imposed upon him by the need to answer accusations and objections which were, strictly speaking,

## PREFACE

This is a translation of Ibn Rushd's commentary on book *Lām* of Aristotle's *Metaphysics*. The text is that edited by M. Bouyges, *Averroes Tafsīr mā ba'd al-Ṭabā'a*, vol. III, Beirut 1948, pp. 1392-1736, which I have followed even where it has been restored on the basis of the Hebrew and Latin translations; these are so literal as to permit such a reconstruction. My departures from Bouyges' text are indicated in the "notes to the translation" which are mostly concerned with textual matters. The main philosophical questions arising from the text are taken up in the introduction.

The *textus*, i.e. those portions of the commentary which are quotations from Aristotle's text in its various Arabic guises have been translated into English quite literally: their very clumsiness and obscurity is an important element in Ibn Rushd's understanding of his master and model. For the rest, it will be easy to see what I owe to W.D. Ross' excellent English rendering of the Greek text (Oxford, 1909). For all matters pertaining to purely Aristotelian exegesis, with which I am not concerned here, I refer the reader to this translation and to the same author's commentary (2 vol. Oxford 1924).

The present book is an extended and revised version of an Oxford D. Phil. thesis submitted in 1977. My first duty is to express my gratitude to the memory of Richard Walzer, formerly lecturer in Arabic philosophy at Oxford, who introduced me, some years ago, to this complex and fascinating field of study. My supervisor was then Father R.J. McCarthy who unfortunately was compelled by illness to tender an early resignation. It was a matter for great regret that I was not able to profit longer from his lucid counsels. I am grateful to Dr F.W. Zimmermann for accepting a thesis which had been largely elaborated under the supervision of others and was nearly completed by the time he took over. My friends Dr T.-A. Druart and Dr J. McHugo read drafts of this work and their comments spared me many mistakes.

I would also like to express my profound gratitude to Professor O. Reverdin, who taught me Greek at Geneva University and then constantly encouraged me during my years of study abroad, and to the Société Académique in Geneva and the Fonds National Suisse de la Recherche Scientifique without whose financial support I could not have undertaken the present work.

Finally, I wish to express my gratitude to Professor Hans Daiber for the care which he devoted to reading my typescript and for a number of valuable observations.

outside the scope of Aristotelianism, and consequently of philosophy. As such, it may be surmised that Ibn Rushd himself would have regarded these works as in no way comparable in importance with his more scholarly commentaries.

Secondly, the long commentaries contain many digressions, some of them fairly extensive, in which Ibn Rushd is no longer content with explaining Aristotle's meaning literally, sentence by sentence, but elaborates on the main argument or mentions various interpretations and objections of other authors and refutes them. On one or two occasions, he even consciously goes beyond Aristotle's words and expounds what he thinks is implicit in his doctrine, or acknowledges that scientific discoveries made in the period of time between the philosopher and himself induce one to modify one's views on certain topics. These digressions have already been exploited, particularly those concerning the theory of the intellect in the third book of the *de Anima*, the theory of matter in the *Physics*, and the greater part of book *Lām* of the *Metaphysics* where they are particularly rich and illuminating. But even when Ibn Rushd merely paraphrases Aristotle in his customary way, introducing his explanations following a short lemma by *yurīdu* or *ya'nī*, he often evinces tendencies which are at variance with the fundamental tenets of Aristotelianism. Instances of this are again particularly numerous in the *Metaphysics*, where the poor quality of most translations often compels him to be more imaginative and causes him to wander sometimes very far from the original meaning of the text. In such cases, the subconscious convictions of the author surface again.

The third main objection to be made against a simplistic view of the commentaries' alleged lack of originality is more complex. It rests on the ambiguity of such expressions as "Aristotelianism in its purity" which, it is supposed, it was Ibn Rushd's purpose to restore. In a sense, the modern philologist writing about Aristotle also tries to bring out the ideas of the philosopher as they were conceived by him, so to speak. But the operation does not only require philological skills (primarily a knowledge of Greek and Greek literature) which were well beyond the powers of Ibn Rushd; it also depends on a historicist view of philosophy which was simply inconceivable at that time. The modern student of Aristotle endeavours, as far as possible, to forget his own convictions and knowledge in order not to bring into his subject alien thoughts and interpretations, because he is conscious of the historical gulf separating him from his subject. As a corollary of this awareness, he believes that considerable progress has been made since Aristotle's day in all fields in knowledge. Ibn Rushd, on the other hand, was persuaded that Truth had been almost entirely discovered by Aristotle in the past and that only minor adjustments and improvements could be made. His attitude is quite comparable to that of the Greek Neoplatonists, whose aim

was to unfold the truth contained in the writings of Plato, and to that of Islamic mystics and jurists who were able to find support for all their beliefs and judgements in Quranic verses. If Ibn Rushd wanted to produce a complete interpretation of Aristotle's treatises, it was not because of any antiquarian interest of his, but because these treatises were assumed to be the receptacle of all truth. His task consisted largely in freeing philosophy, that is to say Aristotelianism, of all the later unjustified accretions, and in explaining it to his compatriots in their language. It is above all this change of language in the Mediterranean world, and the unnecessary and false additions made to Aristotle's system by the Arab philosophers, which made Ibn Rushd's work necessary. It is only too understandable, in such circumstances, that he should sometimes have been led unwillingly to read what he regarded as true into the words of his master rather than to infer Aristotle's meaning from them.

In addition to the difficulties resulting from reading Aristotle in translation, and often translations at two removes, the text of the philosopher contains many puzzles about which scholars and philosophers are still at variance. This is particularly true of the metaphysical and cosmological views of Aristotle. Whereas the modern tendency has been, by and large, to regard the inconsistencies in Aristotle's text as being due to the evolution of his thought or to the different viewpoints adopted in different treatises, Ibn Rushd, like most ancient commentators, has tried to interpret them away or to reconcile them. The idea that there could have been variations in Aristotle's thought would have appeared preposterous to Ibn Rushd: there cannot be variations in Truth itself.

THE *METAPHYSICS* IN ARABIC:  
TRANSLATIONS AND COMMENTARIES

Some important articles have been devoted to the Arabic translations of Aristotle's *Metaphysics*, which will enable me to be fairly brief on that topic. For the identification of the translators, it is sufficient to refer to Bouyges' *Notice* pp. CXVIII-CXXIV and CXXX-CXXXII; the characteristics of the different translations and their relations to the various strands of the Greek tradition have been studied by Walzer, *Greek into Arabic*, pp. 114-128 and Thillet. What follows is meant as a mere complement to their findings.

The translation used for the main part of *Lām* (pp. 1406-1613) is that of Abū Bishr Mattā and was accompanied by Alexander's commentary (possibly a shortened version of it).<sup>1</sup> According to Bouyges (*Notice*, pp. CLXXVII-CLXXVIII), it was made through a Syriac intermediary, but the arguments he adduces in support of his thesis are far from decisive. The other main translation for *Lām* is that of Uṣṭāth (which Bouyges designates by the symbol V), added in the margins of the Leiden manuscript and used by Ibn Rushd for the parts of the text missing in Mattā's translation. Although these two versions are very different in many respects, they have in common a number of highly characteristic blunders which I have indicated in my notes to the translation (n. 35, 40, 100, 101). On the other hand, Mattā follows the Greek word order much more closely than his predecessor, often at the cost of clarity. Even if one does not take his rival al-Sīrāfī's remarks<sup>2</sup> too seriously, I think there is evidence that his knowledge of Greek was not perfect. A way of accounting for all these facts would be to assume that Mattā had at his disposal Uṣṭāth's translation and reworked it with the help of the Greek text, modernizing some technical terms and trying to stick more closely to the original. The result, as can be seen, was not altogether happy. This, however, is to a great extent speculative; no certainty can be reached in the present state of our documentation.

Another point about which it will be prudent to keep an open mind is that of the authorship of the translation of Alexander's commentary. It is, on the

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<sup>1</sup> In the Greek text of Alexander's commentary, which is preserved for books *A-D* of the *Metaphysics*, 136 pp. are devoted to *A*, 66 to *B*, 106 to *Γ*. So far as one can judge from the mostly short quotations made by Ibn Rushd, his version of the commentary on *Lām* seems to have been more concise.

<sup>2</sup> *Imtāʿ*, I, p. 111, ed. A. Amīn and A. Azzīn, Cairo 1953.

whole, very clear and readable, and I therefore hesitate to ascribe it to Abū Bīshr Mattā. Even if one considers that the allusive, sometimes telegraphic style of Aristotle in *lambda* offered a more difficult challenge to a translator than the scholarly prose of Alexander, it is hard to see how both works can be by the same author. Here again, one may wonder whether Mattā did not make use of a previous translation.

The other translation or translations used in *Lām* cannot be identified with certainty, except in one case. Again I refer to Bouyges' *Notice*, pp. CXXXI-CXXXII.

Nicolaos of Damascus is the oldest Greek commentator whose works were known to Ibn Rushd and quoted by him. His *Epitome of Aristotle's philosophy* was translated into Syriac and Arabic. The first part of the Syriac version (containing *inter alia* the *Metaphysics*) has been edited,<sup>3</sup> but the manuscript is so hopelessly corrupt that it has not been possible to identify in it the passages referred to by Ibn Rushd,<sup>4</sup> which all pertain to the arrangement of matters in the *Metaphysics*. Nicolaos objected to the procedure Aristotle adopted, which consisted of grouping all the questions (ἀπορίαι) in one book (B) and answering them in the following books; he wanted the questions to be dealt with and answered one after the other, as they present themselves. Another passage is said to be taken from the *Epitome of the Metaphysics*, which probably means the chapter on the *Metaphysics* of the *Epitome of Aristotle's philosophy*. It is unlikely that there was an independent treatise on the *Metaphysics*.<sup>5</sup> This last fragment contains the idea that the particular sciences are subordinate to a first science, metaphysics, and derive their principles from it (1652,11-1653,1), an idea which does not reflect faithfully the doctrine of Aristotle himself, but was to be very influential in future times (cf. below p. 20 and n. 21).<sup>6</sup>

Alexander of Aphrodisias is the author most extensively used by Ibn Rushd and presents the greatest interest to us as the Greek text of his commentary on *Lambda* is lost. A German translation of the fragments quoted by Ibn Rushd was made by Freudenthal, who also studied their relation to the Greek text preserved under the name of Alexander and recognized for more than a century as spurious. His main conclusion, namely that the Arabic fragments evince striking similarities in method and doctrine with the genuine works of Alexander preserved in Greek, and that therefore they must come from the

<sup>3</sup> H.J. Drossaart Lulofs, *Nicolaus Damascenus on the philosophy of Aristotle*, Leiden 1965.

<sup>4</sup> In *Lām*: 1405, 7 ff.; 1853, 1 ff.

<sup>5</sup> No such treatise is mentioned in the *Fihrist* (254 Flügel).

<sup>6</sup> This passage was misunderstood by Drossaart Lulofs, *op. cit.*, pp 150-151. The comparison with the hierarchy of the celestial movers is Ibn Rushd's; Nicolaus only stressed the subordination of the particular sciences to metaphysics.

genuine commentary of Alexander, has never been seriously challenged.<sup>7</sup> But his collection of the fragments is not quite complete<sup>8</sup> and it can be shown that even where Alexander's name is not mentioned, his commentary was sometimes used by Ibn Rushd.<sup>9</sup>

The text of Alexander's commentary used by Ibn Rushd was incomplete; it covered only about two thirds of *Lām* (1393,6). The most likely supposition is that it stopped at the same point as Mattā's translation, since the two belong together.<sup>10</sup> The note on p. 1683,2 indicating the end of Alexander's commentary is of Bouyges' own making; it is only found in one Latin translation and has no authority whatsoever. What prompted the translator or a scribe to put it there was the fact that Alexander's name still appears on pp. 1663 and 1673. But these last two passages are not quotations and the information they contain may be derived from another source. The last fragment of Alexander is on p. 1623, while Mattā's translation stops after textus 38 (cf. note at bottom of p. 1613); this very small difference may be due to the fact that the last pages of the manuscript were incomplete or barely legible. If we assume that the translation of Alexander's commentary ceases at about p. 1625, this corresponds roughly to Ibn Rushd's indication that only two thirds of it were preserved (220 pp. out of 340 in Bouyges' edition). Al-Fārābī also had an incomplete copy of Alexander's commentary, which was certainly derived from the same exemplar as Ibn Rushd's, but he notes that "the later peripatetics" (*al-muta'akhhirūn min al-mashshā'iyīn*) seem to have known a commentary of Alexander on the whole *Metaphysics*.<sup>11</sup> Although we cannot determine precisely who al-Fārābī had in mind here, this allusion is enough to show that there is no difficulty in assuming that Ibn Rushd could have derived information about Alexander's ideas from other sources than the *Metaphysics*-commentary, possibly from an astronomical textbook as the questions treated on pp. 1663 and 1673 are chiefly astronomical.

The authenticity of the so-called *proem* of *Lām* (1392-1405) has been

<sup>7</sup> On some points, however, his work needs correcting or supplementing. His dating of pseudo-Alexander and his contention that he was deliberately attempting to deceive his readers as to the authorship of the commentary are based on flimsy grounds. K. Praechter (*Göttingische Gelehrte Anzeiger*, 1906, pp. 861-907) has made a good case for accepting the indication of one of the manuscripts ascribing the work to Michael of Ephesus. On the forgery problem, cf. P. Merlan, *Ein Simplicios-Zitat*.

<sup>8</sup> Cf. my notes to the translation, n. 119 and 120 and below.

<sup>9</sup> A particularly clear instance of this is the passage (1445,3-4) where Anaximander's ἀπείρον is defined as intermediary between air and fire or between water and air. The only authority for this certainly mistaken view is Alexander, in *Met.*, 60, 8.

<sup>10</sup> Cf. *Fihrist*, 251,28, corroborated by Ibn Rushd's own note at 1537,12-14.

<sup>11</sup> Al-Fārābī, *Aghrād al-Hakīm*, p. 34; "the later peripatetics" is an expression which usually designates the Arab philosophers. But in the present case, I doubt if this can be so. There is precious little evidence of Alexander's being read in the Arab world before al-Fārābī himself. The reference would then probably be to some late Greek commentator.

doubted on various grounds, in particular because it is absent from the early manuscripts and editions of the Latin translation (Bouyges, *Notice*, pp. CXI-CXII). This, of course, is no reason at all. What is more important is to determine to what extent its contents go back to Alexander. Freudenthal did not include it among the fragments, but his decision seems to be based on a misunderstanding.<sup>12</sup> Ibn Rushd says explicitly that it is a *talkhīs*, i.e. a summary or résumé. Ibn Rushd did not cling to the letter of Alexander's words. As we shall see later (p. 21-22), there is at least one point on which the doctrines of the proem can be shown to be in accord with Alexander's theses. But Ibn Rushd interspersed Alexander's text with remarks of his own. Such a one is the reference to the absence of book *Kāf*. This clearly was not written by Alexander whose text of the *Metaphysics* cannot have been very different from ours. As Freudenthal saw, (*op. cit.*, pp. 128-130), this absence of *Kāf* is due to the fact that in the Syriac order of the letters which was preserved by the Arabs for numeration (the so-called *abjad* order, cf. EI<sup>2</sup> s.v. *abjad*) and according to which the books of the *Metaphysics* were generally designated, (if we judge from Ibn Rushd's commentary),<sup>13</sup> there is one more letter between *A* and *L* than in Greek: *Wāw*. The reason why the first translator (probably the Syriac translator) ascribed the letter *Lām* to  $\Lambda$  is not far to seek; first of all, as we have seen,  $\Lambda$  constitutes a more or less self-contained whole and was sometimes translated independently of the other books of the *Metaphysics*, in which case the necessity of a continuous numeration of the books did not impose itself. Furthermore, the correspondence  $\Lambda = \text{lām}$  is straightforward whereas there are no obvious equivalents to H,  $\Theta$  or even I. The case of Z is similar to that of  $\Lambda$ ; Ibn Rushd refers to it as *Zāy* (1463,11; 1464,6; etc. Cf. Bouyges' index B s.v. *maqāla*). For the titles of the books, Bouyges in his edition uses the names given to them in the marginal annotations of V, in which *Hā'* *Ṭā'* and *Yā'* have been chosen as approximate equivalents or "translations" of the Greek H,  $\Theta$  and I. But it is well to remember that Ibn Rushd very seldom designates the books by their names, presumably because he was aware of the difficulties they entailed,<sup>14</sup> and that when he does so, his usage is very erratic. At 1431, 6, *Ṭā' = I*, but at 1439,9 *Ṭā' = \Theta*.<sup>15</sup>

<sup>12</sup> Ibn Rushd announces (1395,9-11) his intention to summarize what "he" says in order to explain (*tafhīm*) the contents of the other books of the *Metaphysics*. Although *tafhīm* is not a certain reading (cf. *app. crit.*), it is quite clear that the subject of *qala* must be Alexander, whose name appears immediately beforehand (1395,8). Freudenthal's emendation *talkhīṣī* for *talkhīṣihī* makes the sentence ungrammatical, but appears to give the sense he wishes to obtain. Again, at the end of the proem, *hādihā 'l-rajul* (1405,10) must be Alexander, since Aristotle's name appears just below (1405,11 and 12).

<sup>13</sup> In particular in the proem, but cf. below.

<sup>14</sup> The fact that at 1402-1403, he deals with *Wāw* and *Zāy* (= Z and H) under one heading and does not distinguish between the contents of each book perhaps reflects his embarrassment.

<sup>15</sup> Cf. 1439 n. 3. Bouyges emended the text of the ms. to harmonize it with the proem, but by

To return to book *K*. As Freudenthal pointed out, its contents are summarized under the name of book *Yā'* on page 1404, 1-8. It would indeed be odd if Ibn Rushd had merely copied out Alexander without realising that this paragraph did not correspond to anything in his text of the *Metaphysics*. On the other hand, had he decided to leave *K* on one side on the very good grounds that it is a mere doublet of some earlier chapters of the *Metaphysics* and of the *Physics*, he would probably have said so expressly. In this confused state of affairs, I think there is no sufficient evidence to decide whether book *K* had been translated into Arabic or not.<sup>16</sup> But in view of the fact that neither *Kāf* nor its contents are mentioned in the summary placed at the beginning of book *Zāy* (pp. 744-745), I think it is more likely that *K* was never translated, or at any rate did not figure in any of the versions used by Ibn Rushd. The absence of *M* and *N* in the commentary, on the other hand, may be due to the fact that their subject-matter was the same as that of the latter part of *A*, or to Ibn Rushd's death. That the *Tafsīr* of the *Metaphysics* is a late work is guaranteed by the author's own declaration (1664, 2-3); moreover, the end of *Lām* shows clear signs of haste and incompleteness; the comments devoted to the last two chapters, particularly the very important chapter 9, appear extremely sketchy compared with the large scale of the work's earlier part; finally, the last pages are not even preserved in Arabic. While this last fact could easily be explained by reference to the poor condition of the unique Arabic manuscript, the hypothesis that Ibn Rushd left the work unfinished would account for all these peculiarities together. Here again, no certainty can be reached, but it is a possibility worth keeping in mind.

Themistius was held in very high esteem by most Arab philosophers because his commentaries (or rather paraphrases) were relatively short (unlike Simplicius' commentaries for instance), clear and faithful to Aristotle. Of the *Metaphysics* he does not appear to have commented on more than book *Λ*. His paraphrase has been known for a long time through the Hebrew and Latin translations which derive directly from the Arabic version used by Ibn Rushd. Ibn an-Nadīm ascribes it to Mattā, but his notice on this point is very confused; he seems to have mixed it up with Alexander's commentary. He says: "Mattā translated book *Lām* with Themistius' commentary". This does

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doing this caused the reference to be erroneous in the system he had himself adopted, in which *Hā'* = H.

<sup>16</sup> Book *K* is summarized by al-Fārābī, *Aghrād al-Hakīm*, under the title "the tenth *maqāla*", but the single short sentence which purports to do this ("distinction between the principles of this science and its accidents") has practically no relation with the actual contents of *K*. In any case, the occurrence of a résumé of *K* in al-Fārābī's tract need not prove anything more than its occurrence in Ibn Rushd's proem, since both authors seem to be epitomizing epitomes rather than Aristotle's text itself.

not make sense as Themistius paraphrase is self-sufficient and cannot have been translated "with" (or whatever the meaning of *bi* may be here) Aristotle's text. Furthermore, fragments of an Arabic version of this paraphrase have been published by A. Badawī<sup>17</sup> and although it has been shortened in some places, it is clear that it is taken from the same translation which can be safely ascribed to Ishāq b. Hunayn.<sup>18</sup>

Although on the whole Themistius follows Aristotle fairly closely, some points are more elaborated and betray Stoic influence, as in the theory of generation, for instance, on which more will be said later (below p. 47). His description of the mode of action of the divine mind is also quite original so far as we can see and was highly praised by Ibn Sīnā.<sup>19</sup> Ibn Rushd, on the contrary, always tries to belittle Themistius, even accusing him of plagiarizing Alexander; but this does not prevent Ibn Rushd from making extensive use of his paraphrase, without always acknowledging the fact.<sup>20</sup>

It is perhaps surprising to us, but on reflection quite understandable, that Themistius' paraphrase seems to have enjoyed a much greater fame than Alexander's commentary. Themistius provides a survey of the main questions of metaphysics without the long technical discussions of Alexander. An attentive reading of Ibn Sīnā would probably show that his use of Themistius was more extensive than the very few explicit references would let us assume. The paraphrase of *Lām* was also one of al-Shahrastānī's main sources for the relevant chapters in the *K.al-Milal wa-'l-Nihāl* (II, 120 and 154).

*The Epitome of the Metaphysics.* Until now, most students of Arabic philosophy have tended to rely, for their presentation of Ibn Rushd's metaphysics, on the so-called *Epitome (talkhīṣ) of the Metaphysics*,<sup>21</sup> because it provides a conveniently short and systematic presentation of the subject, thus sparing the more painful task of extracting it from the long-winded pages of the *Tafsīr*. This is despite the fact that doubts concerning its authenticity had already been raised by Nardi, and then by Bouyges himself. Its authenticity, on the other hand, was defended, not unnaturally, by Horten, but he did not adduce any evidence in support of his opinion; van den Bergh does not even appear to be aware of the problem.

I have not attempted a detailed comparison of the doctrinal tendencies of the *talkhīṣ* with those of the *tafsīr*, but it is evident at first sight that the *talkhīṣ*, on some capital points, stands in complete opposition not only to the

<sup>17</sup> A. Badawī, *Aristū 'inda 'l-'Arab*, Cairo 1947, pp. 12-21 and 329-333.

<sup>18</sup> Cf. Badawī, *op. cit.*, introd., pp. (15)-(17) and Landauer's ed. of Themistius, *praefatio*, p. v, Bouyges, *Notice*, pp. CXXXII-CXXXIII.

<sup>19</sup> In his commentary on *Lām*, ed. Badawī, *op. cit.*, pp. 26-27.

<sup>20</sup> Cf. 1436, 9-10; 1413, 16. Compare also p. 1593 with p. 18 Landauer.

<sup>21</sup> Ed. O. Amin, Cairo 1958; German transl. by M. Horten, Halle 1912; S van den Bergh, Leiden 1924.

*tafsīr*, but to the *tahāfut* as well. A good example of this is in the theory of emanation, to which many pages are devoted in the *talkhīṣ* and which clearly owes a great deal to the same theory as found in al-Fārābī and Ibn Sīnā. Now this theory is emphatically rejected both in the *tahāfut* and in the *tafsīr*.<sup>22</sup> Such a complete reversal on the subject of an important tenet is in itself quite improbable. At any rate, if Ibn Rushd for some reason had suddenly changed his mind, he would presumably have said so explicitly and explained why. Besides, the author of the *talkhīṣ* seems to follow the *tafsīr* as closely as possible; there are many verbal similarities, many images and examples imported from the latter work into the *talkhīṣ*, many passages so allusive as to be barely intelligible without the help of the *tafsīr*; there is even an explicit reference to "our *sharḥ* of the *Metaphysics*" (p. 53 Amīn), which precludes Freudenthal's attempt to rescue the *talkhīṣ* by supposing that it was written before Ibn Rushd came under the full influence of Aristotle.<sup>23</sup> Further research will perhaps enable us to emit hypotheses regarding the author of the *talkhīṣ* and his secret aims; for the time being, we can conclude with confidence that he was a clever man who tried to pass himself off as Ibn Rushd.

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<sup>22</sup> *Tahāfut*, 184 ff. Bouyges; *Tafsīr*, 1652, 5 ff

<sup>23</sup> Freudenthal, *op. cit.*, p. 112, n. 7. Ibn Rushd refers to his *tafsīr* as *sharḥ* at 1638, 10. Alexander's commentary is indifferently called *sharḥ* (1545, 12) and *tafsīr* (1413, 16 etc.) The two terms, then, seem to be interchangeable. To argue that *sharḥ* here designates Ibn Rushd's "Middle Commentary", not his *tafsīr*, would not help matters. Very little is known about it (cf. Bouyges, *Notice*, pp. LXXXI-LXXXII and XCVII-XCVIII), and what is known does not tally with the very early date we would have to postulate for it if it were to lend support to Freudenthal's hypothesis

## THE AIMS OF METAPHYSICS

At the beginning of his introduction to book *Lām*, Ibn Rushd, with apparent approval, quotes Alexander's saying that, whereas some of the previous books of the *Metaphysics* dealt with the characteristics of being *qua* being, book *Lām* discusses its principles and the principles of the first substance (i.e. the first immovable mover, or God) (1394,9-10). This conception of a double aim of the metaphysical inquiry, particularly in book *Lām*, is in complete agreement with other declarations preserved in the Greek text of Alexander. The kind of being which has principles and causes cannot be the first being; and if first philosophy deals with different "classes of being" (1396, 15), including "mental beings" (abstract concepts), it is not the science of one single realm of being, namely immaterial being, or theology, which most Greek commentators after Alexander and some modern authors claim that it is.<sup>1</sup> Furthermore, the "analogical" sense of being, i.e. its universal use in the ten categories, not only in the category of substance, is also the object of this science (1400,16-1401,1). Only by knowing all kinds of being is it possible to distinguish real being from inferior kinds of being like being by accident or being in the soul (1401,8-10). Thus, by elimination, we arrive at the knowledge that substance, existing outside the soul, is more specifically the object of the science of being. Although he maintains the duality of being *qua* being and first substance, Alexander nevertheless insists that the study of the latter is more important and the real crowning of metaphysics (*al-ghāya al-maqṣūda*; 1394,12).

Some confusion is created, here and elsewhere, by the use of the word "principle" (*mabda*). For if it is hard enough to see what an expression like "principles of being *qua* being" means, the same term, when applied to the first substance, becomes meaningless: the first, by definition, has no principles. What he may have had in mind is shown by the simultaneous use of the expression "necessary properties" (*al-umūr al-lāhiqa*) at 1395,13. The "principles" in this case are probably to be taken as meaning something like "essential properties".<sup>2</sup> Elsewhere the sense of "cause" is more appropriate,

<sup>1</sup> Cf. in particular P. Merlan, *From Platonism and Metaphysik, Name and Gegenstand*.

<sup>2</sup> Ibn Rushd does not always stick to the definition given at 1524,8-10 that cause (*sabab*) applies both to the principle (*mabda*) which is external and to the element (*usṭuquṣṣ*) which is internal.

but not in the case of the first cause whose essence it is to be uncaused. However, in the summary of the contents of the *Metaphysics*, the word "cause" (*sabab*) replaces "principles"; this science is an "inquiry into the causes" (1397,9; 14). Alexander remains faithful in this to Aristotle's procedure: to know something is to know its causes (cf. e.g. the first sentence of the *Physics*).

Substance is the principle of the being which is outside the soul (1402,6-7); what is probably meant by this slightly mysterious expression is that substance is the condition of existence, the support of being *per se*, the true nature of which it is our aim to determine.<sup>3</sup>

After the study of substance begins that of the general properties of being *qua* being (1403,13), and finally comes the explanation of the principles of the first sensible substance (1404,13). Although this expression is not found elsewhere, it can only designate the sphere of the fixed stars, which is the highest object in the sensible world and is set in motion directly by the prime mover (cf. *below*, p. 72).

We may observe that the hierarchy of being used by Ibn Rushd in this passage is at variance with the usual classification of Aristotle. The latter considers the different classes of being in their relation to matter; the objects studied in physics are necessarily material; the objects of mathematics are not material but do not have any objective and autonomous existence; they are non-separate, ἀχώριστα, in Aristotle's terminology;<sup>4</sup> finally, metaphysics studies unchangeable and separate entities.<sup>5</sup>

The threefold division of being introduced here by Ibn Rushd is quite different; there is, he says, accidental being, being in the soul and being outside the soul. The mention of accidental being as one kind of being is warranted by one passage in Aristotle's *Metaphysics* (E,2), but for the rest the two divisions are completely different. The third (and highest) kind of being mentioned by Ibn Rushd, being outside the soul, evidently includes both material and immaterial being.<sup>6</sup> The first and the third kind would thus correspond to the straightforward distinction between essential and accidental being. The real difficulty is offered by the second kind. "Being in the soul" designates elsewhere the objects of mathematics and the universals, and this is certainly its meaning here. As a result, mathematics, instead of forming a bridge between physics and metaphysics, is degraded to a deficient (*nāqis*)

<sup>3</sup> If this passage, as is probable, is based on Alexander, it is another good refutation of Merlan's contention (*Metaphysik, Name und Gegenstand*) that by being *qua* being, Alexander means the first principle only, it shows that the science of pure forms, i.e. theology, is only a particular case of the so-called *metaphysica generalis*.

<sup>4</sup> Cf. Ross, *Aristotle's Metaphysics*, I, p. 355.

<sup>5</sup> Cf. Ar., *Met.*, E,1.

<sup>6</sup> Cf the summary of book Z at 1402,5-8.

kind of being hardly worth studying at all, since the book following *Hā'* starts immediately with the study of being outside the soul.

However, the criterion of this classification is basically Aristotelian: it is the notion, mentioned above, of "separation" ( $\chi\omega\rho\iota\sigma\mu\acute{o}\varsigma$ ), in the sense of substantial autonomy. In that sense, mathematical beings are inferior to physical beings because they need the existence of a mind, or soul, as support for their own existence. In the Aristotelian classification, in which the notion of separation was combined with that of changeability, mathematical beings owed their superiority to their immobility and immutability.

It has been observed<sup>7</sup> that Aristotle's classification at E,1 is not only obscure and contradictory, combining as it does two different criteria of classification, but also inconsistent with the general trend of Aristotelianism; for if mathematical entities are not autonomous substances, they do not constitute a realm of being and, consequently, cannot form a bridge between physics and metaphysics. This division, as Merlan has shown,<sup>8</sup> is in fact a platonic relic in the more mature thinking of Aristotle, and as such it disturbed Alexander who tried to eliminate it. This was made relatively easy by the great emphasis which the latter lays on the process of abstraction. Whereas Aristotle considered the universal to be somehow present in the individual, Alexander relegates it to the position of a mere product of the human mind, a mere concept. Universals and mathematical entities thus lost their ontological status. Since Ibn Rushd's distinction of the various levels of being in our passage has for sole criterion the substantial autonomy of the existents, mathematical entities and universals could not find a place in it. Even if it is not a direct quotation from Alexander's commentary, it is entirely under the sway of its exegetical tendencies. The same trend can be seen at work in the divisions of philosophy of most Arab philosophers: mathematics, after logic, becomes a mere introduction to philosophical inquiry proper.<sup>9</sup>

Another important result of this division is that physics and metaphysics, instead of forming the two poles of the realities investigated in theoretical philosophy, now constitute a single category, that of autonomous beings ( $\chi\omega\rho\iota\sigma\tau\acute{\alpha}$ ), both material and immaterial. The substance ( $\sigma\upsilon\beta\sigma\tau\acute{\alpha}$ ) mentioned in the first sentence of *lambda* will thus fall within this realm. It is clear from the outset that with this new classification of being, the problem of the relation between physics and metaphysics and of the specific object of the latter science will appear in a completely different light.

Substance, then, is the common denominator of physics and metaphysics;

<sup>7</sup> By Merlan, *From Platonism*, pp. 62-77.

<sup>8</sup> Merlan, *ibid.*, pp. 60-61.

<sup>9</sup> For al-Kindi, cf. Guidi-Walzer, *Studi*, pp. 376-378; al-Fārābī, *Iḥṣā'*, p. 43 (after logic, but before physics) and the place of al-Riyādiyyāt in Ibn Sīnā's *Shifā'*.

and Ibn Rushd assumes that it possesses a kind of priority over the other parts of being; but what sort of priority is this? Pp. 1408-1413 are devoted to a somewhat lengthy discussion of that question. The two kinds of priority possessed by substance which Aristotle envisages there are not easy to distinguish precisely. What is reasonably certain, however, is that the two kinds of priority are not meant by Aristotle to be mutually exclusive, but complementary: whether one regards the universe as a totality or as a sequence of things, substance will always be its first part. But this is not Alexander's opinion: for him, the first kind of priority (the universe is like a totality) is mentioned only in order to prevent a possible objection; the true Aristotelian doctrine is that reality (*mawjūd*) conforms to the hierarchical order of the categories in which substance is first.<sup>10</sup> This priority, of course, must not be understood as temporal priority, but only logical and ontological. For, says Alexander elsewhere,<sup>11</sup> it is on substance that the existence of other things depends; substance alone is subsisting by itself; the other categories need substance as support for their existence; they are merely predicated of it. The study of substance is a necessary prerequisite of the knowledge of being in general, but the study of the first substance is only a part of metaphysics.<sup>12</sup>

Next, Alexander indicates a possible interpretation of the first alternative; the expression "like a totality" could mean that the universe is considered as an all-embracing genus divided into a multiplicity of species, the first of which would be substance. But this interpretation is rejected at once on the grounds that in a genus, there is no priority and posteriority. This is a well-known Aristotelian principle which is usually expressed in the reverse form; there is no common genus of things of which some are prior to others,<sup>13</sup> and which serves to explain why the categories are not the species of the genus "being" (1409, 6-10).

Consequently, if substance were a species of the genus "being", it could not possess any kind of priority over the other categories of being. Since being has a first, which is substance, it cannot be a genus; the only solution left is to regard it as a series, a sequence of things (*shay' ba'da shay'*) of which some are logically prior to others and ontologically higher, like the categories.

Ibn Rushd then proceeds to criticize Alexander's interpretation of the first alternative indicated by Aristotle (the universe is like a totality). The key to the understanding of this question is the passage 1409, 11-1410, 3: being in the

<sup>10</sup> Cf. e.g. *Met.*, 1028a 29-32; 1045b 25-32

<sup>11</sup> *In Met.*, 244, 18

<sup>12</sup> In this respect, pseudo-Alexander stands in clear opposition to the genuine doctrine of Alexander; for the former, the aim of metaphysics is "the first immovable substance" (*in Met.*, 668, 16); metaphysics becomes theology.

<sup>13</sup> *Ar Met.*, 999a 6 ff. For the whole question, cf. Aubenque, *Problème*, pp. 236 ff.

sense of the whole reality, the totality of the existents, is either one genus or several genera united by their common relation to a primary entity, such as the relation of all things that can be said to be healthy (for a certain food, a way of life, a person etc. can all be called healthy) to health<sup>14</sup> or the relation of the categories of being to being. This is the kind of relation called  $\pi\rho\delta\varsigma \epsilon\nu$  by Aristotle and his commentators (in Arabic: *bi-nisbā ilā shay' wāhid*).<sup>15</sup> Whichever of the two solutions one adopts, substance is first for, says Ibn Rushd in direct contradiction to the Aristotelian principle mentioned above, "priority and posteriority may be found in one and the same genus". Thus, Ibn Rushd appears to be well aware that there are two basic kinds of relation in Aristotle's system: the genus-species relation and the  $\pi\rho\delta\varsigma \epsilon\nu$  relation (sometimes called  $\pi\rho\delta\varsigma \epsilon\nu \kappa\alpha\iota \acute{\alpha}\phi' \omicron\upsilon$ ). But strangely enough, he seems to have no inkling that what distinguishes them is that the latter admits relations of priority and posteriority between its parts, whereas the former does not. For him, the difference between the two seems to reside merely in the arrangement of their parts, comparable to that of the organs of the body in the case of genus, and something like a string of loosely connected elements in the case of the  $\pi\rho\delta\varsigma \epsilon\nu$ .

In the first of the two cases envisaged by Aristotle, the relation of being to the ten categories is a genus-species relation; the genus is more comprehensive, higher and nobler than the species; we must know it in order to know its parts, i.e. the totality of being. In other words, it is first. It is worth remarking that this conception is unaristotelian in its spirit and depends on the Greek commentators of late antiquity, whose Aristotelianism had been transformed in the sense of a platonism in which the general is superior to the individual, the genus to the species, the immaterial to the material and so forth. For Aristotle, on the contrary, the concrete individual is the "first" substance and more knowable. This platonizing of the Aristotelian school-tradition seems to go back to Porphyry: Alexander is still free from it.<sup>16</sup>

In the second case, we are dealing with the kind of relation which Aristotle calls  $\pi\rho\delta\varsigma \epsilon\nu$ .

Ibn Rushd takes the first alternative to be equally valid from an Aristotelian standpoint. The two possibilities are not mutually exclusive but complementary. Aristotle wants to make it absolutely clear that substance is first, no matter whether it forms one genus with the other parts of being or not. The universe (*al-kull*) must be viewed as an all-embracing individual being (this is the probable meaning of the puzzling expression *al-shakhṣ wa-'l-*

<sup>14</sup> *Ar. Met.*, 1003b 1.

<sup>15</sup> For the problem of the  $\pi\rho\delta\varsigma \epsilon\nu$  relation, c.f. *Met.*, 1003a, 33 and Ross' note *ad. loc.*; *Alex.*, in *Met.*, 241, 3ff. and Aubenque, *Problème*, pp. 191 ff.

<sup>16</sup> Cf. Kremer, *Metaphysikbegriff*, pp. 148 ff.

*kullī*, but cf. n. 14 to the transl.), comprehending species among which relations of priority and posteriority obtain. By doing this, Ibn Rushd effectively ignores the basic Aristotelian principle mentioned above, namely that there is no priority and posteriority within the same genus. For Aristotle, if the universe were a genus, its hierarchical structure would collapse; since no part of a genus can be prior to another, the primacy of substance, postulated throughout his commentary by Ibn Rushd would vanish.

Ibn Rushd then turns to Themistius' interpretation. Concerning the first alternative envisaged by Aristotle, it is, as Ibn Rushd himself admits, "very close to that of Alexander" (1411, 1), i.e. all things belong to one single genus and the world constitutes a perfect unity. Following Aristotle,<sup>17</sup> Themistius distinguishes three modes of unity: organic unity, unity by contact of the elements one with another, and unity formed of discrete elements, without opting for one of these as the kind of unity belonging specifically to the universe. This division is attacked by Ibn Rushd as pointless, because the ten categories are neither in contact, nor spatially discrete. This implies that for Ibn Rushd the first hypothesis formulated by Aristotle concerning the structure of the world already refers to the ten categories envisaged as an organic structure comparable to that of the human body and in which substance occupies a position analogous to that of the heart. This interpretation is not reconcilable with the principle that the categories do not fall under the same genus, but we have seen that this was not accepted by Ibn Rushd. Thus Ibn Rushd in effect contradicts Alexander's interpretation according to which the first hypothesis refers to the world as genus. In spite of his proclaimed agreement with Alexander on this point, Ibn Rushd in fact defends a completely different position (1409, 5). This shows that he did not deliberately correct Alexander's position, but simply misunderstood it.

Concerning Themistius' exegesis of the second hypothesis too, Ibn Rushd formulates some criticisms which, from an Aristotelian standpoint, appear to be wide of the mark. As examples of sequences of things, Themistius gives numbers and geometrical figures, which are Aristotle's stock examples of things having no common genus and as such similar to the categories.<sup>18</sup> Ibn Rushd ignores this similarity, thus missing the whole point of Themistius' comments.

When he rejected Aristotle's first hypothesis, Ibn Rushd goes on (1411, 1-1413, 9), Alexander explained that the Sage (i.e. Aristotle) had introduced it

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<sup>17</sup> Cf. *Phys.*, 226b 34ff. This threefold division was taken over by Posidonius who seems to have exerted some influence on Themistius (cf. Witt, *Plotinus and Posidonius*, p. 203 ff.). Another instance of posidonian-stoic elements in Themistius will be met with later in the problem of spontaneous generation.

<sup>18</sup> *Met.*, 999a 6-10.

into his exposition only in order to be exhaustive; on the same grounds, one might be tempted to excuse Themistius for propounding unacceptable views in order to forestall possible objections. But even so Themistius' interpretation is absurd because according to it there is no real difference between the two hypotheses: the organs of the body, like the various geometrical figures, belong to the same genus, the only difference being that the former are discrete and the latter continuous. It is useless and unworthy of Aristotle to mention two hypotheses if in fact they come to the same thing. Thus, the only solution according to Ibn Rushd is to refer "totality" to things falling under one single genus and "sequence" to the  $\pi\rho\acute{o}\varsigma \xi\nu$  relation. He adds, rather surprisingly, that the word "totality" was chosen precisely to avoid the confusion inherent in the word "genus" which designates both things said by synonymy (i.e. belonging to the same genus in the strict sense) and what is said according to priority and posteriority (i.e. the  $\pi\rho\acute{o}\varsigma \xi\nu$  relation). On this interpretation, Aristotle, in this passage, would use the word "genus" to designate what is the  $\pi\rho\acute{o}\varsigma \xi\nu$  relation as opposed to the relation of the species within a genus. Nothing could show more clearly than this complete reversal of Aristotle's terminology that Ibn Rushd's interpretation of these two sentences is utterly mistaken. But the fact that it is wrong from an Aristotelian standpoint does not detract from its value within the framework of Ibn Rushd's own system. We shall see later that to admit relations of priority and posteriority between species of the same genus enables him to treat the intellects of the spheres as species of the same genus and at the same time as governed by a strict hierarchy of "nobility", which means that they are ontologically prior to one another.

Concerning his refutation of Themistius, we have noted that Ibn Rushd again contradicts established Aristotelian dogma in one important respect: numbers and surfaces do not belong to one and the same genus respectively; Alexander, following Aristotle's indications, considers them, along with being and good, as  $\pi\rho\acute{o}\varsigma \xi\nu$  relations.<sup>19</sup> Thus, it appears clearly from the examples given by Themistius that his interpretation is not "close to that of Alexander" as Ibn Rushd says, but in fact exactly the same. His only innovation consists in the additional refinement of distinguishing three kinds of relation between the species of a genus.

An important point for understanding Ibn Rushd's position has emerged from his critique of Themistius' account: for him, Aristotle's first hypothesis already envisages the world as analyzable in terms of categories. What remains to be decided is whether the relation existing between the categories is like the relation existing between the species of a genus or a  $\pi\rho\acute{o}\varsigma \xi\nu$  relation. Ibn Rushd's answer to that question is a little baffling, for although he is well

<sup>19</sup> *In Met.*, 242,5-7.

aware that it is, in fact, a  $\pi\rho\acute{o}\varsigma \epsilon\nu$  relation (1409, 16-1410, 1), he concludes by saying that in the other case too (that is, if the categories are the species of a genus), substance has priority over the other categories. On the contrary, Alexander starts from the premise that substance is first and in consequence rejects the equation world = genus, since all the elements of a genus are on the same plane. Ibn Rushd's attitude in all this discussion leads him to self-contradiction for, on the one hand, he follows Alexander's authority, and on the other asserts that there is priority and posteriority within the same genus, thus destroying the main prop of Alexander's interpretation. According to Ibn Rushd, all that Aristotle's distinction amounts to is that the relation of the categories to being is a  $\pi\rho\acute{o}\varsigma \epsilon\nu$  relation, not a species-genus relation, but we are entitled to conclude that he did not understand the meaning of this distinction.

Alexander's definition of the aims of metaphysics (1406, 5-9) stresses the fact that it is concerned not with one thing or class of things (as are the individual sciences), but with the principles (*mabādi'* = ἀρχαί) and causes (*'ilal* = αἰτίαι) of being in general, which is substance, as has been shown in the previous books of the treatise. Alexander would thus appear to reduce the science of being *qua* being to the study of substance because it is in substance that the nature of being as such is most clearly seen. Ibn Rushd, for his part, states in all clarity that "this science" (one of the usual denominations of metaphysics, *la science sans nom* in Aubenque's formula) covers both sensible and eternal substances. Since, however, sensible substance has already been dealt with in the so-called books on substance (Z, H and Θ in the Greek text), book *Lām* will be devoted primarily to eternal substance. Chapters 1-5 of the Greek offer a difficulty insofar as their object is sensible substance again; but, says Ibn Rushd, if their object is the same, the mode of inquiry and the point of view from which this object is envisaged are different.<sup>20</sup> As he says later on (1562, 1-2), metaphysics recalls and postulates what has been explained in physics. This leads us to the old and complicated controversy concerning the relation between physics and metaphysics.

I have translated the textus 5 (1419) as literally as possible in order to show how an inaccurate translation can generate philosophical problems, but even so the English rendering is not susceptible of the same variety of interpretations as the more fluid syntax of Greek or Arabic. The clause: "concerning the elements of which we must discern whether they are one or many" applies both to the sensible substance subject to generation and corruption and to the eternal sensible substance. Although the word "sensible" is omitted in the second part of the sentence, it can easily be supplied from the first, since the non-sensible substance has not yet been mentioned at this point and therefore

<sup>20</sup> The same idea is expressed by al-Fārābī, *Philosophy of Ar.*, p. 132, 2-3.

cannot be referred to in the relative. According to this interpretation, the words: "everyone ... animals", as Ross saw, constitute a parenthesis. Alexander, however, seems to include the immovable substance in the list of the beings whose elements are to be sought. This appears not only from his insistence that it belongs to the metaphysician to demonstrate the principles of beings *whatever they are* (or: *may be*), and even more clearly from his explicit statement that the immovable substance, as principle and cause of the physical world, is the primary object of metaphysics. It is difficult, however, to see exactly how Alexander could reconcile this interpretation with the word-order of this sentence.

In the next paragraph (1420, 14 ff.), Alexander gives the variant reading found in all the Greek manuscripts (and rejected by most modern editors), which repeats "the eternal" (i.e. substance) after "animals". This reading would confine the search for principles to the eternal substance, without specifying whether the eternal sensible or the eternal non-sensible (immovable) is meant, or both. This reading is rejected on the grounds that the next chapters will show that Aristotle is equally concerned with the principles of physical substances. Metaphysics is the science of the principles of all substances, including physical substances, because no science, according to Aristotle, can demonstrate its own principles.<sup>21</sup> Thus the principles of physics, which are at the same time the general principles of being, are demonstrated by the metaphysician and then taken over by the natural philosopher. Furthermore, the principle of physical things is not itself a physical thing: it is the immovable substance. The natural philosopher must be content to explain the principles which are exclusively physical principles (e.g. motion). Alexander rejects the variant reading because it would confine metaphysics to the discussion of the principles of the divine body, that is the heaven. Metaphysics is a universal science: it is directly the science of the principles of the eternal sensible substance and indirectly the science of the principles of the sensible substance subject to generation and corruption.

This interpretation of Alexander's thought is confirmed by the next fragment quoted by Ibn Rushd (1429, 1). Physics, i.e. natural philosophy, deals with all movable things, whether eternal (the supralunar world) or not (the sublunar world); but the object of first philosophy is the immovable substance, which is also the "principle" of the physical world in the sense that it is

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<sup>21</sup> Cf. Ar., *An. Post.*, I, 3; Ross, *Ar.'s An. Pr. et Post.*, introd. p. 64; Berti, *Phys. et met.*, p. 23, n. 11; Simplicius in *Phys.*, 9, 16 ff. (from Porphyry) for the particular application of this principle to physics and metaphysics. What Aristotle says is merely that there is no demonstration (*ἀπόδειξις*) of the first principle of a demonstration. From this, the commentators drew the conclusion that the first principle of the particular sciences had to be demonstrated by a superior science, i.e. Metaphysics, Cf. Kremer, *Metaphysikbegriff*, p. 108. This is still the view held by many modern exegetes, probably wrongly. Cf. Berti, *art. cit.*

the cause of its motion. Thus, although the main characteristic of the physical substance is motion, the natural philosopher does not inquire into the principle of motion because this principle is supra-physical (it is the prime mover). What he must explain are the purely physical conditions of motion, namely the composite nature of the substance subject to generation and corruption. It is its being a compound of matter and form which distinguishes it from any eternal substance, because matter is the condition *sine qua non* of motion. In other words, change presupposes the existence of a substratum as subject of change, and this substratum is matter.

Alexander's interpretation is criticized by Ibn Rushd on the grounds that the existence of the eternal substance, i.e. the prime mover, has been established in the last book of the *Physics*, where it is not postulated, nor taken over from first philosophy. This rather formal argument, based on the external arrangement of the Aristotelian corpus, is then substantiated by a distinction, already implied by Aristotle, between two philosophical methods: apodictical demonstration and induction; the former must start from principles more universal than that which it wants to demonstrate, whereas the latter elaborates general principles on the basis of a multiplicity of particular applications. Since by definition the first principles themselves have no principles, they cannot be demonstrated apodictically; they can only be arrived at by induction from a science lower in rank. Thus, it is incorrect to allege the doctrine that no science can demonstrate its own principles. The object of physics includes the unchangeable substance, i.e. the stars, whose first principles are the immaterial substances or movers of the spheres; these are absolutely first and as such cannot be the objects of an apodictical demonstration. But as source of motion, their existence can be deduced from the presence of motion in the heaven and in the sublunar world. There are no principles which are exclusively those of physical things.

Amongst the Arabs, the doctrine that no science can prove its own principles was taken over by Ibn Sīnā. In accordance with his own essentially deductive method, neoplatonic in its inspiration, he considers natural philosophy to be derived from the first principles set forth by the metaphysician, which are merely taken over by the natural philosopher. The latter "postulates the existence of nature", i.e. the existence of movable sensible bodies, either eternal (the stars) or not (the sublunar world). This mistaken conception, according to Ibn Rushd, was directly borrowed from Alexander by Ibn Sīnā.<sup>22</sup>

Then, Ibn Rushd again expresses his disagreement with Alexander's conception of the relation between physics and metaphysics. This new develop-

<sup>22</sup> For Ibn Sīnā's conception of the relation between physics and metaphysics, cf. Saliba, *Étude*, p. 64., and Wolfson, *Averroes' lost treatise*.

ment, however, qualifies to a certain extent the previous one in that Ibn Rushd now concedes that the formal and final causes are not of the competence of the natural philosopher (1433, 10). The existence of a moving principle (the prime mover) has been established by induction in the *Physics*, but it is the metaphysician who shows it to be the formal and final cause of the world. To that extent, it is correct to say that the first philosopher proves the first principle of the sensible substance. But this is not the first stage of the metaphysical inquiry: since the first mover cannot be demonstrated apodictically, we must start from what is more evident for us, i.e. motion and matter. "He started with the material cause", remarks Ibn Rushd (1434, 5) in order to emphasize that Aristotle begins with the lowest in dignity of the four causes, because matter is the first condition of motion; matter must be present before an efficient cause can intervene and produce actual motion. So far, the causes mentioned by Aristotle in this book *Lām* are the same as those investigated in the *Physics*. This apparent repetition is necessitated by the fact that natural philosophy is the starting-point of first philosophy. The mode and scope of the inquiry however are different. The subject-matter of the *Physics* is the movable substance, that is to say the substance which is a compound of matter and form. The inquiry of metaphysics is at once more general (for instance in investigating not only substance but also the other categories and their principles) and more abstract; for it is concerned with substance *qua* substance. This does not necessarily mean substance free from matter, but only that the material component of substance and its motion, or mobility, are not taken into consideration in this research.

With this distinction in mind, we can accept Alexander's exegesis. Insofar as the objects of the world of generation and corruption have a formal and final cause, the study of their principles belongs to the metaphysician. Since metaphysics is the study of immaterial things, it has nothing to do with the material cause, and since immaterial things are also eternal, they are in no need of an efficient cause. The difficulty of this problem, concludes Ibn Rushd, is due to the fact that in reality the causes are not distinct; the formal cause of a physical object is also its final and efficient cause;<sup>23</sup> they are only distinguishable by a process of logical abstraction. Thus, the division of theoretical philosophy into physics and metaphysics has no basis in the nature of things; it is purely a device of our intellect which separates what is in fact always united in a concrete being.

After that, Ibn Rushd introduces a new objection which could be raised by the supporters of Alexander's view: metaphysics is concerned with the principles of being *qua* being, that is to say of substance since substance is being *par excellence*; but substance, albeit substance of a particular kind,

<sup>23</sup> Cf. Ar., *Phys.*, 198a 24 ff.: «the formal, efficient and final causes are often one».

namely subject to generation and corruption, is the object of natural philosophy. Consequently, metaphysics is the science which demonstrates the principles of the objects of physics (1424,5-10).

In order to parry this objection, Ibn Rush boldly reverses the traditional order and says that it is the metaphysician who takes over what has been explained in natural philosophy. But since the main characteristic of the object of metaphysics is its immateriality, the first philosopher must deprive the substance investigated in the *Physics* of all its material components. By this process, he will reach substance in its highest form, the pure concept of being. What distinguishes physics from metaphysics is not their object, but the point of view taken on that object and the method of investigation. Then, once the nature of the immaterial substance has been sufficiently grasped, the metaphysician will investigate whether there is only one or many such pure forms, and, if there are many, what are the relations prevailing between them (1424,11-1426,15).

Thus, there is a gradation in being; at the bottom of the scale stands being by accident, and next to it the physical substance which is the substratum of the accidents. Chapter 1-5 of book *lambda* are devoted to the study of the physical substance because it is more accessible and knowable to us. We must discern in it the nature of being as such. The four causes were already investigated in the *Physics*, but in that work substance was envisaged only as subject to change, i.e. as material since matter is the necessary condition of change. Then, by a process of gradual abstraction, we must rise from the knowledge of the kind of being which is still engaged in matter to that of the pure form. Far from being a mere hors d'œuvre in the framework of the *Metaphysics*, the study of physical objects is its necessary starting-point, since the objects of physics are more knowable to us.

In a slightly different formulation, one could say that natural philosophy investigates the proximate and material principles of substances (proximate matter and proximate source of motion), whereas metaphysics is only concerned with ultimate principles, such as pure forms and the immaterial form *par excellence* which is God. This explains why Ibn Rushd, in spite of his insistence on the importance of physical realities in the metaphysical inquiry, accepts the addition "this is eternal" at 1421,2: the eternal is the highest goal of metaphysics.

## SPONTANEOUS GENERATION AND FORM

This section (1457 ff.) of the Great Commentary is mostly devoted to a problem the relevance of which to metaphysics is not evident at first sight, namely the generation of some insects from putrescent matter or corpses. Outside the zoological writings, the question is raised by Aristotle in book Z of the *Metaphysics* when dealing with substance and its modes of production. The answer given there was that some matters can give themselves the movement (towards form) which is normally imparted by a "synonymous" (in the non-technical sense of: "having the same name", i.e. belonging to the same species) animal (for instance the father in the case of man). When the question of the generation is touched upon again in *lām*, Alexander reminds the reader of the particular difficulty offered by spontaneous generation, although his main development concerning this topic was probably to be found in Z. Mules present a similar problem because they are not generated by the same kind of animal, thus constituting another apparent exception to the principle that the "synonym" is begotten by the "synonym".<sup>1</sup>

Some people tried to by-pass the difficulty, Alexander tells us, by taking "synonym" in the technical sense it has in the *Categories* for instance: things which have the same name and the same definition are called synonymous; for example, both a man and an ox are called animals and therefore they are said to be synonymous. Likewise, a mule is generated from its synonym, i.e. horse and ass. What is meant in our passage of the *Metaphysics*, according to another interpretation, is that what is by art is generated by art; what is by nature is generated by nature, i.e. by sexual reproduction, and so on. What matters is the mode of production, not the individual agent. A natural being must be produced by another natural being according to a natural mode of production, and what is artificial must be produced "artificially" or "artistically" (1459,3-14). But this explanation, which would reduce Aristotle's theory to a mere tautology, is rightly rejected by Alexander (1460,8-9). The complete refutation of this view by Alexander and its exegesis by Ibn Rushd is contained in the paragraph 1460,7-18. Firstly, the example chosen by Aristotle, man begets man, shows that what is meant is the generation of a substance by another synonymous substance, in the first, non-technical sense

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<sup>1</sup> See K. Oehler, Ein Mensch zeugt einen Menschen, in: *Antike Philosophie und byzantinisches Mittelalter*, München 1969, pp. 95-145.

of the word "synonymous", i.e. by a substance of the same genus and same species. Things which are apparently the products of art or nature, such as the shortcomings and defects of a manufactured object or the birth of flies from putrescent matter are in fact the result of an inferior order of causes, or of the absence of the legitimate cause. Although he does not say it explicitly, Alexander seems to consider chance as a substitute for nature. Support for this interpretation is found in Aristotle's designation of the two inferior modes of production as "privations" of the other two.

Ibn Rushd apparently did not understand the distinction introduced here by Alexander between the two meanings of "synonymous". He replaced it by the expression "by primary intention"<sup>2</sup> which has no literal correspondent in Greek but is common in Arabic philosophical writings. What is produced by primary intention is that which is the specifically intended result of an action as opposed to its concomitant effects. The distinction is analogous to that between essential and accidental. Alexander is referring to the meaning of the word "synonymous", Ibn Rushd to the synonymous *object* itself, the confusion being due to the ambivalence of the word in Greek. This does not prevent Ibn Rushd from seeing the basic fact that spontaneous generation, on Alexander's interpretation, is a non-essential kind of production deserving to be called non-being rather than being. Only art and nature, which create their products with regularity and finality, are proper fields of study for the philosopher.<sup>3</sup>

But Ibn Rushd here falls into a series of difficulties due to his acceptance of Mattā's translation. First of all, he takes "these others" to refer to accidental properties as opposed to substances and ascribes the same view to Alexander (1461, 11-12).<sup>4</sup> Secondly, instead of taking them with the first half of the

<sup>2</sup> *'ala-l-qaṣd al-awwal (al-thānī)*. Ibn Rushd's interpretation is probably the cause of Freudenthal's mistake (p. 82) in considering the two expressions *al-ma'nā al-awwal* and *al-qaṣd al-awwal* as equivalent, which they are not, and translating accordingly "die ursprüngliche Absicht" for *al-ma'nā al-awwal*. According to van den Bergh, *Tahāfut*, ii, 113, "in second intention" corresponds to the stoic *κατὰ παρακολούθησιν*. But the meaning of the two expressions is not the same: the Greek means a necessary, the Arabic an accidental corollary. Moreover, the term alleged by van den Bergh is very rare. Pines suggested *πρώτως* or *κυρίως*, but these two adverbs do not render the notion contained in *qaṣd*. The truth was indubitably discovered by Merlan (*Monopsychism* 72): *προηγουμένως*, very common in Alexander of Aphrodisias. That this is the word translated as *'alā-l-qaṣd al-awwal* by the Arabs is shown by the exact concordance of its use in the treatises on Providence in Greek (Al. Aphr., *Quaest.* II, 21) and Arabic (Ruland, *Arabische Fassung*, index s.v. *qaṣd*). The originality of the Arabs consisted in coining the parallel expression *'ala-l-qaṣd al-thānī* (Gr. *κατὰ συμβεβηκός*). Cf. also *Der Islam*, 55, 1978, p. 364.

<sup>3</sup> For the evolution of Aristotle's and his school's teachings in this respect, cf. Balme, *Development* and Jaeger, *Diocles*, p. 415.

<sup>4</sup> The view explicitly ascribed to Alexander is that he took "these others" together with "are generated from synonyms", which is certainly right; but Ibn Rushd at the same time assumes that Alexander's interpretation is the same as his, i.e. that it means the nine categories other than substance, which is certainly wrong (cf. Ross' note *ad loc.*).

sentence, he makes them the subject of the second half, with "are either by art, or by nature, or by chance, or by spontaneity" as predicate (1462, 1-2). His own view is that substances are generated from their synonyms (a man from a man), whereas accidents, not being subject to any necessity, are the domain of chance and spontaneity. This may be true of natural substances, in which all essential properties are generated from a "synonym", although some accidental differences may arise between generator and generated; an oak will produce another oak, though the position of the branches etc. will not be exactly the same. The real difficulty is caused by the mention of art on the side of the production of accidents, for it has been explained in book Z that artistic production also takes place from a synonym, namely the form of the artefact preexisting in the mind of the artisan.<sup>5</sup>

The difficulty for Alexander is different and, in a way, the reverse. It is only in the case of artistic production that it is possible to say that both their substance and their accidental properties are generated from their synonyms, because both were somehow present in the soul of the maker. But this is not true in the case of natural generation, where it is easy to verify that some of the non-essential characteristics of the son were not present in the father. But even in the case of artefacts it is doubtful whether the accidents can be said to be generated by "synonyms", because their accidents in the full sense of the word, which are equivalent to chance happenings in nature, are technical defects, i.e. things which were not willed by the craftsman (1458, 15). It deserves to be noted that Alexander interprets "these others" (τὰ ἄλλα) of the Greek as referring to "things other than substances", whereas all modern exegetes interpret it as "substances other than natural substances". Whether this was really his interpretation, or his text was forcibly harmonized with the lemma of Aristotle by the translator or by Ibn Rushd himself is hard to decide.

The discrepancy between Alexander's text and Ibn Rushd's led them both to diametrically opposed positions on the question of spontaneous generation too. Alexander considers it as a breach of the natural law, and its products as monsters, whereas for Ibn Rushd it is simply a different, non-sexual form of reproduction, but no less natural than the other (1463, 14-1464, 3).<sup>6</sup> What is important is that both Alexander and Ibn Rushd seek an immanentist explanation of this phenomenon, the former placing more emphasis on the role of heat and the latter assuming the presence in the putrescent matter of a "craft" (*mihma*) similar to that existing in animal sperm.

<sup>5</sup> Ibn Rushd thought that he could get rid of the difficulty by textual criticism when he found a manuscript in which the words "or by art" are lacking (1462, 3-8). But this is certainly the translation of Ustāth, made after a very lacunose Greek text (cf. the text V, p. 1456).

<sup>6</sup> Balme, *Development* has shown that both tendencies are at work at different times or in different contexts in Aristotle's works.

Against these "naturalistic" or physical explanations of the problem of generation, the theory expounded by Themistius stands out as a more platonizing form of the Aristotelian doctrine; the solution of the difficulty is to be sought in the metaphysical realm. In this theory, the fact that some animals are not generated from their likes is sufficient to ruin the doctrine of the immanence of the forms and of the eternity of the species by which Aristotle had thought that he could dispense with the platonic Forms. Themistius was probably not the first to use this argument against Aristotle; in fact, as we shall see, it is more likely that he was merely reporting an argument without taking it upon himself. That the objection was taken seriously by Ibn Rushd is shown by the considerable space he devoted to its refutation.<sup>7</sup>

Themistius recognizes two stages in the substantial causality of nature: plants and animals produce their likes not directly, but through the intermediary of seed or sperm respectively. These must contain definite "proportions",<sup>8</sup> which explain that the sperm of a horse gives birth to a horse and not to any other animal. Begetting is not a conscious activity of the subject, even in man; rather, it is nature itself which operates within him, like a carpenter who would be within his piece of wood or a smith within the bronze.<sup>9</sup> But as it is not a conscious agent either, its regularity and finality must be directed by a higher cause. Moreover, since some animal species are not generated from their likes, their forms must also be bestowed on nature by a higher cause (1492, 3-1494, 14).

There is a slight inconsistency in Themistius' train of thought in that he begins by using spontaneous generation as an argument against the Aristotelian doctrine of the immanence of the forms, but then says that even when there is a father, neither he, nor nature can be responsible for the wonderful finality observed in generation and growth, but only "the soul of the earth".<sup>10</sup>

In the ensuing discussion, Ibn Rushd enlarges the debate to include all forms and not only souls. The basis of the argument used by Themistius and his followers (among which Ibn Rushd counts Ibn Sīnā) is constituted by their acceptance of the principle that everything is generated from a synonym-

<sup>7</sup> Here and in his commentary to book Z, pp. 881-886 Bouyges.

<sup>8</sup> *Nisba*, pl. *nisab*. The underlying Greek term is certainly λόγος; the relation of this notion with the σπερματικοὶ λόγοι of Stoicism is evident.

<sup>9</sup> This image is actually used by Themistius to describe the action of the active intellect, in *de Anima* 99, 14-18 Henze but it applies equally well, I think, to the action of nature in living substances. Similarly, al-Kindi (249 Abu Rida) distinguishes between the form which is inside the matter which it informs, e.g. heat in fire, and the form which is outside it, e.g. the builder.

<sup>10</sup> That is, of course, the world-soul. "Soul of the earth" is certainly a blunder of the translators, though I cannot explain how it came about.

ous thing. In spontaneous generation, the synonym is obviously lacking: where, then, does the soul come from? Whatever the answer to this question, one thing is certain: there are separate souls, i.e. separate forms, which is precisely what Ibn Rushd constantly refuses to accept. And these forms, since they are clearly seen to come into being at one point in time, prove the possibility of creation. Contrary to what Ibn Rushd says, Themistius did not aim at a refutation of Aristotle. His method in his paraphrases is to expound Aristotle's ideas as clearly as possible and to point out difficulties (*ἀπορίαι* = *shūkūk*). We do not know whether spontaneous generation was used as an anti-Aristotelian argument either in the Greek or in the Muslim world, though this is a distinct possibility. What is certain, however, is that Ibn Rushd thought that it was threatening the whole Aristotelian cosmology and physics. If it is possible to prove that one thing in the world was created by an external agent, the whole world could have been created in this way. Ibn Sīnā, whom Ibn Rushd is attacking here, did not accept the idea of a temporal creation of the world any more than Ibn Rushd, but he believed in a kind of continuous creation from above, derived from the plotinian idea of procession. The "Giver of Forms" (identified with the transcendent Active Intellect) is in charge of the sublunary world. The forms of all physical things are present in him as immaterial forms.

But it is possible to go further than Themistius did and to show that even the four elements could not be generated without the assistance of the Giver of Forms. The argument runs as follows: fire does not produce fire, but only heat, which is its active power; the other qualities attached to the form of fire (e.g. lightness) are not efficient by themselves; therefore, fire can produce heat but not another fire. We also see that fire can be generated by friction, i.e. from a non-synonym. The corner-stone of the argument is the doctrine that there are only four active qualities in nature; hot, cold, moist and dry,<sup>11</sup> and none other. Thus, in order to explain the coming into being of a new fire, we have the choice between two theories: 1. the form (e.g. fire) comes into being as a result of the coming into being of the active quality (e.g. heat), in other words, the accident generates the substance, which is impossible. Therefore, 2. since we do not see a form arising from another form, (e.g. we do not see the soul of the son being given to him by his father; when an animal is born, we can only say that there is a soul where formerly there was none). The form, then, comes from a supra-natural Giver of Forms.

The passage of Themistius' *de Anima* to which Ibn Rushd refers is that in which he says that the soul implants the individual souls in matter and gives matter in various forms.<sup>12</sup> But in fact Themistius is not nearly so dogmatic as

<sup>11</sup> Ar. *de Gen et Corr.* 329b 24.

<sup>12</sup> Cf. Them. in *de An.*, pp. 210-211 Lyons, where the discussion concerns only the individual soul, not the world-soul as Ibn Rushd implies.

Ibn Rushd makes him appear. Far from criticizing Aristotle, he merely points out possible objections without accepting them. Another passage of the *de Anima* is in the conditional (δόξετε ἄν) and is followed by a denial of the existence of the separate soul,<sup>13</sup> whereas our extract from the paraphrase of the *Metaphysics* is implicitly qualified by the ensuing statement of the correct Aristotelian theory of generation.<sup>14</sup> The care with which Ibn Rushd explains and refutes these objections of Themistius probably owes something to the use which Ibn Sīnā made of them. But the example of fire shows that through Ibn Sīnā and beyond him, Ibn Rushd was aiming at the theologians of the *Kalām* who denied causality altogether.<sup>15</sup> This is much more than a quarrel between different philosophical schools: Themistius and Ibn Sīnā were in fact providing the enemies of philosophy with a powerful weapon to support their claim. What is at stake is the very possibility of a rational study of nature and, consequently, the possibility of a philosophical reflexion in the Islamic world.

To all these difficulties and objections, Ibn Rushd's answer is an emphatic restatement of the pure immanentist Aristotelian doctrine: the agent does not create anything, but only causes the union of a matter and a form, both of which preexisted eternally; it does not produce a form, but simply makes it possible for it to pass from potentiality into actuality, after the fashion of a catalyst. This applies not only to substance, but to all the categories (1499, 2-1500, 11).

Ibn Rushd then gives a detailed account of the process whereby the sperm or the seed transmit life from one animal (or plant) to another. The sperm contains "proportions and forms" which are potentially animated.<sup>16</sup> It does not have to possess an actual soul in order to give life to something else any more than the architect need have an actual house in his soul in order to be able to build one. The instrument used by the seeds in their reproductive activity is also a kind of fire, but the exact relation between this fire and the "proportions" is not further defined. Ibn Rushd rather vaguely says that this heat "has a form by which it keeps its power", which suggests that the proportions are its distinctive form. But since fire is one of the substantial forms, it is not easy to see how it could have another form. The comparison

<sup>13</sup> Them., in *de An* 26, 25 sqq. Heinze (= 15 Lyons), in particular the words: τὴν τοῦ παντὸς ψυχὴν ἐλλάμπειν τοῖς σώμασιν etc. The neoplatonic ring of the passage is unmistakable. Cf. Plotinus, *Enn* II, 9, 2: IV, 3, 4; 8. There is little doubt that the Greek word ἐλλάμπει stands behind Ar *ilhām*, although the Arabic transkation of the *de Anima* renders it literally as *saf'* (15, 6 Lyons).

<sup>14</sup> Cf. p 9, 8 ff of the Latin translation, 7, 28 of the Hebrew

<sup>15</sup> Cf the celebrated polemic against al-Ghazālī, *Tahāfut*, pp 517 sqq. Bouyges and *Tafsīr*, 886, 3.

<sup>16</sup> Ar., *de Gen An*. 735a 4-9 says that the sperm has a soul in potentiality — a rather unhappy formula as soul is nothing but the entelechy of the body.

with the fire of the artisans (potter, smith, etc.) is more adequate in that it suggests that this fire is neither the matter nor the form of the begotten thing, but a mere instrument. It is produced by the begetting animal and the sun in the case of sexual generation. When the same heat is generated in a mixture of earth and water by the sun alone, there is spontaneous generation. The motions of the moon and the other stars are also involved in this process, but their influence is almost negligible as compared with that of the sun. Therefore, these powers are ultimately the effect of the divine mind which is the cause of all the motions of the cosmos. Later on (1540,8-15), Ibn Rushd will distinguish between the father on the one hand and the sun and the ecliptic on the other by explaining that the father is the proximate mover (or efficient cause) and the motion of the sun along the ecliptic, insofar as it is the source of becoming in the sublunary world, its ultimate efficient cause. This view seems to be a faithful reproduction of that of Aristotle as expressed at the end of the *de Generatione and Corruptione* and alluded to in *Metaphysics* Λ. But here Ibn Rushd clearly assumes that there is a direct influence of the stars on the generation of each individual. This development has its source in the *de Generatione Animalium* (733b 23sq.) mentioned by Ibn Rushd no less than three times in this passage. Some of his indications, however, go beyond what is warranted by the Aristotelian texts, such are:

1. The "proportions and forms" present in the sperm. Aristotle only mentions "animal heat". The proportions and forms come from Themistius but have a distinctly stoic flavour.

2. The role of the sun in the formation of animal heat (1501,17). Aristotle merely says (*de Gen. An.* 737a 3) in anticipation of his theory of spontaneous generation, that the heat of the sun, like animal heat, is distinct from fire in that its power is generative, not destructive.<sup>17</sup> Ibn Rushd (and probably the Arab translator of the *de Gen. An.* before him) misunderstood the "and" of the Greek text and thought that solar heat *in addition to* animal heat had a begetting power.<sup>18</sup>

3. Finally, the "other stars" (1502,2) are never mentioned by Aristotle in this connection. The direct source of the role here ascribed to them by Ibn Rushd might be a passage of the *de Plantis*.<sup>19</sup>

<sup>17</sup> This is the "vital heat" of Aristotle. Cf. Solmsen, *Vital Heat*.

<sup>18</sup> This confusion is made easy by such passages as *de Gen. et Corr.* 336b 32 and *Met.* 1071a 15-16 which were usually understood, in the light of post-Aristotelian developments, as implying the direct action of the sun itself on the production of the sublunary world. In fact, it only provides, through the alternation of the seasons, the possibility of existence of this production. Cf. Brugman and Drossaert Lulofs, *Generation of Animals*, arabic text, 64,8-12.

<sup>19</sup> *Ar. de Plantis* 824b 10. Cf. also Reinhardt, *Poseidonios*, p. 367. The pseudo-Aristotelian treatise on plants goes back to Nicolaos of Damascus, (cf. Drossaert-Lulofs, *Ar. de Plantis and Moraux, Aristotelismus*, p. 487 ff.). It is thus very tempting to suppose that this is one of Ibn

The conclusion of all this is that Ibn Rushd, after having reasserted the Aristotelian principle of the immanence and eternity of form, nevertheless succumbed to the influence of the commentators in establishing a causal link between the heavens and the sublunar world. As is well known, Aristotle never succeeded in defining (or never cared to define) the kind of relation existing between the celestial motions and the world of becoming. The few passages dealing with this problem (for instance the end of the *de Generatione et Corruptione*) remain tentative. In spite of the regularity and finality observable in nature, Aristotle's teleological thought never becomes theological.<sup>20</sup> Ibn Rushd, on the contrary, considers that nature, not being intelligent (1502, 15), could not on her own produce rationally organized beings. It must be inspired by superior "powers". But for all that Ibn Rushd does not accept the existence of the platonic Forms. Insofar as his sometimes obscure explanations can be made sense of, he seems to work out a purely mechanical system whereby the prime mover communicates his "intelligence" to created beings through the intermediacy of the celestial motions and of the "proportions" and "forms" which these in turn effect in prime matter.

On the basis of their attitude to creation and production, Ibn Rushd divides the philosophers into five categories (1497, 11 sqq.);

1. The upholders of *creatio ex nihilo* (Muslim and Christian theologians, John Philoponus).<sup>21</sup>

2. Those who maintain that everything is in everything and comes into being by differentiation.<sup>22</sup>

These are the two extremist schools, between which occur:

3. Those who believe in a supranatural Agent implanting the forms in matter (Ibn Sīnā).

4. Those who believe in two different agencies: an immanent one (e.g. man begetting man) and a transcendent one (spontaneous generation) (Themistius, al-Fārābī?).<sup>23</sup>

5. The doctrine of Aristotle, i.e. the truth. The agent produces neither the form, nor the matter, but the compound of the two.

Although it is quite clear that Ibn Rushd regards himself as belonging to

Rushd's sources for the present speculations. Nicolaos was known to Ibn Rushd in a much fuller text than the synac version published by Drossaart-Lulofs. Cf also Bouyge's *Notice* p 133.

<sup>20</sup> Cf Wieland, *Problem of Teleology*, p 157 ff

<sup>21</sup> See Daiber, *Mu'ammār*, p. 252-253 and Davidson, *John Philoponus*.

<sup>22</sup> This may, of course, refer to some of the Presocratics, notably Anaxagoras, whom Aristotle refutes in *lambda*. More relevant to Ibn Rushd's position, however, is the doctrine of concealment (*kumūn*) professed by al-Nazzām. This would not be the only instance of Ibn Rushd's attacking through Greek philosophers or christian theologians the scholars of his own religion. Cf. *infra* p. 159-160; Jadaane, *Influence du Stoïcisme*, p. 143 sqq.; Pines, *Beiträge*, p. 99 ff; Daiber, *Mu'ammār*, p. 110 ff.

<sup>23</sup> Al-Fārābī's position is complex. Cf. Davidson, *Al-Farabi and Avicenna*, p. 148 ff.

this last category, there are many passages in the *Commentary* and elsewhere which show that he was not uninfluenced by the theory of 4. This appears from his insistence on the role played in the process of generation by the sun and the stars whose motions, in turn, depend on the divine mind (1502, 12). These motions are cause that what has a potential existence in the separate forms (the intellects of the spheres) becomes an actual existent in the sensible world (1595, 8-1596, 4; 1689, 1-3). Hence the startling statement that the form of the first mover is in a way all forms (1529, 8). This theory comes so close to that which Ibn Rushd combats that he feels compelled to explain the difference between the latter and his own at least on two occasions (1503, 1-6; 1596, 4-9). In the first of these two passages, he seems to place the difference in that the Platonists consider the Ideas to create individuals, whereas the forms which he says are produced by the motions of the stars are specific. This is not only debatable as an interpretation of Plato's theory of Ideas, but also very close to al-Fārābī's theory (*Phil. Ar.*, 130, 1-8). In the second passage, he blames the Platonists for holding the objectionable view that the Forms exist for the sake of the sensibles, i.e. the superior for the sake of the inferior. I shall come back to this in the next chapter.

## THE PRIME MOVER

Ibn Rushd follows fairly closely Aristotle's argument in chapters 6 and 7 establishing the existence of the prime mover and defining the nature of its action on the world. The sketchy remarks of the *Metaphysics* are developed and explained on the basis of the relevant passages of the *Physics* and the *de Generatione et Corruptione*. The prime mover must be eternal and pure actuality; in other words, its action must be continuous and eternal; it is not enough for it to give the initial push to the physical and celestial worlds, as did the  $\nu\omicron\upsilon\varsigma$  of Anaxagoras, and then to remain idle: if it ceased to exert its action for a single instant, the world would return to chaos or to death-like immobility (1567-1568). Of course, the idea of a pure actuality as the source of everything and preceding everything else is contrary to the common-sense idea that potentiality is prior to actuality; an actual man has been a man in potentiality (sperm, embryo) before being actualized. Ibn Rushd, relying on other statements by Aristotle,<sup>1</sup> refutes this view and concludes, a little vaguely, that actuality is absolutely (*bi-ittlāq*) prior to potentiality. If the reverse were true, things would either be set moving spontaneously, or would never move at all.

In conclusion, Ibn Rushd sums up his position with great cogency (1577, 14-1578, 5): there are two classes of things: the specifically eternal and the numerically eternal, corresponding to the division between sublunary world and heavenly bodies. On the one hand, the living species in which individuals die and are replaced by others and the elements which change into one another but are present at all times in one place or another. On the other hand, the stars which are like immortal animals. There are thus two parallel series of eternal things, though eternal in different ways. The problem is to ascertain which kind of relation or link exists between them. On this point, Aristotle's statements are few and not very precise. Ibn Rushd, as we shall see, tries to give a more satisfactory answer to this perennial philosophical question. Here, he is content to say that the numerically eternal is the cause of

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<sup>1</sup> The reference to book *Yā'* (i.e.  $\Theta$  or  $\text{I}$ ) at 1576, 5 cannot be correct (but cf. Bouyges' *app. crit.*). The passage Ibn Rushd most probably has in mind is  $\Theta$ , 8, where Aristotle distinguishes the different senses in which actuality is prior to potentiality. Particularly relevant to our passage is the remark (1050b6) that actuality is prior in substance not only in individual species, but in the world at large, for eternal things (i.e. the heavenly bodies) are prior to perishable things.

the *eternity* of the specifically eternal. But from that position, it is no great distance to a doctrine like Ibn Sīnā's, according to whom they are the cause of their existence. The same shift can already be observed in Simplicius, in *de Caelo*, 514,16: τὴν ἀπλανῆ σφαῖραν... ἀρχὴν τοῦ εἶναι τῷ κόσμῳ. Ibn Rushd sometimes comes perilously close to saying the same, for instance when he asserts that the celestial bodies are the principles of all things (1534,8-9). However, he usually avoids introducing a straightforward notion of causality in the discussion by using the suitably hazy term "principle" (*mabda'* = ἀρχή: cf. also 1609,6).

Since the motion of the first heaven is the principle (in a still unspecified way) of what happens on earth, it remains to be explained how a perfectly regular motion can be the cause of the disordered life of the sublunary world. In Alexander's formulation (1579,2-4), if there is an eternal generator (the first heaven), there must be an eternal destructor to account for the phenomena of passing-away succeeding to generation, unless the same being be able to perform both acts. Generation can not be eternal because, according to Alexander, matter is finite. If things did not corrupt to make matter available to others, our world would again come to a standstill. This role of destructor is played by the sun and the other planets. As a rule, the sun is agent of generation when it gets nearer to the earth and of corruption when it moves further away, although it is sometimes the reverse (1589,10-1580,1).<sup>2</sup>

This exegesis of Alexander, which Ibn Rushd apparently accepts unreservedly, conforms to the Aristotelian doctrine as expounded in the second book of the *de Generatione et Corruptione* and which is alluded to here, except for one very significant thing: the emphasis laid on the action of the planets besides that of the sun. Aristotle never mentions the planets in this connection, not because they exert no action, but presumably because he holds their action to be negligible. This belief in the action of the planets on the world, already mentioned above, was widespread in late antiquity as well as in Islam. Its basis was of course mainly astrological, but it soon received philosophical consecration through various adaptations of the Aristotelian cosmology such as this. Some interesting evidence for the importance of this trend is found in the Arabic version of Aristotle's *Meteorologica* where mentions of "the stars" have been interpolated in places where the Greek has merely "the sun".<sup>3</sup>

<sup>2</sup> According to Alexander, *Quaest.* III,4, the sun, by drawing nearer to the earth is the cause of generation προηγουμένως, and only incidentally that of corruption. Cf. also Philoponus, in *de Gen. et Corr.* 292,5-293,8: the essentially generative action of the sun is obscured by the fact that most living beings live through many περιόδου of the sun (i.e. years), so that they continue growing even when the sun moves away from them. Moreover, if the sun came too near, it would destroy things by burning them.

<sup>3</sup> Cf. the Arabic version of the *Meteor.* ed. by Petraitis and Endress' comments in *Oriens*, vol. 23-24, 1974, p. 507; al-Kindī, I, 233 ff. Abu Rida.

Whereas Aristotle and his Greek commentators remained extremely vague as to the kind of relation existing between the motion of the sphere of the fixed stars and the others, Ibn Rushd is at pains to emphasize that the former is cause of the latter (1584, 1-3),<sup>4</sup> although this is hardly reconcilable with his further statement that the first is cause of the continuity which makes the multiplicity of motions possible, but not of these motions themselves (1585, 3-5).

This leads us to the doctrine that there is a first mover which is itself unmoved. Alexander refers to the *Physics* for a detailed exposition of the arguments establishing the existence and nature of the prime mover and is content to support his view with a curious reasoning based on the properties of composite things, taking as an example hydromel. If one of the two components of hydromel (e.g. water) can be found in isolation, the other component too can exist in a non-composite state. Similarly, since we can observe things which are at once moving and moved (e.g. souls) and things which are only moved (inanimate beings), then there must exist things which impart motion without being moved themselves. This argument became standard among the commentators, cf. *Simpl. in Phys.* 1227, 21-24 and *Them., in Phys.* 223, 3-4.

The very brief treatment granted here to the demonstration of the prime mover's existence confirms the idea that Ibn Rushd considers it to be a purely physical problem (cf. *supra* p. 21 ff.): the empirically observed existence of motion in the world of nature is evidence for the existence of an unmoved mover. The specifically metaphysical inquiry is concerned with the mode of action of this mover, which is the problem which Ibn Rushd, after Aristotle, tackles next.

The first mover moves the world, and in particular the heavenly spheres, as object of desire (*shahwa*). Everything is moved by it as the lover is moved by his beloved.<sup>5</sup> But here is a difficulty: we often see people desiring what is opposed to the good. Indeed, there is often conflict between our desires and that which we rationally know to be good. How, then, can such a low faculty as desire be the principle of the highest perfection, and how can we be sure that it will always lead to the good and not to its contrary? The difficulty was seen by Aristotle ("desire is consequent on opinion rather than opinion on

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<sup>4</sup> The fact that this exegesis is here based on a misunderstanding of Aristotle (cf. p. 59) is not very significant, as we have seen that it is Ibn Rushd's constant preoccupation to restore in the universe a unity of some sort

<sup>5</sup> This expression, which recurs elsewhere (1606, 7 ff) goes beyond the metaphorical language of Aristotle and Alexander. The notion of love between the creature and God does not make sense in a Greek context. One should thus at least raise the question whether there might be here a semi-conscious imitation of islamic, and particularly sufi, terminology (Cf. p. 313 n. 123 (on *hulū*)).

desire", Ross' transl.) but evaded by means of a distinction between desire and appetite rather than squarely faced. It is true that for a IVth century BC Greek, the identity of the good and the beautiful (desirable) went as a matter of course. We can compare the definition of the good at the beginning of the *Nicomachean Ethics*: "that which everything desires".

Ibn Rushd's solution to that is very simple: the difference between desirable and intelligible is purely epistemological and corresponds to the difference between sense-perception and intellection. In other words, this distinction can only exist in the case of material things. Since the celestial bodies are immaterial and do not have sense-perception, they could not possibly perceive non-rationally desirable (i.e. material) things.

This is a further argument for Ibn Rushd's view that the celestial bodies do not have sense-perception, which was by no means obvious in his days. Many of the late Greek authors thought that the stars were endowed at least with the two highest senses, sight and hearing, following in the footsteps of the young Aristotle's *de Philosophia*.<sup>6</sup>

Combining indications drawn from the eighth book of the *Physics* and the third of the *de Anima*, Ibn Rushd tries to prove that the first mover is itself an intellect. The argument is not quite convincing because what the *de Anima* shows is that the intellect is a separate form, not that any separate form is an intellect as Ibn Rushd says (1593, 14-1594, 3). Further the prime mover is not only final cause, as in Aristotle, but also efficient (1594, 14-17) and formal (1595), which agrees with the well-known idea that these three causes are often one in number and only distinguishable by abstraction (cf. *supra* p. 22). The conception that makes of the prime mover an efficient cause is unavoidable in all systems influenced by the neo-platonic descending order of causes. It is advocated in particular by Simplicius who claims to be following Alexander (Simpl. *in de Caelo*, 271, 11-12; *in Phys.* 1361, 11 sqq.). Ammonius devoted a whole treatise to this question; it is quoted by Simplicius in the passages referred to above and was known to the Arabs: cf. *Fihrist*, 253, 22 Flügel. For al-Kindi, the sphere of the fixed stars is the efficient cause (*'illa fā'ila*) of the sublunar world (I, 248 Abū Rīda).

In fact, two conflicting tendencies are at work in Ibn Rushd's thought. One of them, which may be briefly termed the Aristotelian and finalistic, while recognizing the influence of the heavenly bodies on the sublunary world, denies any kind of efficient or creative causality between the two; the sublunary world coexists eternally with the heavenly spheres; the question of its origin or formation is not even raised. The celestial intellects think only themselves or the first intellect which is above them.

In the second tendency, which is closer to Neoplatonism, the lower world,

<sup>6</sup> Cf. Simpl. *in de Caelo* 463, 1-12; and Walzer, *Aristotle's fragment* 25, p. 111

in some way or other, is the effect of and depends on the upper world. The problem is then, in Ibn Rushd's words, to explain how the eternal can be principle of the transitory (1609,6). In this system, the finalistic explanation is replaced by an efficient, almost mechanistic one. This difficulty becomes particularly intractable once the process of emanation which explains the transitory as a progressive degradation of the eternal has been rejected. It should also be borne in mind that the first theory only aims at accounting for the existence of motion in a world which exists independently of the source of this motion, whereas the second theory wants to explain the very existence of this world.<sup>7</sup> These two general tendencies will be seen at play, not always very coherently, in the various definitions of the relation between the First and the universe propounded by Ibn Rushd.

In order to explain the nature of the prime mover's action on the world, Ibn Rushd introduces a comparison with a man betaking himself to the baths: the form of the baths present in the man's soul awakes his desire to go to the baths and as such is efficient cause, whereas the real baths are the final cause of his motion. But when the object of desire is immaterial, it can impart motion both as efficient and as final cause without losing its absolute unity (1594,9-1595,2). Multiplicity, here as elsewhere, is a consequence of being in matter. Whatever one may think of this as an explanation of heavenly motion, it is certainly not that of Aristotle for whom the prime mover, despite its immateriality, has a definite place at the circumference of the universe (*Phys.* VIII, 267b 6-9).

The main difficulty of this theory, however, was clearly perceived by Ibn Rushd himself: if the perfection of the celestial bodies is the first mover present in them in the form of intellectual representation (*ta'qqul*), they need not move in order to acquire or imitate this perfection. The answer to that objection is twofold: firstly, Ibn Rushd introduces a new comparison with a man walking for his health's sake; likewise, the star's motion is part or condition of their perfection. But this image is supplemented by a much more significant one. The material forms of the sublunary world are potentially "in" the separate forms, and it is the separate forms' motions which cause them to pass from potentiality into actuality. This is analogous to what happens for instance when a craftsman makes a chest; the form of the chest preexists in his soul, but bodily motion is required in order to imprint it in matter (1595,3-1596,9). Ibn Rushd attempts thereby to restore between the heavens and the transitory forms of the sublunary world the causal link which his rejection of emanation had broken. In order to prevent any confusion between his theory and the theory of Ideas, he adds that the heavenly motions

<sup>7</sup> Ibn Sīnā, as a representative of the second school, expressed his strictures concerning the first in his commentary on *lām*, in Badawī *Aristū*, pp. 23-24.

do not exist for the sake of the material forms (as for him the Ideas seem to exist for the sake of their earthly images); they move because their perfection consists in moving, and this motion, secondarily and accidentally, brings into being the world of generation and corruption. Thus Ibn Rushd, having rejected the transcendentalism of the platonic Forms and the emanationist system of the type elaborated by al-Fārābī and Ibn Sīnā, strives to restore the unity of the universe, but is able to do so only by stressing the radical contingency of the sublunary world. That the stars are somehow responsible for the world of generation and corruption is a belief common in both Greece and Islam; but it is quite clear, then, that they are mere instruments in the process of creation. This is especially true of all emanationist schemes in which they are simply a link between the higher noetic entities and the material world. Once this causal hierarchy of the universe had been given up, the world of becoming remained as a contingent and useless concomitant of the pure forms' activity. These forms have only their own good and perfection in view, they think only what is above themselves. They cannot debase themselves by looking to what is below. In the Athenian school of Neoplatonism, the effects of this principle were counterbalanced by what has sometimes been called the principle of plenitude. The overflow of their own bounty produces all kinds of beings. Although the creation of the sublunary world is not the result of deliberation and will,<sup>8</sup> it nevertheless serves a purpose. Proclus, for instance, gives the following three reasons why mortal beings should exist besides eternal hypostases (*in Tim.* III, 222,28-223,1 Diehl): Firstly, in order that everything that can exist should exist; secondly, in order that the divine should not be the last in the chain of beings, because it is better than other things, which are precisely mortal things; thirdly, in order that the cosmos should be perfect and contain everything the causes of which reside in the eternal. There is nothing of the sort in Ibn Rushd; he assigns a very humble position to our world, regarding it as a mere by-product of the higher entities' blissful and disinterested activity.

Ibn Rushd has yet another interpretation to put forward, based on the notion of "imitation" and according to which the first mover is the final cause not only of the first heaven but of all the celestial spheres and, through their intermediacy, of the sublunary world (1606,11-14). It is their perfection (*kamāl* = τελειότης rather than ἐντελέχεια),<sup>9</sup> but not in the sense in which health is the perfection of the body and happiness that of the soul. It is a perfection subsisting by itself which is imitated but cannot be fully possessed

<sup>8</sup> Cf. Kremer, *das Warum der Schöpfung*.

<sup>9</sup> The normal arabic rendering of ἐντελέχεια is *istikmāl* rather than *kamāl*. I suspect that *kamāl* was used in the first place to translate τελειότης, a word not found in Aristotle in this sense, but which had all but supplanted ἐντελέχεια by Alexander's time. Cf. Daiber, *Aetius*, p. 57.

by the imitator (οὐ ἕνεκά τινι, not οὐ ἕνεκά τινος) to whom it remains for ever external and transcendent. Ibn Rushd is here dealing with the very old objection raised first by Theophrastus (*Met.* pp. 6-8 Ross-Fobes): if the celestial bodies or their souls imitate the immovable mover, why do they move instead of remaining immobile? This is an objection repeated by al-Ghazālī (ap. Ibn Rushd's *Tahāfut*, p. 485 Bouyges). The comparison of the lover and his beloved is now replaced by that of the master and his slaves or the king and his subjects.<sup>10</sup> By imitating the act of the universal ruler, they contribute to the order of the universe.

Attention must be paid to this notion of imitation, which does not occur in Aristotle in this sense. The *Metaphysics* mentions only desire as the cause of motion, in order to explain how an immaterial object can impart motion to a material body without being in contact with it. But the commentators felt the weakness of this explanation and tried to obviate Theophrastus' objection by saying that the lover imitates the object of love. It is Alexander's doctrine that the cosmos' body "is moved by its desire to imitate the first God"<sup>11</sup> and that eternal circular motion is the only possible way for the celestial bodies to imitate the eternal actuality of the prime mover, motion being the highest actuality attainable to material things.<sup>12</sup> This concept of imitation seems to have been the more easily accepted in that it provided an exact counterpart in the physical world to the *imitatio dei* advocated in the ethical and human field, a doctrine whose origins go back to Plato's *Theaetetus*.<sup>13</sup>

Although this doctrine is not so fully worked out by Ibn Rushd as it is by Alexander, it is clear that this is what is meant when Ibn Rushd says that the first heaven imitates the first mover "according to its ability". This last formula, again, is very interestingly borrowed from the same *Theaetetus* passage and transposed to the cosmological field.

Yet another instance of the blending of the two cosmological views, the finalistic and the mechanistic, is furnished at 1633,5-10. It is said there that the celestial body moves spontaneously, i.e. by will and desire to imitate the prime mover. On the other hand, its incapacity ever to stop is considered as proven<sup>14</sup> and as being due to its dependence on a mover free from potentiality. In other words, the celestial body is not free to imitate or not to

<sup>10</sup> The comparison with the master and his slaves already appears although in a slightly different context, in Alex. *Quaest.* 68, 22 sqq. Bruns.

<sup>11</sup> Alex. *Quaest.* 63, 20 Bruns; *Mabādi'* 256, 12 Badawi.

<sup>12</sup> *Ibid.* 62, 23 sqq. Cf. also Plotinus, *Enn.* II, 2, 1.

<sup>13</sup> Pl. *Theaet.* 176b sqq. This particular application of the idea of imitation is the result of the blending of the platonic imitation of the ideas with Aristotle's desire of the spheres for the prime mover. Cf. Theophrastus, *Met.* 5a 25-26 and note ad loc.; Theiler, *Vorbereitung*, ch 3. and Berman, *Political interpretation*, for references in Arabic philosophy.

<sup>14</sup> Cf. *de Caelo*, II, 6.

imitate the prime mover, but is compelled to do so, exactly as if the mover exerted compulsion on it: that is to say if it moved it as efficient cause.

The problem of the relation between the prime mover and the movers of the spheres below that of the fixed stars is a very intricate one and Aristotle's indications on the topic are far from clear.<sup>15</sup> Although Ibn Rushd seems to have had definite ideas on the matter, he does not deal with it *ex professo*; however, from the scattered indications found in the text, a fairly reliable picture of his system may be drawn.

The celestial bodies have souls (1593, 12), but these possess only the higher powers of the soul: intellect and desire, which are sufficient to enable them to move in imitation of the prime mover. There is no difference, in Ibn Rushd, between the souls and the intellects of the spheres. Whenever he speaks of the souls of the stars, it is only a less precise way of designating their intellects. This is very important, because Ibn Sīnā had based his own system on precisely such a distinction. The proximate mover of each sphere is a soul and its ultimate mover an intellect.<sup>16</sup>

For Ibn Rushd, the difference between the first principle and the other principles is that the first body desires its principle for the sake of its own motion (the daily motion), whereas the other bodies desire it for the sake of the whole, not of themselves (1604, 3-1605, 2). In other words, the first sphere desires the prime mover for its own sake, whereas the other spheres desire this same intellect and are moved by it only in so far as their motions contribute to the perfection of the universe. It is imperative to retain the reading of B at 1601, 10: *yakhtāruhu* and *yatashawwaquhu*. If one understands that these principles are *chosen* and *desired* (variant reading adopted by Bouyges on the basis of the translations), the question naturally arises: by what or by whom are they desired? By the souls of the spheres, would be Ibn Sīnā's answer. But we have seen that this distinction between soul and intellect in the case of celestial bodies is not accepted by Ibn Rushd. All these hesitations and obscurities are the direct result of a fundamental ambiguity in Aristotle's own notion of the unmoved mover: he does not explain how an intellect can exert any kind of action on a mere body. Alexander compares the stars to animals moved by their desire;<sup>17</sup> but animals have souls *in* their bodies. Aristotle never explicitly says so in book *lambda*. The conceptions of later philosophers, including the Arabs, were elaborated by combining elements drawn from *lambda* with indications derived from other treatises, in particular the *de Caelo*. All these philosophers seem to have considered the intellects of *lambda* as desired and not desiring. Ibn Rushd is the only exception, so far as I know,

<sup>15</sup> Cf. in particular Ross' introduction to his ed. of the *Metaphysics* pp. CXXX-CLIV.

<sup>16</sup> Ibn Sīnā, *Shifā', Ilāh.*, IX, 2, pp. 281 ff.

<sup>17</sup> *Mabādi'* 253-254 Badawī.

which explains the mistake of the Latin translators (1604 n. 78 and 79), more familiar with a different brand of Aristotelianism. Closely connected with the previous problem is that of the number of unmoved movers. Although many details of Aristotle's system are obscure, it is clear that for him there are as many movers as there are motions in the heavens. Alexander's position is quite different; since the prime mover moves as object of love and remains itself impassible, there is no reason why it should not move several objects (stars or spheres) in this way. Nothing can prevent a multiplicity of heavenly bodies from desiring the same intellect (Simpl., *in de Caelo*, 270, 5 ff.). This view is vigorously rejected by Simplicius, but seems to have become common in Arabic philosophy. It is found, for instance, in a short treatise *On the first mover*, by al-Sijistānī (in Badawi's ed. of *Siwān al-hikma*, Tehran 1974, p. 372-376). It is also the theory implied in our *tafsīr*, although Ibn Rushd does not bother to say so explicitly, probably because he took it for granted, but it clearly is the view implied at 1650, 7 ff. There is one final cause common to all the spheres' intellects. The particular form which each sphere follows is its formal and efficient form and moves its sphere as the soul moves the animal's body, without intermediary; it is not an *object of desire* (*shā'iq* = ἐρώμενον). But it is fair to say that Ibn Rushd's language is ambiguous and must be responsible for Duhem's mistake (and many others', including Corbin, after him) in ascribing to him the same view as to Aristotle, namely that there are as many final causes as there are heavenly motions (*Système du Monde*, vol. IV., p. 550 ff.).

Ibn Rushd cosmological system is a three-level one. The prime mover does not impart its motion directly to the intellects of the spheres but only to the first body (the sphere of the fixed stars), and through its intermediacy to the other spheres and the sublunary world (1605, 8-15). This desire of the spheres for the first body explains, according to Ibn Rushd, the double motion of the planets, from east to west and from west to east (1606, 16-17). Although it is not easy to see what this statement means in this form, one can suggest the following explanation: the intellects of the spheres are moved in the direction of the first heaven by their desire for it and in the opposite direction by their desire for the prime mover. This interpretation would receive support from the fact that at 1597, 10-1598, 2 Ibn Rushd assumes a desire of the spheres for the first mover (and not for the first body). Further, all intellects obey and follow (*ta'ummu wa taiba'u*) the great (i.e. daily) motion (1646, 15-16).

The way in which Ibn Rushd explains the variety of the motions observed in the heavenly bodies is interesting in that it furnishes a further example of what might be termed his idealism: the unmoved mover is the "cause of various existents" (1649, 5), i.e. of various motions<sup>18</sup> insofar as various

<sup>18</sup> In this passage, as elsewhere, cause (*'illa*) and principle (*mabda'*) are used indifferently. The preceding refutation of emanation has made it sufficiently clear that by "cause", Ibn Rushd

aspects of it are "intellected".<sup>19</sup> Thus, each intellect of each sphere "intellects" a specific "aspect" (*naḥw*) of it and as a result of this intellection, moves in a specific way. There is only one unmoved mover for all spheres, but this unmoved mover is different in the representation (or intellection: *taṣawwur*) of each sphere's intellect (1649,4-10). The spheres attain their perfection (*yastakmilu*)<sup>20</sup> by the representation of their cause. Although Ibn Rushd's account is not exempt from obscurity at this point, it seems that the various movers of each star are moved by intellecting the intellect of the sphere carrying the star, which enjoys thus a kind of superiority over the other spheres of that star. There is, then, a double hierarchy among the spheres: the intellect (or first mover) of each star-carrying sphere derives its own motion from the prime mover and imparts in turn specific motions to a certain number of subordinate spheres. Each planet's intellect is in the same situation relative to its subordinate movers as the prime mover is in relation to these intellects. The group of spheres producing the motion of each planet is a kind of reproduction on a smaller scale of the universe with a first mover (the intellect of the sphere which carries the planet) and subordinate movers (1653,8-11). Thus, the various motions caused by the various spheres of a given star are only means of producing the motion which this star must possess in order to make its own contribution to the harmony of the universe.

The same argument is then set forth in terms of formal causes. There is one formal and final cause governing all the intellects of the spheres, which are apparently the forms of the spheres, but not their final causes. The "common and universal cause" is the common act of all the individual spheres (1656,6-14). Ibn Rushd seems thereby to indicate that the prime mover contains in some way all the individual forms of the universe (cf. *supra* p. 31, 37), although he does not say explicitly whether the individual differences between the motions of the various spheres are due to differences between their intellects or to the plan of the prime mover. The very strong emphasis laid on the superiority and dominance of the prime mover would seem to favour the second alternative. In fact, it is neither here nor there: the intellects move their spheres in various ways according to the manner in which they apprehend various aspects of the prime mover; but apparently they have no choice but to apprehend that particular aspect which is suited to them.

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understands something fundamentally different from the creative principle of Ibn Sīnā. "Existent" (*mawjūd*) is here the motion of a sphere; the extension of this term is wider in Arabic than in English; it can designate, for instance, a pure abstraction as "existent in the soul".

<sup>19</sup> If I may be forgiven this barbarism for the sake of convenience. Others (P. Merlan) prefer "intellectualize", which does not sound much better.

<sup>20</sup> i.e. its entelechy. *Istikmāl* is one of the four Arabic renderings of ἐντελέχεια (cf. n.9 above). Its actuality consists in being in motion and this motion is caused by its intellection of the prime mover.

This interpretation of Ibn Rushd's cosmological scheme is confirmed by the two images he adduces to illustrate his thought. The world is like a good state in which everybody obeys and imitates the king and in which partial leaderships (e.g. that of the head of a family over his family) are subordinated to the king's overall authority (1605, 10-15; 1650, 14-1651, 5). The immanent perfection of the cosmos depends on the imitation of a transcendent ruler in the same way as the order of a state depends on the presence of a good king. The second example is that of the various techniques subordinated to a particular aim, for instance horseriding; it is necessary to have a clear view of that aim in order to know how to make bridles, saddles, and so forth (1651, 5-1652, 4). The intended result, horse-riding, is one, but the techniques employed to achieve that end are multiple because each one of them apprehends a different aspect of it.

The "principle<sup>21</sup> of motion" of the celestial body (i.e. the sphere of the fixed stars) is intellectual representation (*taṣawwur bi-'l-ʿaql*)<sup>22</sup> (1600, 2-3). The usual meaning of *taṣawwara* = to imagine is to be avoided absolutely here, since Ibn Rushd is at pains to emphasize that the principle of the heavenly motion is neither sense-perception (cf. *supra* p. 63), nor imagination<sup>23</sup> (*takhayyul*). This intellectual representation is "the activity of the intellect" (*fī' al-ʿaql*), that is to say, it is the subjective activity of the intellect belonging to the celestial body which becomes similar to the intelligible which it intellects (1600, 6). Thus, the first principle is an intelligible rather than an intellect, and it remains to determine the nature of this intelligible.

Ibn Rushd then quotes the four possible interpretations of the nature of this intelligible propounded by Alexander (1601, 1-1602, 15); the first is that generally accepted by modern exegetes, and also that of pseudo-Alexander. The second and the third are very close to one another and take the intelligible to be analogous to form as opposed to privation. The fourth exegesis, considered by Alexander and Ibn Rushd to be the closest to Aristotle's own words, refers the two series to the distinction between the two classes of intelligibles which became current in late neoplatonism and among Aristotle's commentators, viz. material and immaterial intelligibles (ἐνυλον and ἄνυλον νοητόν) which the Arab philosophers prefer to call first and

<sup>21</sup> "Principle" (*mabda'*) here means obviously the same as "cause" (*sabab*); cf. above p. 12, n. 2.

<sup>22</sup> This expression seems to be equivalent to *taʿaqqul*. At any rate, *taṣawwur bi-'l-ʿaql* is glossed as *taʿaqqul* in the mss. of Alexander's *Mabādi' al-Kull*, p. 268 Badawī. I surmise that Ibn Rushd wanted to avoid *taṣawwur* on its own (which could also mean "intellection", cf. Afnan, *Lexicon* s.v.), lest it should lead to confusion with the faculty of imagination (*takhayyul*) which the stars are also denied. Cf. also Wolfson, *The terms taṣawwur*.

<sup>23</sup> This is directed against Ibn Sīnā, who considers imagination as the faculty whereby the stars are drawn to the first mover. Cf. *Shifā', Ilāh.*, IX, 4-5.

second intelligibles. These two classes are a result of the syncretistic tendency of neoplatonism to accept side by side Plato's immaterial Ideas and Aristotle's inseparable forms.<sup>24</sup> The intelligibles of matter are those which are recognized in the process of abstraction, the material forms which discursive thought considers apart from their matter.<sup>25</sup> It is less easy to see exactly what Alexander means when he says that they are ten and exist by relation (1602, 13). The number ten must refer to the ten categories, and this sentence would imply that there is no distinction of categories in the realm of the immaterial, whereas the expression which I translated as "by relation"<sup>26</sup> (*bi-l-nisba* or *bi-l-munāsaba*) means that they do not exist separately from matter. But this restriction of the material intelligibles to the ten categories is extremely odd; in fact they are as many as the individual forms, which means that they are practically infinite in number.

Ibn Rushd's gloss on Alexander's exegesis is equally confused. He seems first to consider "substantial form" as a species of the genus "first intelligible" (1602, 16-1603, 1) and then the reverse (1602, 2-3). The only clear point to emerge from this passage is that the object of intellection which moves the heavenly bodies belongs to the class of immaterial forms and that they are absolutely simple, i.e. without extension or parts.

The action exerted by the prime mover on the first heaven (i.e. on the sphere of the fixed stars) is examined more closely on pp. 1626 sqq., mainly on the basis of the views expounded by Aristotle in the *Physics* and in the *de Caelo*. The corner-stone of the whole argument is the doctrine of the eternity of heavenly motions, demonstrated in the *de Caelo* (I, 6), but not recalled here, so that the train of thought does not come out very clearly. It is the eternal motion of the heaven which manifests the existence of an eternal immaterial source of motion beyond it. That such a source of motion cannot be in the heaven itself (like a soul in a body) is shown in the following way: an eternal power like that presupposed by the eternal motion of the heaven cannot exist in a finite body, because it would then be divisible according the division of the body, that is to say it would be finite; nor can it be an infinite body because such a body does not exist; therefore, it must be separate from the body, immaterial and eternal (1626, 6-1628, 9).

Against this theory — which is pure Aristotle — a very embarrassing objection was raised by John Philoponus in his *de Aeternitate Mundi contra Proclum*: according to Aristotle's own words in the *de Caelo* (I, 12), everything that is corruptible must be corrupted at some time; but to say that the first heaven is not eternal by a power in it is precisely equivalent to saying

<sup>24</sup> Cf. Kremer, *Metaphysikbegriff*, 18-26 and Merlan, *Monopsychism*, 16-17; 41 ff.

<sup>25</sup> Cf. Ibn Rushd, *Tafsīr*, p. 306; Ibn Sīnā, *Ta'liqāt*, p. 167 sqq.

<sup>26</sup> Not to be confused, of course, with the category of relation (*iḍāfa*).

that it is corruptible *per se* and eternal through something else. There is, then, a contradiction in Aristotle's thought.<sup>27</sup>

Philoponus' objection is the more embarrassing for Ibn Rushd since the principle that a thing which does not possess a certain quality by its own essence cannot acquire it (at least not permanently) from something else, because this would entail a change of essence, plays a capital role in his refutation of Ibn Sīnā's metaphysics; the latter, as is known, held that the entities following the First were contingent by themselves, but necessary by something else (i.e. the First).<sup>28</sup> Ibn Rushd is thus compelled to accept that the eternal motion of the celestial body constitutes an apparent exception to his own doctrine (1632, 1-7). But the exception is only apparent, and the *distinguo* whereby Ibn Rushd shows this is highly revealing of the gulf that separates him from Ibn Sīnā and more generally ancient from medieval philosophy (Ibn Rushd being in that respect on the side of ancient philosophy).

Power (potentiality) in space must be carefully distinguished from power in substance; the principle laid down in the *de Caelo* applies only to the second kind of power: power in substance, i.e. the potentiality for substantial change. As for local power (i.e. potentiality for motion in space), it is possible for it to be infinite in a finite body, insofar as the source of motion is outside that body (1629, 1-15).

The substance of the celestial body is eternal because it is not a compound of matter and form (1634, 13); it has no contrary; it is eternal by its own essence, not by a quality superadded onto it (1631, 7-8), this last remark being aimed at Ibn Sīnā. The permanence of the heaven's existence is due only to itself, the permanence of its motion depends on the prime mover.

What Ibn Rushd has in mind in this passage, although he does not expressly say so, is the concept of ether as it appears in the *de Caelo*. There it is said to be eternal and incorruptible because it cannot change into any other element, as earth, water, air or fire do, and also to have circular motion as its natural motion, corresponding to the downward motion of earth and water and to the upward motion of air and fire. This more materialistic explanation of the motion of the stars was abandoned by Aristotle in the *Metaphysics* and replaced by the system of the unmoved movers. This shift of doctrine has been variously explained as an evolution in Aristotle's thought<sup>29</sup> or as a difference of point of view and method between the physical and metaphysical treatises.<sup>30</sup> For Ibn Rushd, however, there is no contradiction; the

<sup>27</sup> Phil., *de Aetern, Mundi*, p. 235 Rabe.

<sup>28</sup> Cf. D. Saliba, *Essai*, p. 100 ff.

<sup>29</sup> Cf. Jaeger, *Aristotle*; Guthrie, *The Development*.

<sup>30</sup> Moraux, ed. of the *de Caelo*, Introd. pp. XLVI-XLVII.

peculiar nature of the ether accounts for the substantial eternity of the heaven, but its function as mover is not mentioned; the ether is eternal because it has no contrary, but motion, even circular motion, has a contrary, namely rest.<sup>31</sup> An immaterial element, however subtle and divine, cannot provide an eternal power; the eternal power of the heavenly body must come from an immaterial mover. Ibn Rushd's solution to this perennial problem is thus completely original; it is based on a clearer distinction between eternity of being and eternity of motion than had hitherto been made and on a specification of the role of the ether different from that of Alexander; the latter, according to reports by Simplicius,<sup>32</sup> identified the celestial bodies' nature (i.e. the ether) with their souls, whose desire for the prime mover was the cause of their motions.<sup>33</sup> Ibn Sīnā's view, though expressed differently, comes to the same.

Ibn Rushd then reasserts the validity of the principle that "every power in a body is finite", even if that body is not subject to generation and corruption. The eternal motion of the heaven points to the existence of an immaterial mover. This is where the mistake of the Sabaeans resides.<sup>34</sup> The stars themselves are not gods: they are only signs of the deity. This is also the meaning of the coranic verses VI,75 sqq: God does not show Abraham the heavens so that he may believe in them, but only in the God whom they reveal (1633,11-1634,6).

After quoting and briefly explaining Themistius' opinion (1635,4-1637,5) which does not bring anything new in the discussion, Ibn Rushd enunciates the conclusion to which this long development was tending, which is that if the stars move eternally, as they do, then their mover must be eternal and never changing; it is completely free from potentiality, and thus immaterial, potentiality being always a concomitant of matter; it has no locomotion, let alone the other kinds of change which are all "baser" than locomotion.

There is between the spheres (or the intellects) a hierarchical order based on their respective degree of "nobility" (*sharaf*), not, as in Ibn Sīnā, on their place in the process of emanation, the first generating the second, the second the third, and so on. This order corresponds exactly to the order of the spheres in space, the first and largest one encompassing all others. Ibn Rushd, however, sees two difficulties in this theory:

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<sup>31</sup> This is, of course, contrary to Aristotle's contention that circular motion has no contrary, and therefore that the motion of the ether can not cease (*de Caelo*, I. 16).

<sup>32</sup> *Simpl. in de Caelo*, 380,29-381,2; *Mabādi'*, pp. 253-254 Badawī.

<sup>33</sup> *Alex. Quaest.* I, 1.

<sup>34</sup> The expression: "concerning this passage (*mawāḍif*) the Sabaeans and their scholars were mistaken" seems to indicate that they used Aristotle as an authority in their books and that Ibn Rushd had seen them, but this is by no means certain. "Sabaeans" early became a generic name for all star-worshippers.

1. Since the sphere of the fixed stars (the first) has the fastest motion of all, one should expect the other spheres to have increasingly slow motions as one gets nearer to the earth. But observation shows that this is not the case; the planets which are immediately above the earth are much faster than the more remote ones. A possible explanation of this anomaly might reside in the relative masses of the stars; since the moon or Mercury are smaller than Saturn or Jupiter, the speed of their spheres is greater because the weight which they have to carry is inferior. It is noteworthy that Ibn Rushd does not mention Aristotle's explanation of the same phenomenon, namely that the motion of the sphere closest to the first heaven is very slow because its motion is contrary to that of the first sphere and therefore it has great difficulty in overcoming the effects of the first sphere's motion, whereas the same effect reaches the spheres closest to the earth only in a very weakened form.<sup>35</sup>

2. It might be tempting to arrange them according to the excellence of their action on the world of generation and corruption. In that case, the sun, although it is closer to the earth than most other planets, would be the best of all, since it is the source of life on earth, the Giver of Life; Saturn, on the contrary, is frozen and dead (*jumād*), and so is its action on the world according to the traditional doctrine of the astrologers.<sup>36</sup>

In spite of all this, Ibn Rushd finally accepts as the most likely opinion that which he ascribes to Aristotle, namely that the order of nobility of the spheres corresponds exactly to their order in space (1646, 14-1648, 3). The main point to be noted in all this is that Ibn Rushd, despite his rejection of the theory of emanation, retains the idea of a hierarchical order among the spheres (or their intellects), of which there is no trace in Aristotle.

There follows a detailed refutation of the theory of emanation, ascribed by Ibn Rushd to "later philosophers" (*muta'akhhirūn*, 1648, 4 but cf. n. 20); this is an expression which usually designates Arab philosophers. In any case, the views analyzed here are clearly those of al-Fārābī and Ibn Sīnā.<sup>37</sup> Ibn Rushd shows no sign of having been acquainted with the late Greek emanationist systems of Plotinus or Proclus. In the system of al-Fārābī and Ibn Sīnā, the first intellect and the first sphere are produced by an antecedent substance which is truly the First. This, says Ibn Rushd, is wrong on two accounts; firstly, because the only *raison d'être* of the immaterial entities is to impart motion. Therefore, there cannot be more such substances than there are motions observable in heaven. If there were a substance before the first mover, this would be idle and useless, but "God and nature do nothing in vain". Secondly, it is meaningless to say that the prime mover or first intellect

<sup>35</sup> *de Caelo*, II 10.

<sup>36</sup> Cf. e.g. Ptolemy, *Tetrabiblos*, I, 4-5.

<sup>37</sup> Cf. al-Fārābī, *Arā'*, 19-20, Ibn Sīnā, *Shifā'*, *Ilāh.*, IX, 4, 402 ff

is produced (*yaşduru*) by another entity because such terms as “production”, “creation” and so on imply a succession in time; but the immaterial entities are timeless; there cannot exist among them any temporal relation,<sup>38</sup> but only relations of causing to caused, like the relation of the intelligible the intellect; it is in a way its effect (1648,4-1649,7). But this does not mean that its existence is the product of the intelligible. Production caused by an agent is a purely sublunary process; the object produced passes from potentiality into actuality. Since there is no potentiality whatsoever in the celestial world, production there is impossible. With great historical acumen, Ibn Rushd traces the origin of these philosophical conceptions back to Plato’s *Timaeus* (one of the main sources of Neoplatonism) and its myth (lit. symbol: *lughz*) of the creation of subordinate gods<sup>39</sup> to carry out the task of shaping the world (Pl., *Tim.* 40d sqq.).

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<sup>38</sup> For a more detailed study of this problem, cf. *Tahāfut* and Arnaldez, *La Doctrine*.

<sup>39</sup> Ibn Rushd says “angels” according to the practice of Arab translators and philosophers; cf. Walzer, *Greek into Arabic*, p. 167, n. 2.

## HUMAN AND DIVINE INTELLECT

I shall deal briefly with the subject of the intellect which can only be adequately treated within the framework of a study of Ibn Rushd's psychology. In the following, I shall limit myself to indicating the contribution of his *Metaphysics* commentary to this intricate problem.<sup>1</sup> Two passages are relevant for this purpose; the first (1487,4-1490,10) deals with the question of the human intellect's immortality; the second (1611,14 sqq.) with the nature of the divine mind. Let it be said at once that they offer no clue as to the cosmological status of the Active Intellect, which remains as obscure as ever. There is certainly nothing, neither here nor in the *de Anima* commentary to support Gauthier's (*Ibn Rochd*, pp. 245, 253) description of it as "émané de la sphère de la lune".

Concerning man's personal immortality, Ibn Rushd begins by quoting Alexander's answer, which is based on a *reductio ad absurdum*<sup>2</sup> of the view of those who accept the immortality (or separateness) of the intellect which is a part of the soul; if this were immortal, then the whole soul, i.e. a material form (the soul being the form of the body) would be immortal, which is impossible by definition. Thus, none of the faculties of the soul which are linked with matter, nor the material intellect can survive. Only the intellect which comes from outside us<sup>3</sup> and which Alexander identifies with the first mover is eternal.

That this doctrine is in contradiction with that of Theophrastus and Themistius was clearly seen by Ibn Rushd.<sup>4</sup> For them, the active intellect and the material intellect are both immortal (1489,1-6). Indeed, Ibn Rushd seems

<sup>1</sup> On the psychology of Ibn Rushd, cf. the relevant chapters in Gauthier, *Ibn Rochd*, Hamelin, *la doctrine Aristotélicienne*;

<sup>2</sup> This is the only way of explaining the curious *since (lammā)* at 1487,6. The whole sentence, from *since* down to *the compound of the two* (1487,9) should stand between inverted commas. If we read *idhā* or *law* instead of *lammā*, we would then have a straightforward hypothetical syllogism.

<sup>3</sup> νοῦς ἑώραθεν or ποιητικός Cf. Alex. *de An.* 90,20; 108,22 Bruns, etc. The two words used here in Arabic are *muktasab* and *mustafād*, which both look like renderings of the Greek, ἐπικτήτος (82,1 Bruns). The word *fā'āl* = ποιητικός seems to be confined in Arabic to the Active Intellect in its cosmic aspect

<sup>4</sup> Cf. Them. in *de An.* 105 sqq. Heinze; Theophrastus' views *ibid.* 107,30 sqq. = 191 ff. of the Arabic transl. published by M. Lyons. Themistius is certainly Ibn Rushd's source for his knowledge of Theophrastus. Cf. Barbotin 206 sqq.

to consider that they are really one and the same reality envisaged from two different points of view, as respectively producing and receiving the intelligibles. This is yet another instance of the distinction of which Ibn Rushd is so fond between what is really or essentially distinct and what is distinguishable only in thought or by abstraction.

Ibn Rushd then gives a succinct account of his own doctrine of the intellect and refers to the "book of the soul", that is to his commentary on the *de Anima* for further detail. His exposé is not free from difficulties, arising in particular from his use of the term "intellect in disposition" (*bi-'l-malaka*) to designate what is clearly the active intellect, whereas for Alexander and the majority of the Greek commentators it is the result of the active intellect's action on or union with the material intellect.<sup>5</sup> This intellect is eternal and enters us from outside to unite with, or rather be received by the material intellect. Ibn Rushd then draws an original distinction between the pure, incorruptible substance of this intellect and its act, united with the material intellect and subject to generation and corruption; acts of intellection follow upon one another; whenever a new act of intellection is generated, the previous one is destroyed. Therefore, one must distinguish between the substance (or essence) of the active intellect and its act, which is another substance, distinct from it. This distinction explains how the eternal can perceive what is subject to generation and corruption (i.e. how God can have knowledge of transient things on earth). However, it may happen that this intellect becomes completely free from potentiality, which seems to mean that its act of intellection is no longer achieved by means of its union with the material intellect; its activity is then entirely directed towards itself; its act has become one with its substance. Whether this still deserves to be called intellection is doubtful, says Ibn Rushd, but what is certain is that this state in which the active intellect is entirely self-contained is the highest bliss attainable to us, the bliss of pure contemplation (1489, 7-1490, 10).<sup>6</sup>

The second main passage dealing with the intellect shows the difference between our (active) intellect and the divine intellect or prime mover. This divine intellect is in a state of eternal bliss, similar to the bliss we partake in when we are in contact (*ittiṣāl*) with "the intellect which is our principle" (1612, 1-3). The reason why this bliss can be enjoyed eternally by the heaven but not by us is quite simple: it is because the heavenly body is eternal, whereas the part of us which is united with the active intellect is not (1612, 4-7).

This last sentence is a little mystifying, because Ibn Rushd has been dealing

<sup>5</sup> Cf. Moraux, *Alex. d'Aphrod.* p. 100, n. 1.

<sup>6</sup> This distinction between act and essence was already used in the problem of the intellect by al-Fārābī, *Phil. Ar.*, 123, 8-14.

so far not with the bliss of the celestial body, but with that of the prime mover itself. "the part of the celestial body which is united (*viz.* with the prime mover)" (1612,7) is an odd phrase anyway because it is not a part of the body which becomes united, but (presumably) the intellect of the star, moved by its desire for the prime mover. The difference between our intellect and the First is more consistently expressed at 1616,13-14; the first intellect's intellection is its essence and whole being, whereas it is only a part of our total personality; as Ibn Rushd puts it, we think by an intellect which is in us. It is interesting to note that the sentence on the union of the celestial body was omitted by most Hebrew and Latin translators, who probably found it incongruous (p. 1616, n. 46).

A further difficulty arises in the next paragraph (1612,8-1613,4). So far, Ibn Rushd has been using the expression "our intellect", or "the intellect in us", to designate the intellect which is the highest goal of our life, thereby distinguishing it clearly from the prime mover of the universe. But he now says that we depend on that principle on which the heaven depends, which can only mean the prime mover. It may be that what Ibn Rushd means is that our intellect is our immediate or proximate mover, while the prime mover moves us only indirectly, as it moves indirectly the whole sublunary world. Such an interpretation would find support in the fact that Ibn Rushd says that we are "ultimately" (*bi-ākhirat<sup>in</sup>*) in contact with this principle. The sense of this expression, however, is not entirely certain and if this was Ibn Rushd's idea, it is surprising that he did not develop it more or express it more clearly.

Another line of approach to this problem would be to consider our (active) intellect as a detached part of the divine intellect or as the presence in us of the divine intellect. But I find no support for this view in the texts. Nor does Ibn Rushd mention any kind of *unio mystica* in the pages of his commentary. All he is saying is that the highest happiness resides in the intellectual apprehension of the intelligible. This is God's permanent state, whereas we can only attain it for a short period because our intellect is still tied down to matter and potentiality. When we reach that state, however, we become like God in that we think ourselves, or our own essence (1617,4-10); but this "like" indicates a mere comparison: there is no identification, no union.

At least from the time of Alexander onwards, it had become customary for peripatetic philosophers to include in their metaphysics an account of divine knowledge and providence. Chapters 9 and 10 of book *lambda* with their discussion of God's mind and the order of the world usually provided a convenient peg on which to hang views on providence. Ibn Sīnā, for one, is still very much in this tradition when he concludes his metaphysics with considerations which belong properly to religious philosophy. Ibn Rushd follows the same pattern in his commentary. But his treatment of the subject is extremely short, compared with the long digressions of chapters 1-7. This

state of affairs can be explained in two ways; either by the general character of the latter part of the work, which shows clear signs of haste and incompleteness. Alternatively, Ibn Rushd may have felt that these topics were outside the pale of Aristotelian metaphysics and already been sufficiently explained in such works as the *Tahāfut*.

The problem confronting all the commentators was to explain how God, if he thinks only his own essence, could have knowledge of the individual existents and provide for their well-being. Ibn Rushd begins by quoting and rejecting Themistius' opinion that God perceives a multiplicity of things, not one after another like the human mind, but in a kind of instantaneous and total apprehension (*daf'ar<sup>an</sup>*), a conception enthusiastically accepted by Ibn Sīnā<sup>7</sup> (1706,11-1707,5); therefore,<sup>8</sup> some people said that God is knowing but that his knowledge is universal, not particular (1707,6-7). It is, however, not clear whether Ibn Rushd considers them to be of the same opinion as Themistius or to form a different group; in the second case, it is not specified what the difference consists in. Since, however, the idea that God's knowledge is universal is the view usually taken by Ibn Sīnā and criticized as such in the *Tahāfut*, it is likely that Ibn Rushd regards it as identical to Themistius' position.

The truth (*al-ḥaqq*) is that by knowing his own essence, God knows the existents since his being is the cause of their being. Similarly, someone who knows the heat of fire knows the nature of the heat present in all hot things. But his knowledge is neither universal, nor particular. His knowledge and our knowledge bear the same name by equivocation (*ishtirāk*); in fact, they are radically different; his knowledge is the cause of being, whereas our knowledge is the effect of being. His knowledge cannot be universal, for a universal knowledge is potential knowledge of the particulars and there is no potentiality in him. His being is not distinct from his essence (1707,8-1708,13).

Ibn Rushd wants to dissociate himself from the current theory according to which God knows the particulars in a universal way. His view, insofar as one can make it out in the very corrupt state of the text, is that he knows the existents only insofar as he is himself the source of their existence; he knows them *qua* existents, but he does not know their specific properties. If this is Ibn Rushd's view, and I can see no other interpretation, it is difficult to reconcile it with his doctrine of providence, according to which God's care extends so far as the species, to the exclusion of individual characteristics (1607,3-9). Evil is a consequence of matter (1715,1-11). In this, Ibn Rushd follows Alexander<sup>9</sup> closely. Although he did no longer have the latter's

<sup>7</sup> Cf. Badawi, *Aristū*, p. 26, last line.

<sup>8</sup> *li-dhālīka* could mean either "in accordance with Themistius' opinion" or "in order to parry our objection".

<sup>9</sup> Moraux, *Alex*, 195-202.

commentary at his disposal for that part of  $\Lambda$ , it is virtually certain that he used the treatise on providence preserved in an Arabic translation.<sup>10</sup> How God can provide for the species without having some knowledge of them remains, however, unexplained.

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<sup>10</sup> Thillet, *Un traité*. Ruland, *Die Arabische Fassung*, p 103.

## IBN RUSHD'S ASTRONOMY

The astronomical considerations developed by Ibn Rushd in relation to the eighth chapter of *Lām* are paradoxically one of the aspects of his thought which have received most attention in modern scholarship. This will enable me to be very brief on this topic. The debate started, it seems, with Ernest Renan, who regarded the criticisms directed by Ibn Rushd at Ptolemy's planetary theory as testifying to a freedom of thought rare in the Islamic Middle Ages, when the doctrines of Greek scientists and philosophers were uncritically accepted as revealed truth.

This view is inaccurate on several counts. Firstly, we now know that men like Ibn al-Haytham and al-Bīrūnī were aware that science had made advances since the days of the Greeks and were quite capable of maintaining a critical attitude towards the books of the Ancients. But the main weakness of Ibn Rushd's critique of Ptolemy lies elsewhere. As was pointed out by Gauthier,<sup>1</sup> Ibn Rushd's motivations and principles are purely "reactionary"; he merely wants to revive the older astronomical scheme of Aristotle because Aristotle is for him the source and the epitome of all knowledge. But even this intention was not really original. Ibn Rushd's younger contemporary al-Bīrūjī raised objections against ptolemaic astronomy on the grounds that it contradicted certain principles of Aristotelian physics, and he put forward solutions along the same lines, although his own system was not completely worked out. Al-Bīrūjī himself says of Ibn Ṭufayl, his teacher, that he rejected the existence of eccentrics and epicycles, and as the same Ibn Ṭufayl was Ibn Rushd's teacher, it may be supposed that he was the source of both attempts to dispense with Ptolemy's astronomical models.

Although Ptolemaic astronomy seems to have been widely accepted in Islamic scientific circles down to the time of al-Bīrūjī, it is noteworthy that the philosophers (particularly al-Fārābī and Ibn Sīnā) were content, for their metaphysical purposes, to assume one sphere (with its soul and its intellect) for each planet. They were not concerned with giving a geometrical explanation of the apparent irregularities of the celestial motions. Ibn Rushd was the first, as far as we know, to try to incorporate an astronomical scheme into his metaphysics, because he realized that for Aristotle the two were intimately connected. Unfortunately, he was a poor scientist, and the details of the

<sup>1</sup> L. Gauthier, *Ibn Rushd*, p. 123-4.

Aristotelian astronomical scheme escaped him. Some of the more conspicuous errors are indicated in the notes. It remains for me to say a word about a particularly disastrous confusion, prompted, it is fair to say, by the misleading Arabic translation of a Greek word.

As all the spheres of the system are mutually connected, the motion of each one of them must be expected to influence all the spheres placed below it, that is to say between it and the earth, and this would produce utter confusion. In order to be able to deal with the motion of each sphere independently, Aristotle postulated the existence of "backward-rolling" (ἀνελιττοῦσαι) spheres, whose function is to cancel out the motions of the "forward-rolling" spheres of each planet.<sup>2</sup> The Arabic translation of ἀνελιττοῦσαι is *lawlabi*, a word which applies to any object moved in a circular, and more especially helicoidal, direction. Ibn Rushd entirely missed the point of these spheres and thought that they were meant to explain the retrogradation of the planets (which appears as a kind of helicoidal motion). But the irregularities in the course and velocity of the planets are accounted for by the combination of the motions of the forward-moving spheres. No wonder that Ibn Rushd finds all this "unclear" (1673,13), for, as he himself remarks, the combination of the motions of two spheres having the same poles and moving in opposite directions can only produce immobility. This shows that Ibn Rushd was perfectly aware of the difficulties of the system he was advocating. But the main difficulty was that this system only presented a very distorted image of that of Aristotle.

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<sup>2</sup> For the details, cf. Ross, *Aristotle's Metaphysics*, II, 391-2.

## CONCLUDING REMARKS

On the overall achievement of Ibn Rushd, two very different views have been taken. Some have greeted in him the philosopher who restored Aristotelianism in its purity; others have insisted that his system, particularly his noetics, but also his metaphysics, is still infected with neoplatonism. Indeed, some, like van den Bergh, have argued that "emanation is the basic idea of Arabian Aristotelianism and cannot be eliminated without destroying the system".<sup>1</sup> Such a notion found its only support in the *talkhīs* of the *Metaphysics*, which may be said to have constituted the main obstacle, so far, in the way of a proper understanding of Ibn Rushd. In fact, the type of emanation meant by van den Bergh in the passage quoted above is confined to al-Fārābī, Ibn Sīnā and some unoriginal commentators of the latter. The Ikhwān aṣ-Ṣafā', for instance, have a different scheme, which may also be termed emanationist, but is in effect quite different and closer to Plotinus and Porphyry. In this sense, van den Bergh's statement is far too sweeping. It does nevertheless contain an element of truth: the discarding of any form of emanation creates a serious problem for the thinker who wants to assert at the same time the action of God on the world and the existence of Nature, without which no philosophical or scientific reflexion is possible. The whole polemic against al-Ghazzālī centres on this problem: the crude creationism of the Kalām theologians was unacceptable to Ibn Rushd. The question was further complicated by the untouchable dogma that God and the celestial intellects cannot condescend to look upon what is below them. We have seen (above p. 36sq.) what contradictions and obscurities Ibn Rushd falls into as a result of these contradictory requirements. The contradiction, to put it in its simplest terms, is between the ascending order of intellection and the descending order of creation. By knowing what is above them, the separate intellects create what is below them. This curious scheme can be viewed as a not very satisfactory substitute for Avicennian emanation. This system developed from that of Alexander, adding to it one further contradiction: for Alexander, the idea of an idle God at the apex of creation had nothing objectionable about it, whereas Ibn Rushd was ultimately compelled to say that God (the prime mover) somehow had a knowledge of all existents, however obscure the concept of this divine knowledge may remain.

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<sup>1</sup> Van den Bergh, *the Tahāfut at-Tahāfut of Averroes*, vol. II, n. 107,4.

Aristotle was the only philosopher for whom Ibn Rushd had an unrestricted admiration; for him, as for most Greek and medieval commentators, the truth had to be sought not through an independent investigation of the world, but through the interpretation of Aristotle's writings (1497,9-11). But however great his desire to restore the teachings of Aristotle in their original purity, he could not help looking at them through the spectacles provided by more than ten centuries of exegetical endeavours. It was beyond his ability to understand Aristotle without the help of the subtly-distorting school tradition of commentaries and text-books which had all but replaced the original texts from the days of late antiquity. He does not even seem to have been aware that there could be a difference between the teachings of Aristotle and those of his successors.

There are, nevertheless, clear distortions in the image of Aristotle presented by Ibn Rushd. For example, the cosmological scheme put forward in his commentary on book *Lām* of the *Metaphysics* shows features which go well beyond that which has a "scriptural" basis in Aristotle's text, particularly the explanation of all sublunar phenomena as effects of the celestial motions, which themselves are produced by the prime mover. It has been shown above that this is in many ways un-Aristotelian; nevertheless it is a system which is already largely anticipated in Alexander (not only in his commentary, but also in his short treatise *Fī Mabādi' al-Kull* whose influence in the Middle Ages was enormous) and Themistius. The recourse to these two authors was not only legitimated in Ibn Rushd's eyes by the fact that they were Greeks and closer in time to Aristotle, and therefore more likely to have grasped his full meaning; it was also rendered necessary by the poor quality of the Arabic translations of the *Metaphysics*, and especially of *Lambda*. It is no exaggeration to say that the Arabic translations of *Lambda* are in many places barely intelligible without the help of commentaries. It is misleading to speak with Gätje (after many others) of a fusion of Aristotelianism with Neoplatonism, and to invoke the *Theology of Aristotle*, of the influence of which there is virtually no trace in Ibn Rushd. The commentator merely inherited a brand of Aristotelianism into which some elements, common to all philosophical schools of late Antiquity, had crept, but which were particularly prominent in Neoplatonism. These beliefs had become so deeply ingrained in the minds of those thinkers, that the latter could not help reading them into contexts where it is clear to us that they are not found. Although Ibn Rushd was convinced that all truth was to be found in Aristotle's writings, he had a preconceived notion of what this truth would be. His mind was not a blank sheet before he started reading Aristotle; he expected Aristotle to say certain things rather than others. The work which he accomplished as a commentator, albeit unconsciously, was to reconcile this preconceived idea with the words of the master. No philosophical or cosmological system was conceivable for Ibn

Rushd, both as heir to the late form of Greek philosophy and as a Muslim, in which the material and transitory world was not the "work" of the eternal, in a sense much more precise than the general way in which Aristotle refers to nature's "dependence" on the prime mover. Aristotle's universe, like Plato's, tends to fall apart. There is no fully thought-out relation between the eternal and the sublunary. His system is open to the very charge which he laid against Speusippus of being "episodic". To restore a link between the two main levels of being was one of the perennial duties of Greek philosophy, as was already clearly perceived by Theophrastus (*Met.*, 4a 9-17). Ibn Rushd becomes fully intelligible only insofar as we regard him as primarily a successor of Aristotle. He was not the builder of a new system, nor even the systematizer of a scattered body of doctrine and interpretation as Ibn Sīnā was; we have seen that his cosmological system tends to fall apart. But just as his philosophy must be understood in the light of the Aristotelian tradition, similarly the sense of this tradition becomes clearer if observed from the vantage-point provided by his work. It is this which justifies the popularity which he enjoyed in the West, to which the fact that the majority of his commentaries are preserved not in Arabic, but in Hebrew and Latin amply testifies. He thus became one of the main links between both Greek and medieval philosophy and between East and West.

## BOOK CALLED LĀM OF THE BOOKS OF THE METAPHYSICS

I say: no commentary by Alexander or by the commentators who 1393  
 came after him has been found on the books of this science,<sup>1</sup> nor any  
 compendium, except on this book; we have found a commentary by  
 Alexander on about two thirds of the book and by Themistius a complete  
 compendium on it according to the sense.<sup>2</sup> It seemed to me best to  
 summarize what Alexander says on each section of it as clearly and  
 briefly as possible. We have given the additions and doubts of Themistius 1394  
 about it and we shall also mention our own additions and doubts.

We say: Alexander begins by saying that those who say that this book  
*lām* is the last of this science are right because some of the other books he  
 wrote concerning this science contain the difficulties that must be solved  
 in it after they have been critically examined and others the solution of  
 these difficulties; this is what he did in the books which come after this  
 book. In some books, he talks about the characteristics of being *qua*  
 being.<sup>3</sup> but in this book, he talks about the principles of being *qua* being  
 and<sup>4</sup> about the principles of the first substance which is absolutely real  
 (*ḥaqīqa*). He does it by showing that there is a substance which is in this  
 state and what this substance is; the elucidation of this substance is the  
 final aim of this discipline (*ṣināʿa*).<sup>5</sup> For in the two books which come  
 after it, he does not explain anything pertaining to his primary aim, nor 1395  
 does he establish in them any personal view concerning it. They contain

<sup>1</sup> *hādhā ʿl-ilm*. Ibn Rushd himself does not use the expression "metaphysics" (*mā baʿd al-tabʿa*). This is one of the commonest names for it in the *tafsīr*, modelled on Gr. ἐπιστήμη. Cf. Aubenque, *problème*, p. 28. By "book" (*maqāla*), one must always understand one of the books that make up the *Metaphysics*. I reserve the word "treatise" for the whole corpus, or any other work by Aristotle.

<sup>2</sup> This is how I understand the expression *ʿalā ʿl-maʿnā*, meaning that Themistius follows the sense of Aristotle's text but is not a word for word commentary, like Alexander's.

<sup>3</sup> *al-ashyāʾ al-mawjūda li-ʿl-mawjūd bi-mā huwa mawjūd*. Cf. *Ar. Met.* 1003a 21-22: ἔστιν ἐπιστήμη τις ἣ θεωρεῖ τὸ ὄν ἢ ὄν καὶ τὰ τοῦτο ὑπάρχοντα καθ' αὐτό.

<sup>4</sup> Freudenthal read with the Hebrew translations and B<sup>1</sup> (cf. *app. crit.* n. 24): *wa-hiya* and translated accordingly: *das sind*. Bouyges' reading *wa-fī* is better because it avoids the difficulties inherent in the identification of the principles of being *qua* being with those of the first substance (cf. Freudenthal, p. 68, n. 4 and Merlan, *Metaphysik*, p. 91) although in a sense they are the same.

<sup>5</sup> Or perhaps "treatise", Greek *πραγματεία*, derived from the verb *πράττειν* = *ṣanaʿa*.

only the refutation of the assertions of those who say that the principles of beings are the Forms and the Numbers. He (= Alexander) says: he (= Aristotle) had already discussed these ideas to some extent in the book called *great Alif* which is the second book of this treatise (*kitāb*); then he dealt with them exhaustively in these last two books. He says: one could also prove by means of what he says at the beginning of book *Jīm*<sup>6</sup> and elsewhere that this book is the last in which he deals with this discipline. This is all that Alexander has to say by way of introduction to this book.

What he says to give an idea of the contents of the other books dealing with this science (i.e. *Metaphysics*) is a summary. This is perhaps the passage which most deserves to be summarized.

We say:<sup>7</sup> since this discipline investigates being *qua* being and this requires investigating the principles of being *qua* being and its necessary properties, for any theoretical discipline includes these two kinds of knowledge, then this discipline is divided first into two parts, and since 1396 the Ancients put forward certain false views concerning the principles of beings and it is necessary for him to refute them, this will be the third division of this discipline. So the first parts of this treatise are three: one dealing with being *qua* being, one with the necessary properties of being *qua* being, and one with the false opinions put forward concerning the principles of being. Since every theoretical discipline is also divided into two branches of research, the first containing the method (*naḥw*) of investigation of this discipline, its foundations, its starting-point and final term<sup>8</sup> and how definitions are to be used in it, which is called logic proper to this discipline, and the second being the science of that which this discipline contains, then this discipline too will be divided into two parts, a logical part proper to it and a part containing that the knowledge of which is aimed at in this science. There are, then, two major parts, one of which is divided into three, so that this science has four parts. Since this discipline must also undertake to refute those who make speculation impossible and reject its principles, this will become as it were a fifth part. As it also investigates the classes of beings and one of these classes is 1397 made up of mental beings, it must also investigate the principles of this kind of beings and refute the false opinions which are held regarding it.

Having investigated these different classes, Aristotle chooses to teach them in the best didactic order.

<sup>6</sup> The reference is probably to 1003a 26-27: we are seeking the principles and the highest causes.

<sup>7</sup> There is no reason to emend in *yaqūla*. Ibn Rushd says "we" because he is not quoting Alexander *verbatim*, but summarizing him. Cf. *supra*, p. 8.

<sup>8</sup> Cf. for this expression of the title of Fārābī's *Philosophy of Aristotle*, ed. Mahdi, p. 59.

He begins in the first book, which is designated by the letter *small Alif*, by defining to which extent this science is difficult and to which extent it is easy, and says that what individual men have apprehended of it, although it is little, is fairly important when put together.<sup>9</sup> Since the first duty of the follower of this science is to lead to its conclusions the inquiry on the causes, for they are the existents which were sought, he showed in this book the finiteness of the causes after the beginning which we mentioned. Then, he concludes it with the definition of the greatest causes of error which come into theoretical matters and particularly into causes, namely what people build upon of the false views laid down by them, as though they were the Revelation concerning speculative matters.

Since the inquiry into causes requires defining the number of their first genera and what his predecessors have said about it, he begins in the book designated by the letter *great Alif* by defining the first genera of causes discovered by the Ancients and explains that they are four. He argues to that effect from the fact that on close examination of what they say about causes, one does not exceed the four causes. He then gives their opinions concerning the causes of beings, particularly those of the metaphysicians among them, not of the physicists, because he had already done it in the science of Physics; they are the people who say that the principles are mathematical entities and numbers. He merely formulates some criticisms against them in this book and reserves a complete refutation of them for the two books following *Lām*, namely books *Mīm* and *Nūn*. 1398

A scientific research is complete only when one has previously examined the dialectical arguments *pro* and *contra* because if one has not examined something critically (*tashakkaka*), one does not know the extent of the knowledge of it one has acquired after being ignorant of it, nor the extent of what escaped one of the knowledge of it before one knew it; thus he thought that the best didactic procedure was to devote a special inquiry to the problems of this science and their investigation together with the dialectical arguments which raise doubts concerning each one of its aims in a separate book. Then, in the remaining books of this treatise, he sets out to solve the problems arising in this science. He does that in the third book of this treatise, which is designated by the letter *Bā'*. This book necessarily follows the first and second books and precedes all the other books. It follows the first two books because their 1399

<sup>9</sup> This is a *topos* found in many introductions to philosophy or metaphysics. It was given great prominence by Arab philosophers who felt particularly indebted to their Greek predecessors. Cf. Kindī, *Rasā'il*, 102 Abū Rīda. It ultimately goes back Aristotle himself, *Met.*, α, 993b 11sq

contents are also established by the discipline of dialectics: I mean the fact that there are four causes and that each genus of them cannot proceed *ad infinitum*. It precedes the following books obviously because the books which follow it contain one of two things, either the solutions of the difficulties mentioned in this book, or the knowledge of things which are necessary to solve the difficulties mentioned in this book.

1400 Since the difficulties mentioned in this book are of two kinds: difficulties concerning the method of this science and difficulties concerning its aims, the first duty of anyone undertaking an apodictical inquiry into this science is that he previously know the solution of these difficulties, because by knowing them he will find the right apodictical inquiry into this science; it is this method of inquiry which distinguishes for him (= Aristotle) the discipline called Wisdom.<sup>10</sup> He thinks that he must begin by solving the difficulties which concern the method of inquiry of this discipline. Moreover, since theoretical research (*nazar*) is valid only when the first premises are accepted, he thinks it to be incumbent to argue first against those who reject these premises and refuse theoretical research. He deals with these two problems (*ma'nā*) in one book and makes it follow *Bā'*; it is designated by the letter *Jīm*. This book contains two kinds (of research): one of them is the logic proper to this science and the other the assertion of the first principle among the principles we possess by nature. I mean the principle which precedes all, namely that affirmation and negation cannot be united simultaneously; for this is the principle of theoretical research. Therefore, anyone who rejects this principle cannot argue soundly, nor can he put forward any positive or negative argument.

1401 Having settled this problem in this book, he thinks it absolutely necessary that it should be followed by a detailed statement of the notions for which terms are used in this science. The best didactic procedure appeared to him to make separate mention of them in one book. He does this in the book of the letter *Dāl* and places it after book *Jīm* and before the other books, because the starting-point of anyone who decides to give an apodictical solution of any problem is to explain the name given to that problem if it can have several meanings, especially those names which are used analogically. These are the proper objects of this science, since the term "being" is applied analogically to that which he (= Aristotle) explains in this science.

Having fulfilled his aim in this book, he wants to inquire about the objects of this science, namely the knowledge of the causes of beings (*huwiyyāt*).<sup>11</sup> There are three kinds of being: being by accident, being in

<sup>10</sup> *hikma* = σοφία, one of the names of metaphysics in Aristotle.

<sup>11</sup> *huwiyya* is here apparently used in the sense of *mawjūd* (= Gr. τὸ ὄν). Later on, it

the soul and being outside the soul; so he thinks it necessary to begin by explaining the kinds of these beings and to state that the kind of being which is the primary aim of his investigation is that which is outside the soul. He examines this problem in the book following *Dāl*. Since his inquiry in this book is concerned with distinguishing being by accident and being in the soul from real being, and this can be done only by him who knows that this discipline is concerned with all kinds of being *qua* being, he mentions at the beginning of this book what has already been explained in book *Jīm*, namely that this discipline is concerned with being *qua* being and that it is different from Physics and Mathematics, not as a mere repetition, but as a reminder. He explains this in ways different from the previous. He does all this in the book following *Dāl*, in which he had explained the terms; it is book *Hā'*. He places it after *Dāl*. 1402 It was also necessary that this book should precede what follows it and follow what precedes it.

As it is clear that beings by accident and beings in the mind are defective, and that those the study of which is the aim of this science are real beings, existing outside the soul, he afterwards sets out to inquire about this being, and since substance is the principle of this being, he begins to seek what the principles of substance are. He begins with the principles of the substance subject to generation and corruption and explains that they are form and matter. He then goes on to explain that forms are substances envisaged from the point of view of their definitions. I mean that having shown that definitions designate, in sensible substances, something which is their essence (*jawhar*), and that they designate forms, he concludes from that that forms are substances, and that they and the thing of which they are the form are one and the same thing, and therefore that accidents are not substances and that it is unnecessary, in order to know things, to introduce separate Forms distinct from sensible forms on the assumption that what is designated by the definitions of things is distinct from these things. It is also clear that this substance which comes into being and corrupts his generated by 1403 another substance which comes into being and corrupts similar to it in species and genus, that that which comes into being and corrupts is the thing composed of form and matter, that forms neither come into being nor corrupt, except by accident and that therefore the platonic Forms, if they exist, are useless to explain generation (I mean the separate Forms

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seems to have specialized in the sense of "essence" in which it replaced the earlier *anniyya*. However, *mawjūd* will again be used a few lines below (1403, 13). It is well to bear in mind that Ibn Rushd's vocabulary is resolutely eclectic. On *huwiyya*, cf. Daiber, *Mu'ammār*, p. 158

postulated by Plato). It is also clear that universals are not substances existing outside the soul, although they denote substances, and forms are substances, not as elements or composed of elements, but as a third substance. He investigates the differences between the two substances and then explains the divisions of first substances and distinguishes the parts of the forms from the parts of matter. He does all this in the book designated by the letter *Wāw* and in the book designated by the letter *Zāy*.

Having ascertained in these two books the principles of the sensible substance subject to generation and corruption, he thinks it necessary to begin after that an inquiry about the general properties of being *qua* being. He inquires first about potentiality and actuality and their relation to the first principles in them. He shows that actuality precedes potentiality, and this is the book designated by the letter *Hā'*, which follows *Zāy*.

Then he inquires, in the following book, called by the letter *Ṭā'*, about the one and the many, the individual, the similar, the contrary and other general properties of being *qua* being.

1404 After that, he deals in book *Yā'* with motion and infinity because the metaphysician inquires about them from a point of view different from that of the physicist. Since he has decided to deal, after this book, with the principle of the first sensible substance, and this is his primary aim in this science because it is the end he aims at, he mentions at the beginning of this book (I mean book *Yā'*) all the difficulties which he had mentioned in book *Bā'*, and mentions summarily the solutions already arrived at in the preceding books. He also mentions summarily the impossibilities resulting from the rejection of the principles of knowledge.

This is what we find concerning the order of the books which have come down to us and which come before *Lām*, but we do not find book *Kāf* in the order of letters, nor has it come down to us.

Book *Lām* is the book which we set out to comment on. His primary aim in it is to explain the principles of the first sensible substance, but he sets out, in its beginning, to expound the principles of all substances in the absolute sense, starting with the principles of the substance subject to generation and corruption, and mentioning the conclusions of books *Wāw* and *Zāy*. Then he expounded the principles of the first substance: he explained that it is a substance, and in how many senses it is a principle.

1405 After he had finished putting forward his opinion concerning the principle of all being, he returned to the refutation of the opinions of his

predecessors concerning the principles of substance. He did that in the two books designated by the letters *Mīm* and *Nūn*.

This exposition has made clear what each one of the books of this science attributed to Aristotle contains, and that they follow the best possible order, and that nothing in them is out of place or order, as we find that Nicolaos of Damascus claims in his book, in consequence of which he had chosen a better order, as he claims, to expound this science.

It is because of our love of this science and our great desire to learn and teach it that we have summarized what this man (i.e. Alexander) says concerning this science, so that it may be easier to grasp it for those who have never devoted themselves to the study of Aristotle's books, and as an *aide-mémoire* for those who have studied his books. fr 1F

Let us start by asking for God's help, the Giver of Intelligence and Wisdom, in our endeavour to explain this book word by word, since, thanks be to God, this aim of ours has been fulfilled for the previous books to the best of our abilities.

Textus 1 *Aristotle says:*

1406

This inquiry is about substance; for what we seek are the causes and principles of substance. 1069a18

*Commentary:*

Alexander says: since his aim in this discipline is to discuss being *qua* being, its principles and its causes, for it is evident that wisdom and first philosophy are concerned only with those two and it has been shown in the previous books<sup>12</sup> that substance is the true being and the cause of all others, he begins this book with an inquiry into the first principles of the being which is substance. fr.2F

I say: his word "this inquiry ... substance" mean: the inquiry in this book will be concerned with substance, that is to say with its principles; and he probably means that speculation in this science is primarily concerned with substance and its principles. It is more appropriate that what he begins his discourse with be the aim of this book. According to this interpretation, we must understand by "substance" the genus subject to generation and corruption and the eternal, and that his aim in this book is primarily the discussion of the eternal substance, for he has already expounded the principles of the sensible substance subject to generation and corruption in books *Wāw* and *Zāy*,<sup>13</sup> and they have also 1407

<sup>12</sup> B has the sg. *maqāla*. The wanted pl. is offered in one of the Hebrew transl Cf. p. 1402 n. 2.

<sup>13</sup> i.e. books *Zāy* and *Hā'* in Bouyges' text (Z and Θ of the Greek).

been explained in the *Physics*, but from a point of view different from that which is explained in this science, because the examination of its principles insofar as it is substance is different from the examination of its principles as causes of the change which is generation and corruption and all the other forms of change. Therefore, he examines in the first place the principles of the substance subject to generation and corruption and repeats what he has already fully expounded in the two sciences, I mean in the *Physics* and in the previous books.<sup>14</sup> This is why this book is divided firstly into two parts:<sup>15</sup> one of them the examination of the principles of the substance subject to generation and corruption, and the other the examination of the principles of the eternal substance.

After mentioning that his aim is to examine the principles of substance, he adduces the reason which necessitates this.

1408 Textus 2 *Aristotle says*:

1069a19 For if this universe is like a totality, substance will be its first part, and if it is like a sequence of things, substance in that case will also be first, and after it quality and quantity.

*Commentary*:

fr.3F Alexander says: he uses here "universe" (*kull*) instead of existent (*mawjūd*) as if he were saying: we say that the inquiry is concerned with substance because if somebody believes that being is as it were a single continuous totality, then he believes that substance is its first part; if he thinks that some parts of it are prior in existence to others and that it has a first and a second, then he is even more inclined to believe that substance is the true existent.

1409 Alexander says: this kind of priority possessed by substance is the doctrine of Aristotle; it is what he has expounded before; he mentions the two views as a precaution,<sup>16</sup> not because he believes in the first kind of priority. Since it has been shown that being has a first which is substance and a second,<sup>17</sup> anyone who investigates the principles of being *qua* being must necessarily inquire into the principles of substance.

<sup>14</sup> Cf. n. 12 above and *app. crit.* p. 1407 n. 19.

<sup>15</sup> corresponding to ch. 1-5 and 6-10 of the Gr. text. Each of these two parts is divided in turn into sub-sections: this is the meaning of "firstly". At 1710,1, Ibn Rushd considers ch. 10 as a third part.

<sup>16</sup> *'alā jihati 'l-istizhār*. This expression could also conceivably mean "for the sake of clarity". The transl. adopted here is defended by Freudenthal p. 70 n. 6 Cf. below p. 1412.

<sup>17</sup> The nine categories other than substance are here treated as a whole, having the common character of being the accidents of substance. This is often the case in post-aristotelian philosophy.

This is the meaning of what Alexander has to say in<sup>18</sup> this section and his interpretation is correct.

He says:<sup>19</sup> it is possible to understand by "like a totality", "genus" and by "its first part", "species". It is as though he were saying: for if being is a genus, its first species is substance. But this interpretation is weak for in a true genus, some of its species are not prior to others, but the species of the genus are all in the same rank.

I say: in my view, Aristotle means by this statement that being must denote one genus and one nature or several genera; however it may be, one will immediately understand that substance is prior to the rest; for many of the things which are in one genus are prior to others in that genus just as some substances are prior to others. Priority and posteriority may be found in one and the same genus and in the different genera which are predicable in relation to one thing,<sup>20</sup> as is the case with the term "being" applied to the ten categories. Accordingly, one can understand by "totality" the compound whole, I mean the individual and universal<sup>21</sup> composed of the species in which there is priority and posteriority. 1410

As for Themistius, we find that he interprets this passage in the following terms: the whole, be it unified like the unity of the organs in the human body and the parts in the body of plants, or be it composed of elements in contact with one another, like the composition of a house and a boat, or be it composed of discrete elements, like the composition of an army and a city, the first of all its parts is substance, whose position in the whole is like the position of the heart in the totality of the animal's body. But if its order is not according to one of these kinds, but rather like the existence in numbers of the one, then the two, then the three, or like the existence in figures made up of straight lines of the triangle first, then the square, then, in the same way, substance comes first, then condition, then amount<sup>22</sup> and the likes, because the existence of substance is prior to everything that follows it, just as the one is prior to all the other numbers and the triangle to all the figures.

This is what this man has to say in summarizing this passage.

<sup>18</sup> or: "concerning". This ambiguity of *fī* is not uncommon.

<sup>19</sup> The reading of B is certainly correct. Freudenthal's emendation (following d; cf. *app. crit.*) cannot hold because Ibn Rushd says explicitly later (1413,5) of the view criticized in this paragraph that it was rejected by Alexander. Furthermore, 1R, unlike Alexander, believes that there is priority and posteriority in one genus (1409, 14-15).

<sup>20</sup> For the sense of this expression, cf. *supra*, p. 16.

<sup>21</sup> The text as it stands is puzzling (*al-shakhṣ wa-'l-kullī*). *al-shakhṣī* implied by d (p. 1410 n. 19) is no improvement. I would excise the *wa* and translate: "the universal being". Ibn Rushd means the universe considered as a single great organism.

<sup>22</sup> I.e. quality and quantity.

1411 His commentary on the first section is close to that of Alexander, I mean when the Sage says: "if this universe is like a totality". However, he understands by "totality" three species: either the totality composed of dissimilar parts united one to another, or in contact like manufactured objects, or discrete like the parts of an army and the parts of a city. But this addition is meaningless, because nobody supposed that the parts of being which are the ten categories are in contact or spatially discrete. As for his commentary on the second section: "it is like a sequence of things", as numbers follow one another and surfaces follow one another, it is a bad commentary, for the priority found in numbers and surfaces is the priority existing within one genus, whereas the priority of substance to the other categories is not the priority of things belonging to one single genus, but it belongs to the genus of the priority of one thing to the other things related to it. So Alexander's commentary on this section is the correct one.

1412 Somebody may object and say that Aristotle exposed in what precedes the mode of priority of substance to the other categories, and here merely intends to formulate these two kinds of priority as a precaution, since it is not possible that somebody should posit the priority of substance to the other categories except in these two ways; whichever of the two he chooses, the substance must be prior, and since we have said that this must be the aim of the Sage in this section, one must not understand from what he says save what is conceivable. But how could anyone think that the state of substance with reference to the other categories is like the state of something composed of dissimilar parts unless he were to understand that the priority of such things is the priority of things belonging to one single genus; for the organs of the human body belong to one genus and the heart has precedence over them. Thus, the only difference between this priority and the priority of numbers and surfaces one to another is that one of them belongs to the genus of the discrete and the other to the genus of the continuous. That being the case, one can only envisage one of two kinds of priority in the case of the priority of substance to the other categories: either the priority of things belonging to the same genus, and this is the view of he who thinks that "being" is predicated of them as "number" of two and three and "instrumental organ" of the heart, the liver and the other organs which are prior one to another, or the priority of something to things related to it but not belonging to the same genus, like the priority of health and the priority of medicine to that which is related to medicine. This relation is the true relation and it is in that sense that the words "sequence of things" must be understood, just as the words "if this universe is like a totality" must be understood as things prior one to another but

1413

belonging to the same genus, according to the interpretation which Alexander rejects. Aristotle here uses "totality" instead of "genus" only to avoid the difficulty which seized Alexander, since in "genus", there is what is predicated by synonymy<sup>23</sup> and what is predicated according to priority and posteriority. This is why he prefers the term "totality" instead of "genus"; if, therefore, somebody understands in this passage "totality" in the sense of that (second) kind of genus, it is a correct interpretation.

But Themistius did not understand this passage and interpreted it in the wrong way. He transferred the meaning of the first section to that of the second section and gave of the first an interpretation which does not correspond to the position of substance with reference to the other categories, but he understands one of the two relations, namely that which is in one genus, and rejects the true relation of the substance to the other categories. The commentary of Alexander on that section aims at completeness but is not complete, and the commentary of Themistius is a pure error. The reason for that is the deficiency of Alexander's commentary, for that man, I mean Themistius, seems merely to be intent on epitomizing Alexander's commentary.

*Textus 3 Aristotle says:*

1414

However, these are not existing absolutely, for example these others, but are qualities and movements; for we say that not-white and not-straight are in them; we say that these two also exist; for example, "there is a not-white"; also, none of these other (things) is separable; the Ancients bear witness to that in fact, for they sought the elements and causes of substance. 1069a21

*Commentary:*

This is another reason why the inquiry must be about substance to the exclusion of the other categories: apart from substance, none of the other things exists absolutely, but they exist only through substance. For instance, one does not say that qualities exist absolutely, nor motions; one says of them "there exist qualities" and "there exist motions", not that they exist absolutely, because a motion is a motion of something and a quality is a quality of something, but a substance is not a substance of something; so what exists in reality and absolutely is substance; the other categories exist relatively. 1415

<sup>23</sup> Synonymy (*tawāṭu'*) is here used in the technical sense defined in *Categories* 1a 6-12: things (not words) are said to be synonymous when they have the name in common and the definition of being which corresponds to the name (e.g. "animal" said of man and ox).

Somebody might object and say: how is it possible that the categories should be so deficient in relation to substance while the term "being" be common to them all? His (= Aristotle's) answer is: "for example, 'there is a not-white'", meaning: the term "being", although it designates them when we say: "something exists as white and something exists as moving", does not imply that their existence is a complete existence. For the term "existing" may also indicate the negations which are the denial of existence, as in the phrase: "this thing exists as not-white and as not-straight". He merely wants to point out that there is a considerable difference between words designated by the word "existing", since it can designate the privations which are the denial of existence.

After mentioning that substance is that which is said to exist absolutely and the other categories relatively, he gives the reason for that, saying: "none of these other (things) is separable", meaning: the reason for all that is that substance exists by itself, subsisting by itself, and all else exists in substance.

- 1416 Then he gives as evidence confirming his opinion in the search for the principles of substance the fact that the Ancients did the same, I mean that when they sought the principles of beings, they inquired into the principles of substance. He says: "the Ancients bear witness to that in fact, for they sought the elements and causes of substance", meaning: the Ancients bear witness to this doctrine of ours by their procedure in seeking the principles of beings; for they sought the elements of substance and its causes.

*Textus 4 Aristotle says:*

- 1069a26 Our contemporaries posit as substance the universals, for the universals which they say are especially the principles of substance are the genera; this is because their inquiry is abstract in its method; but the Ancients posited the particulars, like fire and earth, but not the common body.

1417 *Commentary:*

After explaining that the Ancients sought the principles of substance, and having quoted their opinions concerning this matter in the previous books, he now says that the people of today, meaning the moderns, believe that the universals are the substance and the principles of the sensible substance, thus alluding to Plato; for he believed that the genera were separate natures and that they did not exist in the particulars as something gathered from them. But for Aristotle, the universals are gathered by the mind from the particulars, that is to say it takes the

resemblance between them<sup>24</sup> and makes it into one concept, as it is said in the book of Demonstration.<sup>25</sup> But Plato posits the universals as objects subsisting outside the soul, existing by themselves and he justifies his view by the fact that sciences and definitions are only concerned with these universal things; he thought that they were more being than the existents and prior to them on the grounds that if the universals are removed, the particulars are removed as well, but the universals would not be removed by the removal of the particulars. Because of this belief, he posited the universals as principles and forms of the sensible substance. The refutation of the existence of the universals as substances has already been given in book *Zāy*.<sup>26</sup> What he says now is that Plato held this view because his inquiry was of an abstract kind, as he had said that about him in the book *de Generatione et Corruptione*<sup>27</sup> where he reports that Plato thought that bodies were composed of surfaces. By “abstract thinking” he means thinking based on inadequate premises; for some first premises are adequate and some are not. On the whole, he who is carried away by dialectic is often led to believe in things alien and far removed from the nature of the thing. The reason for that is that man seeks convincing reasoning without caring whether it correspond to the existent or not and so is induced into false and contrived beliefs. A logical investigation is one in which one follows persuasion but not the conforming of the existent to one’s argument, and it is the consequence of adopting inadequate premises.

1418

By “the Ancients (posited) the particular, like fire and earth, but not the common body”, he means that the Ancients believed that the principle of substance was a particular thing, either fire or earth, but did not believe that the principle was the common body, as the moderns believe.

Having explained that the inquiry into the principles of being must be an inquiry about substance and that the substance whose principles we seek is not a universal, he begins making a division of the kinds of substance.

Textus 5 Aristotle says:

1419

There are three substances; one of them sensible, of which there is an eternal and a corruptible; everyone accepts the latter species, for instance

1069a30

<sup>24</sup> *bayna-humā* is probably a misprint. Read: *bayna-hā*.

<sup>25</sup> Cf. *Ar., An. Post.*, 99b 32-100b 5.

<sup>26</sup> *Ar. Met.* 1039a 24sq.

<sup>27</sup> 31 a 11. λογικῶς as opposed to φυσικῶς, abstract reasoning, cut off from physical realities; verbal, not logical. It is only with the Stoics that λογικός assumes the modern sense of logic(al).

plants and animals, concerning the elements of which we must discern whether they are one or many; the other substance is immovable; therefore, some people say that it is separable; and then some of them divide it into two, others make the Forms and the Mathematical Entities one single nature, and others accept only the Mathematical Entities.

1420 *Commentary:*

He says that there are three substances: sensible substance and non-sensible substance, and sensible substance is divided into two: eternal substance, without generation and corruption, as it has been explained in *Physics*: it is the fifth body.<sup>28</sup> The other substance is subject to generation and corruption and is universally acknowledged: for instance plants and animals.

fr 4aF He says: "the elements of which we must discern". Alexander says: one must not understand by that the substance subject to generation and corruption, but the two substances: sensible and subject to generation, and not subject to generation. For the demonstration of the principles of beings whatever they are belongs to the metaphysician, although these are used by the natural philosopher, who does not explain them, but merely postulates them. For the immovable substance is the principle and the cause of natural things and it is that which he (= Aristotle) is now discussing above all. As for these other principles, it belongs to the science of nature only<sup>29</sup> to explain what they are.

fr.4bF What he says after this mention of the sensible substance subject to generation and corruption: "the elements of which we must discern", is found in one manuscript and its interpretation is that which we have given. Instead of that, another manuscript has: "and that<sup>30</sup> is eternal and it is that the elements of which we must discern etc.", Alexander says: what he says here according to this manuscript is that we must discern the principles of the elements of the eternal substance; the first cause, which is what the present treatise is concerned with, is the cause and the principle of the divine body. He says: the first manuscript is better, for his declared aim is a discussion of the elements of the sensible substance, in which are included the things which are in the universe, and that is exactly what he will do when he inquires a little more closely; for he will then pass from the inquiry into these things to the separate forms.

<sup>28</sup> This must designate physics as a discipline, not the treatise bearing that title (usually called *al-samāʿ*). The fifth body (called first by Aristotle) is not mentioned in the *Physics*, but in the *de Caelo*. The appellation "fifth body" is post-Aristotelian. Cf. Daiber, *Kompendium*, p. 66 ff.

<sup>29</sup> The *ayy* added by Bouyges after *faqat* (p. 1420, n. 11) is unnecessary.

<sup>30</sup> The translator read *h̄δ'* (this) instead of *h̄ δ'* (the other).

This is what Alexander says about this passage; and in it there is some room for speculation, because the words: "the demonstration of the principles of beings belongs to the metaphysician, not to the science of the natural philosopher, although the natural philosopher postulates them, for the immovable substance is the principle and the cause of natural things and it is that which he is now discussing above all; as for these other principles, it is for the science of nature only to explain what they are", these words contain some obscurity, for if he means that the principles of beings which are the objects of the metaphysician's inquiry and which the natural philosopher takes over, that is to say he accepts their existence, are the principles of the eternal sensible substance which is the separate substance, and that the principles which are the objects of the natural philosopher's inquiry, that is to say whose existence he explains, are the principles of the substance subject to generation and corruption, this is an incorrect statement; for natural philosophy explains the existence of the eternal substance at the end of the eighth book of the *Physics*, just as the principles of the substances subject to generation and corruption have been explained at the beginning of that treatise. How, then, can one say that the natural philosopher postulates it when it is impossible to demonstrate its existence outside natural philosophy? How can he accept the view that that the principles of which natural philosophy undertakes to demonstrate is the substance subject to generation and corruption, when it does not inquire only into the substance subject to generation and corruption but also into the substance not subject to generation and corruption, for its object is the movable existent, whether subject to generation or not? This statement, according to this interpretation, is false.

1422

If somebody says: it has been said in logic that it is not for the specialist in any discipline to demonstrate the first principles of the object of his discipline; but the object of natural philosophy is the movable body, and its principle is the separate substance, our answer will be: this is true, but when it is said that the specialist in any discipline cannot discuss the first principles of the object of his discipline, this applies only to the method of apodictical proof which establishes the cause and the existence, because this can only happen by means of the first principles of these first principles and the first principles of the first principles of the genus, if its first principles have first principles which are necessarily from another genus higher than this genus, then to investigate these first principles is to investigate that genus which is higher than the genus of the discipline and external to it. This is why it is not for the specialist in the lower discipline to investigate the first principles of its genus

1423

according to the method of apodictical proof,<sup>31</sup> but according to the method leading from the things that are posterior to the things that are prior, called indications (*dalā'il*),<sup>32</sup> it is possible for him to do so. As the first principles of the object of natural philosophy have no first principles, it is possible to prove the existence of the first principles of the object of natural philosophy only by means of things that come later in natural philosophy. Therefore, it is impossible to demonstrate the existence of the first substance except by means of motions; methods which are thought to lead to the existence of the first mover other than the method based on motion are all suasive; even if they were true, they would be a limited number of indications belonging to the science of the philosopher; for the first principles cannot be proved apodictically.

This argument of Alexander cannot be interpreted according to its literal meaning, even though it contained nothing more than this contradiction, I mean its distinguishing between the principles of the sensible subject to generation and corruption and those of the eternal sensible.

As for Ibn Sīnā, since he believes that no science can prove its own principles and takes that absolutely,<sup>33</sup> he thinks that it is for the first philosopher to explain the existence of the principles of the sensible substance, whether eternal or not; he says that the natural philosopher postulates the existence of nature, and that the metaphysician proves its existence; he did not distinguish between the two substances in that respect, as is obviously the case in this discussion.

Objection: is not the philosopher speculating about the principles of being *qua* being the metaphysician? But the philosopher speculating about the principles of being *qua* being is the one speculating about the principles of substance as has been said at the beginning of this book; now the first components and principles of substance are the principles of the object of natural philosophy. In that case, *Metaphysics* (*'ilm ilāhī*) is the science which undertakes the demonstration of the principles of the object of natural philosophy, and natural philosophy merely postulates them.

Answer: yes, the metaphysician is he who seeks what the principles of substance *qua* substance are and shows that the separate substance is the principle of the natural substance, but in explaining this problem, he

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<sup>31</sup> Cf. Alex. *Quaest.*, I, 1, p. 4.4 Bruns: there is no demonstration (ἀπόδειξις = *burhān*) of the first principles, but one must start from the things that are posterior and more evident, etc.

<sup>32</sup> Syllogism by σημεῖα: *An. Pr.* II, 70a 2-10; *An. Post.* I, 75a 33.

<sup>33</sup> Cf. Saliba, *Étude*, pp. 63-65.

takes over what has been explained in natural philosophy; as for the substance subject to generation and corruption, he takes over what has been explained in the first book of the *Physics*, namely that it is composed of form and matter; as for the eternal substance, he takes over what has been explained at the end of the eighth book, namely that the mover of the eternal substance is something free from matter. Further, he shows that the principles of the substance subject to generation and corruption are substances and that neither the universals nor the numbers are the substances of these, nor, to be complete, are the Forms and the Mathematical Entities. This is what he shows in books *Zāy* and *Hā'*. He also shows in this book that the principle of the first separate substance is also substance, form and end, and it imparts motion in these two ways together. This is what he wants to explain in the first place in this book, but since the method of inquiry of this science is inquiry into the principles of substance *qua* substance, whether eternal or not, he begins in this book with the principles of the non-eternal substance and mentions what he had shown about it in the *Physics* and in the previous books, although his inquiry into them proceeds according to the method peculiar to this science. After that, he begins to explain the principles of the eternal substance and also postulates what has been said about it in the *Physics* and examines it in the way proper to this science, for instance its being substance, first form and first end; then he inquires into this immovable substance, whether it is one or many, and if they are many, then what is the one to which they ascend, and what is the hierarchy of this multiplicity in relation to it? So we must understand what these two sciences have in common, I mean *Physics* and *Metaphysics*, in the inquiry into the principles of substance; I mean *Physics* explains their existence as principles of the movable substance, whereas the specialist in this science inquires into them as principles of substance *qua* substance, not of the movable substance.

Perhaps this aspect is what Alexander means when he says that the specialist in this science investigates what the principles of the eternal substance are, but that the natural philosopher does not have to postulate that sort of inquiry, nor does he need it. Perhaps he also means that the natural philosopher inquires into what the principles of the substance subject to generation and corruption are by the method proper to it, that is to say into its proximate principles, declaring that the immovable substance is the principle of the movable. This is how his words must be understood; otherwise, they are very obscure; this is what led Ibn Sīnā into error. As for what Alexander says of the reading of the first manuscript, namely that it is better than that of the second, it is

probable that the reading of the second manuscript is better, for it (i.e. the eternal substance) is his (i.e. Aristotle's) primary aim in this book.

1427 Since he has established that there are three substances and one of  
fr. 5F them is separate, and since somebody else had already established that, he mentions it to confirm it and says: "therefore, some people say that it is separable", meaning: because they have the same doctrine as we have.

Since some of these people divide this separable substance into two species, others reduce the two species to one and others still make it one species only, he says: "some divide it into two, others make the Forms and the Mathematical Entities one single nature, others still accept only the Mathematical Entities". He means that some people take this substance to be two natures, Forms and Mathematical Entities, which they consider as intermediaries between separate Forms and sensible substances; others make Forms and Mathematical Entities one single nature; others still make the separate substance Mathematical Entities only and do not accept the Forms. The first view is that of Plato, the second, according to Alexander, is the view of somebody else than Plato or of Plato according to the interpretation of some of his disciples,<sup>34</sup> the third is that of the Pythagoreans and others, although they are reported to have denied that numbers were separate. The discussion of their conceptions of this substance is to be found in the next book.

1428 *Textus 6 Aristotle says:*

1069a36 The discussion of these first two belongs to the physical inquiry because they include motion, but the other one belongs to another science, for they do not even have a common principle. The sensible substance is changeable. If change occurs from the opposite<sup>35</sup> or the intermediate, not all opposites (for voice is not-white), but from the contrary, there must be a substratum changing into the contrary state, for the contraries do not change. Therefore, this persists, but the contrary does not persist; therefore, there is a third thing other than the contraries — the matter.

1429 *Commentary:*

fr. 6F Alexander says: having discussed the movable substance and divided it into an eternal and one subject to generation and corruption, he says that the discussion of these two substances belongs to the natural philoso-

<sup>34</sup> "Some of the Pythagoreans" according to ps.-Alex. Ross, II, 358, 408, shows that it was in fact the view of Xenocrates, which would fit the indication given here by Alexander.

<sup>35</sup> *mutaqābila bi-'l-waḍ'* is a literal transl. of ἀντικείμενα, Mattā wanted to render the idea of κείμενα = *wuḍf'a* contained in the Gr. word.

pher. Natural philosophy is only concerned with moving substances and takes over their principles from first philosophy. The discussion of the immovable substance is reserved to first philosophy. This is a clear statement by Alexander that the natural philosopher studies only the movable substance and takes over its principles from the metaphysician, and that the metaphysician undertakes to demonstrate the existence of these principles. We have already explained that this declaration, if taken at its face value, is wrong, and that it is the natural philosopher who studies the movable substance, that his inquiry into it consists in seeking its principles, and that this is done by going back from the posterior things to the prior things, as has been shown in the *Physics*.<sup>36</sup>

The words "they include motion, but the other one belongs to another science, for they do not have a common principle", mean: the study of the immovable substance belongs to another science which is the science we are studying; the reason for it is that those two substances are movable, but this is different and immovable, for there is no principle common to the movable and the immovable. 1430

"The sensible substance is changeable ... opposite". Alexander in this commentary says the following: having said that the discussion of the sensible substance belongs to the natural philosopher because it is in motion, and having said before that we must discern whether the elements of the sensible substance are one or many, because the study of this and of the derivation of the first principles of natural bodies belongs to the metaphysician, he now proceeds to discuss that problem first and explains what the elements of the natural substance are. He begins with an evident premise, namely that every sensible substance changes, for every such substance either changes locally only, like the eternal substance, or qualitatively and quantitatively, or substantially, like that which is subject to generation. At the same time, he assumes another premise, which he adds to the first and which is equally evident, namely that what changes changes from a contrary or from what is between two contraries. We do not say that the things which are between two contraries are necessarily contraries. For the intermediaries from which there may be change into the two extremes are not absolutely contrary to the two extremes. Therefore, they do not necessarily belong to the contraries. How change into them and from them will also be from the contraries, since what is between the two extremes is the result of a mixture of them, that has been explained in book *Tā*.<sup>37</sup> Having 1431

<sup>36</sup> The reference is still to the inductive proof of the prime mover in the eighth book of the *Physics*.

<sup>37</sup> I,7 of the Gr.; *Yā*' in Bouyges' ed.

explained that change takes place between two contraries,<sup>38</sup> he (i.e. Alexander) says: "opposites" is here used instead of "contraries";<sup>39</sup> he lays down that every change occurs from contraries or from intermediaries which are between the contraries.

Concerning the sentence: "(for voice is not-white) but from the contrary", Alexander says: he means that although we can say that voice is not-white, nevertheless white does not come from voice on the grounds that voice is not-white. For that from which change occurs must become the contrary of that thing. Alexander says: or perhaps it is not so. He says: having said in a general way that change occurs only from opposites or from what is between them, and "opposite" is said in many senses, he now says that changes do not occur from any opposite  
 1432 whatever it may be, and says: "not all opposites". It means that it does not occur from any opposite of any sort; we can say that voice is the opposite of white in the sense that it is contradictory, since we can say that voice is not white. But that does not entitle us to say that white comes from voice or that voice changes into white. White does not come from all things that are said to be deprived of white, for change does not come from any opposite, but from the contraries, as he has shown.

He says: having shown that it is a necessary condition in all natural changeable things that their principles should have in them a certain mutual contrariness, he adds to it in a concise form that there must necessarily be in all things which change from contraries some substratum which changes into the contraries by which there is change, and that it should be at one time in one part of it (i.e. change) and at another time in another part of it. For it is impossible that contraries should receive their contraries while they are stable and remain in the same state, and that they should change into them. He showed that in the first book of the *Physics*, adding to it what he explained in those books, namely that what changes is stable and abiding while it changes. But the contraries,  
 1433 by which change takes place, do not remain stable. From that, it appears that in all changing things there must be, beside the contraries, a third thing which is stable.

This is what Alexander says about this section; it is a complete explanation; but when he says: "the study of this and of the derivation of the first principle of natural bodies belongs to the metaphysician; he discusses that problem first and explains what the elements of the natural substance are", this need not be taken literally, I mean the fact that the

<sup>38</sup> This sentence cannot stand as it is because a verb is needed. I suggest: *huwa bayna* instead of *alladhī bayna*.

<sup>39</sup> Probably ἀντικείμενα and ἐναντία respectively.

demonstration of the existence of the principles of the natural substance belongs to the metaphysician. On the contrary, it is the natural philosopher who explains the material and efficient causes of the movable substance; the formal and final causes are beyond his power, but it is the specialist in this science who explains the cause of the movable substance which is described as formal and final, for he knows that the moving principle the existence of which has been demonstrated in natural philosophy is the principle of the sensible substance as form and end. It is from that point of view that the specialist in this science seeks the elements of the sensible substance, which are the elements of being *qua* being.<sup>40</sup> He shows in this science that the immaterial existent which has been shown to be the mover of the sensible substance is a substance prior to the sensible substance and its principle insofar as it is its form and its end. To that extent, we must understand that the specialist in this science investigates the first principles of the natural substance, that is to say the primary form and the end. But it is the natural philosopher who investigates the efficient and the material cause; in this science, he makes of these two latter causes the principle of the inquiry into the two other causes. Therefore, he started by putting first the existence of these two causes and in that he started with the material cause. He explained it by the premises which he has mentioned. When we consider the premises which he used in that, we find that they are the same which he used in natural philosophy. Therefore, it seems that this preliminary inquiry is not proper to this science but only part of natural philosophy; but because of the closeness of the two inquiries and the necessity of using the one as principle of the other, he repeats what he has explained in natural philosophy, but he now inquires into it in a more comprehensive manner than in natural philosophy, for instance when he asks, apropos his demonstration that the principles of the sensible substance are matter and form, whether the principles of substance are the same as the principles of the other categories or whether the principles of substance are different from the principles of the other categories, just as he inquires in the previous books whether form is substance or not, and about the universal and the particular. This is why he mentions here his exposé of the principles of the sensible substance in the two sciences, I mean physics and the previous books devoted to this science: because the two sciences are adjacent and very close to each other, I mean the science

1434

<sup>40</sup> Lit. "the elements that exist for being *qua* being" (*al-usūquṣṣātu allatī tūjadu li-'l-mawjūdi bi-mā huwa mawjūd*). The probable meaning is that the elements (in the sense of principles) are the same for the sensible substance and being *qua* being, but envisaged from different viewpoints, i.e. material and immaterial respectively

1435 of the principles of the movable substance *qua* movable and that of the principles of substance *qua* substance. This is why it is possible to use now more general premises than those used in natural philosophy, but considering it not as movable substance, but as substance in the absolute sense.

If the words of Alexander are interpreted in this way, they are correct, I mean what he has just said. Natural philosophy concerns itself with substances which are in motion, but their principles are taken over from first philosophy; I mean one must understand of this the formal and the final cause, but not the material and the efficient, although they are one in the substratum. Likewise what he said before this is correct, where we raised doubts about what he says, namely that the proof of the principles of beings are the concern only of the metaphysician, although the natural philosopher uses them too, not establishing them (by proof) but merely postulating them, I mean if one understands by these words the formal and the final cause, not the efficient and the material cause. He is also right in saying that it belongs to natural philosophy to demonstrate what "these other principles" are if one understands by that the two principles only, I mean the first material and the first efficient.<sup>41</sup> The ambiguity arises from the fact that the formal, final and efficient principles are not numerically three, but one in the substratum and three by logical distinction. As efficient (principle), its existence has been explained in natural philosophy, and also that it is immaterial; insofar as this science 1436 concedes that this efficient cause is immaterial, it demonstrates that it is form and end for this sensible substance, not as sensible, but as existent.

Accordingly, one must understand that the principles of the two sciences are different, I mean in the manner one envisages them only, not in their being. This is why the commentary of Alexander on this point is very ambiguous, unless one establishes this distinction. It is this obscurity that misled Ibn Sīnā as we have said. If Alexander meant what we have mentioned, then, in view of his rank in philosophy, he should have established distinctions in this statement and not lumped it together in this fashion. Therefore, we see that Themistius did not go into any part of this interpretation in his book, in spite of his eagerness to summarize the comments of Alexander whenever he comments on the words of the Sage.

*Textus 7 Aristotle says:*

1069b9 If there are four kinds of change, essential, qualitative, quantitative

<sup>41</sup> "First" is to be taken here in the sense of "proximate". The ultimate material principle (i.e. prime matter) and the ultimate efficient principle (i.e. the prime mover) are objects of metaphysics.

and local, and absolute generation belongs to "this thing",<sup>42</sup> growth to quantity, alteration to actions (i.e. qualities) and local motion to place, then changes will be found only in the contraries belonging to each one (of these kinds). Matter must necessarily change since it is capable of both (terms of each couple). 1437

*Commentary:*

Having shown that change can only come from contraries, because it comes either from contraries or from what is between contraries and what is between contraries are contraries, and (having shown) that contraries must have a third thing as substratum, which is matter, he wants to show how many kinds of contraries there are from which changes can occur in all existents. He says that since there are four changes: change in the substance, which he calls absolute generation and absolute corruption, change in quality, taking place in the passive quality, which he calls alteration, change in quantity, which he calls growth and decrease, and change of place, called locomotion, then everything that changes must change from the contraries belonging to each one of these four species. The kinds of difference existing between these changes have already been explained in the fifth book of the *Physics*, and also the difference between these contraries from which changes occur. Contrariety in substance is form and privation; in quality, it is like warmth and cold in the sense of touch, sweetness and bitterness in the sense of taste, whiteness and blackness in the sense of sight, and, in general, the contrariety which takes place from being to being; all this goes back to the contrariety in the sense of touch, as he explained in the treatise *on Generation and Corruption*.<sup>43</sup> Contrariety in quantity is increase and decrease. 1438

Having established that the kinds of contrariety from which all changes occur are these four, he says: "matter must necessarily change since it is capable of both". The meaning is that although each of the contraries, as has been shown, must have a matter in which the contraries succeed one another by the change of one into another, it must be matter in the sense that it receives each one of the contraries, not in the sense that it possesses one of the contraries in its substance; it is matter because it changes from one contrary into the other but itself remains. All that has been explained in detail in the *Physics*.

<sup>42</sup> Gr. τὸ τὸδε, i.e. the individual being.

<sup>43</sup> 329b 6-10.

Textus 8 Aristotle says:

1069b15 Since being is of two kinds, everything that changes changes from what is potentially to what is actually; for instance, from the white in  
1439 potentiality to the white in actuality, and likewise in generation and corruption;<sup>44</sup> so that it can arise not only accidentally from non-being, but also from being, that is to say everything that exists arises from that which is existent in potentiality and non-existent in actuality.

*Commentary:*

fr.8aF Having shown that matter is the substratum of the contraries, he wants to explain which kind of being the being of matter is. He therefore posits that being is divided into what is potentially and what is actually in each one of the genera of the categories.

1440 Alexander says: this question has been explained in book *Hā'*,<sup>45</sup> in which he discussed potentiality and actuality. What he means by this statement is that he has proved in that book that potentiality exists prior to actuality,<sup>46</sup> and mentioned the absurdities encountered by those who rejected potentiality by identifying it with actuality. What he does in this book<sup>47</sup> is merely (as) a precaution, not because the existence of potentiality needs to be proved apodictically.

Having established that being exists in two ways, either potentially or actually, he says that change occurs from being in potentiality to being in actuality in that kind of change. For instance, change into white occurs from that which is white in potentiality into that which is white in actuality, and change into the individual substance occurs from that which is that substance in potentiality; likewise what corrupts corrupts from that which is corruptible in potentiality. This is what he indicates when he says "likewise in generation and corruption", meaning that every thing which comes to be in substance or in another genus of the categories comes to be from what is in potentiality in this genus of category.

1441 Ignorance of this aspect of beings, from which generation arises, was the reason why many of the Ancients erred in the question of generation. They said that there is no generation at all, but beings existed already

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<sup>44</sup> Sic for increase and decrease. This mistake is one of the signs that Mattā may have used Uṣṭāth's transl. The latter correctly translated increase (αὐξήσις) as *numuww*, but then either mixed up φθορά and φθίσις, or regarded *fasād* as a suitable translation of φθίσις (which it is). But Mattā saw the word *fasād* and automatically wrote the familiar expression *kawn wa-fasād*.

<sup>45</sup> Refers to Θ.

<sup>46</sup> But in the individual only. (1049b 17-19).

<sup>47</sup> Lit. "that" (*tilka*). But he is now referring to *Lām* and one would expect *hādhihi*.

before in actuality, although one thinks, from the point of view of sense-perception, that they come into being; but in truth they do not come into being but are educed one from another. One representative of this view was Anaxagoras, and what induced them (i.e. the Ancients) to adopt this opinion was that they believed that no being comes from non-being because non-being cannot become being, nor from being, because the thing coming into being would then have existed before it existed.

Having posited that generation occurs from being in potentiality, according to his demonstration in the first book of the *Physics*,<sup>47bis</sup> he says: "so that it can arise not only accidentally from non-being, but also from being, that is to say everything which exists arises from that which is existent in potentiality and non-existent in actuality". He thus refers to the way in which the difficulty mentioned in the first book of the *Physics* concerning generation was resolved. It was said there that generation exists and takes place either from non-being or from being. If it takes place from non-being, it is not in the nature of non-being to become being; if it takes place from being, being exists before it exists. If this is so, generation does not exist. He resolved this difficulty in that book of the *Physics* by saying that generation takes place accidentally from non-being because it takes place from potential being, i.e. matter, to which happens non-existence which is absolute non-being; it also takes place accidentally from actual non-being, since it takes place in matter from which generation arises essentially, if matter is actually non-being and potentially being. He repeats here what he said there, namely that what comes into being is not generated from accidental non-being but also from essential being, which is being in potentiality, so that it is not enough, in order to resolve this difficulty that what is generated cannot be generated from non-being, to say that it is not generated from essential non-being, but from accidental non-being; one must also say to him (i.e. our opponent) that it is generated from essential being, which is being in potentiality. 1442

Alexander says: this discussion of matter is not exhaustive in this passage because he relies on what he expounded in the *Physics*; he reminds (us) of that, as it were, and refers to that book. This shows that he thought of the discussion establishing the existence of prime matter as belonging to natural philosophy, contrary to what Ibn Sinā thought.<sup>48</sup> fr.8bF

Textus 9 Aristotle says:

1443

This is the One of Anaxagoras; it is better than "all were together"; 1069b20

<sup>47bis</sup> Ar., *Phys.*, 191a 23 ff.

<sup>48</sup> Cf. *Shifā'*, *Met.*, II, 2-4.

this is also the mixture of Empedocles,<sup>49</sup> and of Anaximander, and, as Democritus said, all were potentially for us,<sup>50</sup> but not actually, so that they appear to have had a notion of matter.

*Commentary:*

1444 By this statement, he aims at showing that in what the Ancients said to solve the difficulty facing them in the problem of generation, they only had a feeble glimpse of the nature of matter, and that they wanted to solve it through it; however they formed a certain notion of it without getting acquainted with the real nature of matter, but all of them were tending towards its nature, as if the nature of the truth impelled them towards it.<sup>51</sup>

“This is the One of Anaxagoras; it is better than ‘all were together’”. He means: this matter the existence of which has been demonstrated is what Anaxagoras thought was the mixture, and the way it resembles the mixture is that things mixed together are near to being potentially, but they must necessarily be actually together. This is why he says: “it is better than ‘all were together’”, meaning: it is better, in order to solve this difficulty, to posit matter as being potentially all things, rather than to say that they are actually together in the mixture, because the hypothesis of the mixture does not save us from making generation arise from actual being, and the difficulty preventing the existence of generation remains for us.

“This is also the mixture of Empedocles”: this matter is that which Empedocles had in mind when he declared that the world is formed at times by mixture under the influence of love until it corrupts, and then is disintegrated under the influence of strife; all four elements arise from this mixing together, and from the parts of these elements arise, under the influence of love, all other things; then, they corrupt under the influence of strife.

1445 “And of Anaximander” means: that which this man postulated bears a certain resemblance to matter in that he assumes that the element which is the basic principle of things is infinite and that it is intermediate between air and fire, or water and air as other assumed;<sup>52</sup> they had a glimpse of the nature of that which is potentially in matter since they considered it as the intermediary between actually existing things, and they also had a presentiment of the nature of matter when they assumed

<sup>49</sup> Here again the howler Ibn Daqlis for Empedocles seems to have been prompted by the Abnadaqlis of Ustath.

<sup>50</sup> Cf. Freudenthal, p. 45, n. 1.

<sup>51</sup> Cf. for this expression Ar. *Phys.* 188b 30.

<sup>52</sup> Cf. Alex., in *Met.*, 60,8 Hayduck, and above introd. p. 15, n. 9.

it to be infinite in order that generation should not stop; this is also the source of a presentiment of the existence of the basic principle (*ἄνυσυρ*) in potentiality because its being potentially all things is the cause of generation's being unending.

"As Democritus said, all were potentially for us, but not actually". He means: Democritus was closer than them to his view of the nature of matter with his theory of the atoms which are for him the basic element of things; they were potentially all things before they are combined one with another, but they were not in actuality.

Alexander says: it is probable that "all were potentially for us, but not actually" is not all a quotation of Democritus' phrase, but the words of Democritus are only "were for us", that is to say: they were necessarily eternal, because in that sense, they resemble matter; and "all potentially, not actually" are the words of Aristotle himself, a correction as it were of the words of Democritus, and as if he had said: Democritus, who said that the atoms are eternal, expressed by this the nature of matter, especially the fact that it is potentially all things generated from it, not actually. fr 9F  
1446

"So that they appear to have had a notion of matter". He means: it is the nature of truth that compelled the Ancients to approach (the idea of) matter. He gives that as a testifying, as it were, to his conception of matter, for none of them before him had become acquainted with its true nature, but they had a feeble glimpse of it, as one who sees something from afar.

*Textus 10 Aristotle says:*

All things that change have matter, but a different one; among eternal things, all those which are not generated but move locally have matter; however, it is not generated, but is from place to place. 1069b24  
1447

*Commentary:*

He means; although all things which change have matter, as we have said, nevertheless the natures of the matters vary according to the kinds of the nature of the change; the matter of the things which are generated is potential, but the matter of the things which move locally is actual, since what moves locally is actually existent. Therefore, among those which move locally, what is neither generated nor corrupted does not have the same matter as that which is generated and corrupted, and this (matter) is that which is potential. It is as if he said: everything, among eternal things which are not generated, which is moving locally, has a matter, but it is not the matter of the thing which is generated, but a matter which moves from a place to another, that is locomotion.

From this, it seems that the celestial body has no potentiality divisible according to the division of the body, I mean a material form, because if that were so, it would contain potential matter, and it has been shown that no eternal thing has the potentiality to corrupt; this is shown at the end of the second<sup>52bis</sup> book of *de Caelo et Mundo*. Regarding this problem, Ibn Sīnā imagined that potential matter is found in all bodies.

1448 *Textus 11 Aristotle says:*

1069b26

One could raise difficulties and ask from what being generation arises, for non-being is said in three senses; if it is in potentiality, it is nevertheless not from any potentiality, but another from another; it is not enough to say that all things were together because they are differentiated by matter: for what reason, otherwise, should they be infinite and not one? For the intellect is one and if matter were one too, this thing would be actually what matter was potentially.

1449 *Commentary:*

His aim in this chapter is to declare that prime matter,<sup>53</sup> although it is one, yet is potentially and by disposition multiple, and that each existent has its own matter along with common matter.<sup>54</sup> He begins by expounding the difficulty which he had already solved, namely that being does not come from being but from non-being. He says: if somebody says that generation arises from non-being, he can raise difficulties about that and ask from what non-being generation arises. Non-being is said in three senses; by the three senses, he means: absolute non-being, that is absolute nothingness which has neither real, nor conceptual existence; the second is the non-being which is in matter, that is the absence of form; the third is potential being; potential being is said to be non-being or non-being in actuality.

Having posited these three senses, he proceeds to give a short account of the concept whereby the difficulty can be solved, namely potential being. He says: "if it is in potentiality, it is nevertheless not from any potentiality, but another from another". He means: although the difficulty can be solved by our hypothesis that being is generated from what is actually non-being, but potentially being, nevertheless it is not any being whatever that can be generated from any potentiality whate-

<sup>52bis</sup> In fact, of the *first* book: 281b 20 ff.

<sup>53</sup> Although the notion of prime matter, i.e. of an absolutely unqualified substratum, is clearly implied in many Aristotelian passages (cf. F. Solmsen, *Journal of the History of Ideas*, 19, 1958, pp. 243-252), it is not so designated (πρώτη ὕλη) until Alexander (in *Met.*, 213,3).

<sup>54</sup> Cf. Philop., in *Phys.*, 138,16: ἡ γὰρ ὕλη κοινή.

ver, but every one of the existents is generated from what is potentially this generated thing, i.e. from a potentiality which is proper to it, so that there are as many potentialities as species of generated existents. He says that only because he thinks that prime matter is one as substratum and multiple in dispositions. First of all, the dispositions which it possesses are for receiving the primary contraries, I mean the forms of the four elements; secondly, it contains the potentialities of the homoeomeres (*al-mutashābihat al-ajzā'*) by the intermediary of the forms of the four elements; these potentialities differ in it according to the difference in the mixture of the four elements, so that the forms of the generated things will differ, on account of that, according to the difference which is in it.<sup>55</sup> 1450

Since the Ancients, by reason of their conceptions of matter, were not able to explain<sup>56</sup> the cause of the multiplicity of the existents from the point of view of matter, he says: "it is not enough to say that all things were together", meaning: therefore, it is not enough, in order to explain the cause of the multiplicity of the existents, to say that the things from which generation proceeds existed together in actuality and not in potentiality if the potentialities were not multiple. Anaxagoras cannot escape this difficulty in his theory of the mixture, nor can the other ancient philosophers whose opinions on matter he (= Aristotle) mentions. The opinion of all of them implies that anything is generated from anything and that there are no proximate matters proper to each individual existent; white is generated not from the non-white which is black but from any non-white whatever, for instance from the line or the point, because non-white is true of the line or the point. The same difficulty constrains Democritus and Empedocles, as in the latter's system the elements are detached from the one, which had been overcome by love,<sup>57</sup> during the destruction of the world. 1451

Having said that it is not enough, in establishing what generation comes from, to say that what it comes from existed together before generation, he gives the reason for that and says: "for they are differentiated by matter: for what reason, otherwise, should they be infinite instead of one? For the intellect is one". Meaning: the theory of Anaxagoras in particular is not satisfactory, for the multiplicity of the existents can only result from the multiplicity of matter or from the

<sup>55</sup> Cf. for this theory in general Ar., *de Gen. et Corr.*, *passim*, and Joachim's introd., p. xxxi ff.

<sup>56</sup> *A'izā* = ἀποδιδόναι, literal transl. of the Greek; the word, in this sense, seems to be confined to philosophical literature.

<sup>57</sup> *Ghalabahu* could conceivably mean: (the world which) was achieved by (love's) victory. But perhaps *'illatuhu* would be preferable (p. 1451, n. 25). Cf. however Daiber, *Aetius*, p. 42-43

multiplicity of the agent. Otherwise, why should the existents be different and even infinite in difference, according to them, instead of one, since the agent according to them is one, namely the intellect. He means that if the basic principle is one and the agent one, there must not be any multiplicity at all because multiplicity proceeds either from the multiplicity of matter or from the multiplicity of the agent, if it is possible that different forms have the same matter, or that there be a multiplicity proceeding from the multiplicity of the two together.

1452 "If matter were one too, this thing would be actually what matter was potentially". Meaning: if matter were one, and the thing producing generation were one, and potentiality were one, then the thing would be one; for if the substratum is one, the potentiality in it one and the agent one, then there is no cause for the multiplicity at all.

Textus 12 *Aristotle says*:

1069b32 There are three causes and three principles, two of which are the two contraries; one of these two is definition and form and the other privation; the third thing is matter. After that, (one must say) that neither matter nor form come into being, I mean ultimate matter and form. Everything that changes changes from something and into something. That because of which it changes is the mover, that which changes is the matter; that into which it changes is the form. The inquiry, therefore, will have no end if not only the bronze becomes spherical, but spherical and also bronze as well must necessarily precede.<sup>58</sup>

1453 *Commentary*:

He announced at the beginning of this book this his inquiry concerned the principles of substance *qua* substance and the search for its elements; he then established that there are three substances: one movable and another immovable, and the movable is divided into eternal and non-eternal. He first sought the principles of the non-eternal substance and repeated what he had explained about it in the *Physics*, not only giving the results obtained, but also recalling the premises which led him to affirm these principles, and added to that the results obtained in the previous books, as for instance the fact that the principles of substance are substance; he also showed to what extent the Ancients had grasped the material principle, and that none of them had found a theory about it which could be applied to the problem of generation and corruption, and

<sup>58</sup> "Precede" (*yataqaddam*) makes acceptable sense; the form and the matter must exist before the compound. But it is not a transl. of the Greek στήναι. Bouyges suggests *yataqawwam* (p. 1452, n. 16).

that their theory that the principles are contraries was not satisfactory; one had to introduce a third factor, namely the substratum, but none of these philosophers had given a correct account of this substratum, for none had said in which way it becomes substratum; therefore, they were not able to solve the difficulty raised in order to deny generation, nor were they able to give the reason why generated things were multiple if the basic principle was one and the agent one. When all that was clear to him, he stated the necessary conclusion of it and said that there are three causes: one of the two contraries is what is indicated by the definition and it is the form, the second is privation of form; the substratum, which is the third, is matter which is in potentiality. 1454

He then says that form and matter are not generated; what is generated is only the compound resulting from them; for every changeable thing changes from something and into something and because of something. That because of which it changes is the mover; that from which it is moved is the matter; that to which it is moved is the form; if the form were generated, it would be composed of a matter and a form because it would change from something, into something and because of something; and the form would have a form, and the form of the form, on account of its being generated, would necessarily have a form, and so on *ad infinitum*. So form *qua* form must be ungenerated. The same applies to matter: if it were generated, it would be composed, and there would be innumerable kinds of matter in one and the same compound, or generation would proceed from nothing. He has explained that in the previous books of this science.

“The inquiry will have no end”. He means: form and matter; that is to say: if they are generated, it follows that in one and the same thing there is an infinite number of matters and forms.

“If not only the bronze becomes spherical”. He means: there must be an infinite number of matters and forms in one and the same thing, if we assume that the generated thing is not only the compound, but the form and the matter as well. For instance: if we say that the generated compound is not the spherical bronze but sphericity and bronze itself, then, if that be so, it follows necessarily that a sphericity and something susceptible of sphericity precede sphericity, and likewise bronze needs something susceptible of it and a form; this view is not impossible in the case of matters which are a compound, like bronze, but it is impossible in prime matter and in the simple forms. He uses the expressions “spherical bronze” instead of “the compound”, and “spherical” instead of “the form”, and “bronze” instead of “the matter”, conforming to his habit of using examples instead of general statements in order to achieve concision. 1455

“But spherical and bronze as well must necessarily precede”. He means: form and matter must necessarily precede the compound, or: if we assume form and matter to be generated, as is the case in what is composed of them, then a form and a matter must precede them; for instance, if the spherical is generated, then it must be composed of a spherical and a bronze.

1456 *Textus 13 Aristotle says:*

1070aF After that, since<sup>59</sup> every one of the substances is generated only from its synonym,<sup>60</sup> for natural things are substances, and all these others are generated either by art, or by nature, or by chance, or by spontaneity. Art, then, is a principle in another and nature a principle in itself, for man begets man; the other causes are privations of these.

1457 *Commentary:*

fr.10aF Having explained the principles of the substance subject to generation and corruption which are found in it, I mean form and matter, he wants to explain its active principles as well in order to arrive thereby to its first principles. He begins by recalling what has been established regarding that in the books on substance and says that every substance comes from its synonym; for instance, man is generated from man and horse from horse. Alexander says: one could add something to that and inquire in what sense animals generated from putrescent matter are generated from their synonym, because these may be thought to be generated naturally, not voluntarily, nor by chance; nor are mules generated from their synonym, because they are not generated from mules.

This remark raises a great difficulty in this theory, because having said that what is by nature comes from synonyms, he adds: “these others are either by art, or by nature, or by chance, or by spontaneity”. For it may be supposed that in this argument,<sup>61</sup> he is not simply saying about substances only that they come from synonyms, but also that all other things which are from things which are not substances are generated from synonyms. This may be true of things which exist by art, since art is the form of the thing that is generated and which the maker effects in matter, according to what he said in the previous argument, namely that the definition of everything is the form.<sup>62</sup> But in the case of things which

<sup>59</sup> The  $\delta\tau\iota$  of the Greek was misunderstood, so that the sentence does not construe. I have left it as it stands in the Arabic.

<sup>60</sup> Here and in the following discussion, “synonym” is taken in a non-technical sense: something that has the same name, i.e. of the same kind, as Ross translates.

<sup>61</sup> *Kalām*, at the same time “sentence” and “argument”.

<sup>62</sup> Cf. e.g. 996b 8.

are by chance, of which the agent is undefined, how can anybody understand that they too are generated from synonyms?

But maybe he is not even saying concerning these, that they are generated, according to what follows. For having spoken of things which are by nature and things which are by art, he goes on to say: "the other causes are privations of these". But privations are not beings in the primary sense, but are only said (to be) by error and deviation from the aim laid down for them, because even in the arts, things which come into being by way of error and deviation are not existent. He means that we must not ascribe to Aristotle the view that things occurring by chance proceed from synonyms, since he did not accept to call them beings, but only privations of generated things. For they occupy the same place in nature as errors and deviations in art. Just as we cannot call these "artificial beings", so in the case of what occurs by chance in the natural things (we cannot call them natural beings). This is what he indicates by saying that "the other causes are privations of these".

1459

Then Alexander says: he devoted a great space to that question in book *Zāy*<sup>63</sup> of this treatise; he explained what each thing is which is generated from synonyms and talked about things which are generated from putrescent matter in the *Physics*,<sup>64</sup> saying that these things, although they are not generated from synonyms in the strict sense, are nevertheless generated from some action, because the heat existing in the substratum is the cause of the generation of the likes of these. He (i.e. Alexander) says: some people understood the words "from synonyms" in the following way, namely that things existing by nature are generated by nature, and that none of the things generated by nature can be generated by art or anything else, but only by nature. Likewise, artificial things are generated by art, and likewise that which is generated by chance or by spontaneity, for none of these things is generated by nature or by art; this is what he has shown here.

"Art is a principle in another and nature is a principle in itself". He means: art is an efficient principle for another *qua* other, but nature is efficient for the thing itself, that is existent in the thing by its own essence, not by accident. He has shown this in the second book of the *Physics*.

1460

Since he does not mention in this discussion things which are generated by will, Alexander says: it is possible to place things generated by will in the same class as things generated by art, for will is also principle in another.

fr.10bF

Alexander says: having said that, he adds: "for man begets man"; he

<sup>63</sup> Cf. 1032a 12-1034b 19. *Zāy* corresponds here to Z of the Greek because the reference comes from Alexander. It would be *Wāw* in Ibn Rushd's normal nomenclature.

<sup>64</sup> Cf n 68 below

says: this shows that by saying "is generated", in the case of things generated from synonyms, he only has in mind the primary sense of "synonym", for everything which is generated by nature or by art and is not in the same state may be found to be either by chance or by spontaneity, while<sup>65</sup> he calls those which are generated in this way "privations", not "beings". What Alexander means is that the things which Aristotle says are generated from synonyms are things arising by nature and by art in the primary intention, for everything that comes into being from nature or from art follows this course, while he has already investigated that which is by chance and spontaneity elsewhere; he wants to argue to that effect from the fact that Aristotle does not call them beings.

1461 Alexander says: animals which are generated from putrescent matter also belong to the class of that which is generated by chance or spontaneity. As for the fact that what is generated by art is generated from synonyms, he has already mentioned it in the first books, and he says it here too, when he is going into the question more deeply: "medicine is in a way health". As for the fact that a mule is generated from something like itself, he also explained it in the first books; for it is generated from an ass and a horse, and these two are those which have a single concept (*ma'nā*), as though it were their conventional name;<sup>66</sup> this is the synonym from which (the mule) proceeds. He means that the synonymous concept from which the mule is generated is the single nature common to the ass and the horse.

This is what Alexander says in his commentary on this passage. It is altogether a very good commentary, except that it is not obvious to us from the wording of the passage that he (i.e. Aristotle) considered other things than substances to be generated also from synonyms as he (i.e. Alexander) says that it is the apparent meaning of the text; for his (i.e. Aristotle's) words: "all these others" are not connected with "is generated only from the synonym". It is a subject and its predicate is "are generated by art, or by nature, or by chance, or by spontaneity".

1462 We find that in a translation other than that which was commented on

<sup>65</sup> There are cases where *idh* seems to mean "while". Cf. 1606,8, 1608,2.

<sup>66</sup> Text very corrupt. I suggest: *li-kūlayhimā yakūnu ma'nā wāhid* (1.7). Then, instead of the impossible *kāna yakūnu*, I propose *ka-annahu yakūnu*: "as if they had a single name (i.e. the same name) imposed on them". Cf. *Ar. Met.* 1033b 35-1034a 2; What he means is shown by such passages as *tafsīr* 841, 5-6: mules are generated from the nature common to two different forms (i.e. the form of horse and the form of donkey), and even more clearly by *Tahāfut*, 211, 8-11: the generated is identical to the proximate agent (the generator), either in species (man begets man) or in genus (horse and donkey beget mule).

by Alexander<sup>67</sup> the words: "or by art" are missing; it would then be as if he had said that generated things which are substances are those which are generated from the synonym, but these other things are generated either by nature, or by chance, or by spontaneity. In this way, no difficulty arises concerning this passage, and it is the same thing which he explained in book seven.

In another translation, this passage is connected with what precedes by a mention of the substances; here is the text: "this must come after that, for every substance proceeds from something which has the same name and the same definition; those which are by nature are substances and the others are either by nature or by themselves" fr.10cF

I think that what was found in Alexander's translation was: "and all these others; for they are either by chance or by spontaneity", I mean with the addition of "for they". So "these others" is connected with "from its synonym" and what comes afterwards is like an explanation of their being from synonyms. 1463

We find this in the translation of Yaḥyā b. ʿAdī; this is his text: "therefore, it goes on *ad infinitum*, if not only the bronze becomes spherical, but spherical and bronze (are also generated); therefore, it is necessary to stop; furthermore, since each one of the substances is generated from synonyms, and things which are by nature are substances, and these others (too); for they are generated either by art, or by nature, or by chance, or by spontaneity". This induces us to believe that all things come from their synonyms according to the apparent sense of what Alexander says.

What contributes most to make the problem difficult is his introduction of what is generated by art. He has already explained in book *Zāy* that what is by art is generated from its synonym. But it is obvious, I think, that by "these other things" he means all accidents to the exclusion of substance. This is why he includes in them that which is generated by art; in this sense, the substances which are generated from putrescent matter belong to the class of that which is generated from its synonym, not of that which is generated by chance, for that which is generated by chance has no regularity in its being, nor species intended by nature, and these (substances) evidently have species according to a natural design and lack only the species transmitted by procreation; most of them occur only for a limited time. So it is meaningless to say that they occur by chance. When he says that Aristotle mentions them in the *Physics*, it is something, he imagined, and God knows best. It seems probable that he 1464

<sup>67</sup> *Sic!* He means, of course, "in another translation than that which was accompanied by Alexander's commentary".

had mentioned them in book *Zāy* because this book, as it has come down to us, contains lacunae.<sup>68</sup>

If we say that what is generated from putrescent matter is generated from its synonym, it does not mean that it is generated by heat in actuality only, as Alexander says in one of his two interpretations of it;<sup>69</sup> it only means that the putrescent matter from which it is generated is the equivalent of the seeds in procreation; I mean: just as in the seeds there is a potentiality generating a species possessing seeds, which Aristotle compares to craft and art,<sup>70</sup> likewise the potentiality which is in the putrescent matter proper to each animal is similar to the craft which is in the seed. If what results from craft and art results from its synonym, then, what results from the potentiality contained in the putrescent matter proper to each animal must result from its synonym and there is no difference between the power which is in putrescent matter, similar to a craft, and that in the seed, except that that in the seed comes from a being possessing seed and from the sun, whereas that in putrescent matter comes from the sun only. Therefore, Aristotle says that man and the sun beget man, and thus we have no need to introduce the forms which Themistius thought necessary to introduce in the case of animals generated from putrescent matter, as we shall mention later.

1466 Textus 14 Aristotle says:

1070a9 There are three substances: one is matter, which is "this thing" insofar as it is seen; for that which is by contact and not by organic composition is matter and substratum. (The second), nature, is that to which tend being and property.<sup>71</sup> There is a third substance, composed of those, belonging to every individual thing-like Socrates and Callias. In every individual thing, the meaning of "this thing" is nothing but the compound substance itself, e.g. the form of the house, unless it is the art.

1467 There is no generation and corruption of these things, but in another sense there is and there is not a house without matter, and health, and everything that is by art; but perhaps in things which are by nature (the meaning of "this thing" is not the compound substance itself).

<sup>68</sup> Spontaneous generation as such, i.e. in the sense of the generation of animals from putrescent matter, is discussed neither in the *Physics*, nor in *Z*. What Alexander is obviously referring to is the discussion of spontaneity in general in *Phys.* II, 4-6.

<sup>69</sup> Unfortunately, these two interpretations are not quoted *in extenso* by Ibn Rushd. What is clear is that Alexander propounded a "naturalistic" explanation of the phenomenon of spontaneous generation.

<sup>70</sup> *Ar. Met.* 1034a 33-34; *de Gen. An.* 730b 19-22.

<sup>71</sup> ἐξίς = disposition. Mattā realized the connection of this word with the verb ἔχειν and translated literally as "possession" (*qunya*). Same howler in Uṣṭāth.

*Commentary:*

Having dealt with the principles of the sensible substance and (said) fr.11F that its principles are substances, he intends to say in this section how many substances there are; he recalls what was explained in the books on substance and in the *Physics* and explains that they are three: matter form, and the compound of the two, in order to ascend from that to the knowledge of the first form and of the first end.

Alexander says: he starts by saying about matter that "one is matter, which is 'this thing' insofar as it is seen". There are obscurities in this statement; its meaning is that there are three substances; one is matter, which is "this thing" when it receives its form and is defined; since it is then with the form, it is the form in actuality and it is visible here and now, whereas in its essence it is not visible. He says: alternatively, the meaning of this statement is that matter is "this thing" insofar as it is seen, for matter in itself and in reality is not "this thing", but it appears and is thought to be that by the fact that matter is present in everything, because it is the substratum. 1468

The meaning of these two interpretations of Alexander's is this: in the first interpretation, matter is "this thing" which is visible or perceptible on account of its form; the obvious meaning would (then) force him to say that matter is that which is seen by the fact that it is "this thing"; this is the opposite of what Aristotle said: "'this thing' insofar as it is seen".

The second interpretation is: "this thing" in sense-perception, that is to say sense-perception does not perceive the difference between it and the individual object, but only the intellect perceives it. Therefore, the Ancients thought that the substances of things were their matters and that there were no forms which were substances, for forms are not sensible but only intelligible.

He has a third interpretation which we shall mention presently. 1471

Alexander says: the words: "that which is by contact and not by organic composition is matter and substratum" are an addition to: "which is 'this thing' insofar as it is seen" to indicate that matter appears to be "this thing" in things which proceed from it when they are in contact one with another but are not yet arranged or composed, as is the case of the generated thing which is composed of them. These things are thought to be matter for that which proceeds from them insofar as they are "this thing". For there would be no mutual contact if they were not "this thing" in actuality. In this way, stone and brick are the matter of the house, and boards and wood are the matter of the ship. Or perhaps to say that it is "this thing insofar as it is seen" shows that the matter that is seen is "this thing"; and the matter that is seen is the proximate matter of everything that is generated because it is in the thing. Perhaps "insofar as 1469

1470 it is seen" expresses the nature of matter, because what he says about it elsewhere, namely that it is known by analogy,<sup>72</sup> is what he expresses now by: "insofar as it is seen". For we are led to a representation of its nature from the things that are seen. It is probable that this is what he expressed by the example which he gave, i.e. that the thing which is by contact, not by organic composition, is matter<sup>73</sup> and substratum, just as there is in visible things, which are the things which are composite, something which is not by organic composition, e.g. the house. Matter is seen to be proximate to the things from which the house proceeds. For stones and bricks are in the same condition as matter, that is matter has the same relation to all other things as these (to the house). It is possible that "this thing" is used instead of "substance". This is what Alexander says.

1471 The meaning of what Alexander says in the first section is that having said that matter is that which is considered to be the individual thing apprehended by the senses, he explains when this is thought to be so, and says: this happens when the material components of which the thing is composed are in mutual contact, like bricks and stone in the house; one does not think that the house is anything but bricks and stone. But when the material components of the thing are mixed together, one does not think that they are the thing; so "organic composition" denotes only a mixture. What is found in another manuscript also points to this interpretation.

The third interpretation which Alexander gives of the words: "matter is 'this thing' insofar as it is seen" is that he means by them proximate matter, as if he had said, according to this interpretation, that the proximate matter of something is the visible matter of that thing. Accordingly, the meaning of "that which is by contact and not by organic composition is matter and substratum" is that proximate matters are those which are in contact one with another, because those which are mixed together and unified are not proximate matter. For instance, flesh, bone and the other organs composed of similar parts (homoeomeric), of which the hand is composed, are the proximate matter of the hand and are in contact one with another. But the four elements which are mixed together are remote matters.

The fourth interpretation he gives of that passage is the same as what he (i.e. Aristotle) says in the first book of the *Physics*,<sup>74</sup> namely that prime matter is understood and conceived in a relative way, that is to say

<sup>72</sup> Cf. *Ar.*, *Physics*, 191a 8; *Alex.*, *Quaestiones*, 4,10.

<sup>73</sup> I.e. prime matter. He is thinking of the fact that it is only known by analogy.

<sup>74</sup> 191a 8-12. Aristotle's example is slightly different (the relation of timber to the bed).

that its relation to all actual beings is like the relation of sensible matters to that of which they are the matters, I mean, like the relation of the timber to the ship. According to this interpretation, the meaning of "matter is 'this thing' insofar as it is seen" is that prime matter is understood to be matter of "this thing" by means of visible matters; for it is that which is formed from material elements by contact, not by organic composition; these material elements make this concept (of prime matter) intelligible. 1472

These ideas which that man (= Alexander) has expounded are all either ideas which he (= Aristotle) had already expounded elsewhere, or ideas from which one cannot acquire an idea that was not known before concerning matter. If this passage can expound a particular idea concerning matter which he had not previously reported, this is the most appropriate interpretation of it, particularly if the wording helps (or: if it helps to understand the wording).

My own opinion about this passage is that he wants to define by it the difference between the nature of matter in being and the nature of the general form, in particular the form that is the genus. It may be thought that prime matter, because it is common, possesses the nature of the universal thing predicated of a multiplicity of things. This is why some people thought that prime matter is the body; but if that were so, it would have a form and would not be numerically one, but formally one. It has been said elsewhere that it is numerically one, and if that be so, one must explain how a thing numerically one can be present in a multiplicity of things, which is irrational in the case of what is actually. But in the case of what is potentially, one can understand by its being numerically one and common to a multiplicity that it does not have divisions according to which those portions of it included in every individual can be separated one from another. Thus, since it lacks the individual divisions by which numerical multiplicity exists, it is said to be one; and since it lacks the form by which the thing is numerically one, it is said to be common to all numerically multiple things; but it was not called so because it had a common form, as happens with the genus. Insofar as it is deprived of the divisions of individual forms, it is numerically one, not insofar as it has an individual form by which it is numerically one; and also insofar as it lacks the form which is actually the individual form, it is common to many things. The common forms, to which the universals belong, exist in potentiality, and therefore, the knowledge of the thing insofar as it is knowledge of potentiality. The commonness which the intellect perceives in common forms exists outside the soul in potentiality, but this commonness perceived by the intellect in matter is pure non-existence since it perceives it only by abstracting individual forms 1473

1474 from matter. Thus matter does not exist outside the soul, because of this intellectual conception of it, I mean its being common to all things subject to generation and corruption, since it is conceived in a purely negative way. If one accepts this, what distinguishes matter from non-being and makes it one of the existents outside the soul is its being substratum of the sensible individual object which is visible, not the intellectual conception of it; this is the complete (*tāmm*) conception of matter.

This is not mentioned anywhere by the Sage in his writings, but it is implied in his statements about matter. If his statement in this passage is conform to what we have said about matter, what he says here is meant to explain the mode of being of matter and belongs to this science, not to natural philosophy.<sup>75</sup> The nature of matter can only be understood according to the concept which we have just developed. If one thinks about it very carefully, and about the exact implications of the words expressing it in this passage, one will easily see that the words express this concept without being taken very much out of their obvious sense, more than by the man who interpreted this passage in five different ways, least of all since this interpretation conforming to the probable meaning of the words is one of the five; if it is equivalent to those in this respect and better from the point of view of meaning, then, this is the best interpretation which has been propounded concerning this concept.

1475 Accordingly, the meaning of "it is 'this thing' insofar as it is seen" is: it is that the being or individual existence of which is considered from the point of view of the thing by which it becomes perceptible, namely the form, because matter is not perceptible by itself but only through something else, i.e. through the form. It has no existence save insofar as it is perceptible through something else, not perceptible by itself. It exists only from the point of view of the thing through which it is seen and perceived.

Since matter has existence only in relation to the existence through which it is seen, i.e. form, he says: "For that which is by contact and not by organic composition is matter and substratum". Meaning: the reason why its being depends on the thing through which it is perceived is that everything whose nature it is to be by contact and contiguity with something else and to be perfected by it, not that whose nature consists in an intelligible organic order, that is to say in its intelligible form, is  
1476 matter and substratum. Since this nature has no form, its existence does not consist in its intelligible concept, but only in its relation to form. It is as if he had said that it is known that its nature consists in its relation and

<sup>75</sup> At 1442, 14-16, he says the opposite against Ibn Sīnā!

that it has no nature of its own. He used "contact" here instead of "relation" because everything the existence of which is through contact and contiguity with something else, not through a nature intelligible in it and by which it would be existing in itself, is matter. It is probable that this explanation refers to the most obvious sense of "matter" from the point of view of the words, namely that matter is that which can be pointed out to through sense-perception, because form is not apprehended through sense-perception, but through its effect. Therefore, it is only apprehended by the intellect. He said: "That which is by contact, not by organic composition, is substratum and matter". Meaning: therefore the elements and basic principles are things which are contiguous, not composed according to the organic order arising from things in reciprocal contact. By organic order he means form. Understood in this way, this term applies in particular to proximate matters, and he defines it as contiguity without mixture because it is the thing that englobes the elements which are mixed together and those which are not mixed together; the elements which are mixed together must be contiguous at first and then mixed together. 1477

Having dealt with this substance, he goes on to deal with form. "Nature is that towards which tend being and property". He means: the second substance is the nature into which the substance which is the basic principle changes. It is a property and a disposition, that is to say a form.

"There is a third substance, composed of those, belonging to every individual thing, like Socrates and Callias". He means: the third substance, composed of these two, is that which is each one of the individuals, like Zayd and ʿAmr.

"In every individual thing, the meaning of 'this thing' is nothing but the compound substance itself, e.g. the form of the house, unless it is the art". He means: it is clear that the meaning of the thing, by which it exists in actuality, namely its form, is not separable from the matter in which it is, for instance the form of the house, except for what is in the artistic skill. Therefore it is perceived by the intellect, because the form of the manufactured object is in the soul, distinct from the matter in which it exists outside the soul. This is clearer in another translation in which we find this other sentence: "the meaning of 'this' is that which is nothing but the compound substance". 1478

Having put forward these views as a preliminary to the question whether there is a separate form or not, he says: "there is no generation and corruption", meaning: but artistic forms are not subject to generation and corruption because they are accidents.<sup>76</sup> This comes out also

<sup>76</sup> Viz. of the artisan's soul; but it is an odd expression.

more clearly in another translation which has instead of that: "they have no generation and no corruption". He says that to prevent the objection that if the forms in manufactured objects exist apart from the matter of manufactured objects, then what is there to prevent the same things  
 1479 happening in the case of natural forms? However this may be, the artistic forms are not separate because they are either in the soul or in matter.

Then he says: "but in another sense, there is and there is not a house without matter, and health, and everything that is by art; but perhaps in things which are by nature". He means: if somebody asks: is it possible that there should be among the forms a separate form? It is clear that it is not possible that there should be among the forms a form separate from matter except in the case of natural forms and it is those which come to mind. But this doubt does not occur with regard to artistic forms because the form of the house is either in the bricks, or in the soul of the builder. Likewise the form of health is either in the soul of the physician or in the humours.<sup>77</sup>

In another translation, the words: "they have no generation and no corruption" are followed by "except the house which is without matter and health". He probably means by that: except that the house which is not in matter and the health which is not in matter are in a certain matter  
 1480 which is the soul. He probably means: except that the house and other artificial forms can exist in a matter other than the matter in which they exist as a house in reality.

Then he says in this translation: "and everything which is by art in another way; or perhaps it is only in those which are by nature", meaning: therefore, one may ask whether it is possible for something separable to exist in artificial forms, or whether it is only possible in natural forms.

*Textus 15 Aristotle says:*

1070a18 Therefore, those who postulated the Forms were not wrong in saying that these, if they exist at all, are all things existing by nature; but among  
 1481 these, fire, flesh, bone and head are all matter; and of substance, that which is most (substance); it is the last and indivisible.<sup>78</sup>

*Commentary:*

fr.12F Alexander says: these words refer to Plato, as is found in some

<sup>77</sup> This refers to the classic Galenic doctrine that health is the correct mixture of the humours.

<sup>78</sup> The last sentence of the textus is a mess. The first *huwa* (1.1) is meaningless. *Jidd<sup>mn</sup>* (1.2) is pleonastic after *akthar*.

manuscripts. He says: he (Aristotle) does not say that they are right in an absolute way, but merely that it was right to suppose them to be the natural things. It would be easier to understand if it was put in this way: “therefore, those who postulated the Forms were right, if they exist at all, in assuming all that comes from them to be by nature”. He (Alexander) says: it is also possible to understand his statement in this way: therefore, he who postulated a Form for all these things which exist by nature, if this form exists at all, was not wrong. He says: it would be easier to understand what he means if the word “existing” was transposed from its place near “the forms” and taken together with “they” (*fa-hiya*), so that the sentence would be “therefore, he who postulated the Forms to be all things that exist by nature was not wrong, if the Forms exist at all”.

1482

All these interpretations of Alexander’s come down to two meanings; the first is that he wants to say that those who postulated that the forms of natural things had separate Forms were right insofar as they did not postulate these Forms for artificial things, if there are separate Forms at all. Or he means: therefore, those who said that the forms of natural things are separate Forms were not wrong insofar as they did not claim that in the case of artificial forms. For the two doctrines are very similar, i.e. the doctrine that the sensible natural forms have separate Forms, which is Plato’s doctrine, or the doctrine that natural forms are separate Forms and that their study is a physical study for us. I mean, are some of the natural forms separable, as he will inquire later? The inquiry as to whether there are separate Forms distinct from the sensible forms which are the forms of sensible things is not a physical inquiry, that is to say it is not something which we desire naturally. It is an inquiry which requires somebody’s attention only when he has been led to it by some kind of reasoning.

1483

“But among these, fire, flesh, bone and head are all matter”. According to Alexander, we can understand that in two ways: the first is that he is not thinking of all natural forms, but some of the natural forms are known to be inseparable from matter, e.g. the form of fire, of bone, of head and of flesh. According to this interpretation, it is as if he had said: what belongs to these forms like fire, flesh and bone all has a matter and cannot be separated from it. We can also understand this as meaning that it is not possible to believe that in the case of all forms, because some of the forms of natural things are forms of things which constitute the matter of something else, like fire and the other elements which are the matter of other things. Likewise, flesh and bone are the matter of the head; this interpretation is more likely in view of his expression, I mean “all are matter”, since not a letter of it entitles him to (support) the former (litt: this) interpretation.

fr.13aF

1484 “And of substance, that which is most (substance); it is the last and  
fr 13bF indivisible”. According to what Alexander says, it is again possible to  
understand this in two ways. One of them is that he meant by “that  
which is most substance” the compound of matter and form, and by “the  
last and indivisible”, matter, as if he had said: the compound substance is  
worthier to be substance than the last substance which is common to all  
and is the body. Or he meant by “the substance which is most substance”  
the substance composed of elements and by “the last”, the elements. On  
this interpretation, all these things, I mean their forms and their matters  
are matter for the last substance.<sup>79</sup>

Alexander says: the meaning of this passage is more clearly expressed  
in another manuscript: “therefore, he who postulated that the Forms are  
all things that are by nature, if there are Forms at all, was not wrong,  
except for these things; for fire, flesh, bone and head are all ultimate  
1485 matter to the thing that is worthier to be existing”. Alexander says: he  
cannot possibly have meant here by “the last substance” matter. I say: he  
says this, in my opinion, because in this passage the Sage makes a  
comparison between substances existing in actuality.

*Textus 16 Aristotle says:*

1070a21 The moving causes are such only insofar as they have a prior existence;  
but those that are in the sense of definition are simultaneous. For when a  
man is healthy, health exists, and the shape of a bronze sphere and the  
bronze sphere exist together.

*Commentary:*

1486 Having explained that there are two causes, matter and form, he wants  
to explain the difference between these two and the moving and efficient  
cause. He says that the difference between the efficient cause and the  
formal cause is that the efficient and moving cause precedes that which it  
produces and moves, whereas the formal cause and the material cause are  
simultaneous with the production. This is what he indicates in saying:  
“causes in the sense of definition<sup>80</sup> are simultaneous”. He means: the  
causes which are cause of the thing’s being a whole and one exist  
simultaneously with the thing which because of them becomes a whole,  
since their relation to the compound is like the relation of the parts to the  
whole.

<sup>79</sup> This is a literal translation of an utterly muddled passage.

<sup>80</sup> There is no reason to alter the correct *bi-’l-kalima* of B as Bouyges does. Ibn Rushd’s explanation that it is the cause of a thing’s completeness and unity does not imply that he read *kulliyya*.

He then introduces a comparison and says: "for when a man is healthy, then health exists, and the shape of the bronze sphere and the bronze sphere exist together". This is self-explanatory. He means that health does not precede the healthy man since health is, as it were, the form of the healthy, whereas what makes healthy must precede health. Likewise, the shape of the sphere which is its form does not precede the sphere.

Textus 17 Aristotle says:

We must inquire whether anything can last in an afterlife, for in certain 1070a24  
things there is nothing to prevent it; for instance, if the soul is in that 1487  
situation, it is not the whole soul, but the intellect only; for the whole it is  
perhaps impossible.

Commentary:

Alexander says: he means: if any of these forms survives in an after- fr.14F  
life after the destruction of the compound of the two, we must inquire  
about that. He added to that his declarations concerning the starting-  
point of this research. Since the human soul is the form of man and the  
intellect, which is a certain form and a certain faculty of the soul,<sup>81</sup>  
persists after the destruction of the man, then it is possible that a certain  
material form persist after the destruction of the compound of the two.  
But it is clear that the whole soul cannot survive, because some of its  
faculties have their existence tied to matter, e.g. the nutritive faculty, the  
perceptive faculty, the imaginative faculty, and the appetitive faculty.  
This intellect which is a faculty of the soul and is thought to be a part of it 1488  
cannot survive either. For the intellect of which he says in the *de Anima*  
that it survives, I mean the acquired intellect,<sup>82</sup> is not this intellect, nor a  
part of the soul, nor a material form, as has been shown in those books.  
He adds to "the whole does not survive" the word "perhaps" because  
the proof of such statements does not belong to this science, nor is the  
discussion of it proper to it, but to psychology.

What Alexander says is his opinion concerning the intellect; it is that  
there is no intellect that survives in an after-life except the acquired  
intellect, also called derived (*mustafād*). The intellect in disposition  
(*malaka*) and the material intellect are both corruptible according to him.  
This intellect is the one he intends when he says: "this intellect that is a

<sup>81</sup> This doctrine that the intellect is the form of the soul is surprising, at least in an Aristotelian context, and not very clear. Cf. however the fragment of Porphyry on the soul edited by Kutsch, p. 268, and the *Epistula de Scientia Divina*, § 12, p. 183.

<sup>82</sup> For the equivalence νοῦς θύραθεν = 'aql *muktasab*, cf. *supra*, p. 49, n. 3.

faculty of the soul and is thought to be a part of it cannot survive either". Therefore he says that "the intellect of which he says in the *de Anima* that it survives, I mean the acquired intellect, is not this intellect, nor a part of the soul". He means that the acquired intellect of which Aristotle says in the *de Anima* that it survives is not the intellect which is a disposition of the soul, nor is it a part of it.

1489 This is not the doctrine of Theophrastus and the other ancient peripatetics, nor of Themistius, but most commentators think that the material intellect survives and that the separate active intellect is like the form in the material intellect, as happens in the compound of matter and form, and that it is that which creates the intelligibles in a way and receives them in another way. I mean it makes them as form and receives them as material intellect.

We have examined the doctrines of the two schools in the *de Anima* and shown that the active intellect is like the form in the material intellect, that it creates the intelligibles and receives them as material intellect, and that the material intellect is not<sup>83</sup> subject to generation and corruption. We have shown there that it is the doctrine of the Sage and that the intellect in disposition has a part which is generated and a part which is corrupted, and that that which is corrupted is its act, but in itself it is not corruptible, and that it enters us from outside, for if it were generated, its incipience would follow change as we explained in the books of this science concerning substance, because it is clear that if something came to be without change, something would come from nothing. Therefore the intellect in potentiality is to that intellect as it were a place,<sup>84</sup> not a matter, and if the act of that intellect as united with the material intellect were not generated, its act would be its substance and there would not be anything in this intellect<sup>85</sup> to force it to unite with the material intellect. Since it does unite with the material intellect, its act, insofar as it (the active intellect) unites with it (the material intellect), is distinct from its substance, and the act it produces is the substance of something else, not of itself. Therefore, something eternal

<sup>83</sup> The text of B absolutely must be emended by the insertion of a negative (e.g. *ghayr*). Ibn Rushd actually devotes many pages of his *de Anima* commentary (480 sqq Crawford) to a refutation of Alexander's opinion that the material intellect is subject to generation and corruption.

<sup>84</sup> Cf. Ar., *de An.*, III, 429a 27-29 and Alex., *de An.*, 85,7.

<sup>85</sup> Bouyges' emendation (*ff'l* instead of *'aql*) is to be rejected. What Ibn Rushd is talking about is the union of the two intellects; an act can not unite with the material intellect. However, the same emendation *yaf'alu* for *ya'qulu* at 1480,3, although it does not alter the sense very much, (for the act in question is an act of intellection), may well be correct, and may even have prompted the faulty emendation of the translation referred to by Bouyges (n. 40).

can perceive what is subject to generation and corruption,<sup>86</sup> and if this intellect is stripped of potentiality when it reaches human perfection, this act which is distinct from it must also be destroyed; then, either we are in this state not intellecting at all by this intellect, or we are intellecting by it in the sense that its act is its substance, and it is impossible that we should ever be not intellecting by it, but it remains that when this intellect is free from potentiality, we are intellecting by it in the sense that its act is its substance, and this is the highest bliss.

*Textus 18 Aristotle says:*

It is clear that we are in no need whatever, at least on these grounds, 1070a27  
(to accept) the existence of the Forms; for a man begets a man which is  
an individual man. The same applies to the arts; the medical art is the 1491  
definition of health.

*Commentary:*

Having explained that one of the causes is the efficient cause and precedes the being and others are parts of the existing thing and simultaneous with it, he says that it is evident that our quest for the efficient causes of generated things does not require the admission of the Forms posited by Plato. If a thing comes merely from its synonym, then the Forms need not exist at all. A man is begotten by a man like himself and a horse by a horse like itself; a single being begets a single being and an individual an individual, not a universal an individual as the partisan of the Forms holds. For the case in nature, regarding the generation of a thing from its synonym, is like the case in art, because the art which produces health, medicine, is the form of health existing in the soul of the physician. Just as the artisan does not need, while he is working, a model to look at so that he may work because the form of the artifact which he has in himself is sufficient for his work without his needing a model to look at, the same is true regarding the efficient nature; it acts in accordance with the very form of the produced thing which is in it. 1492  
Therefore the synonym must come from the synonym.

Themistius says: this argument would be sufficient as a refutation of the Forms, if its author had not overlooked the many animals which are

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<sup>86</sup> This remark seems to be designed to parry the objection which could be made to the notion of an eternal intellect's (such as our intellect, both the active and the material) being able to think corruptible things. It might also be referred to the divine intellect and to the problem of providence, although this is improbable with regard to the view of providence developed further on (1707) by Ibn Rushd who does not regard it as necessary that the divine intellect should be capable of perceiving what it (indirectly) cares for

not born from their likes, in spite of their great number; for we see that a kind of hornet is born from the bodies of dead horses, bees from the bodies of dead cows, frogs from putrescent matter and the *jirjis*, a kind of fly with a small body, from wine when it becomes sour. We see that nature does not generate these things from their likes in form and we are convinced that there are in the sperm and the seed of each kind of animals and plants proportions proper to it by which are begotten these animals and plants which are begotten from it specifically and not from another, so that a horse is not begotten from the sperm of a man, nor a man from the sperm of a horse, nor a plant from the seed of another plant. Where are the models of these proportions in that from which these animals are born if they have not been formed previously in nature as proportions prepared and ready to produce any possible species of animal and made suitable for the production from it of some animals? He says: do not be deceived by contempt for such animals, but reflect that we have more admiration for the skill of an artisan who makes something from clay than for what he makes from gold and ivory; if you examine carefully what happens with animals bigger than that, you will find that nature proceeds exactly in the same way. There is no doubt that proportions and forms have previously been put into nature and that it produces what it produces according to them. Although man is only begotten from man, the father exerts no craftsmanship in his composition of this, which cannot be in another state better than the state he is in. He comes to be in this state only because of the proportions and forms which have been put into the nature of each of the substances, not by reason of any craftsmanship on the part of the father, but as a result of the proportions. The body has no action upon a body, except only on its surface, but nature works on the whole frame of the body, and no wonder if nature does not understand the movement of its work towards a definite end, since it does not know and does not think about its work. This shows that these proportions are somehow inspired by a cause nobler, worthier and higher in rank than themselves, i.e. the world-soul<sup>87</sup> which Plato thought had been produced by the secondary gods and Aristotle by the sun and the ecliptic. Therefore, its activity is guided towards the end although it does not understand it, just as inspired people talk and foretell the future without understanding themselves what they say. In short, there are assuredly in nature proportions and forms since the generation of something requires something similar and not everything that is begotten has a like from which it is begotten. But

<sup>87</sup> Lit. "the soul which is in the earth". That the world-soul of the *Timaeus* is meant is shown by the mention of the "secondary gods" (*Tim.*, 41a 2 sqq.).

when we need any form, we act in such a way that we know that this form cannot be produced by this act alone; this form, then, is produced as if it had been latent in something else, and it was indeed latent in the begetting nature.

This is the complete account given by that man in his refutation of the view of the Sage; it is evident from what he says that he did not understand how generation comes about and what we mean when we say that the thing generated is generated from its synonym in definition and substance. Once it has been understood that the thing generated is produced by a synonym similar to it, that is to say it produces its form and implants it in matter as though it were something distinct from matter, it follows that there are forms in natural things which produce animals and plants begotten from putrescent matter, I mean forms which produce the animated nature and the soul. If the agent is the synonym, these forms must be souls either separate or not separate. But if the non-separate souls exist only in instruments proper to them and if these forms which beget the forms of the animals begotten from putrescent matter do not appear to have their own instruments and proper substrata, they are separate, unless one says that they are not separate but that they have no instrument except the first which is animal heat. But if they are such, and they are incipient, then from what does the incipience of such forms as these come, since every incipient is from a synonym? Therefore this argument is thought to force us to accept the existence of the Forms. This does not follow in the case of animals begotten from putrescent matter, let alone in the case of seeds. If we say that there must be in the seeds faculties and forms resembling artificial objects<sup>88</sup> and making the possessors of seeds and we assume them to be incipient, they must have other forms which produce them, and there must be without any doubt separate forms. This is why some people say that all substantial forms are produced by a separate form from outside which some people call the Giver of Forms. They say that it is the active intellect and they try to prove it by saying that the active faculties are only the four qualities: heat, cold, moisture and dryness, and that there is nothing in matter which effects anything other than these, I mean they effect only their like. But substantial forms do not act one upon another. When fire, for instance, produces a fire like itself from a heavy body, it does not effect the substantial forms which are in it, for instance lightness, in this heavy body which it has transformed into fire and lightness like itself. It has been explained in the *de Generatione et Corruptione*<sup>88bis</sup> and elsewhere

<sup>88</sup> *Al-umūr al-ṣinā'iyya*, i.e. the objects used for artistic production.

<sup>88bis</sup> II, 330b 25 ff; 336a 1-12.

that there is no active power in fire except heat; if this is so, the occurrence of the form of fire, for instance, in the body set on fire by another like itself must happen in one of two ways: either the occurrence of the form of fire in the burning body follows the occurrence of fiery heat in it as the accidents follow the occurrence of forms, which is absurd because in that case, the form would proceed from a non-form; they generalize that in the case of the soul and of all substantial forms and say that we do not see a soul being produced from a soul but only from a non-soul; but if the coming into being is from a synonym, there must be a separate soul which generates these souls. This has been explained by Themistius in his treatise on the soul, at the end of the book in which he deals with the intellect.<sup>89</sup> He also explained it here, saying that this soul is that postulated by Plato as being produced by the secondary gods and by Aristotle by the sun and the ecliptic.

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fr 15F

This question is extremely difficult and obscure and we shall explain it to the best of our abilities and according to the premises and principles which have been established in our science by the doctrine of the man whose doctrine, in the words of Alexander, is the least subject to doubts, the most adequate to being, the most adapted and suited to it and the most free of contradictions. We say: all people who posit an efficient cause and generation are in general divided, as we have found, into two schools diametrically opposed and between which there are intermediate schools. The two diametrically opposed schools are that of those who maintain the latent and that of those who maintain creation and invention. The supporters of the latent say that everything is in everything and that becoming is merely the emergence of things one from another and that the agent is merely the emergence of things one from another and that the agent is only needed in becoming in order to cause things to emerge one from another and to separate them one from another. It is evident that for them the agent is nothing more than a mover. The supporters of invention and creation say that the agent produces the whole world and creates it completely and that the existence of a matter on which to act is not a condition of his action, but he creates everything. This is the view well-known among the theologians (*mutakal-limūn*) of our religion and of the religion of the Christians, so that the christian John the Grammarian believes that there is no possibility except

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<sup>89</sup> Read: *fī ākhir al-maqāla* (cf. *app. crit.*) If we kept Bouyges' text, we should have to understand: "in the last of the books in which he deals with the intellect". But Themistius does so in one book only, the sixth. The same reference is given by Ibn Rushd at 883, where the text is right. The passage in question is on p. 211,13 Lyons: *al-nafs...hiya 'llati tarkazu jamī'a 'l-ṣuwar fī 'l-mawāddi wa tukhliqū-hā.*

in the agent, according to what Abū Naṣr says <in><sup>90</sup> on *Changing Beings*. People occupying an intermediate position between these two doctrines seem to come down to two views, one of which is divided into two, so that they are three. The common element of these three views is that they assume generation to be a change in substance; for them, nothing comes from nothing. I mean that becoming, for them, must proceed from a substratum and the generated thing from that which is of the same genus according to the form. One of these views is that the Agent is the one who creates the form and brings it into being and implants it into matter; among the people who hold this view, some think that such an agent is not in matter at all and they call him the Giver of Forms; Ibn Sīnā is one of them. Others think that such an agent can be in two different states, either separate from matter or not separate. The non-separate for them is for instance fire producing fire or man begetting man; the separate produces animals and plants which do not proceed from similar animals or similar seed; this is the school of Themistius and perhaps of Abū Naṣr according to what he says in the *Two philosophies*,<sup>91</sup> although there is doubt as to whether this agent must be taken into account in the procreation of animals. The third doctrine is the one we have borrowed from Aristotle and it is that the agent produces only the compound from matter and form by moving matter and changing it to educe the potentiality it has for the form into actuality. This view is similar to the view of those who think that the agent merely assembles and organizes discrete things; this is the view of Empedocles. We had neglected this opinion concerning the agent when we mentioned the different schools; the agent, in Aristotle, does not really unite two things, but makes them pass from potentiality into actuality, putting together, as it were, potentiality and actuality, I mean matter and form, by making potentiality become actuality, without suppressing the substratum which receives the potentiality. Two different things become a compound, namely matter and form; this is similar to production in the sense that that which was in potentiality becomes actual, and it is different from creation in that it (the agent) does not produce the form from non-form. So it bears a resemblance with the doctrine of concealment. All those who profess the doctrine of creation, or of concealment, or of union and separation tend towards this notion but stop short of it. The meaning of Aristotle's doctrine that the

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<sup>90</sup> <in> must be supplied, because the title of al-Fārābī's treatise is *fī 'l-mawjūdāt al-mutaḡhayyira* and *fī* cannot be repeated. For this work, cf. Steinschneider, *al-Fārābī*, pp 119-123 and M. Mahdi, *al-Farabi against Philoponus*, p. 236.

<sup>91</sup> Cf. Fār., *Phil. Ar* p 129-130 Mahdi.

synonym is generated from the synonym or near-synonym<sup>92</sup> is not that the synonym makes by its essence and its form the form of its synonym, but that it makes the form of its synonym pass from potentiality into actuality; it is not agent in the sense that it brings to matter something from outside or something external to it. In that respect, substance behaves like all the accidents. The hot does not impart heat from outside to the body which becomes hot, but the potentially hot becomes actually hot. The same happens in the case of growth which follows generation: when the size of something, in the process of generation, passes from a certain quantity to another, this does not happen by addition to it of a quantity from outside,<sup>93</sup> nor is locomotion something external to the mobile. Therefore it is not necessary that the agent should be a synonym identical in every respect. "That which begets the soul" does not mean that it implants a soul in matter but simply that it actualizes what was potentially a soul. This is why we find that fire is generated from movement as well as from a fire like itself. The meaning of the proportions and the forms existing in the things which generate animals is that they bring out the proportions and forms which are potentially in matter and actualize them. Everything that actualizes something else must have in itself, in some way, that thing which it brings out, not that it is the same in every respect; the potentialities contained in the seeds which produce animated things are not actually animated but only potentially, as the house which is in the soul of the architect is said to be a house in potentiality, not in actuality. This is why Aristotle likens these potentialities to the artistic potentialities and says in the *Book of Animals* that they are divine because there is in them the faculty to give life; they are similar to the faculties called intellects because they are aim-directed. Since the seeds do that by the heat which is in them and heat itself can only heat up or dry up or harden and has no animated shape or form, Aristotle says in the *Book of Animals*<sup>94</sup> that this heat is not fire, nor of fire because fire destroys animals and does not generate them; but this heat generates them. Therefore this heat is similar to the heat of art, I mean that heat which is mastered by art for its own purpose. This is clear in all arts which use heat. This heat has a form by which it necessarily keeps its power; this form is not a soul in actuality but in potentiality, which Aristotle likens to art and intellect. This is why this heat is called animal heat; he does not say that it is animated; this heat endowed with form is in the seeds, begotten by the possessor of the seeds and the sun.

<sup>92</sup> Making allowance for the special case of mules. Cf. *supra*, p. 24.

<sup>93</sup> Cf. Alex., *Quaest.* I,5 and Dietrich n° 19.

<sup>94</sup> *De Gen. An.*, 736b 29-737a 7.

This is why Aristotle says that man begets a man like himself, with the help of the sun. The seeds are generated in earth and water by solar heat mixed with the heat of the other stars. Therefore it is the sun and the other stars which are principle of life for every natural living being, and it is the heat of the sun and the stars which is generated in water and earth which generates the animals generated from putrefaction and, in general, everything that is generated without seed, without there being a soul in actuality resulting from the ecliptic and the sun, as Themistius says. All this has been explained in the *Book of Animals*. He ascribed this action to the sun because it is the star whose action is most manifest in that respect. As for the heats generated by the heats of the stars, which produce each distinct species of animals and which are potentially that species of animal, the power present in each one of these heats depends on the amount of the motions of the stars and their reciprocal proximity or remoteness; this power originates from the work of the divine mind which is like the single form of the single commanding art to which various arts are subordinated. Accordingly, one must understand that nature, when it produces something very highly organized without itself being intelligent, is inspired by active powers which are nobler than it and are called "intellect". These proportions and powers resulting in the elements from the motions of the sun and of the other stars were considered by Plato to be the Forms and he accepted their existence; he contemplated them as one contemplates something from afar and posited the existence of the Forms; the argument on which Aristotle leaned (to prove) that the agent does not create the form is that if he did, something would come into being from non-being. This is why he thinks that the form is not subject to generation and corruption, except by accident, I mean by the generation and corruption of the compound. If one clings to this principle and considers these things carefully and not superficially, one will not fall into these errors concerning them. If one assumes that the forms are created, one is led to accept the theory of Forms and of the Giver of Forms. Their extremism in this assumption led the theologians, among the people of the three faiths existing today, to the view that something can proceed from nothing, because if the form can be created, the whole can be created, and since the theologians of our religion believe that the agent acts only by creation and production from nothing but could not witness any such thing in the things which act one upon another on earth, they said that there is one single Agent for all the existents, that He is in immediate contact with them and that the action of this single Agent is concerned at one and the same time with contrary and concordant actions infinite in number. They deny that fire burns, water quenches thirst and bread satisfies hunger. They say that these

things need a creator and a producer, that a body does not create a body nor any state in the body, and go as far as to say that when a man moves a stone by leaning against it and pushing it, he does not push it, but it is the Agent who creates the motion and that leaning against the stone did not create a motion that did not exist before, and on account of that they denied the existence of potentiality.<sup>95</sup> The falsity of all this will appear immediately to anyone who has any schooling in this science, i.e. the divine science. The most astonishing view of these people is that they say that the Agent cannot destroy a thing<sup>96</sup> because, they say, the action of the Agent concerns production and creation, not destruction. See how it is impossible for them that the creator of the world should bring something from being into non-being, but it is not impossible for him to bring something from non-being into being! If someone says: in which way is the Agent concerned with destruction according to you? We shall say: in the same way as He is with creation, namely bringing what is in potentiality into actuality. What becomes actual is destroyed in potentiality and all potentiality becomes actuality when that which is in actuality brings it out. If potentiality did not exist, there would be no agent at all, and if there were no agent there would be nothing in actuality at all. Therefore it is said that all proportions and forms exist in potentiality in prime matter and in actuality in the first mover in a manner similar to that of the existence of the artifacts in actuality in the soul of the maker. Let us go back to our commentary.

Textus 19 *Aristotle says:*

1070a31 There are different causes and principles for different things. One could say, universally, that they are one and the same, and that all, analogically, (are the same). One could wonder whether the principles and the elements of substances and relations and each one of the  
1506 categories are also one and the same. But it is absurd that the principles should be one and the same because relation and substance would then proceed from the same things, that is from what does not exist because it would be external to substance and these other (categories) which are general; the elements [...] <sup>97</sup> than the thing of which it is an element, nor is any of these an element of substance.

<sup>95</sup> Cf. the famous polemics against Ghazālī in the *Tahāfut*.

<sup>96</sup> Cf. Jadaane, *Influence*, p. 146.

<sup>97</sup> Here is clearly a lacuna corresponding to Gr. *ἁπότερον*. On the whole this sentence is untranslatable nonsense.

*Commentary:*

He (Alexander) says: this problem has already been encountered at the beginning of this treatise;<sup>98</sup> he now comes back to it to solve it. The problem is whether the principles of the ten categories and their elements are one and the same element or different elements. He begins by defining the way in which they are the same, saying that the causes and principles of the ten categories, although they are causes of different things, nevertheless could be considered to be the same by analogy. fr 16F 1507

Since this appears only if it is clear that they cannot possibly be absolutely the same or absolutely different, he begins by mentioning the absurdities resulting from the acceptance of one of these two possibilities. He says: "one could wonder" and so on until "one and the same". He means: they are the same by analogy, not by synonymy, because someone could raise a question saying: are the elements of substance the same as the elements of relation and of the other categories, or are they different?

Then he mentions the impossibility resulting from assuming them to be one and the same. He says: "it is absurd that the principles should be one and the same, because relation and substance would then proceed from the same things". He means: substance and relation would belong to the same genus; relation is singled out because it is less being than the other categories, so that some people think that it belongs to the second intelligibles.<sup>99</sup>

Then he mentions the impossibility resulting from assuming them to be such. He says: "from what does not exist because it would be external to substance and these other (categories), something general and an element [...] than the thing of which it is an element". He means: assuming them all to have one single genus implies that there is a general nature external to all the ten categories, i.e. the common nature. 1508

Since one could say that if this nature is not outside the ten categories, it may be one of them, namely substance, since it may be considered that substance is the principle of the other categories and their element, as all of them are contained in substance and substance precedes them by its definition and other forms of priority to what is posterior (*sic*) and the element is that which is prior by definition, he says: "substance is not an element of the terms of relation, nor is any of these an element of substance". He means: but it is not possible to lay down that substance is an element of the relative, nor of any of the other categories.

He glossed over the impossibility resulting from that assumption

<sup>98</sup> *Ἰνῶ* = *πραγματεία*. Cf. n. 5 above.

<sup>99</sup> Here probably "intelligibles in the soul".

because of its evidence. It is evident that the elements of substance must be substance and the elements of relation, relation. If substance were the element of relation and of all others of the ten categories, all of them would be substance because that the elements of which are substance is substance. Likewise it is not possible to posit one of the other categories apart from substance as element of all of them, relation for instance, because they would all be relation including substance; also, since a thing can be resolved into its elements, substance would sometimes be resolved into relation and relation into substance; this is necessary in the kind of thing which is basic principle,<sup>100</sup> not in that which is form.<sup>101</sup>

Textus 20 *Aristotle says:*

1070b4 Other objection: how is it possible that the elements of all should be one and the same, since not even one of the elements can be the same as that which is composed of it; for instance that B should be part of A?

*Commentary:*

fr.17F The obvious sense of this passage is that the elements of the ten categories cannot be one and the same element because it would imply that the element and the compound are one and the same thing.

1510 Alexander says: this proof is dialectic because if the element is of the same nature as the thing of which it is an element, it does not necessarily imply that the element and the thing of which it is an element are one and the same thing, because the element and the thing of which it is an element are of the same nature, but the element is simple in that nature and that of which it is an element is composite. This argument only forces us to lay down that the element is one of them (i.e. the categories) and is an element for all; then, the element and that of which it is an element are one and the same thing. But this is not explicitly stated in this argument, and therefore Alexander says: what he may intend by this is that if the element of all the categories is something distinct from the categories, it must also have an element because every existent has an element: either this element has an element, or the element and that of which it is an element are one and the same thing.

What Alexander says is also a dialectic proof because not every existent is necessarily formed from an element, since every existent is either an element or formed from an element, unless one assumes that every actual existent must be composed of elements; if all the elements

<sup>100</sup> *cunşur*, i.e. matter.

<sup>101</sup> Earth can become water, water air, and so forth, but a form cannot become another form, nor a category another category.

are in actuality, every element must have an element and this will go on *ad infinitum*, or else one must assume that the element and that of which it is an element are one and the same thing. This will be resolved if one assumes that among things which are in actuality, some have elements which are in actuality and some (have elements which are) in potentiality. This is the case of the simple bodies which are the elements of the compounds.

1511

We find that Themistius gives a different interpretation of this passage. He says that the ten categories have one single element and a basic principle distinct from them; it must be either external to them, or predicated of them, or within them, that is to say all categories are predicated of it. If it is external to them, it follows that there is something prior to substance and the other categories; if it is within them, it follows that the compound is predicated of the simple, that is to say that it is correct to predicate the compound of that of which it is composed; the thing is predicated of its basic principle and the two become one in that sense, so that the syllable is true of the letters, vowel and consonant, which are the elements of the syllable; both are part of the syllable. This is what he (i.e. Aristotle) means by: "for instance that A should be part of B" (*sic*), that is to say: for instance, if we say A which is a consonant; it is similar in the case of words with regard to syllables. Alexander comments on this passage later in his commentary.

In some manuscripts, we find instead of: "how is it possible that the elements of all should be one and the same" the words: "again, how is it possible to say that the same things should be the elements of all". He means: if the word "existent" denotes a basic principle common to them, it will also denote every single one of them and they will be the elements themselves.

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#### Textus 21 *Aristotle says:*

Nor is it one of the intelligible elements, such as unity or being, because these two exist in all compounds. So none of them (i.e. the elements) is either substance or relation. But it is necessary.

1070b7

#### *Commentary:*

Having explained that the ten categories cannot have one single basic principle which would be a sensible thing, he wants to explain that they do not have one single basic principle which would be one of the universal intelligible things, not one of the sensibles but unity and being. Nobody will be entitled to say that unity and being are the genus of the categories or their basic principle and that it is something external to

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them. This is what he indicates by: “nor is it one of the intelligible elements such as unity and being”.

fr.18F Concerning the words: “because these exist in all compounds”, Alexander gives two interpretations: the first is that “being” and “unity” denote compounds as well as simple things; if the element is unity and being, then the simple thing will not deserve to be called element of the compound more than the compound element of the simple thing, because both of them are one and existent. The second interpretation is that the compound and the simple thing must be one and the same thing since the word “one” is applied to both with the same meaning.

Concerning the words: “none of them is either substance or relation. But it is necessary”, Alexander says that this sentence must be connected with what comes before, namely “how is it possible that the elements of all should be one and the same?” This means that none of the elements  
1514 can be the same thing as the compound, e.g. BA the same thing as B. He says: this is so because his words “because none of them is either substance or relation” follow this sentence because his argument is concerned with the elements. He (i.e. Alexander) says that the meaning of the words: “none of them is either substance or relation. But it is necessary” is: if unity and being were the element of substance and relation, and the element and that of which it is an element were not the same, then substance and relation and the other categories would not be unity and being. And if none of them were unity or being, that is to say if its unity were removed from it, none of them would exist, neither substance, nor relation, nor the other categories, because non-existent is nothing; however, the word “one” must be true of all of them. He says: it  
1515 may be that the words “none of them is either substance or relation” apply only to the case in which somebody would say that either unity or being is the element. In order that these two and the things composed of them should not be one and the same, they must not be in one of these genera; and all these genera are one and existent. This is why unity is not in the same state as this, I mean as the unity which is in them, nor is being. But it is impossible for unity and being to be external to the ten genera, but if a thing is existent and one, it must be in them. If things composed of the elements are substance, quantity, quality or one of these and the elements are distinct from them, none of them will exist, neither substance, nor quantity, nor any of the others. But this is absolutely necessary, because they must necessarily be the elements of existing things. If one of these is existent and one, it must belong to one of the categories.

This is what Alexander says about this section; what he says about it and about the previous one is substantially this: if the ten categories have

something in common, namely their basic principle and element, for instance unity and being, and unity and being denote only the ten categories, then the elements of these categories will be the ten categories and nothing else, which is absurd and impossible because it implies that the element and the compound are the same; besides, unity and being are among the universals which have no existence outside the soul. In general terms, if<sup>102</sup> unity and being do not denote all compounds, I mean the ten categories, then each of the categories is non-existent because that which is not denoted by "existent" is denoted by "non-existent". There is no substance, no quantity and no quality; but there must be; so unity and being are not one nature common to these; they are distinct from every category. 1516

*Textus 22 Aristotle says:*

Thus the elements of all things are not one and the same; they are, as we say, in a certain sense the same and in another sense they are not. For instance, the elements of sensible bodies are perhaps, as form, the hot and in another sense the cold, privation; as for matter, it is that which is these two in potentiality, primarily and in itself. Substance is these things and those which are composed of them and have them as principles, and if there is something which is a unity composed of hot and cold, such as flesh and bone. For this must necessarily be something else distinct from these; but these have these elements and principles and others have others; the same cannot be said of all, but their analogical relation is the same. For instance if somebody says that the principles are three: form, privation and matter, but each one of these is different in every genus. In colour, it is white, black, uniform surface; light, darkness, air: from these are produced day and night. 1070b9 1517

*Commentary:*

Having explained the impossibilities resulting from the assumption of one single nature or predicate by synonymy as principle of the ten categories, he says: "the elements of all things are not one and the same". He means: it is clear that the elements of the ten categories are not one single thing, so that "being" would be predicated by synonymy. 1518

When it has become clear that their elements cannot be absolutely the same, and it is obvious that their principles are not absolutely different but the categories of the accidents subsist in the category of substance, and that some of them precede others, he introduces a third possibility

<sup>102</sup> Bouyges unaccountably omits *in* given by B (cf. *app. crit.*, n 51) which is indispensable for the sense

which is the correct one and which he had laid down first, namely that their principles are the same by analogy. He says: "they are, as we say, in a certain sense the same and in another sense they are not". He means: if it is clear that they are neither absolutely the same nor absolutely different, they are the same in a certain sense and not the same in another sense, that is to say the same by analogy.

He then introduces an example which makes clear what the elements of substances are, which are predicated analogically of all the categories.

1519 He says: "for instance, the elements of sensible bodies are perhaps, as form, the hot and in another sense the cold, privation; as for matter, it is that which is these two in potentiality, primarily and in itself". He means: an example of this is that the principles of substance are evidently three: the two contraries and the substratum; one of these two contraries is form and disposition and the other privation. Form is for instance heat which is the form of some of the elements, I mean fire and air, because these qualities originate in them; privation is like cold which is also the form of some of the elements, I mean earth and water; the substratum is that which is these two contraries in potentiality, primarily and in itself.

fr.19F Alexander says: he considers privation here as being in a way inside the substance, since cold is privation of heat, and cold, in cold bodies, is that which produces their essence and their essential properties in them, unlike the things in which they are accidents, I mean cold and heat are not essential properties in things the species of which do not produce heat and cold but only other powers, such as soul in the animated.<sup>103</sup>

1520 Then he says: "substance is these things and those which are composed of them and have them as principles". He means: if these are the principles of substance and the principles of substance are substance, then "substance" applies<sup>104</sup> to these three things, I mean the two contraries and matter and the compound of them, which is the thing whose principles they are and its principles are these three things.

Then he says: "if there is something which is a unity, composed of hot and cold, such as flesh and bone. For this must necessarily be something else distinct from these". He means: if there are other substances generated from these simple bodies, their forms must be different from the forms of these, for the generated thing must be different from the thing from which it is generated. In other words, it is known that the proximate principles are not one single nature in all substances, but the forms of simple bodies are different from the forms of compound bodies and their proximate matter is different from matter, but the same by

<sup>103</sup> I.e. the vital heat which, as said above, is not real fire.

<sup>104</sup> *Inṭalaqa* in the sense of "to apply to", "to be said of"; cf. 1524,8.

analogy; in simple bodies, there is prime matter and the contrary substantial forms; in the compound of simple bodies, there is the potentiality which exists in simple bodies to receive forms composed of proximate and perfect forms and these forms.<sup>105</sup> In that sense it is correct to say that the principles of sensible substances are one.

But since in the other categories too there is something which resembles the principles which are in substance, but they are not exactly the same, he says: "but these have these elements and principles and others have others". He means: substances have these substances which we have enumerated as elements and principles; but things other than substances have for elements other things similar to these. 1521

Then he says: "the same cannot be said of all, but their analogical relation is the same". He means: one cannot say the same of all these, I mean that the three things found in substance are also the principles of the other categories, that is to say the proximate (principles), but these same principles exist for them only by analogy and relation; in each category, there are the accidents of the principles the relation of which to the categories is like the relation of the principles of substance to substance, but their natures are not one.

Then he sets out to illustrate how this analogy is universal [and belongs to everything].<sup>106</sup> He says: "for instance if somebody says that the principles are three: form, privation and matter, but each one of these is different in every genus". He means: the meaning of our doctrine that the principles are one by analogy is as if we had said: form, matter and privation are the principles of the ten categories, but the form, the privation and the matter of substance are different from the form, the privation and the matter of each category, and that of one of them is different from that of another.

Then he gives an example of these principles in quality. He says: "in colour, it is white, black, uniform surface; light, darkness, air: from these are produced day and night". He means: for instance, the principles of colours as form and privation are white and black and as receptive matter the uniform surface which is potentially all colours. The principles of night and day are, as form and privation, light and darkness, and as receptive matter, air, which is potentially bright and dark. One must realize that this is valid only in the case of proximate principles. In the 1522

<sup>105</sup> I think the text can be understood as it stands, the emendation proposed by Bouyges (n. 36): *al-ghā'iyya* is therefore unnecessary. The proximate and perfect form is that of the fully developed individual or substance, whose form is as it were superimposed on those of the simple bodies (elements) that enter into its composition.

<sup>106</sup> The words in brackets are a superfluous addition of Bouyges' (n. 49).

case of ultimate principles, it is possible to say that the principles of substance are the principles of all of them.

Textus 23 Aristotle says:

1070b22 Since the causes are not the elements present in things only but also something from outside, such as the mover, it is clear that principle and  
 1523 element are distinct and that both are different (*sic*). That which produces motion or rest does it as a kind of principle; thus, the elements by analogy are three; but the causes and the principles are four and different for different things; the first cause too as mover is different in each case; health, illness, body: the mover is medicine; form, disorder of a certain kind: the mover is the art of the builder.

*Commentary:*

Having dealt with the principles which are parts of a thing, matter and form, and said that privation in a way is form, he wants to deal with the principle which comes from outside, the mover. He says: "since the causes are not the elements present in the things only but also something from outside, such as the mover, it is clear that principle and element are distinct and that both are different". He means: since not all causes are the causes of which the thing is composed, which are like its parts, but there are also external causes, one of which is a mover, and the name of "principle" is better suited to the mover and "element" to the internal causes of the thing, it is clear that element and mover are two distinct causes and that both are different. He says that because the word "cause" applies to the internal and to the external, but "principle" to that which comes from outside and "element" to that which is inside the thing. This is conform to what he said at the beginning of the *Physics*; "since the condition of science and certainty in all disciplines which have principles, causes and elements..."<sup>106bis</sup> I mean, he wants to say by "principles" the moving causes, and by "causes" that which is common to the four, and by "elements" that which is in the thing.

Since "agent" is more restricted than "mover" because the agent is the mover which produces an effect, as has been explained in the *de Generatione et Corruptione*,<sup>107</sup> whereas the mover is strictly speaking that which does not produce a resulting quality, and every agent is a mover although not every mover is an agent, he says: "that which produces motion or rest does it as a principle". He means: the cause

<sup>106bis</sup> Ishāq's translation (ed. Badawī, I, p. 1) has *subul* instead of *ṣanā'i'* and *asbāb* instead of *'ilal*.

<sup>107</sup> 323a 20.

which moves does it insofar as it is a principle of some sort, I mean if one gives to both the mover and the element the name of principle, then "principle" denotes the mover in particular.

We find instead of this in another translation: "it is clear that principle and element are different, and causes are both". He means: it is clear that what is denoted by the words "principle" and "element" are different things and that the word "cause" applies to both.

Then it says instead of "that which produces motion or rest does it as a kind of principle": "principle is divided into these two, as causing motion or rest, since it is a kind of principle", and instead of this, in a third translation: "'principle' is divided into these; but that which moves is the principle". It is clear that what he is aiming at by these words is to show that "principle" contains both. 1526

Then he says: "the elements by analogy are three; but the causes and the principles are four and different for different things; the first cause too as mover is different in each case; health, illness, body: the mover is medicine; form, disorder of a certain kind: the mover is the art of the builder". In another (translation): "the causes and the principles are four, but different for different things; the first cause as mover is different for everything; for instance health, illness, body and medicine which moves it; if something is without order, for instance these bricks, the mover is architecture". He means: it is clear that there are four principles and causes and that the thing which is the principle and different is distinct from the thing of which it is the principle and the mover which is different is distinct from the thing moved by it.

He then gives an example of the external cause: "health, illness, body; the mover is medicine". He means: an example of cause distinct from the caused is medicine which moves towards health or illness; but medicine is distinct from health and illness. 1527

The form of health in the soul of the physician is not in a matter as form of health, and therefore the form of recovery which is in the soul of the physician does not produce the actuality of recovery, because if it were so, the physician would be in good health on account of his possessing the form of recovery. Therefore he says: "if something is without order, for instance, these bricks,<sup>108</sup> the mover is architecture". He means: if recovery which is the mover does not have the order of recovery which is in the body, or the form of architecture does not have the order of the form of the house, that is to say if the form of recovery

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<sup>108</sup> Read. *labin*. This lemma is taken from Uṣṭāth's version. The text of the textus (Mattā) is given below as that of the "other translation". This is probably a slip on Ibn Rushd's part.

which is in the soul does not have the actuality of recovery like the actuality of recovery which is in the body. This is what is indicated in the other translation by the words: "form without order like that which the art of the builder moves", that is to say the form which is in the soul is a form without order, i.e. without actuality, like that which comes from  
 1528 outside the soul, for instance the form of the builder which moves towards the form of the building does not have the actuality of the form of the building.

Textus 24 Aristotle says:

1070b30 The mover, in the case of natural things, is for man, man; in discursive thought, it is the form or its contrary; thus there are in a way three causes, but in another way four; for medicine is in a way health, and architecture the form of the house, and man begets man; and also what comes from outside, distinct from those and prior to them all.

Commentary:

Having explained that there are four causes, he wants to say that in a certain way they are reduced to three. He says that if everything is generated from its synonym, as man begets man in the case of natural things and as the artistic form produces a form like itself or contrary to  
 1529 itself<sup>109</sup> in the case of artifacts, then it is clear that the four causes are reduced to three in a certain way because the agent and the effect are formally one; in another sense, they are four and are reduced to three only because medicine is in a sense recovery and the form of the house is in a certain sense the house and the seed of man, man.

Since the ultimate mover of everything, I mean the first mover, is in the same condition in a way as the proximate mover, and the first mover moves all forms, it is clear that the form of the first mover is in a sense all forms. This is what he means by "that which is external to these and prior to them all".

fr.20aF Alexander says that this phrase was added to make it known that there is another principle, distinct from movable things, common to all movable,<sup>110</sup> and that this principle, insofar as it is common, does not have to be synonymous because it is common and ultimate and because, as has been shown, it only moves as final cause (*istiḳmāl*) and what is such does not have to be synonymous. The truth is that the first principle

<sup>109</sup> Cf. Ar., *Met.*, 1032a 32-b 2.

<sup>110</sup> Read: *mūharrak* (or perhaps: *mutaḥarrik*). Freudenthal's transl. (*für alle Bewegenden*) is wrong.

must not contain synonymy in the sense in which it is contained in the particular principle, even if there is synonymy in another, general sense. 1530

Themistius says that he mentions the first mover only to draw attention to the fact that it is different from these proximate movers and that it is the object of this discussion. This, by my life, is evident from what he says. fr.20bF

Alexander says: if somebody says that the synonym is generated from the synonym, he is right in the case of efficient proximate causes and of things which are by essence, not by chance; these are things generated by efficient causes replacing something else (which generates) by primary intention. He has said before that animals generated from putrescent matter are of that kind in his opinion. But he has a theory which must be investigated independently; he says: the difficulty he raised before concerning the premise that the synonym is generated by essence from the synonym, saying that there is nothing in the whip of that which it effects on the back of the flogged man, is similar to the argument that the saw does not contain the form of the cutting or of the dividing which it effects in the wood.<sup>111</sup> The cause is that things of that kind are tools for<sup>112</sup> efficient causes and his definition is valid only for efficient causes. Therefore he says that the dividing performed by the saw is in the soul of the man who saws and the flogging performed by the whip is in the soul of him who strikes with the whip. He says that these premises are true on three conditions: that they should be in the agent, not in the instrument, in the proximate and not in the ultimate and in the agent which acts by essence, not by accident. 1531

Textus 25 *Aristotle says:*

Since there are separate and non-separate things, the former are substances. Therefore these are causes because if they lacked substances, their effects and motions would not exist. Then, these will perhaps be soul and body or intellect or desire in the body. 1070b36

*Commentary:*

1532

Having explained that it is possible to say that the causes of the categories are the same by analogy, he wants to add that substance too is in a certain sense the cause of all of them because the matter which is in substance is the matter of everything, the matter of the categories and their cause. Likewise the contraries which are in substance are the cause

<sup>111</sup> Cf. *Simpl., in Phys.*, 315,15.

<sup>112</sup> Keeping B's reading: *li-asbāb* (n. 31).

of all the other contraries to be found in all the other categories as he has shown in the books on substance; he merely recalls it here.

1533 "Since there are separate and non-separate things, the former are substances". By "separate" he means here substances subsisting by themselves, i.e. the substrata of the nine categories, and by "non-separate" he means the nine categories. He says that since some of the categories are separate and others non-separate, the non-separate are not substances and the separate are substances. This has already been explained in the books on substance; he has explained that substance is contained in their definition but that they are not contained in the definition of substance. Therefore substance must be their cause.

1534 Having said that they are not substances, he explains the reason for that: "therefore these are causes because if they lacked substances, their effects and motions would not exist". He means: since the generation of accidents is not separable from substance, substances are their causes; they are not separate because accidents cannot dispense with substances; they are indeed the effects of substances and their motions. This is what he indicates by "because if they lacked substances, their effects and motions would not exist". He means: they are ontologically linked with substance, that is to say they are qualities of substance, not qualities of themselves and this is what is indicated in another translation: "for these reasons, the causes of everything are these because there are no effects and motions without substances". He means: for the reasons which we have mentioned, the causes of everything are substances, I mean the generation of effects and motions is not possible without substance; you must know that substances are of two kinds: substance subsisting by itself which cannot be devoid of accidents; it is the substance which receives accidents; and substance subsisting by itself, devoid of all accidents; the former is the sensible substance and the latter is the intelligible.

The words: "then, these will perhaps be soul and body or intellect or desire in a body" are added because some substances are natural and others animated, and it appears that animated substances are the principle of natural substances. It is as if he had said: after that, let us say that the first substance of all substances is perhaps soul and body, or the part of the soul called intellect and desire only. The celestial bodies are what he is alluding to by this,<sup>113</sup> because if they are the principle of

<sup>113</sup> This is a highly instructive distortion of Aristotle's thought (cf. Alexander below and Ross *ad loc.*). The causality of the celestial bodies is read into passages where it has nothing to do. This leads Ibn Rushd to regard desire as the higher part of the soul, identified, or at least on a level with intellect, whereas for Aristotle it is clearly opposed to it. But Ibn Rushd, as we shall see later (p. 1592ff. and *supra*, p. 35) has to admit that the

animated and non-animated things, they must necessarily be animated and their principles must be body and soul. He says: “perhaps” because he has not yet given a full proof.

Alexander says: having proclaimed that the causes which are the causes of substances must be the causes of everything because substances are the causes of everything, he adds to that a mention of soul and body either because these two are the causes of animals, or because it is believed<sup>114</sup> that these two in particular are separate substances. This is why he did not mention matter and nature, because these substances are not separate. He (Alexander) says: therefore he adds “perhaps” because some people think that the soul is separate, although he himself thinks that it is not separate, but that the first form in relation to soul<sup>115</sup> is separate. He says: on this interpretation, he means by “intellect” the first mover of the celestial bodies, and by “desire”, the soul which is in the celestial bodies, I mean moved in a circle.<sup>116</sup>

All these interpretations are close one to another. What emerges, generally speaking, from this section is that he mentions first that substances are the principle of all the existents, and then that the principles of substances are soul, body, intellect, and desire and body. He eliminated natural forms and prime matter, which appear to be caused by animated substances because these are prior to them in existence, or because they are not actually substances, as are soul and body.

Textus 26 *Aristotle says*:

In another sense too the principles are analogically one and the same, i.e. potentiality and actuality; but these two are different for different things and (apply) in different ways. For in every thing there is something which is one and the same, sometimes in actuality, but sometimes in potentiality, for instance, wine, flesh or man. These too fall under the causes which have been mentioned, because the form exists in actuality, if it is separate, and so does the compound, and the privation, for instance darkness or sick; but the matter is in potentiality: this is something

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celestial bodies have desire in order to explain their motion. Alexander knows also the interpretation which refers this passage to the celestial bodies. The shift from one realm to the other is facilitated by the ambiguity of the aristotelian use of the word “separate” (Bonitz, s.v.) either “subsisting”, “substantial”, or “immaterial”.

<sup>114</sup> Read *yu'taqad* Freudenthal misrepresented by Bouges n. 44.

<sup>115</sup> The meaning seems to be that the intellect is the first form of the soul, just as the soul is the first entelechy of the body (*de Anima*, 412a 27).

<sup>116</sup> This is clearly Alexander's interpretation, identifying the soul of the heavenly bodies and their nature (the ether) moved in circle. Although it is different from Ibn Rushd's own system, it prefigures it in that it reduces the number of “desired intellects” to one. Cf. *supra*, p. 41 ff.

which can be both (form and privation). In another sense, things which do not have the same matter nor the same form, but different ones, differ both in actuality and in potentiality; for instance the elements are the cause of man, e.g. fire or earth as the matter and also as the particular form; also another cause coming from outside, for instance the father, and apart from these, the sun and the ecliptic, since they are not matter, nor form, nor privation, nor of the same species, but movers.

*In another translation, we find instead of this section:*

1537 Also in a manner appropriate (to them), the principles are the same, for instance actuality and potentiality. But they are one and the same and different for different things and in a different way. In some things, the same thing is sometimes in actuality and sometimes in potentiality, for instance, wine, flesh or man. These also belong to the causes which have been mentioned. The form is in actuality, if it is separate, and so is the compound of the two; privation is for instance darkness or sickness; what is in potentiality is the basic principle (*'uṣṣur*): this is that which can be both. In another sense, actuality and potentiality are different in things which do not have the same basic principle and in those which do not have the same form, but another. Another is for instance that the cause of man is the elements: fire and earth as the basic principle and the particular form, and also something else from outside, for instance the father, and, besides these, the sun and the ecliptic, since they are neither basic principle, nor form, nor privation, nor do they belong to the same species, but they are movers.

*I found the section which I transcribed first in the manuscript of Alexander blended with the text of Alexander. I transcribed it and arranged it according to what I thought, but without certainty; then, I checked it with the help of another translation as a precaution.*

1538 *Commentary:*

Having explained that it is possible to say that all categories can have the same causes by analogy, and that these are their causes as form, matter and privation, he wants to explain that they have the same function as actuality and potentiality, so that one can say that the principles of all things are actuality and potentiality and that these come down to form and matter.

The words: "in another sense too the principles are analogically one and the same, i.e. actuality and potentiality" mean: the principles of all the categories can also be found to be analogically one, in a sense different from the previous one, namely as potentiality and actuality. He means: we can say that potentiality and actuality are the principles of the ten categories, as we say that matter, form and privation are.

Then he says: "but these two are different for different things and (apply) in different ways". He means: potentiality and actuality, belonging to different things, must be different and the existents must be related to them in different ways; that is to say the actuality and the potentiality which are the principle of substance are different from the potentiality and the actuality which are the principle of quality, and likewise in each one of the other categories. They are the principles of all the categories because everything is sometimes in potentiality and sometimes in actuality. This is what he indicates by the words: "in every thing there is something which is one and the same, sometimes in actuality, but sometimes in potentiality, for instance wine, flesh or man". He means: these (two principles) are common to all the existents, because in the case of every individual existent, the same thing is sometimes in actuality and sometimes in potentiality; for instance wine: it is sometimes wine in actuality and sometimes wine in potentiality. Likewise flesh is sometimes flesh in potentiality and sometimes flesh in actuality, and the same in the case of man. 1539

Then he says: "these too fall under the causes which have been mentioned, because the form exists in actuality, if it is separate, and so does the compound, and the privation, for instance darkness or sickness". He means: actuality comes down to the form, which is separate, or to the compound of matter, form and privation: such as darkness which is (composed) of air and privation of light, and sickness which is (composed) of body and privation of health.

Then he says: "matter is in potentiality: this is something which can be both". He means: potentiality comes down to matter; it is that which can become something composed of matter and form, I mean the compound, because the potentiality which is in matter is potentiality to become the individual compound of matter and form. 1540

Then he says: "in another sense, things which do not have the same matter nor the same form, but different ones". He means: things which act one upon another differ in potentiality and actuality insofar as they differ in respect of matter and form, and in a way different from that in which things acted upon differ.

Then he says: "for instance the elements are the cause" until "and the ecliptic". He means: for example, the matter of man is the four elements, his proximate mover is the father and his ultimate mover, the sun and the ecliptic. As for man, his matter and the matter of the father and their forms are the same; but in the case of the sun and the ecliptic, their matter and the matter of man are not the same, nor are their forms. What he seems to mean by that is that just as things acted upon are different in potentiality and actuality insofar as their forms and matters differ, so

active things are also different from passive things in potentiality and actuality insofar as their matters and forms differ.

1541 Since the causes of active things are different from the causes of passive things, I mean those which are part of the thing, he says of the father and the sun and the ecliptic: "since they are not matter, nor form, nor privation, nor do they belong to the same species, but they are movers". He means by that the sun and the ecliptic, because they are neither form nor matter for man. He says: "nor do they belong to the same species" because the proximate mover is of the same species: it is the father.

*Textus 27 Aristotle says:*

1071a17 He must also observe that there are things which we can designate in a universal way and others (which we cannot).<sup>117</sup> The first principles of everything are that which is in actuality that (thing) and prior and something else which is in potentiality. This universal does not exist, for  
1542 the individual is the individual principle; for man is the principle of man universally, but not a single one (universal) exists, but Peleus (is the principle) of Achilles and for yourself it is your father and this BA for this BA, but universally B for B which is absolutely in a simple way, because other forms of substance are causes of other things and elements, as has been said: the colours, contraries,<sup>118</sup> substances and quantity which are not in one genus (have not the same principle) except those which are appropriate and those which are in one form<sup>119</sup> and differ<sup>120</sup>  
1543 by their forms, but each one of the individuals is different and (so is) the basic principle and the form and the mover, although it is not<sup>121</sup> the same thing according to the universal definition.

*Commentary:*

Having explained that the principles are analogically one for all the ten categories, he wants to show that if the principles are related to the things of which they are the principles, this relation can be of two kinds: one of them is universal and the other particular. It is known that true relation is a particular reciprocal relation, since the universals do not exist outside

<sup>117</sup> *La-nā* should probably be read *lā*. The more intelligible text of the lemma (1543, 10-11) has probably been restored by conjecture.

<sup>118</sup> *Addād*: the correct reading in V: *aṣwāt*.

<sup>119</sup> Gr. εἶδος What is meant is of course species. *Mattā* usually distinguishes between form and species.

<sup>120</sup> A negative is wanted here. Same mistake in V.

<sup>121</sup> Negative not wanted. Same mistake in V.

the soul and are only abstracted from the particulars by discursive thought.<sup>122</sup>

The words: "we must also observe that there are things which we can designate in a universal way and others for which we can do that in a particular way" mean: it must be known to us, in the inquiry we are conducting, that we can designate these causes along with the things they cause in a universal way and in a particular way. For instance we can say that menstrual blood is the matter of man<sup>123</sup> and that man begets man; we can also say that Zayd begets 'Amr, his son, and that the menstrual blood of this woman is the matter of this individual person.

1544

Having determined that "principles" can be said in these two ways, he declares that the true one is the particular way. He says: "the nature of the first principles is that which is in actuality that (thing) and prior, and something else which is in potentiality". He means: the true principles are those the substance of which is a thing existing in actuality outside the soul and is an individual thing, and the other which is an individual thing in potentiality; the former is prior to this and this priority, as Alexander says, is ontological priority, not conceptual priority, because the universals are conceptually prior<sup>124</sup> to the particulars, since their removal entails the removal of the particulars. This is why it is thought that the universals are substances; therefore he adds to this: "this universal does not exist, for the individual is the individual principle". He means: the universal principle does not exist outside the soul. What exists is the individual, because this individual person is begotten by an individual person, but the universal man is not begotten by the universal man. He says: "man is the principle of man universally, but not a single one (universal) exists, but Peleus (is the principle) of Achilles, and for yourself it is your father and this BA for this BA, but universally B for B which is absolutely". He means: one says in a universal way that man begets man; but not a single one of the universals begets or is begotten, according to what has been explained before. But Zayd begets 'Amr and your father begets you and this BA begets this BA. If one says that the BA which is absolutely begets the BA which is absolutely, one means by the BA the non-vocalic element of BA, and by BA the vocalized compound.

fr 22F

1545

<sup>122</sup> This abstractive and conceptual view of the universal derives from Alexander. Cf. *de An.*, 90,4 ff. For Aristotle, the universal form is present in the individual

<sup>123</sup> This is the doctrine of the biological treatises; cf. *de Generatione Animalium*, 727b 31-33.

<sup>124</sup> This remark is puzzling if it is part of Alexander's statement and not a gloss of Ibn Rushd's, since one of Alexander's most controversial tenets was that the particular is prior to the universal both in our knowledge (conceptual priority) and by nature (ontological priority). Cf. Simplicius, *in Cat.*, 82, 22 sqq.

*I found that in the rest of this section the text of Aristotle is lacking in the commentary of Alexander and I completed it from the second translation.*

1546 The words: "but universally B for B which is absolutely and in a simple way, because other forms of substances are causes of other things and elements, as has been said of the colours, contraries, substances and quantity which are not in one genus" mean: if causes and effects are considered universally, the forms of substances different as to the genus are causes of things different as to the genus, and the elements different as to the genus (are elements) of things different as to the genus. For instance, the causes of things belonging to different genera, such as the causes of colours, contraries and substances, are different as to the genus. He says that because the causes are either specifically the same and numerically different, for instance the cause of Zayd and 'Amr, or generically the same by analogy<sup>125</sup> and specifically different, for instance the cause of man and horse, or the same according to the genus which is one by analogy and different according to the genus which is said by synonymy, for instance the difference between the causes of substances and the causes of quantity, and between quantity and quality.

In another translation, we find instead of that and after that: "because the actuality of substances has different causes for different things, and different elements, as has been said before for that which does not belong to the same genus: colours, contraries, substances and quantity".

1547 The words: "except those which are appropriate and those which are in one form and differ by their forms" serve only to exclude substances which have generically different causes and things which have causes different as to the species but belonging to the same genus, because these causes are the same according to the generic form and different according to the specific form.

Instead of that, we find in another translation; "except those by analogical equivalence and the others which are in one and the same species, not by species but by union: it is another".

"Those which are in one form". He means: generic form. "Differ by their forms". He means by it: specific form, i.e. by their ultimate species. He wants to say that in the causes of substances and substances, the difference is a difference according to the genus in a way close to the difference of the causes of the ten categories. He does not say that they are one, but he merely says that they are the same by analogy, and except  
1548 those of them which are in one genus and one form, because these agree according to the generic form and differ according to the specific form.

<sup>125</sup> What Ibn Rushd seems to have in mind here is not analogy proper (*tanāsūb*) but the *πρὸς ἕν* relation of the categories (*supra* p. 16 sqq.). On this frequent confusion, cf. P. Aubenque, *Les origines*.

The words: "but each one of the individuals is different" mean: things which have the same specific cause are also numerically different; they are the separate objects, i.e. the individuals. Every one of these is numerically different from the other. This makes it clear that some things have the same specific causes.

The words: "and the basic principle and the form and the mover, although it is not the same thing according to the universal definition" mean: we say that the basic principle, the form and the mover which are the principles of all things, are not the same except according to the universal definition.

Instead of that, we find in another translation: "your matter, health, that which moves and that which is for me according to the universal definition", that is to say these are the principles of all existing things. Although when we call them principles we use this word in different senses, not in one, nevertheless they are the same for everything in a universal sense, by analogy. It is as if he had said: although they are not the same by nature, nevertheless they are the same according to the universal definition whereby we describe the principle and the cause.

Textus 28 *Aristotle says:*

1549

If we seek what the principles and elements of substance, relation and quantity are, whether they are the same or different, it is clear that in the case of things said in several senses, they are the same for everything, but if they are distinguished, they are not one and the same, but different, except that in a certain way they are also the same for all; in a way they are one and the same by analogical equivalence: form, mover; also the causes of substances are like similarities of all of them, because if they are removed, the others are removed; and also the first in perfection. But in another way, others are first (causes) of all things which are contraries; they are not said as genera nor in several senses; and also matter.

1071a29

1550

*Commentary:*

Having sought whether the principles of the ten categories are one and the same or different and shown in which sense they are the same and in which sense they are different, and also that the principles of substance are in a sense the principles of the other categories, he now wants to sum this up and to recapitulate it. He says: as for our inquiry on whether the principles of substances are one and the same or different, it is clear that they are different since the word "principle" denotes many different kinds, each of them in a way different from the others, but we must not conclude from that that the word is used in its purely homonymous

1551

sense. This is what is intended by “it is clear that in the case of things said in several senses, they are the same for everything”; in the second translation, we find instead: “it is clear that they are said in many ways for everything”, and in the second (*sic*) translation, instead of this: “it is clear that they are said in many universal ways and for every one of them”. He added “universal” in this translation because this is the way in which names denote, I mean they denote universals concepts in the objects of our inquiry. There is no demonstration of the particular, although it is the really existent.

He then confirms this meaning: “if they are distinguished, they are not one and the same, but different”. He means: it is clear that when the word “principle” is distinguished, I mean between form, privation, matter and mover, it does not denote each one of them in the same sense, but in different senses, I mean “form” in substance is not the same as in the other categories. Likewise with privation, matter and mover.

1552 Since this is not a complete difference, I mean that their names are not used for the principles by pure equivocation, he says: “except that in a certain way they are also the same for all; in a way they are one and the same by analogical equivalence: form, mover”; he means: except that they are the same by analogy and relation, that is to say there is in each one of the categories something the relation of which to each category is constant. For instance, the relation of the form of substance to substance is the relation of the form of quality to quality, and of the form of quantity to quantity, although “form” does not have the same meaning in each case. Likewise in the case of the privation which exists in every category, of the matter and of the mover. The names of matter, privation, form and mover are used for them analogically. This is what he indicates by “mover”; I think that the words form, privation, matter, mover are missing: this is shown by the second translation: “if they are distinguished, they are not one thing, but different in each case, except in a certain way and in a way it is one thing for all; and according to that which is appropriate because it is matter, form, privation, mover”. He means: in these things, the principles are reduced to these three things and the name is not given to them by pure homonymy nor by synonymy, but by analogy.

1553 Then he says: “the causes of substances are like similarities to all of them because if they are removed, the others are removed”. He means: the causes of substances are the cause of the causes of the existents in the other categories which are similar to the causes of substances, as is shown by the fact that if the causes of substances are removed, the causes of the other categories are also removed; the matter of substance is the cause of the matter of the other categories, and likewise in the case of form and

privation in substance, and of the mover; this is what he indicates in the other translation by the words: "in this sense, substances are like the causes of everything because everything passes away". He means: in this sense it is correct to say that the causes of substance are the causes of all the categories, and this is what he wanted to show in the first place, because once it is clear that the causes of substances are the causes of the other existents, and what the causes of the genera of substances are, I mean the corruptible and the non-corruptible, then the causes of the ultimate existents *qua* existents become clear, and this is what he aimed at in this book and the reason why he inquired about the principles of substance.

Then he says: "also the first in perfection. But in another way, others are first of all things which are contraries; they are not said as genera nor in several senses". The words: "and also the first in perfection", mean by the first in perfection the proximate cause by which the thing is perfected and receives its being; it is the proximate efficient cause of everything; he says that this cause is said of all (the categories) too by analogy. The words: "in another way, others are first of all things which are contraries" mean: in another sense, it is said of them that the contraries precede them all, that is to say they are the principles of them all in a sense different from that in which it is said of the genera which are synonymous, and different from the sense in which homonymous names are used. This means that when we say that the principle of everything is the two contraries and matter, this is not by synonymy, nor by homonymy, but by analogy. This is expressed more clearly in another translation: "also that which is prior in perfection and in another way prior to all the contraries which are not said as genera nor in several senses but are all one thing".

1554

Alexander says: it is probable that by the words "they are not said as genera nor in several senses; and also matter" he means the individual causes which are the real causes of the individual effects which are the real effects. He means that they are numerically distinct, not generically or specifically, because things the causes of which are generically distinct are generically distinct, and things the causes of which are specifically distinct are specifically distinct, and things which are individually distinct, i.e. numerically distinct also have numerically distinct causes. This is what he means by: "in another way, they are prior to all the contraries"; individual priority is different from universal priority in every species because individuals are not said in the same way as genera or species. It is as if he meant to show by that that the individual causes in each genus are different.

1555

fr.23F

Textus 29 *Aristotle says*:

1071b1 What the principles of the sensibles are, and how many they are, and in  
 1556 what sense they are one and the same and different has now been said.  
 Since substances are three, two of them natural and one immovable, we  
 must discuss that and explain that there must necessarily be an eternal  
 and immovable substance because substances are prior to all existents,  
 and if all substances are corruptible, all existents will be corruptible. But  
 motion cannot have a beginning nor an end, for it is eternal, nor can  
 time, for it is not possible to say "prior" and "posterior" if there is no  
 time. Therefore motion, in this way, is continuous, and so is time too,  
 either because it is one and the same thing, or because it is an effect and  
 result of motion; there is no continuous motion apart from local motion,  
 and of this, circular (motion).

1557 *Commentary*:

fr.24F The words: "what the principles of the sensibles are" refer to matter,  
 form, privation and the mover. "And how many they are" recalls that he  
 said that they are in a sense three and in another sense four. "In what  
 sense they are one and the same and different" refers to the fact that they  
 are said to be analogically the same but different in nature.

Does he mean here by "sensibles" the principles of which he is  
 examining things subject to generation and corruption only or subject to  
 generation and eternal? Alexander says: what he said before, although it  
 concerned non-eternal substances, applies equally to the two substances,  
 the eternal and the non-eternal. For the eternal substance also has causes  
 which are named by analogy with the causes of the things subject to  
 generation and corruption; it contains potentiality, since it moves  
 locally, but it is local, not substantial potentiality. For that which  
 happens to it in space is something similar to contrariety: it is somewhere  
 sometimes in potentiality and sometimes in actuality. He supports that  
 by the fact that Aristotle, in this passage, divides substance into movable  
 1558 and immovable substance, saying: "since substances are three, two of  
 them natural, and one immovable, we must discuss that and explain that  
 there must necessarily be an eternal and immovable substance". But the  
 words "explain that there must necessarily be an eternal and immovable  
 substance" indicate that he merely postulated the existence of this  
 substance in his division, saying: "and one immovable". But he postu-  
 lated it in his division in accordance with the general belief of the  
 Ancients that there is an immovable substance, because he did the same  
 at the beginning of this book.

We must form the following representation of the facts: substance is of  
 two kinds, one non-eternal and one eternal, as has been shown in natural

philosophy, although his aim in this book is only to investigate the substance which is the principle of the eternal substance, the principles of the substance subject to generation and corruption having been explained before in natural philosophy. But since he is dealing in this science with the principles of substance in an absolute sense, he must divide his inquiry into two parts, one of which is concerned with the principles of the non-eternal substance and the other with the principles of the eternal substance. Therefore he divided this book first into two parts: in the first part he deals with the principles of the non-eternal substance and that which it has in common with the eternal substance; he postulates that from natural philosophy. In the second part, he deals with the principles of the eternal substance which are proper to it as eternal. Since the principles of substance are substance, he must deal with the substance which is the principle of the eternal movable substance and show, concerning this former substance, that it is immovable and eternal. But Aristotle likes to proceed from the better-known and the simpler; he accepts what people assume to be, namely that there is an immovable principle of the movable; and then he seeks the principles of this substance's being by means of premises belonging to this science and to natural philosophy. He says: "substances are prior to all existents". This premise has already been made clear before. 1559

Then he says: "if all substances are corruptible, all existents will be corruptible". He means: if we posit that the causes of all existents are substances and that substances are subject to generation and corruption, then it follows necessarily that all existents are subject to generation and corruption, because everything the causes of which are subject to generation and corruption is subject to generation and corruption. The syllogism<sup>126</sup> is formed as follows: substances are the causes of all existents; but if the causes of all things are subject to generation and corruption, then all things are subject to generation and corruption. The conclusion is that if substances are subject to generation and corruption, then all existents are subject to generation and corruption.

Having established that if all substances are subject to generation and corruption, all existents will be subject to generation and corruption, he makes the following exception: "but motion cannot have a beginning nor an end", meaning: it is not possible that all existents should be generated after none of them at all existed, nor that they should corrupt so that none of them at all should remain. For motion cannot be 1560

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<sup>126</sup> The procedure consisting in rephrasing Aristotle's arguments in order to set them in syllogistic form comes directly from the Greek commentators. Cf. Wieland, *Aristotelische Physik*, p. 59, n. 9.

conceived as having originated in time after nothing at all was moved, nor that it will be destroyed so that nothing at all should remain in motion.

Then he says: "for it is eternal", meaning: it has been shown in natural philosophy that it is eternal, has not ceased and will not cease.

Then he says: "nor can time", meaning: nor is time one of the existents that can be conceived as being generated after there was no time at all, nor as being destroyed so that no time at all should remain.

1561 Then, he gives the reason for that: "for it is not possible to say "prior" and "posterior" if there is no time", meaning: since nobody can understand the meaning of "originating" and "corrupting" so long as he does not understand the meaning of "prior" and "posterior" and does not understand the meaning of "priority" and "posteriority", nor of "prior to" and "posterior to" unless he understands past and future which are parts of time, because if "originated" is that which exists after it did not exist and did not exist before it existed, and "before" and "after" are divisions of time, then, if time is assumed to have originated, it is in time and there was time before time. Likewise there will be time after all time. Generally speaking, if we remove time, generation and corruption cease to exist.

Then he says: "therefore motion, in this way, is continuous, and so is time too, either because it is one and the same thing, or because it is an effect and result of motion". He means: from the fact that time is continuous, eternal and one, it follows necessarily that motion is also eternal, continuous and one, either because time and motion are one and the same thing, or because it is one of the attributes of motion and one of its effects. For it is impossible to imagine time without motion.

Then he says: "there is no continuous motion apart from local motion, and of this, circular motion". He means: this continuous motion which is time itself or of which time is one of the corollaries can only be local motion since only this possesses continuity, and of local motion, circular motion, not straight motion.

1562 All of this has been explained in the *Physics*; here, he merely postulates it and recalls it.

Textus 30 *Aristotle says*:

1071b12 But if a substance is moving or active, but not in actuality, there is no motion, because it is possible that what is in potentiality should not act; otherwise, it is useless to postulate eternal substances, as the partisans of the Forms do, if there is not a principle capable of altering them; but neither this, nor something else external to the Form is sufficient: if it does not exist, there will be no motion, nor will there be if it acts and its

essence is potentiality; for there will not be an eternal motion because 1563  
 that which is in potentiality may not be existing. Such a principle, then,  
 must be a substance which is actuality. These substances must be free  
 from matter, since they must be eternal if there is something else eternal  
 too; therefore, it is actuality. But this question raises a difficulty, because  
 it is thought that everything that acts has a power by which it can act, but  
 not that everything that can<sup>127</sup> be in potentiality can act. Therefore you  
 claim that potentiality is prior. But if it were so, none of the existents  
 would exist, since it would be equally possible for it to exist or not to be  
 existing. But according to the doctrines of the theologians who produce 1564  
 the world from night and of the physcists who say that 'all was together',  
 all these same things cannot be either. Otherwise, how could they be  
 moved if they did not have a cause in actuality? For the matter used by  
 the carpenter cannot move itself, but carpentry does, nor can menstrual  
 blood, nor earth, but seed and sperm. This is why some people posit an  
 eternal actuality, like Plato and Leucippus; they say that motion is an  
 existent, but they do not explain why it is so, nor what it is, nor the cause. 1565  
 For nothing at all is moved (*sic*), but there must always be a thing as it is  
 now, either such by nature, or by force, or by something else. Further,  
 which is the first? For it makes a considerable difference.

*Commentary:*

His words: "but if a substance is moving or active, but not in actuality,  
 there is no motion" mean: if there is an eternal motion and every motion  
 is caused by a mover as has been shown in the natural sciences, it is  
 necessary that this motion should be caused by a mover which is pure  
 actuality without any admixture of potentiality, that is to say at no time  
 whatever is it a mover in potentiality, because if a substance imparting  
 motion or acting is not pure actuality, but potentiality is mingled with it, 1566  
 it may be that sometimes no motion results from it.

He then explains the reason for that: "because it is possible that what  
 is in potentiality should not act". He means: because every mover in  
 whose substance there is admixture of potentiality may sometimes not be  
 imparting motion because it only moves by means of another mover  
 which educes it from potentiality into actuality and this mover may not  
 be present.

Then he says: "otherwise it is useless to postulate eternal substances,  
 as the partisans of the Forms do, if there is not a principe capable of

<sup>127</sup> Mattā translated δυνάμενον literally as *yumkin*. Aristotle's meaning, however, is that everything actual is also (at other times) potential, but not everything potential is actual, i.e. not all possibles are realized, as Ibn Rushd correctly explains.

altering them". He means: it is clear that there is an eternal substance imparting motion eternally; therefore it is useless to postulate an eternal substance in which there is no principle of motion, which is what the partisans of the Forms postulated. Such a substance has no actuality and no utility for the existence of an eternal motion.

1567 Then he says: "but neither this, nor something else external to the Form is sufficient: if it does not exist, there will be no motion, nor if it acts and its essence is potentiality". He means: neither the Forms nor something else external to them are sufficient as principles of the moving bodies so long as removing that thing does not entail the removal of motion. This is what he shows by the words: "if it does not exist, there will be no motion", meaning: if there is no motion, this will not be, that is to say so long as there is nothing of that kind, i.e. if it does not exist, there is no motion.

fr.25F Then he says: "nor if it acts and its essence is potentiality". He means: it is not sufficient for that that something should arise which, if it did not exist, would prevent motion from existing, nor that that thing should have that property, namely that the suppression of its existence should cause the suppression of motion, and that its essence should not be potentiality: the two conditions must be fulfilled together, I mean: a) when it is removed, motion is removed, and b) there must not be any admixture of potentiality in its essence. Alexander says: a third requirement must be met besides being eternal and moving in actuality, namely that it should be that by the love of which the body which is the noblest of bodies, the celestial body, is moved.<sup>128</sup> That by the love of which this body is moved is not man nor any of the things existing here, since the nobler cannot love the lower.

He then explains the cause of that: "there will not be an eternal motion", meaning: if this mover is assumed to be in its substance the substance which is in potentiality, namely matter.

1568 Then he says: "because that which is in potentiality may not be existing". What he says is that if it is a substance in potentiality, it may not be existing absolutely, that is to say it may be destroyed at some time. This has been shown in natural philosophy, I mean that everything which has potentiality in its substance is generated and destroyed, and if it is potentially imparting locomotion, it may not be an existing mover. Therefore this mover must not have any potentiality, neither in substance, nor in space, nor any other kind of potentiality. This is what he means by the words: "such a substance, then, must be actuality".

Since the cause of potentiality in the things which contain potentiality

<sup>128</sup> Cf. *Mabūdi'*, 264, 20-22 Badawi; *Quaest.*, 79, 18 Bruns.

is matter, as has been shown in natural philosophy, he says: "these substances must be free from matter, since they must be eternal if there is something else eternal too; therefore it is actuality". He means: as these substances are mover without any admixture of potentiality, they must be free from matter, since they must be eternal. For every eternal thing is pure actuality, and every pure actuality is without potentiality.

Then he says: "but this question raises a difficulty, because it is thought that everything that acts has a power by which it can act, but not that everything that can be in potentiality can act", meaning: if these words imply that actuality precedes potentiality, then there is a difficulty; for it may be thought that potentiality precedes actuality because it may be thought that every actual thing was potential before it was actual, but not that everything that is in potentiality becomes actual. This is the case in what is prior by nature, e.g. every human being is an animal, but not every animal is a human being, because animal is prior by nature to human being.<sup>129</sup> Thus, potentiality precedes actuality. 1569

Then he says: "but if it were so, none of the existents would exist since it would be equally possible for it to exist or not to be existing", meaning: this is impossible because if everything imparting motion and exerting action contained potentiality to impart motion and exert action, a time could come when it would not exist at all, because everything would have the possibility to exist or not to exist. For if it were possible for the first mover to be non-existent or non-moving, it would be possible that nothing should exist. But this is impossible and has already been investigated in what precedes, namely when he showed that actuality precedes potentiality.<sup>130</sup>

Then he says: "according to the doctrines of the theologians who produce the world from night and of the physicists who say that 'all were together', all these same things cannot be either". He means: if that which the theologians and some of the physicists say were true, namely that all things are generated spontaneously, without a mover, like the theologians who said that the world was generated from darkness, or those who made matter alone the cause of the generation of things, either one of the four elements or infinite parts. But this is impossible, I mean that the existents should impart motion to themselves, i.e. that things should be moved without a mover. For example he says that the matter 1570

<sup>129</sup> This example is totally irrelevant to the problem under discussion, because it cannot be said that animal is man in potentiality. But discussions about priority and posteriority of genus *versus* species were very much in favour with Alexander, who is probably the source of this passage. Cf. Moraux, *Alexandre*, p. 57 sqq.; Pines, *A new fragment*.

<sup>130</sup> That potentiality is prior to actuality in an individual but posterior *simpliciter* is an Aristotelian *topos*; references in Bonitz, *Index Aristotelicus*, 208a4 sqq.

provided to the carpenter, wood, cannot move itself if the carpenter does not move it; likewise menstrual blood cannot beget a man if the sperm does not move it, and earth cannot produce plants if the seed does not move it.

Then he says: "this is why some people posit an eternal actuality, like Plato and Leucippus; they say that motion is an existent", meaning: when some people realized that nothing is moved without any preexisting motion at all, they postulated a motion before the generation of the world. There is no difference between those who postulate that matter is moved by itself and those who postulate that all things were still and then began to move. Therefore these people posited, before the generation of the world, an eternal motion such as the disordered motion which Plato says existed without order and which God then brought into order, and such as the motion posited by the partisans of the atoms moving in the void.

fr.26F Concerning the words: "they are those who say that 'all things were together'", Alexander says that they do not refer to Anaxagoras, because he asserted the existence of an efficient cause, i.e. the intellect; but since it was a necessary consequence of this that if a thing is set in motion, it should first be a mover in potentiality and then become a mover in actuality without any mover at all, there is no difference between him and those who did not accept a moving cause. From this point of view, it is not far-fetched to place Anaxagoras among their group and all those who consider the world to be generated, as if he were one of them, whether he recognizes a moving cause or not. It is probable that he (i.e. Aristotle) was only saying, concerning those who did not recognize a moving and acting cause, that 'all things were together' for them. If there was no generation, there was nothing in potentiality nor in actuality, but all things existed necessarily together in actuality, eternally, since it is impossible that they should all be non-existent, or that something in them should be sometimes existent and sometimes non-existent.

Since Plato, Leucippus and Democritus had asserted the existence of motion before the world was generated, Leucippus the motion of the particles in the void, and Plato the disordered motion, they had to say which kind of motion this eternal motion is. There cannot be any eternal motion except local motion, and of local motion circular motion. They also had to say why these things move eternally. This is what he expresses by the words: "they say that motion is an existent, but they do not explain why it is so, nor what it is, nor the cause". He says that motion is an existent, in my opinion, only because some Ancients placed motion among the non-existent; they had to consider motion by force as eternal

and prior to natural motion; this appears from the fact that Plato calls it "disordered".

"For nothing at all is moved, but there must be a thing as it is now, either such by nature, or by force, or by something else". He means: it is not possible to posit something in motion if we do not posit some kind of motion which is there and some kind of mover, because actually existing motions are either by nature, or by force, and the mover is either a first mover, or a mover moved by another. He means that whoever asserts the existence of motion before the generation of the world must necessarily say whether it is one of these species of motion, or all their species; he must say which kind of mover produces this motion, whether it is one or more than one. They did nothing of all that and did not express any opinion about it, but he who says that the motion which existed before the world was a disordered motion must say that motion by force is prior to natural motion, and this is utterly absurd and impossible. He expresses this by the words: "further, which is first? For it makes a considerable difference", I mean the difference between considering that natural motion or motion by force comes first. 1574

Textus 31 *Aristotle says:*

Even Plato cannot say what it is that he often considers as the principle, i.e. that which moves itself; for the soul, as he says, is last, simultaneous with the heaven. 1071b37

*Commentary:*

Someone might argue in favour of Plato saying that the things which were moved of an eternal motion before the generation of the world are the principles of motion, having self-moving principles, since it is Plato's opinion that there is something which moves itself. In reply to that, he (Aristotle) says that it is impossible to say that because for him (Plato), it is the soul that is self-moved and it exists only in the end, together with the generation of the heaven, but according to him there was no soul at the time of the eternal disordered motion. 1575

Textus 32 *Aristotle says:*

As for the idea that potentiality is prior to actuality, it is in a sense correct and in a sense not; it has been said how; that actuality is prior is attested by Anaxagoras (for the intellect is actuality), and also Empedocles posits love and strife, and also those who postulate an eternally existing motion, e.g. Leucippus. Thus, chaos and night were not infinite, but they were the same eternally, either in a cycle or in another way, if actuality precedes potentiality. 1072a3

1576 *Commentary:*

Having shown that actuality precedes potentiality because the eternal circular motion must have a mover absolutely free from potentiality and raised difficulties about that, he repeats in this passage what he had said to solve this difficulty in book *Yā'* and says: "as for the idea that potentiality is prior to actuality, it is in a sense correct and in a sense not; it has been said how", meaning: he has said before in what sense it is true to say that potentiality is prior to actuality and in what sense it is not true; it has been shown elsewhere that potentiality is chronologically prior to the generated individual, and that actuality is absolutely prior to potentiality because nothing passes from potentiality into actuality but by the action of something actual.

Therefore the principle saying that what is in actuality was in potentiality beforehand is not correct. If it were so, potentiality would be absolutely prior to actuality, and if potentiality were absolutely prior to actuality, things would move spontaneously, without mover. This is why he reports the testimony in favour of this argument of those who were forced by the subject-matter itself to introduce a moving cause and says: "that actuality is prior is attested by Anaxagoras", meaning: that actuality is absolutely prior to potentiality is attested by all those who introduce a moving cause, e.g. Anaxagoras who introduces the intellect as the agent of generation and Empedocles who posits love and strife; he who posits an eternal motion testifies to that as well because he posits an eternal actuality, e.g. Leucippus.

Then he says: "thus, chaos and night were not infinite, but they were the same eternally, either in a cycle or in another way, if actuality precedes potentiality", meaning: if it is clear that actuality precedes potentiality, then, if the existents proceed from night and chaos, chaos and night cannot be said to last for an infinite time, but their generation and corruption must be cyclical, either complete as Empedocles thought that the whole world was in turn generated and destroyed, or the cycle must be with regard to the parts, as happens with the generation and corruption of the elements; this is, I think, what he means by the words "or in another way".

Thus it appears that if some things are specifically eternal and others numerically eternal, and these are the cause of the eternity of those specifically eternal things, potentiality must precede chronologically the individual, and actuality must precede potentiality absolutely; this can be converted, I mean if actuality must precede potentiality absolutely and potentiality the generated thing chronologically, then the existents will be of two kinds, the numerically eternal and the specifically eternal.

**Textus 33 Aristotle says:**

If the same thing exists eternally in a cycle,<sup>131</sup> it must necessarily act by itself in this way and by something else in another way. The first heaven, then, is eternal. 1072a9

**Commentary:**

Alexander says: in this argument (*qawl*), he repeats succinctly what has been shown in the physical treatises, especially in the *de Generatione et Corruptione*. It is said there: if there is eternal generation, there must be an eternal generator, i.e. the body moved in circle, although there cannot be generation eternally, nor corruption eternally, for otherwise matter would be exhausted; there must, then, be an eternal destructor beside the eternal generator, or one single thing able to perform the two opposites in two opposite ways. Indeed, there must be something eternal and one, cause of the eternal actuality by its performing one single act, and something which performs different acts in order that different effects should result from it eternally. This is the state of the first heaven in its daily motion. The eternity of actuality results from it because it performs only one act eternally. The (things) which perform different acts eternally are those which revolve in the oblique spheres and the most efficient of them is the sun. By getting nearer to and moving further away from things in its annual motion it produces the contraries at the same time; for instance, when it moves away it is the cause of the corruption of most existents, and when it comes nearer it is the cause of the generation of most. It also happens that its remoteness is the cause of some existents and its proximity (is the cause of) the corruption of some existents. fr.27F 1579 1580

He (= Aristotle) expresses all that with the most admissible concision by the words: "if the same thing exists eternally in a cycle, it must necessarily act by itself in this way and by something else in another way. The first heaven, then, is eternal", meaning: if there must be one continuous and eternal motion, there must be something which performs by itself one single continuous act and by something distinct from itself different acts, so that different acts may exist eternally. If there is nothing having this attribute except the heaven, then the heaven must necessarily be eternal.

<sup>131</sup> Here and in the ensuing discussion, some confusion is created by the word *dawr*, used as a translation for *περίοδος*. Ibn Rushd obviously understands it in the sense of the visible circular motion of the heaven, as is shown by the equivalent *al-haraka al-dawriyya* (1583,8), whereas Aristotle meant by it the "eternal return" that is observed in the world of becoming as a whole (cf. Ross *ad loc.*). The connection between cyclical eternity and the motions of the heaven is established only a few lines below at 1072a 21. Introducing it right now would in fact spoil the whole train of thought. At 1583,9, however, we seem to have the correct meaning of "cyclical".

*We have found this section in another translation as follows:*

If the same thing exists eternally in a cycle, it must be something eternal and stable, performing one single act, always the same. If there is generation and corruption, there must be something else acting in different ways; therefore it must act by itself in one way and by another species in another way. This will necessarily be either by another species or by the first species; and this again will be the cause of itself and of the other; the first, then, is better, for it is the cause of being always in the same state. The cause of being of different kinds is different; the cause of being eternally of different kinds is both of them; it is clear that the motions are not<sup>132</sup> so. Is there any other thing whose principles you must seek? If not, it will be in that way; in a different way, it would be possible for everything to proceed from night and for the essences to be together and to proceed from non-being as well. These problems are solved because something moves eternally of a motion that never ceases, namely circular motion (this is clear not only in words but also in fact), so that the first heaven will be eternal.

The words: "if the same thing exists eternally in a cycle, it must be something eternal and stable, performing one single act, always the same" mean: if there is one single eternal identical act, which is circular motion, its maker must be moving in a circle and one, performing one single motion; this is the state of the sphere performing the daily motion and of the maker<sup>133</sup> of this motion. This single act is the cause of the continuity and eternity of change in the different changeable things, I mean this act is the cause of the eternity of change and of all things existing at the same time eternally: they affect one another only by reason of this mover. [Thus, that which this sphere gives, in the first place and by itself, is continuity and eternity].<sup>134</sup>

What he says after that: "if there is generation and corruption, there must be something else acting in different ways" mean: if there are two contrary acts, such as generation and corruption, both of them eternal and cyclic, then the body which moves in a circle and performs these two contrary acts must move according to two opposite local motions or more than two. This is the case with the seven bright stars,<sup>135</sup> called the planets, for these appear to move according to opposite motions because

<sup>132</sup> This meaningless negative is due to the translator's confusion of οὐκοῦν with οὐκ οὐν. In his commentary (1585,12), Ibn Rushd gets rid of the difficulty by referring this sentence to the opinion of Aristotle's predecessors.

<sup>133</sup> Lit. "mover". Strictly speaking, the "maker" of a motion, in the case of the celestial bodies, is itself not moved, except by accident.

<sup>134</sup> The words in brackets are not found in B (cf. *app. crit.*) and look like a gloss.

<sup>135</sup> Lane, 866.

their spheres are oblique.<sup>136</sup> The most active of them is the sun. Therefore the Ancients said that it is the Lord of life.

Then he says: "therefore it must act by itself in one way and by another species in another way", and in the other translation: "it must necessarily act by itself in a certain way and by something else in another way". He means: it is necessary, then, that this single body moving according to a continuous circular motion should produce by its own essence and primarily continuity and permanence, and by something distinct from itself and secondarily eternal generation and corruption. 1584

Then he says: "this will necessarily be either by another species or by the first species". He means: the other kind of act will necessarily be due to the other (species) and the first to the first. In another translation, there is: "therefore it must necessarily be continuous either by another or by the first", meaning, therefore, the different act is performed by another, distinct from the first, but continuity must necessarily be produced by the first.

Then he says: "and this again will be the cause of itself and of the other", meaning: the first is the cause of itself and of the other; one must understand by "first" the first heaven, either the whole heaven or the eighth sphere, and by "the other" the erring stars (the planets). In the second translation, there is: "this is also cause of itself and of that", meaning the same.

Then he says: "the first, then, is better; for it is the cause of being always in the same state. The cause of being of different kinds is different". He means: the first, then, is more perfect in act and nobler, because it is the first which causes that which has different acts to be eternal and continuous, and that which comes after the first is only cause of the different acts on the basis of the continuity provided by the first cause. This meaning seems to appear more clearly in the other translation which is: "this is the cause of its being always identical; the cause of its being different is different", that is to say the cause the act of which is different needs another cause. 1585

Then he says: "the cause of being eternally of different kinds is both of them", meaning: the combination of the first and the second is the cause of the acts' being eternal and of their being diverse: eternal on account of the first and diverse on account of what comes after the first.

Then he says: "it is clear that the motions are not so", meaning: it is clear that the apparent motions are not in conformity with the principles

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<sup>136</sup> This clearly does not follow. Ibn Rushd mixes up two unrelated facts, the obliqueness of the spheres other than the first and the fact that their motions are in the sense opposite to that of the first.

which other people have laid down, or he means: it is clear that the motions implied by the principles laid down by our predecessors are not like these motions. This meaning is made clear in another translation: 1586 “both exist in this way for the motions”, meaning: the principles rationally laid down for the motions are in conformity with what appears to the senses.

Then he says: “why should you seek principles? If not, it will be in that way”, meaning: in which way is it possible to lay down other principles corresponding to the phenomena? But if this is not possible, it is possible to lay them down in that way (which we have indicated).

Then he says: “in a different way, it would be possible for everything to proceed from night and for the essences to be together and to proceed from non-being”, meaning: if we were to lay down different principles, everything could proceed from night as Dimos,<sup>137</sup> one of the theologians, says: the essences could be all at once, and proceed from absolute non-being.

Then he says: “this does not cease, because something moves of a never-ceasing motion, which is the case of circular motion”, meaning: the existence of these objects that come into being and corrupt never ceases and is never interrupted because there is a body moving eternally, 1587 and this happens only to the body moving in circle insofar as it moves in circle.

Then he says: “this is clear not only in words but also in fact”, meaning: What we have said is clear not only from the point of view of logic, but also from the point of view of the senses; it appears that there is a motion having this attribute, I mean that it has never been seen to cease and will not, that it moves in circle and that all other motions depend on it.

Then he says: “so that the first heaven will be eternal”, meaning: it appears from all this that the first heaven is eternal and that all the motions of the celestial bodies are accomplished by it.

In another translation there is instead of that the following words, which come to the same: “and from what is non-existent; this can be solved while there is something which moves of a never-ceasing motion, which is circular motion. This is clear not only in word but also in fact. The first heaven, then, is eternal”. He means: by “word” the definition and by “fact” the thing that appears to the senses.

1588 *Textus 35 Aristotle says:*

1072a23 **There is, then, something that imparts motion without being moved,**

<sup>137</sup> Prob. Hesiod, though it is hard to see how the corruption arose.

and because there is also something which is in motion and imparts motion as well and is an intermediary, there is, then, something which imparts motion while it is not moved.

*Commentary:*

Alexander says: this argument tends to show that there is a mover fr.28F which is not moved; it is expressed in a very condensed form as a reminder of what has been said in the last book of the *Physics*. This argument is based on several premises; one of them is that in every compound of two things, if one of the two can exist alone, the other can also exist alone, provided that one of the two things is not an accident and the other a substance. For example, since hydromel is composed of 1589 water and honey and honey exists separate from water, then water must also exist separate from honey. If this premise is established and we have found something which is mover and moved, intermediary between the first mover and the ultimate moved and as it were a compound of mover and moved, and since the moved can exist separate from the mover (since we find things which are moved without imparting motion), then it is clear that something must exist which imparts motion without being moved at all. This mover is completely free from potentiality and matter.

The words: "there is, then, something that imparts motion..." until "while it is not moved" mean: there is something, then, that imparts motion without being moved, because one must distinguish three things here: the ultimate moved, the first mover and something intermediate between the two, i.e. the moved mover through which the first mover 1590 imparts motion. If this is so, it follows that the first mover is absolutely immovable, because if it were moved, it would be intermediate, not first.

Alternatively, we can say that if the lower extreme is simple, that is to say if it is only moved, then the opposite extreme must be simple, because in every compound of two opposites in which one of the two components exists separate from the other, the other must exist separate from it as well.

This argument may be understood, I think, in these two senses together; the first sense is clearer if one follows the proper terms of Aristotle; the second sense follows Alexander's commentary, but it is a necessary condition, in my opinion, that the compound should be composed of two opposites which are two extremes. The premise will then be more evident and it will not be necessary to stipulate that none of the two must be an accident of the other, as Alexander did. In the case of such premises, you can say that if one extreme and the intermediary exist, then the other extreme exists too; you can also say that if there are two 1591 extremes and an intermediary, then none of the two extremes can be an

intermediary; I mean if one extreme is only moved but not mover, the opposite extreme will be mover but not moved, and you can also say that the first, if we postulate that there is a first, must not be intermediate. From these facts, it appears that the first mover must not be moved.

In another translation, there is instead of that: "therefore, there exists also something which imparts motion, and since it is equally moved and mover, it is an intermediary; there exists, then, something which is mover although it is not moved, and which is eternal, substance and act". The use of the word "intermediary" shows that he uses as premises the two opposites only. If one of the opposites is distinct from the intermediary, the other opposite must be distinct too. The meaning expressed in this translation is that if there is a mover and a moved, there must necessarily be an intermediary, the moved mover, and if there is an intermediary and one of the opposites, the other opposite must exist.

1592 Textus 36 *Aristotle says*:

1072a26 It imparts motion in the same way as the object of desire and the intelligible which is not moved; the first of these are the same. The object of desire is the beautiful which is preferred; the first object of will is that which is beautiful; we desire it more because it is thought to be more especially (beautiful), but it is not thought (to be beautiful) because we desire it.

*Commentary:*

He says: if the first mover imparts motion without being moved either essentially, or accidentally, like the soul in the body, then this mover must impart motion only in the same way as desirable and pleasant things move us, and particularly intelligible things whose act we see to be good.<sup>138</sup> The different kinds of desirable moving things are not, according to us, the same as the different kinds of intelligible things which move us, to the extent that these two motions are often contraries, I mean the motion (caused by) the desirable is opposed to the motion (caused by) the intelligible. With regard to these principles in the celestial bodies, it appears that the desirable in them is the same as the intelligible because the distinction which we establish between the desirable and the intelligible exists only on account of the separation of the powers whereby we perceive the desirable and the intelligible; [the desirable is perceived by the senses (it is what is pleasant) and the intelligible by the intellect];<sup>139</sup> the intelligible is that the act of which appears good; since

<sup>138</sup> I have removed from the translation a *lamnā* introducing this sentence, to which no apodosis answers. Prof. H. Daiber suggests to emend it in *innamā*.

<sup>139</sup> Not in B. Restored by Bouyges from the latin and hebrew transl. Probably a mere gloss.

the celestial bodies do not have sense-perception (because animals possess sense-perception only for their safety's sake), the desirable is not distinct in them from the intelligible; the intelligible mover for them, although it is a mover because of its being beautiful, is also pleasant; this is the meaning of his statement that for them (i.e. the stars) the pleasant and the intelligible are the same.

From that, it appears in all clarity that these celestial bodies have souls and that of the powers of the soul, they have only the intellect and the faculty of desire, I mean (the faculty) that imparts to them local motion. This appears from what I say: it has been explained in the eighth book of the *Physics* that the mover of these celestial bodies is without matter and a separate form, and in the *de Anima* that the separate forms are intellect. It follows that this mover is an intellect and that it is a mover insofar as it is the agent of motion and the end of motion. This is distinct and multiple only in us, I mean that which moves us locally as efficient cause and that which moves us as final cause, because it has two modes of existence, one in the soul and one outside the soul. Insofar as it exists in the soul it is the efficient cause of motion, and insofar as it exists outside the soul, it is mover as end. For instance, the form of the baths is on the one hand in the soul and on the other outside the soul. When the form which is in the soul arises in us, we desire it and it moves us towards it, I mean towards the form which is outside the soul, it impels us to enter it. The form of the baths, insofar as it is in the soul is the efficient cause of the desire and of the motion, and insofar as it is outside the soul it is the end of the motion, not its agent. If the form of the baths, for instance, were not in matter, it would move us as efficient cause and as final cause without any multiplicity resulting from that at all. Likewise one must understand that the movers of the celestial bodies are movers in both ways without being multiple. Insofar as these intelligibles are their forms, they impart motion as efficient causes; insofar as they are their ends, these are moved by them by means of their desire. 1594 1595

If someone said: if the representation obtained of these forms constitutes their existence, why do they need to move? If the representation of the craftsman who makes a chest (*khizāna*) were the existence of the chest, he would not move to produce the chest, then our answer will be: they move only because they understand by their souls that their perfection and their essence reside in motion as he who moves in order to preserve his health understands that the keeping of his health can only be achieved by moving. They also understand that their motion is the cause which makes of what is potentially in these separate forms an actuality, namely material forms. It seems that these forms have two modes of being, a mode of being in actuality which is their material being, and a

1596 mode of being in potentiality which is their mode of being in these forms. By potentiality, I mean here the same as when we say that manufactured forms have an actual mode of being in matter and a potential mode of being in the soul of the craftsman. This is why it is thought that these forms have two modes of being: a separate mode of being and a material mode of being and that the separate is the cause of the material; this is what the partisans of the Forms were aiming at but they fell short of it; their motion (i.e. of the stars) is not for the sake of letting these forms pass from potentiality into actuality because this is their first entelechy (*kamāl*), but because it is a corollary of their first entelechy. For example, if somebody walks in order to preserve his health while doing some work, his primary aim is to preserve his health and his secondary aim the products of this work.

“The object of desire is the beautiful which is preferred; the first object of will is that which is beautiful”, meaning: in animals, desire depends on sense-perception which distinguishes the pleasant and perceives it. This desire is called “appetite”; the will comes from the intellect. The words: “the first object of will is that which is beautiful” probably mean that the first thing willed is the absolutely beautiful; it is that towards which the celestial bodies are moved; he probably means that the first in the  
1597 intellect as intellect is the beautiful. Therefore he says: “we desire it more because it is thought to be more especially (beautiful), but it is not thought (to be beautiful) because we desire it”. He means: since whenever something is thought to be more beautiful the longing for it is the greater, for we desire a thing because we deem it beautiful, but we do not deem it beautiful because we desire it, then what is in itself more beautiful is more desirable. It is as if he meant that if the mover of the celestial bodies is more beautiful than everything else, then it is more desirable than everything else. By “but it is not thought (to be beautiful) because we desire it” he wants to establish a distinction between the longing of the intellect and that of the senses; only he in whom the longing of the senses is stronger than the intellect thinks that the desirable is good because it is desirable.

The general meaning of this passage is that since the longing of the celestial bodies is aroused by the intellect and the intellect desires only what is more beautiful than itself, then it follows necessarily that the celestial bodies desire in this motion that which is more beautiful than themselves, and since they are the most excellent and most beautiful  
1598 sensible bodies, then the beautiful object which they desire is the most excellent being, in particular that which the whole heaven desires in its daily motion.

Textus 37 *Aristotle says:*

The principle is intellectual representation. The intellect comes from the intelligible, and the intelligible is the other series in itself and on its own; of this series, substance is first and of this the simple in actuality. The one and the simple are not the same thing because this (i.e. the one) denotes a certain extension, but simple (denotes) its nature. The thing which is chosen for itself in the oneness of these elements is excellent if it is acquired first. The fact that there is a final cause in the immovable is shown by division; it is so because the final cause is for something and for this thing; and the second of the two exists (among unchangeables), but the former does not. Therefore it imparts motion as object of love, and by the movable imparts motion to these other things.

*Commentary:*

Having explained that the first mover is eternal, substance, pure actuality and free from matter, that it imparts motion without being moved but as object of desire and pleasure and that the principle of all motion is from something and towards something, he wants to tell what the principle of this motion in the object moved is and what the object towards which there is motion is and says: "the principle is intellectual representation", meaning: the principle of this motion in the celestial body is intellectual representation. He says that to make it known that the principle of this motion is not imagination, nor sense-perception, but intellectual representation and the desire moving this body locally comes from the intellectual representation.

Since the intellectual representation which is the activity of the intellect is the intellect itself and the intellect is the intelligible as has been shown in the *de Anima*, he says: "the intellect comes from the intelligible", meaning: the intellect in itself and in its essence comes from the intelligible.

Since many things have intelligibles, he sets out to explain which intelligible this first intelligible is which imparts to the whole heaven the immense motion that is called daily motion, the greatest and fastest of all motions; he says: "the intelligible is the other series in itself and on its own".

Alexander says: this passage can be understood in different ways. 1601

1. He means that the one series itself is intellected from the kind of series which the Pythagoreans posited and which they mentioned in their search for principles. When they posited the opposites as principles of all existents, they arranged the ten opposites which they considered as principles in two classes: the ones in the class of the good or under the genus of the good, and the others in the class of the evil; among these fr.29F

things, those which are intelligible in themselves constitute the series of the good; those which belong to the evil are accidental because they are conceived by negation of the good. It is as if he had said: this intelligible belongs to the genus of the good, i.e. it is good because the good is intelligible in itself.<sup>140</sup>

2. He says: he may be referring now to the series he mentioned concerning the division of the elements of which he discusses the opposites in every genus, which are the principles of motion for all changing things, I mean change in substance and in the other categories. The two opposites are analogous to form and privation; and the series which is analogous to form is intelligible in itself; that which is analogous to privation is intelligible, but not primarily and by itself because privation is perceived only in relation to the property which is the form. According to this interpretation, it is as if he had said that this intelligible is ascribed to the genus of form which is property and not privation, since property is that which is intelligible in itself.

3. There is a third interpretation according to which he means by "latter series" the perfect form without any privation, because one of the two opposites does contain privation. According to this interpretation, he meant as it were that this intelligible belongs to the class of the intelligibles with which no privation is mingled, not to the opposite, with which privation is mingled.<sup>141</sup>

4. The fourth interpretation is that he meant by "the latter series" form and not matter, because this principle is not intelligible by itself but in relation, whereas form is intelligible by itself. According to this interpretation, he meant as it were that this intelligible belongs to the class of the intelligibles of the forms and falls under them, not to the intelligibles of matter, because the series which is the form is the intelligible in itself and on its own, that is to say absolutely intelligible. The intelligibles of matter which are ten exist by relation. This is why he concluded this argument by the words: "of this series substance is first". This is the interpretation which is closest to his (i.e. Aristotle's) words.<sup>142</sup>

It is as if he had said: this intelligible falls under the intelligibles of the forms which are understood by themselves, not by relation (these are the intelligibles of matter); it belongs, in this genus, to the species of the forms which are something substantial and among these to those which

<sup>140</sup> Cf. Alex., in *Met.*, 47,17-19.

<sup>141</sup> Although it was not included by Freudenthal in his collection, this paragraph is also a quotation of Alexander, the sentence beginning by "according to this interpretation..." being Ibn Rushd's exegesis of it, exactly as in the second interpretation above.

<sup>142</sup> Cf. n. 141.

are simple. For some forms are substantial and some are not; among those which are substantial, some are material and some are not. This first intelligible falls under this genus. This is what he indicates by the words: "the simple in actuality". He means by "simple" the form without admixture of matter, because everything in which there is admixture of potentiality is composite, and since potentiality is perceived through something else and actuality in itself, that in which there is no admixture of potentiality at all is fittest to be intelligible.

The words: "the one and the simple are not the same thing, because this denotes a certain extension, but "simple" (denotes) its nature" mean: the one which is said of a continuum does not denote the same thing as the absolutely simple. "One" said of a continuum denotes only that which is potentially multiple and one is actuality. For the continuum can be divided, but "absolutely simple" denotes that which cannot be divided at all either in potentiality or in actuality. In general, simple and one are said in two senses: absolutely or relatively (*taqyid*). The absolute sense of these two things is "that with which no matter is mingled and in which there is no division at all". But there is a difference between "one" and "simple" because the most common meaning of the word "one" is that which is said in a relative sense, I mean is predicated of a continuum, and the most common meaning of the word "simple" is the absolutely simple. He feared lest the word "simple" be misunderstood because of the common word "one", as they are used synonymously.

1604

"The thing which is chosen for itself in the oneness of these elements is excellent" means: also the thing which is chosen for its own sake and desired among these separate principles every one of which is a single and simple concept and is an element of the body it moves is the most excellent, simple and single of them; that which he (i.e. Aristotle) has in mind in this sentence is to distinguish between the first principle and all the other separate principles; for all the other separate principles appear to choose it and desire it<sup>143</sup> for the sake of something distinct from themselves, I mean the principles of the celestial motions except the daily motion; but the mover which produces this motion appears to be chosen for its own sake, for the universe moves according to it of a motion faster and greater than the motions proper to each one of them (i.e. the movers). It is that which is chosen for its own sake and the object of desire of the universe; that which possesses this property possesses the supreme perfection.

1605

<sup>143</sup> For the reason why the text of B as given in n. 78 and 79 should be retained, cf. *supra*, p. 40.

The words: "if it is acquired first" mean: since the most excellent is acquired for its own sake and everything else is acquired for its sake.

fr.30F

"The fact that there is a final cause in the immovable is shown by division". Alexander says that these words were inserted lest it be thought that he meant by this the perfection which is an accident of that which acquires perfection; some of the perfections for the sake of which the thing acquiring these perfections moves are qualities which the moving thing acquires as perfections, for instance moving for the sake of health, and others are substances external to the thing moving towards them by making itself similar to them, for instance all the actions of the slaves imitate the master and his aim, and the people of the same kingdom strive in accordance with the goal of the king; it is said that the slaves exist only for the sake of the master; the same applies to the people of a kingdom with regard to their king, and to all beings with regard to this first principle, I mean that which the universe desires.

1606

"Because the final cause is for something and for this thing". He means: the final cause which is not subsisting by itself exists in something such as happiness in the soul and health in the body. But in the case of that which is subsisting by itself, there exists for this individual thing another individual thing, subsisting by itself.

"The second of the two exists (among unchangeables), but the former does not". He means: of these two ends, that which is a substance exists by itself, as the king for the people of the city, but the other species does not exist by itself, but only in something else.

1607

"Therefore it imparts motion as object of love, and by the movable imparts motion to these other things". He means: thus, this first mover imparts motion, without being moved, to the first object moved by it, just as the beloved moves his lover without being moved itself, and it imparts motion to what is below its first moved by means of the first moved. By its first moved, he means the celestial body, and by all the other moved, that which is below the first body, namely all the other spheres and that which is subject to generation and corruption. The first heaven is moved by this mover by means of its desire for it, I mean because it imitates it according to its ability as the lover is moved to [imitate]<sup>144</sup> the beloved. All the other celestial bodies are moved by their desire for the motion of the first body. This is why all the stars have a double motion: from east to west and from west to east. As for what is below them, I mean below the spheres, it moves it by means of these motions. It produces generation and corruption by the double opposite

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<sup>144</sup> Not in B and not necessary.

motions which are found in them and continuity by the single eternal motion.

This is the source of the providence of God for all the existents. He knows them by species, since it is not possible to know them numerically. The view of those who think that God's providence extends to every person is right in a sense and wrong in another. It is right insofar as nobody is in a condition peculiar to him, but (this condition) belongs to the class of this species. If this is so, it is correct to say that God takes care of individuals in this way; but providence for an individual, in which nobody else shares, is something which the divine bounty does not necessitate.

Textus 38 *Aristotle says:*

If something is moved, it can be in different states. Therefore, if there is motion and the first actuality by which it moves, it can be in different states with regard to place, even if there is no difference in substance, and since that which moves it is not moved while existing in actuality, it is absolutely impossible that it should be in another state. Locomotion is the first kind of change, and of this circular motion, which is what the mover produces. Therefore it is necessarily a principle as well and it is necessarily a principle of such a nature. Necessity is said in the following senses: that which is by force because it is outside the natural tendency and that which cannot possibly exist in a state different from that in which it is. Heaven and nature, then, are in agreement with such a principle; heaven and nature, then, depend (on it). Its sojourn (*ḥulūl*)<sup>145</sup> is in accordance with that which is most excellent, which belongs to us for a short time, but for it is eternally so. 1072b4 1608 1609

*Commentary:*

His aim is to show the nature of the link between the changeable existents and the first substance in which there is no change at all. This involves a great difficulty which has already been expounded before, namely: how can the eternal be the principle of generation and corruption? He begins by saying: "if something is moved, it can be in different states". This premise is correct so far as the various species of changes are

<sup>145</sup> *Ḥulūl* means: "to come down (from horseback or camelback) at a certain place", "to spend a certain time somewhere", and is thus perfectly acceptable as a translation of διαγωγή. But it is also a technical term of Sufism designating the descent of God into the mind of the mystic, thus providing possibilities of almost infinite extension to the much more down-to-earth meaning of the aristotelian phrase. It is very significant that Ibn Rushd, in the lemma (1611, 14-15), follows the other translation, which does not present the same ambiguity.

concerned; that which changes in substance has different states in its substance and that which changes in quality has different states in its quality. Likewise that which changes locally is different locally.

1610 Then he says: "if there is motion and the first actuality by which it moves, it can be in different states with regard to place, even if there is no difference in substance". He means: if there is a local motion according to which the first moved is moved, this moved can be in different states with regard to place, without being different with regard to substance, I mean there can be something eternal and unchangeable in its substance but changeable in place. It is as it were the intermediary between the first in which there is no change at all, which is the mover of this moved, and the changeables which vary in their substances. This is what he means by the words: "and since that which moves it is not moved while existing in actuality, it is absolutely impossible that it should be in another state". He means: that which moves the first moved while being unmoved because it is pure actuality completely free from any potentiality cannot be in a state different from that in which it is.

The words: "locomotion is the first kind of change, and of this circular motion" mean: local motion is the first kind of motion as has been shown in natural philosophy, and circular motion, not rectilinear motion, is the first kind of local motion, for it has been shown that circular motion alone is eternal.

The words: "which is what the mover produces" mean: the first mover which we have said to be eternal produces this motion only, without intermediary.

Then he says: "therefore it is necessarily a principle as well and it is necessarily a principle of such a nature". He means: it is clear, then, that there must be a principle possessing this property necessarily. He says: "necessity is said in the following senses: that which is by force because it is outside the natural tendency and that which cannot possibly exist in a state different from that in which it is". He means: necessity is said of two classes of things: firstly of what is by force, of the thing which is out of its disposition and of its nature; secondly it is also said of that which can never be in a state different from that in which it is. This is the meaning which we intend when we say that there is a principle existing by necessity and principle by virtue of its character.

1612 Then he says in one of the translations: "it is on such a principle then, that the heaven and nature depend; we enjoy something like a happy state for a short time". He means: it is evident that the heaven and nature are in contact with a principle which is an intellect in the highest state of pleasure, happiness and bliss, similar to our own state of contact for a short time with the intellect which is our principle.

Then he says: "this state belongs to it eternally, but for us it is not possible". He means: this contact with this principle of the heaven and this link with it is eternal for it, but our contact with the principle which is in us cannot be eternal because that part of us which is united is subject to generation and corruption whereas the part of the celestial body which is united is eternal.

It clearly appears from that that Aristotle thinks that happiness for men *qua* men consists in this contact with the intellect which has been shown in the *de Anima* to be principle, mover and agent for us. The separate intellects *qua* separate must be principle of that of which they are principle in both senses, I mean as movers and as ends. The active intellect, insofar as it is separate and principle for us, must move us in the same way as the beloved moves the lover and if every motion must be in contact with the thing which produces it as end, we must ultimately be in contact with this separate intellect, so that we depend on such a principle, on which the heaven depends, as Aristotle says, although this happens to us but for a short time. 1613

Textus 39 *Aristotle says:*

Pleasure is act for this being as well. Therefore waking, perception, intelligence are pleasant, but hope and recollection (are pleasant) on account of these. Intelligence in itself is of that which is best in itself, and supreme intelligence of that which is supremely good. That which thinks its essence is the intellect by acquisition of the intelligible, and it becomes intelligible when it is in contact and thinks. Intellect and intelligible, then, are the same because that which receives the intelligible and the essence is intellect, but it thinks only when (its object) belongs to it, so that it is thought that the intellect is this divine element rather than the former (i.e. receptivity). Thought is also something very pleasant and good. If God is eternally in the state in which we are for a while, it is wonderful. If He is more so, it is more wonderful. But He is so. He is also life, for the act of the intellect is life and He is the act and the intellect which is by itself and possesses a perfect and eternal life; we say that God is living, eternal and most perfect. He is life, He is continuous and eternal, and this is God. 1072b18  
1614  
1615

*Commentary:*

By the words: "pleasure is act for this being as well", he means: the first principle. Having said that, he explains the cause of His feeling pleasure, saying: "therefore waking, perception and intelligence are pleasant". He means: the cause of pleasure is apprehension; it is as if he had said: He feels pleasure because He apprehends. What indicates (*dalil*) 1616

that the cause of pleasure is apprehension is that our waking, perceiving and understanding are pleasant.

Then he says: "hope and recollection (are pleasant) on account of these". He means: hope and recollection become pleasant although they are understanding of things which do not exist in actuality, because he who hopes imagines that it exists and is perceived in actuality. Likewise he who remembers. He seems thereby to hint at the fact that pleasant apprehension concerns only that which exists in actuality, not in potentiality. The desire that precedes apprehension is painful rather than pleasant.

Then he says: "intelligence in itself is of that which is best in itself". He means: that which thinks by itself, not by something else, is better than that which thinks by an intellect in it.<sup>146</sup>

Then he says: "and supreme intelligence of that which is supremely good". He means: the highest pleasure belongs to that which is understanding and intellect in the highest degree.

1617 Then he says: "that which thinks its essence is the intellect by acquisition of the intelligible". He means: that which understands its own essence feels pleasure by itself; it is that which truly feels pleasure; that which possesses this attribute is the intellect: when it acquires the intelligible and understands it, it understands its own essence, for its own essence is nothing but the intelligible which understands. Thus the intellect is that which feels pleasure by itself.

The words: "it becomes intelligible when it is in contact and thinks" mean: our intellect thinks its essence when it is in contact with the intelligible and obtains a representation of it in actuality, not when it is in potentiality before it has a representation of the intelligible, because when it thinks the intelligible it becomes one with it. It is as if he wanted thereby to distinguish between the faculty of the intellect which is sometimes in potentiality and sometimes in actuality and the intellect which is always in actuality, the intellect which is not in matter. Therefore our intellect thinks itself only at times, not permanently.

1618 Then he says: "intellect and intelligible, then, are the same because that which receives the intelligible and the essence is intellect". He means: intelligible and intellect become one when it thinks because the receiving part and the received part of the intellect constitute among themselves the intellect. Therefore the thinking part of the intellect and the part of it which is object of thought go back to one single thing and are distinguished only with regard to the states existing in the intellect. For insofar as it thinks the intelligible it is said to be "thinking", and

<sup>146</sup> I.e. man.

insofar as it thinks by itself, the thinking is the intellect itself, as opposed to that which thinks by means of something else; and insofar as the thinking part is the object of thought itself, it is said that the intellect is the intelligible.

Then he says: "intellect, then, is this divine element rather than the former". He means: if our intellect is sometimes in potentiality and sometimes in actuality, and this divine intellect is always in actuality, it is clear that it is much better than the intellect in us.

Then he says: "if God is eternally in the state in which we are for a while, it is wonderful; if He is more so, it is more wonderful. But He is so". He means: this is why we think that if God's pleasure in apprehending His own essence is equal to the pleasure we feel when our intellect apprehends its own essence, that is to say in the instant in which it is freed from potentiality, and if that which belongs to us for a short while belongs to God eternally, that is very wonderful; if that which belongs to Him eternally is much better than that which belongs to us, this is more and more wonderful. Alexander says: by "pleasure", one must not understand here the pleasure that is the result of passion; the effect that is the result of passion is the opposite of pain, but the pleasure which is in the intellect itself is not a passion and has no opposite because no ignorance is the opposite of this apprehension. For pleasure is a necessary attribute of apprehension, just as the shadow is a necessary effect of the body. If there is an apprehension which has no opposite and is never in potentiality, then the subject of this apprehension will never be in a state of non-apprehension. 1619 fr.31F

Then he says: "He has life, for the act of the intellect is life". He means: He has the attribute of life because the word "life" applies only to apprehension, and since the act of the intellect is apprehension the act of the intellect is life.

Then he says: "the intellect which is by itself and possesses a perfect life". He means: if the thinker is living because his act is life, the thing which thinks by its intellect its own essence, not by its intellect something else, as happens with our own intellect, this thing is the living (thing) which possesses the most excellent life. Therefore life and knowledge are the most distinctive attributes of God, and this God is living and knowing. 1620

It is in this respect that the Christians were mistaken when they adopted the doctrine of the Trinity in the substance; it does not save them from it to say that it (i.e. the substance) is three and God one because if the substance is multiple, the compound is one in the sense of unity superimposed on the compound. The same difficulty is encountered in our religion by the Ash'arites because they consider the

attributes to be superimposed on the essence, so that they are forced to draw the conclusion that it is one in the sense of a unity superimposed on the essence and the attributes. These two doctrines imply that it is composite and every compound is originated, unless they claim that there are things which are compound in themselves. If there were things composite in themselves, they would be things passing from potentiality into actuality by themselves and moved by themselves, without mover. So one must understand that what we have said about Him, namely that He is living and that He possesses life, is one single concept with regard to the subject, but two with the regard to the point of view, not that they denote the same concept in all respects, as happens in the case of synonyms, for instance *ba'ir* and *jamal* (camel), nor that they express a meaning in the same way as the derived word designates the same thing as the first pattern with an additional sense. For instance, in the words living and life, life designates a concept which is not in a substratum and living designates a concept in a substratum, I mean a form in matter and a disposition in a substratum. This is what happens with the words designating things which are form in matter. As for the things which are form without matter, the attribute and the thing to which it belongs refer in their case to the same thing, ontologically one, but double according to its designation, I mean attribute and subject. For when this essence is apprehended as substratum and qualified by any attribute, the attribute and the subject of the attribute are one in the act of predication (*fī 'l-hamal*), and two if one envisages the distinction between predicate and substratum, but not in the same way as the predicate is distinct from the substratum in substantial predicative propositions: the attribute is the subject of the attribute itself, I mean they refer to the same thing in actuality, as happens with separate things, and two in potentiality. The intellect, then, distinguishes one of these from the other for it is in its nature to analyse things which are ontologically united into their components even if they are not ontologically distinct one from another, as it distinguishes between matter and form and between form and the compound of matter and form. This is the role of the intellect in things composed of form and matter if the compound is defined by the form or the substratum of the form by the form. It thinks them as in a sense united and in another sense distinct. For instance, it defines man as endowed with speech: it is understood that the substratum of speech and speech are one concept by union, and that the substratum and the predicate are distinct. But when the attribute and the subject of the attribute are envisaged in immaterial things, they refer in that case to the same concept in all respects; there is no point of view from which the predicate can be separated from the substratum or the attribute from its

subject outside the mind, I mean in the essence and nature of the thing. But when the intellect composes a proposition from attribute and subject and substratum and predicate about one of these things, it does not understand that they are two synonymous words, so that the purport of this is a purely verbal proposition, not a real (*ma'nawiyya*) proposition; on the contrary, it considers them as distinct in this context, I mean it assumes in things of that kind two elements the relation of which one to another is like the relation of the predicate to the substratum, and from them it composes a predicative proposition, although there is no ontological distinction between them at all except from the point of view of abstraction, I mean its distinguishing by abstraction in a single concept subject and attribute. The intellect can conceive one concept from these two points of view by analogy and resemblance with predicative and descriptive propositions in compound things just as it conceives many things by relation. If the intellect did not distinguish in these an attribute and a subject, it could not understand their natures and reason about them. 1623

There is a great difference between things which are conceptually and ontologically distinct and those which are conceptually distinct, but not ontologically, that is to say things which our intellect does not understand until it conceives them in the same way as it conceives things ontologically distinct, and between things which are not distinct either conceptually or ontologically. The tripartition which is perceived in the deity, for instance, is a conceptual distinction, not an ontological one; it is something which the mind devises by comparison with things composite in a certain sense and uniform in another; they are not, as the Christians claim, distinct concepts referring to one being.

Alexander says: one must not understand from our remark that the intellect thinks its own essence as if looking at it to see if it moves.<sup>147</sup> We can see the faculty of sight watching itself in a mirror, and if it is possible to say that the beholder beholds its own essence, it is even more possible in the case of the intellect. fr.32F

Then he says: "we say that God is living, eternal and most perfect. He is life, He is continuous and eternal, and this is God". He means: we say that if what the word "God" means is that He is living, eternal and most perfect, and it has been proved logically that there is such a thing, and that He is the mover of the universe, then this is God. 1624

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<sup>147</sup> This use of *istahāla* with a suffix object (if this reading is correct) is very odd Cf. Them., *Paraphrase of Lām*, 23,10; 32,16 Badawi. Lane 675. The sense must be something like: "observe as sth. alien", "regard as changing".

*Textus 40 Aristotle says:*

1072b30 As for all those who think with the partisans of Pythagoras and Uslūs (*sic* for Speusippus) that goodness and perfection are not in the first because the causes of plants and animals are the principles and goodness and perfection are in what proceeds from these, they are not correct in their opinion because the seed comes from something else which precedes it and is perfect and the first is not a seed but something perfect. For instance, we say that man must exist before the sperm, not the man who comes from that sperm, but another from which the sperm comes.

*Commentary:*

1625 He says: those of the Ancients who say that completion and perfection are not in the principles but only in the things that come from the principles on the grounds that animals and plants are more perfect than their principles, the seeds and the sperm, are not correct in their opinion because the seeds only come from perfect things which produce the seeds. For instance, the seed of man comes from man. The seeds, then, are not the principles of that which is begotten from seeds but merely the principle of the child of the begetter and maker of the seeds who is, in perfection, similar to the begotten if it belongs to the species of natural reproduction, or more perfect than it if it does not belong to natural reproduction.<sup>148</sup> For the principle of that which is not begotten from something similar to the begotten is the sun and the ecliptic, and the principle of that which is begotten from something similar to it is not that which is similar to it only but the sun and the ecliptic as well. This is why Aristotle says that man is begotten by a man and the sun.

*Textus 41 Aristotle says:*

1073a3 It is clear from what has been said that there is a substance which is eternal, immovable and separate from sensible things. It has been explained that this substance cannot have any magnitude at all; on the contrary it has neither parts, nor divisions because it moves eternally and no finite thing can have an infinite power. If every magnitude is either  
1626 infinite or finite, then it will not be in a finite magnitude, nor will it be infinite because there is no infinite magnitude at all. It is also clear that it will not be affected or alter, for all other motions are posterior to local motion. It is clear that these things are in such a state.

*Commentary:*

He repeats what has been shown previously, namely that there is a

<sup>148</sup> I.e. in the case of spontaneous generation, in which the begetter is the sun, *supra* p. 30.

substance which is eternal, immovable and separate from all matter. That it is a substance, an intellect, a mover in the same way as the beloved moves the lover and so on with all the attributes that have been shown to belong to this mover is something which has been shown in this book. That it is immovable and separate from matter has been shown at the end of the eighth book of the *Physics*. He also recalls that when he says: "it has been explained that this substance cannot have any magnitude at all; on the contrary it has neither parts, nor divisions". He means: it has been shown in the *Physics* that this mover cannot be a faculty in a body, nor a body because it has no parts and is not divisible, neither essentially nor accidentally, and every body has parts and is divisible.

1627

He then explains the reason why it is not correct to say of this that it has parts, either substantially or accidentally: "because it moves eternally". He means: it must have an infinite power.

Then he says: "no finite thing can have an infinite power". He means: that which has an infinite power must be incorporeal, because every body is finite, and no finite thing can have an infinite power. This is how the syllogism is composed:<sup>149</sup> the first mover has an infinite power, but every body or power in a body is finite; therefore, according to the second figure, it follows that the first mover is not a body, nor a power in a body.

Since a body must have a finite power because every body is finite and the powers of the body are divisible according to its division, he sets out to explain why and says: "if every magnitude is either infinite or finite", meaning: every power in a body must be finite because if it were infinite, it would necessarily be either in an infinite body or in a finite one; but it is not possible that there should be an infinite body; therefore it is in a finite body; and if there is, in a finite body, an infinite power, this body must be moved now, according to what has been shown in the eighth book of the *Physics*, because in the present passage he merely recalls these things. This is what he indicates by the words: "then it will not be in a finite magnitude, nor will it be infinite because there is no infinite magnitude at all". He means: the reason why an infinite power cannot be in an infinite body nor in a finite body is, in the first case, that an infinite body does not exist and in the second case that this power will be divisible by division of the body, and that which is liable to a finite division is finite.

1628

John the Grammarian raised strong objections against the Peripatetics concerning this problem. He says: "if every body has a finite power and

<sup>149</sup> Cf. n. 126 above.

the heaven is a body, then it will have a finite power; but everything finite is necessarily corruptible, so that the heaven is corruptible. If it is said that it acquires incorruptibility from the eternal separate power, there will be something destructible but eternal. But this has been shown to be impossible at the end of the first book of the *de Caelo et Mundo*".

1629 We say to him: the amazing thing is that his assertion that every body has a finite power is true, but the word power is said in many senses: power in substance, in change, in space. It has been shown that the heavenly body has only one of these powers: the power in space; this premise then, is common to every body if one understands by "power" local power (I mean our assertion that every body has a finite power). Our assertion that every power in a body is finite is true whatever kind of power it may be, and our assertion that in every body in which there is any kind of power this power must be finite is a true assertion. It does not follow from that that every body possesses every power.

Therefore there is no power in the heavenly body except local power, and if the power whereby it moves of this eternal motion is in it, it will necessarily be finite or infinite. If it is in it and infinite, it follows that its motion exists at the present time, and if it is finite, it will be possible for the body to come to a standstill. But it has been shown that it does not come to a standstill, so that it does not move by a power in it, but by a power which is not in a substratum at all.

1630 But someone might ask: if it is moved by a power whose action is infinite, the motion imparted to it by the latter must necessarily be out of time, according to your own postulate, if it (i.e. the power) is in it (i.e. the heaven). The answer to that is: this motion has been shown to be composed of two movers: a mover that imparts a finite motion, namely the soul which is in it (i.e. the heaven), and a mover that imparts an infinite motion, namely the power which is not in matter. Insofar as it is moved by the finite power which is in it, it is moved in time, since the meaning of "finite" is that it (the power) has a definite relation to the object moved, and this power is eternal in its substance, just as its substratum is eternal, I mean none of them has potentiality in substance, but (they have) potentiality in their substratum to receive motion only; in them there is only the power to impart motion. Because of this difference of relation in the celestial bodies, I mean between their bodies and their souls, there is a difference in velocity and slowness, and because they are all moved by a power which is not in matter, there is in them eternity and continuity of motion. To that extent it is correct to say of the celestial  
1631 body too that it contains a finite power. This is the meaning of what Aristotle says about the heaven, namely that if there were in the first heaven more stars, or slower ones, its motion would be slower or stop

altogether, not because it would suffer from weakness, but because of the lack of the relation which exists between its mover and the moved. For the mover imparts motion only by the superiority of its power over that of the moved. Everything which increases the moved increases its power, and if the power of the mover is not superior to it, it will not be able to move it, and if it is slightly superior, it will move it slowly.

There must not be in the celestial body the power to corrupt because it has no contrary. It endures by its essence and its substance, not by a quality (*ma'nā*) inherent in it. Motion cannot endure by its essence because it has a contrary which is rest. To account for the permanence of motion we have to postulate a concept permanent in itself, unlike permanence in a substance. The only potentiality of the heaven is potentiality to stop, but we have already shown that this possibility does not really arise. This must be accounted for by a mover in which there is no potentiality at all, either essentially or accidentally, and so long as it is so, it is not in matter. For this reason, Aristotle says that we do not fear that the heaven may ever come to a standstill, and he did not say that it would corrupt, because corruption is not possible for it, just as rest is not.

Therefore it is not correct to say that there is something contingent by itself and eternal and necessary by something else, as Ibn Sīnā says that the necessary is partly necessary by itself and partly necessary by something else,<sup>150</sup> except for the motion of the heaven only. It is not possible that there should be something contingent by its essence but necessary on account of something else, because the same thing cannot have a contingent existence on account of its essence and receive a necessary existence from something else, unless it were possible for its nature to be completely reversed. But motion can be necessary by something else and contingent by itself, the reason being that its existence comes from something else, namely the mover; if motion is eternal, it must be so on account of an immovable mover, either by essence or by accident, so that motion possesses permanence on account of something else, but substance on account of itself. Therefore there cannot be a substance contingent by itself but necessary by something else, but this is possible in the case of motion. Every moving power which is in a body is necessarily moved by accident and everything moved by accident and imparting motion by itself can come to a standstill by itself and be moved by something else. If there is a power in a body which can never cease to impart motion, it will necessarily be moved by a mover in which there is no potentiality at all, either by essence or by accident. This is the state of the celestial body.

<sup>150</sup> Cf. Saliba, *Étude*, pp 102 sqq.

This is the meaning of the Aristotelian principle that every power in a body is finite, that is to say its action can have an end, and the essence of any body that has potentiality in its essence must change and cannot acquire permanence and eternity from something else unless its essence is transformed; but any body that has local potentiality only can be said to be contingent by itself and necessary by something else.

It has been shown that the celestial body moves spontaneously, and everything that moves spontaneously can stop spontaneously. By "moves spontaneously" I mean everything that moves by will and desire. But the impossibility for the celestial body to stop has been proved, so that the eternity of its motion must come from a mover in which there is no potentiality at all for any sort of change, either essentially or accidentally. The mover, then, will necessarily be for the celestial body an immaterial power.

Therefore one must accept that all that has an eternal local motion must necessarily be an eternal substance, and if it is an eternal substance, it does not follow necessarily that its local motion is eternal, but if its local motion is eternal, it must come from a mover which is neither a body, nor a power in a body, be it eternal or not. This idea is very obscure and as a result this passage has been a stumbling-block for scholars. For if it is shown that this body is eternal in its substance, it may be assumed that it does not need, in order to exist, another principle distinct from it and nobler than it, because it may be thought that our principle that "every power in a body is finite" is not true, except in the case of material bodies subject to generation and corruption. But if there is a body eternal in its substance, it may be thought that its moving power must impart motion eternally. Concerning this passage, the Sabaeans<sup>151</sup> and their scholars were mistaken. This is the meaning to which the quranic passage alludes: "we showed Abraham the kingdom of the heavens and the earth so that he may be one of the firm believers etc."<sup>152</sup>

Concerning this, Aristotle bases his argument on two premises: firstly that every potentiality in matter is finite, and secondly that the infinite act does not come from a finite potentiality. The necessary conclusion of that is that the mover which imparts an infinite motion is a power which is not in matter. He sets out to prove these two premises in the eighth book of the *Physics*. Those who reject this view say: the premise positing that if there are potentialities in the stars, these must be finite would be true only if the stars were composed of matter and form. They say that

<sup>151</sup> Cf. *supra*, p. 46, n. 34.

<sup>152</sup> *Qur'ān*, VI, 75.

there must be in them powers the action of which is infinite because, they say, the finiteness of the motion imparted and of the act is merely due to the influence of the object moved on the mover, so that it is bound to grow tired. But that which does not change in its substance and does not grow tired is not prevented from exerting an infinite action. 1635

Themistius says concerning this passage: he who says that the sun and the other stars are finite and that they have infinite powers is wrong because the power which is in the stars and which is infinite is not naturally present in them insofar as they are bodies but either it depends on the first cause, or their soul comes from that power which is not corporeal. For the first cause rules over them eternally, because if their condition were one of potentiality, like that of a body or of a magnitude, and were not eternally in actuality, they would necessarily grow tired and need rest. For since there is potentiality in the bodies, their powers are finite on account of that, because at every point in time they are in a different place; they are now in a place and now in another place, and these places are like the terminal points of a motion. It is not possible for that which is in potentiality, if that which is in actuality and is its end comes after it, not to have an end and a limit. As for the cause in which there is no potentiality at all but which is always in actuality and in the nature of which it is not to be different at different times, how could one imagine that it has a magnitude and a body like these things in which always some potentiality is seen, whether they are liable to decay or not. Generally speaking the actuality which proceeds from potentiality is the corruption of that thing in potentiality. Such an actuality cannot last for ever since potentiality preceded it and was prior to it. Therefore the moving power that is in the stars must be eternal because the enjoyment of this power by the stars is in no way potential, but their motion in that space is finite, for that which is potential exists in the stars only with regard to these states. 1636

This is what Themistius says *expressis verbis* concerning this question. In short he says that everything that is moved locally is moved towards something which it is in potentiality, and everything that is moved towards something which it is in potentiality has a finite motion since that which is in potentiality must necessarily become actual and everything that possesses an eternal motion moves towards that which is eternally in actuality, and that which is eternally in actuality is not a body nor in a body because everything in which there is potentiality is either a body or a potentiality in a body; thus, that in which there is no potentiality is not a body nor a potentiality in a body. 1637

What Aristotle is aiming at in this discussion is that every continuous and infinite act, that is to say an act that did not cease and will not cease,

can only proceed from a power the act of which is infinite, i.e. a power which does not change at all because of a defect of its act. Every power imparting motion in space to a body and necessarily changeable does not have an eternal act because that power is moved by something else. This is what must be understood by "does not impart an eternal motion". If this is so, then the moving powers present in bodies are of two kinds: either powers in bodies subject to generation and corruption which cannot move themselves eternally because they themselves change and their substratum changes; therefore these must necessarily grow tired; or moving powers in eternal bodies, which can impart motion eternally or  
 1638 not. If they do not impart motion eternally, we assume that that towards which they move, i.e. the first mover, must change in one way or another; if they are moved eternally, then that towards<sup>153</sup> which they move does not change in any way, which means that it is not a body at all. If there is something moved eternally, it must be moved by a power in it which comes from a mover not liable to any kind of change, and that which possesses this attribute is necessarily immaterial. This is the meaning of Aristotle's argument that every infinite act comes from an infinite power, that is to say from an infinitely active (power), not from a finite power, that is to say a finitely active power.

This is also evident in a more particular way, because the celestial body must necessarily be endowed with a soul. This being settled, let us return to our commentary.

The words: "it is also clear that it will not be affected or alter, for all other motions are posterior to local motion" mean: it is also clear,  
 1639 concerning this mover which imparts motion eternally and in one single way, that it is not affected and does not change. If it is not moved locally, it is not affected by any other motion, because local motion precedes all motions, and if it does not have the nobler motion, it will *a fortiori* not have the baser. Since the celestial body is the noblest of all bodies, it has the noblest motion which is local motion only, and since that mover is nobler than the celestial body, it is the cause of its remaining permanently in the best state since its being exists only in motion.

The words: "it is clear that these things are in such a state" refer to everything that he has shown concerning this first immaterial mover; every mover that is material is not the first, but moved by the first.

Textus 42 Aristotle says:

1073a14 But must we posit one such substance or more? And how many? We

<sup>153</sup> Strictly speaking, the celestial bodies do not move towards (*ilā*) their mover. This curious expression seems to be the result of a contamination with the idea that they desire it (*ishtāqa ilā*).

must not ignore what has been propounded by others, but mention their opinions. They did not express themselves clearly about the number. The theory of Ideas does not have any specific investigation at all. The partisans of Ideas say that Ideas are Numbers, and concerning Numbers they sometimes express themselves as if they were infinite, and sometimes as if they were limited to ten. But as for the reason why there should be such a quantity of numbers, nothing has been said<sup>154</sup> with any demonstrative thoroughness. 1640

*Commentary:*

1641

Having shown that there is one eternal immaterial substance, he sets out to inquire whether there is one such existing substance or many, and if they are many, how many?

Since those among the Ancients who supported the theory of separate substances, namely the partisans of the Forms, did not express themselves convincingly concerning their number, he also points out that they were unable to clarify this concerning the substances which they posited. For if someone posits substances possessing such attributes, he must also posit their number and explain by which method one can count them. He says: "we must not ignore what has been propounded by others, but mention their opinions. They did not express themselves about the number". He means: he who examines our doctrines must not ignore the extent of our disagreement with others, and the partisans of separate substances did not say anything about their number.

He says: "the theory of Ideas does not have any specific investigation at all". He means: those who think that there are substances which are the models of things and their forms do not have anything specific to say about their number, he means *qua* forms, but if they say something about them, it is insofar as they are Numbers. This is what he indicates by the words: "the partisans of Ideas say that Ideas are Numbers". He means: insofar as they consider them to be Numbers, what they say concerning their number concerns the number of separate Numbers. 1642

He then mentions the view of the partisans of ideal Numbers concerning their number and says: "concerning Numbers they sometimes express themselves as if they were infinite, and sometimes as if they were limited to ten". He means: the partisans of ideal Numbers are found to defend two opinions concerning their number: firstly, the opinion of those who say that they are infinite, and secondly the opinion of those who say that their forms are limited to the dyad, the triad, the tetrad and so on up to the decad.

<sup>154</sup> Read. *lam yuqal shay'*.

Then he says: "but as for the reason why there should be a plurality of Numbers, and such a plurality, nothing has been said with any demonstrative thoroughness". He means: those who say that they are ten did not say it with any demonstrative argument.

*Textus 43 Aristotle says:*

1073a22 Let us start from the presuppositions which we have distinguished.  
 1643 The principle and first of the existents does not move, either by essence or by any kind of accident. It imparts the first eternal and single motion. Since the object moved must necessarily be moved by something, and the first mover is immovable by essence, and the eternal motion is caused by an eternal mover and the single motion by a single mover, and we see that besides the simple motion of the universe which we say to be caused by the first unmoved substance there are other eternal motions proper to the planets, and the body moved in circle is eternal, without rest (this has been explained in the *Physics*), then it is necessary that each one of these motions should be caused by something immovable by essence and an eternal substance. The nature of the stars is something eternal, and since the mover is also eternal and prior to the moved, then that which comes before the substance must necessarily be substance as well. It is clear that there must be as many substances as there are motions, that they are naturally eternal and immovable in themselves and that they must be without magnitude for the reason mentioned before.

1644 *Commentary:*

He says: we can explain the multiplicity of these substances on the basis of the things which we have explained, and we can indicate the method by which one can know their number. The principle of that is that which we have explained before, namely that the first of the existents and their principle is an object immovable either by essence or by accident, and that this principle produces the first eternal, single and continuous motion, I mean the daily motion.

1645 Then he says: "since the object moved must necessarily be moved by something... the nature of the stars is something eternal". He means: if it follows from our presuppositions that every object moved has an eternal mover unmoved in itself, and every eternal motion has an eternal mover unmoved in itself and unique because a single motion must have a single mover (otherwise it would not be continuous, nor unique), but we see in heaven a multiplicity of motions — besides the motion of the whole heaven of which we said that it is caused by the first unmoved substance — which are the motions of the planets, and it appears clearly that these motions are eternal because they are part of the eternal body which never

rests and whose motion has no end, according to what we have explained about it in physics,<sup>155</sup> then it is necessary that each one of these motions should have an unmoved mover, whose substance is eternal, for the nature of the stars is eternal.

Then he says: "if the mover is eternal and prior to the moved, then that which comes before the substance must necessarily be a substance". He means: if the mover of each one of these objects moved is prior to the objects moved by it, and the objects moved by it are substances, then all these movers must be substances.

Then he says: "it is clear that there must be as many substances... for the reason mentioned". He means: it is clear that the number of substances imparting motion must be equal to the number of motions for the reasons mentioned, that these causes must be eternal by nature and unmoved in themselves, and that they must be incorporeal for the reasons mentioned.

Textus 44 *Aristotle says:*

1646

It is clear, then, that there are substances and that one of them is first and another second according to the order of the stars. The number of these motions must be indicated by a branch of philosophy especially concerned with the mathematical sciences, with is the discipline (*qawl*) concerned with the motions of the stars. This (special philosophy) uses the speculation about the substance which is sensible, but eternal, whereas the others (branches of mathematics) do not speculate about substance at all, e.g. arithmetic and geometry. It is evident that the motions of the planets are multiple even to those who have only given moderate attention to it, because each one of the planets is seen to have more than one motion.

1073b1

*Commentary:*

He means: it is clear from this that there are eternal substances, more than one, and that among them there is a first, which is the mover of the universe, a second, a third, a fourth, according to the order of the spheres, starting from the first, that of the fixed stars.

What he says is evident from what precedes. That the mover of the universe precedes all is absolutely plain and indisputable, because they all obey and follow this great motion. It is prior to them in nature and also in position, and in magnitude, I mean its precedence appears from the precedence of that which is moved by it in respect of position, magnitude,

1647

<sup>155</sup> *‘ilm ṭabfī*, cf. n. 28 *supra*. The reference is to the demonstration of the eternity of the world and of the circular motion of the heaven in *de Caelo* I, 10.

number of stars and velocity of motion. All this implies its precedence over them in nobility and substance. It is also evident that the rank of these movers relatively to the first mover must follow the order of the spheres in space because their precedence in position and magnitude determines their hierarchy in nobility. But with regard to their velocity of motion, we find them in the opposite situation, I mean the closest to the earth is the fastest. This may be due either to the nobility of their movers or to the smallness of their bodies. Because of the condition of the sun with regard to its magnitude, to the importance of its action on the world and to the fact that all the motions of the planets are in accordance with the motions of the sun and follow them, it may be thought that the mover of the sun is prior to them; but their velocity, as we said, may be relative to the nobility of their moving substances or to the smallness of their bodies. It is possible to know their precedence in nobility over each other from the actions which the Ancients who were concerned with the action of each star on the world have ascribed to them. For instance, they ascribed life to the sun and a frozen state to Saturn. Their position relatively to the first is certain, but not their order one in relation to the other; the more likely is Aristotle's opinion that their hierarchy corresponds to their order in space.

1648

The opinions of later philosophers that there is a first substance prior to the mover of the universe is false, because each one of these substances is the principle of a sensible substance as mover and end. Therefore Aristotle said that if there were substances which did not impart motion, their action would be useless. What led them to this notion is an argument the falsity of which anybody with the slightest acquaintance with this science would perceive. They say that it is clear that some of these intellects result necessarily from others just as the effect results from the cause and the caused from the causing; the first substance must be absolutely one and absolutely simple; from the one and simple can only proceed or result a one; from the mover of the first heaven result the first heaven itself and the mover of the sphere which follows it, so that it must be non-simple and have a cause prior to it. But this argument is fallacious because in this case there is no production, no result, no action compelling us to say that a single action must come from a single agent, but there is only a cause and a caused, just as we say that the intelligible is the cause of the intellecting. If it is so, there is nothing to prevent that which is in itself intellect and intelligible from being the cause of various existents insofar as various aspects of it are intellectured. Thus, these intellects form different sorts of representations of it.

1649

Therefore the representation of the first mover as mover of the celestial body and cause of the heaven itself is different from the representation of

it as mover of the sphere of Saturn for instance, and so on for every sphere, I mean each one of them attains its perfection in the representation of its cause, which is peculiar to it, and in the representation of the first cause. All their motions follow thereby one single thing which is the order existing in the universe. This is how we must interpret the multiplicity of motions belonging to each star, I mean all must be linked with the motion of the star, and each of its movers attains its perfection by the representation of the first mover peculiar to that star. Therefore the motions of each star follow one single motion which is the motion of the star itself, and so we must understand that the motions of all the other spheres follow the motion of the sphere of the fixed stars itself, and that the perfection of each sphere's mover, I mean the first mover of each sphere, is achieved by the first mover of all. Therefore all follow this motion, I mean the daily motion which is the act of the first mover and the principle of all their acts. For it appears that all their particular motions, in that respect, exist for the sake of this motion and follow it and have a determined role in the order which they follow and which is the principle of their acts. 1650

It is possible to say that all the motions of the spheres follow one act and one order common to all of them. They must have one intelligible form besides the form which each sphere follows, I mean its own particular form. There is a form as final cause in addition to the form according to which each one of the other spheres is moved. We say that there is no form in the sense of common and universal final cause except their common act, which is the form which imparts to the first heaven its daily motion. For the co-operation of the celestial bodies in creating the existents and maintaining them in existence is comparable to the people of a good state who cooperate for the establishment of a good political constitution by modelling their actions on those of the first ruler, I mean they make their actions follow and obey the action of the first ruler. Just as the first ruler in cities must behave in a way peculiar to him, and this must be the noblest behaviour (otherwise he would be impotent and useless), and everybody under the first ruler imitates his behaviour, and just as these leaderships must have a first leadership, likewise the actions of the rulers must depend on a first action. Similar is the case of the arts which cooperate in the production of one object and are subordinate one to the other but aim all at one result, for instance all the techniques used to produce the art of horse-riding. It is in a similar way that we must understand the relation of these bodies to their intelligible forms which move them and the relation of these forms one to the other; it resembles the techniques that are subordinated one to the other, and that which they intellect one of the other are their principles which the intellect 1651

1652 peculiar to them derives from them. For instance the principles of the fabrication of bridles are taken from the specialist of horse-riding and so on with all the techniques subordinated to this technique. The difference between these things and the techniques is that the forms of the techniques moving the craftsman are in matter, whereas the former are not.

The habit of our contemporaries to say that such-and-such a mover proceeds from such-and-such a mover or emanates from it, or follows necessarily, or similar expressions, is something which is not correct in the case of these separate principles. All these are supposed to be attributes of agents but are not so in truth; for we have said before that what proceeds from the agent merely passes from potentiality into actuality. But there is no potentiality there, so that there is no agent either. There is only intellect and intelligible, perfecting and perfected in the same way as the techniques perfect each other by deriving their principles one from the other, and each of them, in its own realm, derives all its principles from the total, comprehensive technique. This is why we see that the science concerned with the First (praised by He!) is that which first philosophy contains. The science concerned with the principles which are below it is similar to the particular sciences which are below first philosophy. This has been explained by Nicolaos the Peripatetic in his book on the *Metaphysics*. This is why we see that the man who has attained this science has achieved the most perfect state of existence, and that it is the best of his actions because it is the action in which the best being shares. What is said on the authority of Plato's myth, namely that the creator created the angels himself and then entrusted them with the creation of mortal animals and remained himself idle and inactive is a myth which it is wrong to take as truth. It may be that such an imputation on the creator is the cause of the obligation of the sabbath in the religion of the Jews.

1653

What we have said concerning the movers of the other spheres applies equally to the movers which cooperate in moving each individual planet. I mean that any group goes back to a first mover and follows in all its motions that which is produced by this first mover.

This having been established, let us return to what we were discussing and let us say: since the specialist of this science accepts the number of the spheres on the astronomer's authority just as he assumes the existence of these principles on the natural philosopher's authority, he mentioned that and said: "the number of these motions must be indicated by a branch of philosophy especially concerned with the mathematical science which is the discipline concerned with the motions of the stars". He means: the specialist of this science must accept the number of movers

1654

from the mathematical science closest to this science — i.e. first philosophy — which is astronomy; he must accept, that is, the information it gives about the number of the motions, not the other matters it comprises.

He then explains the reason why this particular mathematical science is especially concerned with this science and says: “this uses the speculation about the substance which is sensible, but eternal, whereas the others do not speculate about substance at all, e.g. arithmetic and geometry”. He means: only this discipline among all others is concerned with this research because it inquires into eternal sensible substances, whereas the other branches of mathematics, e.g. arithmetic and geometry, inquire into accidents.

Then he says: “it is evident that the motions of the planets are multiple even to those who have only given moderate attention to it, because each one of the planets is seen to have more than one motion”. He means: it can be perceived by the senses that these stars have several motions; it will be evident to anyone who has studied mathematics even superficially that all the planets have more than one motion. 1655

You must know that the motions which have been ascertained by the metaphysicians are of three kinds: the motions which everybody can see, which are visible to the naked eye; the motions of stars which are only visible with the help of certain instruments; among those are stars which are visible over long periods, superior to the human life-span, and other which are visible for a short time; the third kind contains motions established by reasoning. For many motions appear to be simple to the naked eye, but if one applies to them the principles of physics, one is compelled to conclude that they are composed of more than one motion. For this discipline of astronomy which inquires into the motions of the stars cannot establish on the basis of the motions apparent to us the course of the causes unless it does not contradict the principles of physics. For instance, the planets appear to move sometimes faster and sometimes slower, sometimes in a straight line and sometimes backwards. This does not conform to the nature of the motions of the celestial bodies; he means: it has been shown in the *Physics* that all their motions are regular and that they cannot be faster or slower. So it appears that they cannot move in a straight line or backwards and the astronomer must therefore postulate a model<sup>156</sup> from which these apparent states would result without contradicting the laws of physics. This can happen only in two ways: either this motion which appears sometimes faster and 1656

<sup>156</sup> *Hay'a*. 'ilm al-hay'a is astronomy; in this sense, *hay'a* must be the geometrical model designed to “save the appearances”.

sometimes slower, sometimes forward and sometimes backward is composed and made up of several motions, or there are also eccentric spheres (litt: spheres the centre of which is outside the centre of the world), which the modern astronomers ascribe to eccentric spheres and epicycles. Therefore astronomers disagree as to the number of the motions of the stars. They often establish by observation the period of the motions of the stars, and when they calculate them, they find that it must be in a determined place of the zodiac, and when they look with instruments, they find it in a different position, and this compels them to modify their idea of the motion of this star.

1657 This is how Ptolemy established, for the moon and the other stars, several motions which had not been established before him, such as the motion which he calls opposite motion for the moon and the motion of the epicycle's diameter which was posited for the planets. This man could not posit a model for these motions. The same applies to his idea that the motions of the planets in their uniform eccentric spheres move around other centres than those of the eccentric spheres: he was not able to posit a model for this according to the principles on which he relied and which (apply) in (the case of) the epicycle (and)<sup>157</sup> eccentric sphere. All this will be evident to anyone with the slightest knowledge of astronomy.

Textus 45 *Aristotle says:*

1073b10 Concerning the number of these, we shall follow what some mathematicians have said in order to obtain some notion of this and so that our  
 1658 mind may admit a definite quantity. For the rest, we must either investigate it for ourselves, or examine it on the basis of what other investigators have said about it, in case those who dealt with<sup>158</sup> these things appear to say something different from what we now say, and we must respect both groups but follow the doctrine of those who investigated more thoroughly. Eudoxus posited that the motions of the sun and of the moon have three spheres each: the first is that of the fixed stars, the second is that of the middle of the zodiac and the third is that which is inclined across the breadth of the zodiac, but that of the moon is more inclined across the breadth than that of the sun.

*Commentary*

Since the metaphysician takes over the number of motions from the

<sup>157</sup> The "and" is only found in the Hebrew translations a and d (cf. *app. crit.*, n. 169), but is necessary for the sense. *Al-khārij* is short for *al-khārij al-markaz*.

<sup>158</sup> For *ista mala* in the sense of *πραγματεθεσθαι*, cf. Dozy, *Supplément aux dictionnaires arabes*, s.v.

astronomer, and astronomers have disagreed in this respect, he decides to mention the opinion most widespread in his time and adds that even if it does not carry conviction, it is nevertheless useful, because it is better to have a definite number present in the mind and to verify whether it is correct rather than to have no number at all. Such principles are best known since many of them are based on the measurement of the motions of the stars, which is something which cannot be perceived in a human lifetime. There is no doubt that in (astronomical) observation one must trust (the results) of the past, and then the measurement of the motions will be correct. If they study them by observation, maybe some motions will appear in addition to the motion perceived by the senses, as happened to Ptolemy when he posited for the moon two more motions in addition to those recognized by the Ancients; these two motions are known as the reduplicating motion and the relative motion. Because of the difficulty of these questions, it is not possible to use indisputable premises in them; generally accepted premises must be used in this matter instead of indisputable premises, but (only) if there is no disagreement concerning them. If there is disagreement, however, there is no reliable principle (*amr*) and one must follow one's opinion, except for what is included in the disagreement. However it may be, it is better to know what people say concerning this rather than not to know it. Therefore he says: "we shall follow what some mathematicians have said in order to obtain some notion of this and so that our mind may admit a definite quantity".

Then he says: "for the rest, we must either investigate it for ourselves, or examine it on the basis of what other investigators have said about it". He means: if there are other motions besides those which I calculate, we must inquire about them in another discipline or borrow them from those who have inquired about them.

Having recalled this, he begins to expound what the mathematicians of his time had said concerning (the stars') motions. He mentions two men well-known in his time among those who were most concerned with this problem. He says that Eudoxus postulated three spheres for the sun and the moon, i.e. for each one of the two, one sphere for the easterly motion, meaning their motion from east to west in one day and one night, the second sphere for the longitudinal motion, and the third sphere for the latitudinal motion; he did so on the grounds that the longitudinal and the latitudinal motions are two distinct motions. But the mathematicians of our time postulate only one motion, which is the motion of the star in its oblique sphere; through its connection with the sphere of the zodiac, it acquires a longitudinal and a latitudinal motion. It is unnecessary to assume two motions produced by two bodies, because what nature can

do with one instrument, it will not do with two. Accordingly, the sun has only two motions unless it is necessary to introduce a third motion to account for the apparent velocity and slowness.

The theory of eccentric spheres or of epicycles is contrary to nature. The epicycle is altogether impossible because the body moving in a circle moves about the centre of the universe, not outside it, since that which moves in a circle defines the centre. If there were a circular motion out of this centre, there would be another centre beside the former and another earth beside this earth. The impossibility of all this has been shown in natural philosophy. This is what the situation seems to be with regard to the eccentric sphere postulated by Ptolemy: if there were several centres, there would be heavy bodies somewhere other than the earth; the middle would not be one but would have breadth and could be divided; all this is not correct. Also, if there were eccentric spheres, there would be superfluous bodies in heaven, with no purpose but as filling, as is thought to be the case in animal bodies. But there is nothing in the apparent motions of these stars that compels us to postulate the existence of epicycles or eccentric spheres.

Perhaps the spiral<sup>159</sup> motions posited by Aristotle in this astronomical model on the authority of his predecessors would allow us to do without these two things. It seems that the astronomers before Hipparchus and Ptolemy had postulated neither epicycles nor eccentric spheres. This was explained by Ptolemy in the book known as *al-Iqtisās*.<sup>160</sup> He claims that Aristotle and his predecessors had posited, instead of these, spiral motions and he says that according to them there are many of these motions. But their successors, he says, found a simpler method: they succeeded in reducing the number of the apparent motions of the (celestial) bodies. This is an allusion to the epicycle and the eccentric sphere. He claims that this method is preferable with regard to the acknowledged principle that nature does not work in vain and that if it can move something with few instruments, it will not move it with many.

Ptolemy was free from what had compelled the Ancients to accept spiral motions, namely the impossibility of the epicycle and the eccentric sphere. When people came to think that this astronomical model made it simpler and easier to explain the recurrence of the motions, i.e. that established in Ptolemy's book, they abandoned the old astronomy, so the knowledge of it passed away and today one cannot understand what

<sup>159</sup> On the confusion made by Ibn Rushd here, cf. *supra*, p. 55.

<sup>160</sup> The ὑποθέσεις τῶν πλανητῶν. The word *iqtiṣās* does not seem, *prima facie*, to be susceptible of acquiring the meaning of Gr. ὑπόθεσις. I wonder if it may not have been in the first place a mere transcription of the Greek term, ἡ-θ-ῆ-ῆ, which was then misspelled and reinterpreted as a derivation from the root q-ṣ-ṣ.

Aristotle says in this passage on the authority of these people. Alexander and Themistius acknowledged this but they did not understand the reason which we have mentioned.<sup>161</sup>

We must examine this ancient astronomy from the beginning. It is the true astronomical scheme which is in accordance with the natural principles. It is based, I think, on the motion of one single sphere about one single centre and two different poles and more, according to what appears to the senses, because motions like these can make a star go faster and slower, forwards and backwards and have all the motions for which Ptolemy was unable to find a model. On account of that, a star can appear to get nearer or remoter as the moon appears to do. In my youth, I hoped to make a complete study of this, but now that I have grown old, I have given up this idea because of the obstacles I found in my way before. But this explanation will perhaps induce somebody to study these things later. In our time, astronomy is no longer something real; the model existing in our time is a model conforming to calculation, not to reality. 1664

The Ancients after Aristotle ascribed to the moon one single motion, a local motion cutting across the zodiac and its oblique sphere; it is that which they know as motion of the *Jawzahar*.<sup>162</sup> But Ptolemy devised for it, by analogy with the sun, a fourth motion, and, relatively to the centre about which the moon accomplishes its regular revolution, a fifth motion which he calls motion opposite to the epicycle's diameter. But he cannot give a scheme for this motion according to his principles. 1665

Textus 46 *Aristotle says:*

As for the planets, each one of them involves four spheres; of these, the first and the second are the same as the former; that which belongs to the fixed (stars) is that which carries them all in its motion, and that which is placed beneath the former and whose motion is in the middle of the zodiac is common to all; the third, which belongs to all of them, has its poles on that which is in the middle of the zodiac; the motion of the fourth is inclined towards the middle of this (the zodiac); the poles of the third sphere, in the case of all the other stars, are peculiar to them, and in the case of Venus and Mercury, are the same. 1073b22

<sup>161</sup> I.e. they acknowledged this difference between the two astronomical systems, or: they acknowledged that the old system was no longer understood. Freudenthal's translation: *zu ihr* (= the old astronomy) *haben sich A. und T. bekannt* is also possible. *Lam yash'urū li-* is an odd construction. Perhaps read *bi-* (easily confused with *li-* in mss.).

<sup>162</sup> Cf EI<sup>2</sup> s.v. Read: *taqtāf: divides*.

1666 *Commentary:*

Having explained, on the subject of Eudoxus, that he posited six spheres for the sun and the moon, three for each of them, he sets out to explain that he posited four spheres for each one of the planets, that is, he posited the three spheres which he posited for the sun and the moon and added to them a fourth sphere; it is probable that this fourth was for the straight motion and the retrogradation which are apparent with regard to these five stars.

His words: "of these, the first and the second are the same as the former" mean: the first sphere of the planets and the second are analogous to the first and the second of the sun and the moon, I mean the sphere which imparts to them the daily motion and the sphere which imparts to them the opposite of this motion, which is peculiar to the star and is from the west to the east and in the middle of the zodiac.

His words: "that which belongs to the fixed (stars) is that which carries them all in its motion" mean: the first sphere of each star is analogous to the first sphere of the whole heaven which carries all the spheres in its motion from east to west in (one) day and (one) night..

1667 His words: "that which is placed beneath the former and whose motion is in the middle of the zodiac is common to all" mean: the second sphere, common to all stars, is the sphere which passes in the middle of the sphere of the zodiac. He means that which deviates from the first sphere; this is also common to all stars since they are seen to move in this sphere; and because it is also seen that they have a latitudinal motion in this sphere, (astronomers) posited for them a sphere inclined on that sphere; it was the Ancients' belief that the sun has a latitudinal motion with regard to the sphere of the zodiac and the circle,<sup>163</sup> other than its latitudinal motion with regard to the celestial equator, i.e. the circle whose poles are the poles of the universe. Therefore, they posited three spheres for the sun just as they did for all the other stars. As for Ptolemy, the sun, according to him, has no latitudinal motion except with regard to the celestial equator which is the middle of the sphere of the fixed stars.

His words: "the third, which belongs to all of them, has its poles on that which is in the middle of the zodiac" mean: this third (sphere) which produces the inclination relative to the middle of the zodiac in all the stars. The words: "has its poles on that which is in the middle of the zodiac" mean: after they had posited the sphere in which it (the star) moves along the middle of the zodiac as distinct from the sphere in which it moves in inclination relatively to the middle of the zodiac, it was

<sup>163</sup> "Zodiac" and "circle" (i.e. oblique circle) are of course the same thing.

necessary that this sphere should have its poles on the circle of the middle of the zodiac, for if the star moves on the sphere whose great circle (circumference) passes along the middle of the zodiac and moves away from the sphere whose poles are on this circle, it is necessarily seen to be inclined with regard to the middle circle which is in the sphere of the zodiac. 1668

His words: "the motion of the fourth is inclined towards the middle of this" mean: this sphere is inclined relatively to the middle of this third.

His words: "the poles of the third sphere in the case of all the stars are peculiar to them and, in the case of Venus and Mercury, are the same" mean: my opinion, concerning these inclined spheres, is that they are common to all stars.

Textus 47 *Aristotle says:*

As for Callipus, he made the same assumptions as Eudoxus concerning the position of the spheres, but as for their number, his theory was the same with regard to Jupiter and Saturn, whereas with regard to the sun and the moon, it may be thought that (there are) two additional spheres if one wants to account for appearances; and with regard to all the other planets, one (more) for each one. It is necessary that the star should not move by means of its own body, but be moved by a sphere. If all of them are combined in such a way as to account for appearances in the case of each planet, it is necessary that there should be other spheres, less numerous, which impart a spiral motion and for ever bring the first sphere back to its same position, and this sphere is that of the star placed under it; it is only in this way that the motions of all the planets can take place. The spheres, then, in which they (= the stars) move, are on the one hand eight and on the other hand twenty-five, and among these, only those involved in the motion of the lowest<sup>164</sup> of them (the stars) need not have the spiral motion; those which impart the spiral motion are, for the first two (planets), six, and for the last four, sixteen; the number, then, of all those which are in motion and (of those) which have the spiral motion is fifty-five; but if one did not add the aforementioned motions to the moon and the sun, the spheres would then be forty-seven altogether. Let this be the number of the spheres. 1073b32 1669 1670

*Commentary:*

He says: as for Callipus, he assumed the same arrangement of the spheres as Eudoxus, but as for their number, he assumed it to be greater 1671

<sup>164</sup> Reading *asfal* (cf. *app. crit.* n. 49), which is the correct reading, although Ibn Rushd's explanation (1676,4) implies that he read *ashal*.

than Eudoxus has assumed, except in the case of Jupiter and Saturn, regarding which his theory is the same as that of Eudoxus.

His words: "with regard to the sun and the moon, it may be thought that (there are) two additional spheres if one wants to account for appearances" mean: this man increased the number of the spheres of the sun and the moon, which Eudoxus had said to be four, two for each, in order thus to explain their apparent motions; I think he added this because of the apparent velocity and slowness of their motions, that is, in order to indicate the causes of their velocity and slowness, since it is not true to say that the motion of the same star is both fast and slow, unless it is composed of several motions.

1672 Then he says: "with regard to all the other planets, one (more) for each one". He means: he increases the number of the spheres of the planets by one sphere for each (star) and posits five spheres for each one of the planets.

His words: "it is necessary that the star should not move by means of its own body" mean: he posited this additional sphere because he saw that it is not possible for a star to have different motions insofar as it is moved by itself, but only insofar as it is part of a sphere.

Then he says: "if all of them are combined in such a way as to account for appearances in the case of each planet it is necessary that there should be other spheres, less numerous, which impart a spiral motion and bring the first sphere back to its same position, and this sphere is that of the star placed under it". He means: they all agree that each star has spheres, one less than the former spheres; each one of these additional spheres moves each one of the former spheres in the sense opposite to that of the former spheres, so that it results from this that the star appears to be back in its former position in the sphere of the zodiac and then is seen to set out on a rectilinear course. It is as though he meant that the necessary consequence of the opposite motions of these spheres is that the star has a spiral motion and appears to move backwards and in a straight line.

1673 According to what Alexander says, (the Ancients) posited for each one of the former spheres of the stars, except the sphere of the zodiac, a sphere moving that sphere on the same pole in the sense opposite to that of the former sphere, and they placed these spheres, rotating in the opposite direction (as follows:) the fifth beneath the fourth and rotating on the same pole, the sixth beneath the third and on the same pole as it, and the seventh beneath the second and on the same pole as it; they claimed that by that kind of composite motion it was possible to make what appears to the senses conform to the motions of these stars.

This astronomical model is not clear to us in this account with regard to what has become known in our time concerning the motions of these

stars. Likewise, the matter is not clear concerning the occurrence of the spiral motions of the stars from these opposite motions, unless they are placed on different poles. Opposite motions on the same poles cancel each other out, i.e. (the stars) cannot have two opposite motions on the same pole, whereas on different poles it is possible. The same holds in the case of different centres, unless it is suggested that if we assume the sphere on which the star is to be placed between two spheres moving in opposite (directions), that is to say each one of them (in the direction) opposite to (that of) the other, then the result of that for the sphere on which the star is, is that it will have a spiral motion. Such a motion, however, (results from) compulsion, and compulsory motion is impossible for the celestial bodies. Therefore, it is best to think of these spiral motions as resulting from opposite motions on different poles, for it thus happens that the star is seen to proceed sometimes forwards and sometimes backwards, sometimes quickly and sometimes slowly; it also happens, in the same way, that its latitude in the sphere of the zodiac varies. Let us work on this basis, because assuming such a basis results in no absurdity and it is possible to make all the appearances conform to it. This spiral motion is a motion which exists in the heaven through the combination of the daily motion with the motion of the stars in their oblique circles, i.e. the astronomers have agreed that the poles of the oblique spheres revolve in the daily motion about the two poles of the universe; the mathematicians of our peninsula, i.e. the Spanish Peninsula, claim that this motion belongs to the sphere of the fixed stars and it is the motion which they call accession and recession.

His words: "the spheres, then, in which they (= the stars) move are on the one hand eight and on the other hand twenty-five" mean: by the twenty-five, the spheres which account for the planets having their particular motions, because this man posited for each of the planets five spheres; the planets are five, and so the number of their spheres, according to him, is twenty-five; and by the eight he means the four rotating (spheres) which he added to the sun and to the moon,<sup>165</sup> those which impart to their former spheres a spiral motion, i.e. to the spheres which they had posited for the sun and for the moon, and the four imparting to the sphere of Saturn a spiral rotation.

Then he says: "among these, those involved in the motion of the lowest of them (= the stars) need not have the spiral motion". He means: the sphere among these which has a regular (*sahl*) motion, i.e. the

<sup>165</sup> This, of course, is quite wrong; the twenty-five spheres are those of the five stars (Mars, Venus, Mercury, Sun, Moon) which have five spheres each, and the eight those of Saturn and Jupiter.

powerful one (*shadīd*), which is the last sphere, on which the star is placed, does not have a sphere imparting to it a spiral motion, and therefore the assumed (number) of rotating (spheres) is only one less than the others. He said that, in my opinion, because the sun and moon do not appear to have a forward and a backward motion, but they do appear to move faster and more slowly.

His words: "those which impart the spiral motion are, for the first two (planets), six, and for the last four, sixteen" mean: by the six, the former spheres which are those of the sun and the moon, i.e. the carrying (*nāqila*), not the rotating (*mudīra*); and by the sixteen, he means the rotating of the four planets, so that the number of the spheres, as he says, is fifty-five, of which thirty-one are carrying and twenty-four rotating.<sup>166</sup>

Then he says: "but if one did not add the aforementioned (motions) to the moon and the sun, the spheres would then be forty-seven altogether".  
 1677 He means: if one omitted the additional four which are those of the sun and the moon, in accordance with Eudoxus' doctrine, the number of the spheres would be, in his (= Aristotle's) doctrine, forty-seven, and on the face of what he says the number of the spheres, in Eudoxus' doctrine, should have been forty-six because the latter added, to the rotating (spheres), four, which are those which he assumed for the sun and the moon, and he added to the carrying (spheres) of the planets five (spheres).

Textus 48 *Aristotle says:*

1074a15 It must be considered, then, that the unmovable, and also the perceptible, principles, are this many; the assertion must of necessity be left to more powerful people. But if they did not think that there is any  
 1678 motion at all which does not correspond to the motion of a star and if the argument compels (us to say) that one must think that every nature and every substance in which there is no passivity and which exists by itself has attained the most perfect state, then there is not a single other nature beside these; this must be the number of the substances. If there are others, they will impart motion because they are the perfection (*īamām*) of a motion. But there cannot be other motions apart from those that

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<sup>166</sup> In this paragraph, Ibn Rushd's thought is utterly muddled. First of all, the "former spheres" are not those of the sun and the moon, but of Saturn and Jupiter. Secondly, the meaning of the distinction between *nāqila* and *mudīra* is obscure. The figures 31 and 24 seem to have been obtained by adding the 25 and 8 spheres of 1675, 14-15 to the 6 and 16 of 1676, 10-11, that is to say, in Aristotelian terms, the rotating spheres of the five planets other than Saturn and Jupiter to the counteracting spheres of Saturn and Jupiter, and the 8 rotating spheres of Saturn and Jupiter to the 16 counteracting spheres of Mars, Venus, Mercury and the sun.

have been mentioned, and this must be inferred from the (objects) moved; if every motion exists because of that which is moved and every motion moves something, then there is no motion whatever which moves itself or another motion, but they exist because of the stars. If a motion exists because of a motion, then the latter must also exist because of another. Since it is not possible, then, that what is in perfection should be infinite, every motion is for one of the celestial bodies which move in the heaven.

*Commentary:*

1679

Having established that the number of the motions is either fifty-five or forty-seven, and as it was clear that the number of the moving substances must be the same as that of the heavenly bodies which are in motion, he says that one must consider that this is the number of the immaterial moving substances and the number of the perceptible substances in motion, and be persuaded of that for the time being; as for the knowledge of the necessary and true state of affairs with regard to this, it must be left to those who have devoted more care to this discipline, i.e. those who have applied themselves to it and have not occupied themselves with any other.

You must know that the number of motions agreed upon at this time is two for the sun, five for the moon, seven for Mercury, eight for each of the other planets, and two for the sphere of the fixed stars, the daily motion and a motion of accession and recession which Ptolemy thought to be a complete motion belonging to that sphere, from west to east, as in the case of the planets. All this represents fifty motions. The motion of the apogee is also doubtful, i.e. the apogee of the sun. This is their (= the motions') number only if they are regarded as simple and if their positions are those postulated by Ptolemy; but if they are regarded as motions composed of more than one motion, according to the old astronomical model, they will be nearly twice as many.

1680

His words: "but if it is not thought that there is motion at all which does not correspond to the motion of a star" until "this must be the number of the substances" mean: if we have posited that there cannot be any celestial body<sup>167</sup> which does not contribute to the motion of one of the stars, and we have (also) posited that the moving principles cannot but be in the most perfect state because no material passivity touches them — since they exist by themselves, i.e. they are not in matter — and further, that their being in the most perfect state consists in their being movers, then the method of counting the number of these principles must

1681

<sup>167</sup> Ibn Rushd's language is inaccurate; he means "any celestial sphere".

be this method, i.e. (the method of) counting the motions of the stars; for if we posit that there is no separate substance which does not impart motion because (if it existed), it would be in the most defective state, and we posit that every sphere exists for the sake of the star — otherwise its existence would be useless — then it is clear that the method of counting the separate substances consists in counting the motions of the stars.

Then he confirms this meaning and says: “if there are others, they will impart motion because they are the perfection of a motion”. He means: for if there are other substances besides these, there must be other celestial bodies in motion beside these bodies; for the nature of every one of these substances is to be the end of a motion, its goal and its perfection. Then he pursues his hypothetical syllogism by denying the consequent and says: “but there cannot be other motions apart from those that have been mentioned”. He means: there cannot be other motions apart from those which have been perceived, or are perceived, and it is not possible, then, that there should be other moving substances beside those which correspond to the number of the motions.

Then he says: “this must be (inferred) from the (objects) moved”. He means: there must not be other motions apart from those which have been mentioned, because there are no other objects in motion beside those which have been mentioned.

1682 Then he sets out to explain this notion and says: “if every motion exists because of that which is moved and every motion moves something, then there is no motion whatever which moves itself or another motion, but they exist because of the stars”. He means: the number of the motions must be the same as the number of the objects moved and of the movers, for if every motion exists only for something which is moved, and every motion also exists only because of something which imparts motion,<sup>168</sup> and (if) no motion exists because of itself or because of another motion — even if this other were because of the stars — but every motion is because of the star, then the number of the motions, of the objects moved and of the movers must be the same. He said this because someone might say: maybe there are other motions (which are) because of the motions which you have stated.

Then he sets out to explain this notion and to clarify it. He says: “if a motion exists because of a motion, then the latter must also exist because of another. Since it is not possible, then, that what is in perfection should be infinite, every motion is for one of the celestial bodies which move in heaven”. He means: if the motion is because of another motion, this

<sup>168</sup> Here and in the following pages, *min-ajli*, according to Arabic usage, is used indifferently to mean “because of” and “for the sake of”.

motion must also be because of another and this will go on *ad infinitum*. That which has an end and a perfection cannot be infinite because the infinite has no end. It is necessary, then, that every motion should be because of one of the divine bodies which move in the heaven, i.e. the stars. 1683

Textus 49 Aristotle says:

That the heaven is one is evident; if there were many heavens, they would be like men. If the principle (*bad'*) of each one is one, and it is in number one many, and another many has matter the same definition applies equally to a multiplicity, for instance the definition of man; but Socrates is one, and that which exists in the first essence does not have matter because it is perfection (*tamām*). The first unmovable mover, then, is one in definition and in number. Therefore, that which is moved always and continuously must be only one; therefore, there is only one heaven. 1074a31 1684

*Commentary:*

By the words: "that the heaven is one is evident", he points out that the world is one and there are not many worlds, because if it were so, there would be many heavens, for, as he says, if there were many heavens, they would be like individual men and the heavens would be one in definition and many in number, as, for instance, man who is one in definition and many in number, since (the species) "man" is divided into Zayd and 'Amr and Khalid; and this is what he shows by the words: "if the principle of each one is one in number, it is in number one many". He means: if there are many heavens, the principle of each heaven must be one in number and the principles of the heavens will be one in species and many in number. This is clearer in another translation which says: "the principle which is one will be one in species and many in number". He probably means: the principle which we assumed to be one in number will be many in number. 1685

Then he says: "one many in number has matter". He means: everything that is one and many in number, that is one in species and many in number, has matter; but it is evident that the principle of the heaven has no matter.

Then he says: "the same definition applies equally to a multiplicity, for instance the definition of man; but Socrates is one". He means: those which are one in definition are many in number, for instance man; for he is one in number and many in potentiality, for instance Socrates, Plato and Callias. 1686

Then he says: "that which exists in the first essence does not have

matter because it is a kind of perfection". He means: the reason why it is so is that the first essence (*māhiyya*), which indicates the existence of the thing, must not have matter, for if it had matter, it would have another essence, and so on *ad infinitum*. Therefore, what is necessary in the case of the first essence insofar as it is perfection and end is that it should not have a form, but (it must) be simple, and everything simple is not in matter.

Then he says: "the first unmovable mover, then, is one in definition and in number". He means: the first mover, then, must be one in definition (*hadd*) and number. Then he says: "therefore, that which is moved always and continuously must be only one; therefore, there is only one heaven". He means: if the first mover is one in number, then it is clear that the first object moved by it, if its motion is eternal and continuous, must also be one in number, i.e. insofar as it receives a single continuous and eternal motion from a mover (that is) one in number and definition.

1687 *Textus 50 Aristotle says:*

1074a38

There are things which have been transmitted from the Ancients and the very first (men) and have remained for those who came after them, such as the traditions saying that these are gods and that the divine encompasses all that which exists by nature. The rest of this assumed the form of traditions designed to persuade the multitude and for the benefit of the laws and of that which is best for men. Therefore, they say that these are similar to some of the other animals and other things similar to these, distinct from what has been said. But if one of these (traditions) were separated and if the first were taken by itself, i.e. that (the Ancients) regarded the first substances as gods, then it will be thought that this saying is divine and proper, since every one of the arts and philosophy have probably been said<sup>169</sup> many times, as far as possible and they also perish. These views of theirs have survived to some extent until now; concerning the view of our fathers on the universe, this is the extent of the explanation which we can give of it.

1688 *Commentary:*

As he was the first among the men of his time to have perceived this principle and nobody had preceded him in this theory, he wants to take as witness for his theory ancient sayings inherited from the Chaldeans, of whom it is thought that Wisdom was already professed among them;

<sup>169</sup> *Sic!* The translator read εἰρημένη instead of εὐρημένη, an easy confusion of Greek ι and υ.

but what remained of these sayings is in the form of symbols. He says: "there are things which have been transmitted from the Ancients and the very first" until "encompasses all that which exists by nature". He means there are sayings which have been reported from the most ancient men (and) which are nowadays in the form of symbols, i.e. that these celestial bodies are gods and that they are those which encompass all things which exist by nature.

Then he says: "the rest of this assumed the form of traditions designed to persuade the multitude and for the benefit of the laws". He means: the signs and symbols found in these bodies besides that which is transmitted from the Chaldaeans are pure symbols which contain no truth at all, aimed at persuading the people to improve their morals and (to do) that which is best for them; this is what is intended by "benefit of the laws".

Then he says: "therefore, they say that these are similar to some of the other animals". He means: these symbols are what they say concerning these bodies, namely that they are similar to some of the animals; this is an allusion on his part to the forms of the spheres which they said are on the same pattern as the forms which are in this world and that the forms which are in this world obey those; this is what those who profess astrology say. 1689

His words: "and other things similar to these, distinct from what has been said" mean: other symbols, besides what has been explained concerning these principles and not consistent with them, not even by far-fetched interpretation.

The words: "if one of these were separated and if the first were taken by itself, i.e. that (the Ancients) regarded the first substances as gods, then it will be thought that this saying is divine and proper" mean: if one interpreted (these words, saying) that they merely allegorized by means of the "gods" and meant the first substances which are the principles of the celestial bodies,<sup>170</sup> this would be a correct interpretation and an allegory consistent with the truth, because if anything were to be expressed by "the gods", these substances would be the most apt to receive this expression; what shows that the Ancients meant by "the gods" only these substances is the fact that he believes that philosophy had already been discovered and lost an infinite number of times, like all the other arts; this is what he means by: "since every one of the arts and philosophy have probably been said many times, as far as possible and they also perish". He means: we believe that, by this allegory, the Ancients intended what has been explained by demonstration concerning 1690

<sup>170</sup> The Arabic has *al-ajrām al-samāwiyya wa-'l-ajsām al-samāwiyya*. The repetition was surely not intended

these first principles, because we believe that these things have been said and understood many times, since this was possible with every art and craft, and philosophy is one of them. For everything that comes into being decays, and everything that comes into being and decays recurs in the same species an infinite number of times.<sup>171</sup>

His words: "these views of theirs have survived to some extent until now" mean: therefore, one must believe that these allegories are surviving remnants of their opinions which have passed away and disappeared.

1691 Textus 51 *Aristotle says*:

1074b13

Concerning the view of our forefathers on everything, this is the extent of the explanation which we can give of it, and it concerns the intellect only, with regard to which there are some problems. For it is held to be most divine among the phenomena, but the question how it will be such as this involves some difficulty. For if it does not think anything, what is the noble thing which it possesses? It will only be like that which belongs to one who is asleep. And if it thinks but has another master because its substance is not this intellection, but a potentiality belonging to it, then it is not the best substance, because its nobility only arises for it because it thinks. Further, if its substance is intellect or intellection, then it belongs to itself or to something else; if it is something else, what is that which is always the same and not different? Is there no difference at all between the intellection of the excellent and of any chance thing? Or is it impossible that it should think other things?<sup>172</sup> It is clear that it thinks a

1692

most divine and most noble<sup>173</sup> intellect, and that it does not change; for change would be towards that which is worse, and such a thing would be a kind of motion. First, if it is not intellection but a potentiality, then the continuity of intellection must be wearisome to it. Then, it is clear that the most noble will be something different from the intellect, (that is) the object of intellection; for it will be intellection even if it thinks that which has the lowest intellection too. Therefore, if this must be avoided, it is better not to see certain things rather than to see them; the best thing, then, does not think; therefore it thinks itself since it is the most powerful, and it thinks intellection. But it is always seen that knowledge, perception, thought and intellection are of something else, and

<sup>171</sup> I.e. it is specifically eternal.

<sup>172</sup> *Ghayriyya* usually means "differentiation", "otherness" (Gr. ἐτερότης), cf. Bouyges' *Indices* pp. (72), (211). Here, this sense is hardly suitable I suspect that the translator read ΑΑΛΩΝ instead of ΕΝΙΩΝ.

<sup>173</sup> Read: *karīm*<sup>m</sup>.

only by accident of themselves. Further, if intellection and being the object of intellection are two different things, which one of them will have excellence? The essence of intellection is not the same as being the object of intellection, as in some cases knowledge is the known thing; in the case of intellectual<sup>174</sup> things, the substance without matter and the "what is it in essence" too; but in speculative (things), the thing is the definition and the intellection, and thus the object of intellection is not different from the intellect and everything which is without matter is the same because intellection and being an object of intellection are also the same. There remains a problem if the object of intellection is composite, for then it will change in the parts of the whole; or is everything which is immaterial indivisible, for instance the human intellect and that of the composite excellent in this (respect) in this way? But the excellent in something is whole and something else. In this way, intellection is of itself throughout eternity. 1693

*Commentary:*

Since this object of research is the noblest of the objects of research dealing with God and consists in knowing what is His object of intellection, which every man desires by nature, and the Chaldaeans had already investigated, he called it the ancestral view and the view of our forefathers, and he mentioned that it contains a great difficulty *viz.* what is the object of the deity's intellection? 1694

Then he adduces the difficulty about this and says: "for it is held to be most divine among the phenomena". He means: it is held that among the things which appear to us, it must be the most exalted of all the existents, that is to say in the highest degree of excellence and exaltation, so that there is nothing more exalted than it.

Then he says: "but the question how it will be such as this involves some difficulty". He means: the object of the difficulty is not the fact that the deity must be in the highest degree of perfection and better than everything, but the object of the difficulty is merely: in which state is this thing which is in the supreme degree of perfection by itself insofar as it is in this state?

Then he says: "for if it does not think anything, what is the noble thing which it possesses? It will only be like that which belongs to one who is asleep". He means: if it is intellecting, it must always be in one of two conditions: either in the state in which he who knows does not use his knowledge, or in the state in which he uses his knowledge. If it is in the state in which it does not use its knowledge, it is like one who is asleep 1695

<sup>174</sup> Sic 'aqliyya for ff'liyya.

and it does not have the excellent and noble state of he who knows, that is the state in which he uses his knowledge, and this is bad and impossible, because it would (then) not be in the best of states and we had assumed that it was in the best of states. And if it is in the state in which he who knows uses his knowledge, then what is the thing which it thinks in this state? It must be master in the highest degree, that is the most exalted of the existents, and here is another existent more exalted than it, for the object of intellection is the perfection of he who exerts his intellection, and this is what he indicates by the words: "and if it thinks but has another master", meaning: something more exalted than it(self).

Then he says: "because this intellection is not its substance but a potentiality belonging to it". He means: the reason for this is that it thinks something different from itself and its substance is not its actuality, but its substance is the potentiality by which it acquires this actuality, and by necessity it becomes perfect through this actuality as our intellect becomes perfect through the thing which it thinks.

Then he says: "then it is not the best substance, because its nobility only arises for it because it thinks". He means: then its substance is not the best of all existents because its excellence only arises for it insofar as it becomes perfect through something else, and this other thing must of necessity be better than it, since the object of intellection is the perfection of the intellect.

Then he says: "further, if its substance is intellect or intellection, then it belongs to itself or to something else". He means: if its substance consists in thinking, then it will think either itself or another thing external to itself.

Then he says: "if it is something else, what is that which is always the same and not different?". He means: if its being eternally consists in thinking something else, what is that thing which is always one by itself, without there being with it something else, but is always in something else's being? This is inconsistent with what had been laid down with regard to the principle, i.e. that the first principle is that which always exists without any need for something else.

Then he says: "is there no difference at all between intellection of the excellent and of any chance thing?" He means: is it necessary that there should not be any difference at all, in our positing that the deity thinks, between its thinking the good or its thinking any thing whatever, good or bad?

Then he says: "or is it impossible that it should think changeable things? It is clear that it thinks a most divine and most noble intellect, and that it does not change; for change would be towards that which is worse". He means: or shall we say that it is impossible that its intellect

should be made perfect by any thing whatever? For the intellect of that which thinks any thing whatever follows that thing which it thinks, that is, it is always below it in rank; it is a primary notion of ours that the divine intellect must be in the highest degree of excellence and perfection. Further, that which thinks something distinct from itself changes in its substance into something else, and everything which changes into something else can change into something which is worse, namely when it changes into something lower than itself; he means that if the deity thinks everything, it must change into something which is lower.

Then he says: "and such a thing would be a kind of motion". He means: that whose intellect is like this intellect, i.e. passes from potentiality into actuality, as is the case of our intellect, its intellect is a motion, and every motion proceeds from a mover; the deity, then, must be affected and moved by something other than itself, and this is bad and impossible in the highest degree.

Then he says: "first, if it is not intellection but a potentiality, then the continuity of intellection must be wearisome to it". He means: if it moves from one thing to another in its intellection, that is if it thinks one thing after another, as does our intellect, and does not think all at once, then its pursuing the intelligibles must be wearisome to it, as it wants to think them all and to count them all. But this is a necessary consequence only if we assume that it thinks all things successively, one after another; and if we assume that it thinks them all at once, this does not follow, but it follows that there is a multiplicity in it and that it reaches perfection through the lower. 1698

Then he says: "after that, it is known that what is most noble is another thing, as is the case of the intellect of those who think; for it thinks by an intellect, and the defective is that which is thought. Then it is clear that the most noble will be something different from the intellect, viz. the object of intellection: for it will be intellection even if it thinks that which has the lowest intellection."<sup>175</sup> He means: it is known that the principle which is in the highest degree of nobility and excellence acquires its nobility from its actuality, like the intellect of those who think. He means that they acquire excellence from the actuality of the intellect, and if the deity thinks lowly things, its nobility and its excellence will consist in its thinking lowly things and its actuality will be one of the lowest actualities. 1699

Then he says: "therefore, if this must be avoided, it is better not to see

<sup>175</sup> The text gives two lemmas taken from two different translations, the second one being that of the textus. The alternative translation was probably added at first in the margin whence it crept into the text.

certain things rather than to see them". He means: if the noble man must avoid performing lowly actions, it must be preferable and better for us not to see certain things rather than to see them, and even if it is better to see them than not to see them, this need not necessarily be absolutely better; it is only in the case of excellent things that it is better to see than not to see. He says that to prevent anyone from objecting that the consequence of this is that the deity is ignorant of many things. It is as though he said, in reply to that, that ignorance of lowly things is preferable to knowledge of them.

His words: "the best thing, then, does not think" mean: the best thing does not think the lowest, or he means: if we assume that it thinks what is below itself, then it does not think the best.

1700 Then he says: "therefore, it thinks itself". He means: if it is not possible for it to think what is lower, nor that which is better than itself — since there is nothing better than itself — then it thinks only itself. And his words: "since it is the most powerful" mean: since it is the best of all things in intellect, and he says this because our intellect does not think itself except by accident. And his words: "and it thinks intellection" mean: it thinks its act, which is intellection, because its substance is its act.

Then he says: "but it is always seen that knowledge, perception, thought and intellection are of something else, and only by accident of themselves". He means: but it is seen that comprehension (*fahm*), which is what he meant by knowledge, perception, thought and intellection, is distinct from that of which it is (comprehension), that is to say it is distinct from the object of intellection, knowledge, perception and thought in us; for these acts of these powers are *of* others things, not *of* themselves, except by accident; i.e. perception, thought and intellection are *of* the object of intellection, perception and thought, not *of* themselves, except by accident; in other words, our intellect does not think itself except by accident, I mean insofar as it happens to the object of intellection to be form of the intellect, and likewise it happens to the  
1701 object of thought to be the thought and to the object perceived to be the perception. This is only because the intellect is not our object of intellection in any way, and *a fortiori* perception is not the object perceived.

Then he says: "further, if intellection and being the object of intellection are two different things, which one of them will have excellence? The essence of intellection is not the same as being the object of intellection". He means: if this intellect thinks something other than itself, there will be a subject of intellection, a process of intellection and an object of intellection; from which one of the two will the subject of

intellection acquire excellence? From the process of intellection, or from the essence which is the subject of intellection, or from the thing which is the source of the process of intellection? For these three things are similar but distinct in everything which thinks something other than itself. Therefore, as he says, the essence of the intellect is not the same as intellection, which is the act of our intellect, and the object of our intellection (is not) the same thing in any respect; the reason for that is that the object of our intellection is distinct from the subject of intellection. As for the intellects which are not in matter, their objects, the intellect and the act of the intellect must be one and the same thing; this is what he indicates by the words: "as in some cases knowledge is the known thing; in the case of intelligible things, the substance without matter and the 'what is it in essence' too". He means: just as it is correct to say that knowledge is the object known and the object known is knowledge in matter, as is the case with art and the artifact, and we say that the form of the artifact which is in matter and that which is in the soul of the artisan are one and the same thing, how much more fitting it is that the same should apply to intellective things with which matter is not mixed and which are only a form and an essence denoting the existence of the thing. His words: "but in speculative (things), the thing is the definition and the intellection, and thus the object of intellection is not different from the intellect" mean: in the case of speculative things, the thing defined is the definition and the object of intellection of the intellect.

1702

Then he says: «and thus the object of intellection is not different from the intellect". He means: the object of intellection, in the things which are not in matter, most deserves that the intellect which thinks it should not be distinct from the object of intellection.

Then he says: "everything which is without matter is the same because intellection and being an object of intellection are also the same". He means: it is clear that the intellect and the object of intellection of everything which is without matter is one and the same thing because being an object of intellection (*in'iqāl*) and the object of intellection (*mur'aqil*) are one and the same thing.

1703

Once it has become clear that it does not think something external to itself, he begins to inquire whether that which it thinks of itself is one and simple or multiple and composite, and says: "there remains a problem if the object of intellection is composite, for then it will change in the parts of the whole". He means: there remains a doubt concerning the object of its intellection, (namely) whether it is simple or composed of many intelligibles; but if it is composed of many intelligibles, it will necessarily have parts different one from another, not similar one to another; and

1704 that which is of such a nature thinks many things, and that which thinks many things thinks something external to itself and the objects of its intellection are the cause of itself.

The words: "and everything which is immaterial is indivisible, for instance the human intellect" probably mean that any intellect whose object has no matter, i.e. (where) the intellect and the intelligible are one and the same thing, cannot be divided as the human intellect can, since the cause of divisibility in the human intellect is that the intelligible is in a way distinct from the intellect. For if the intellect and its object were united in all respects, then it would not follow that its intelligibles are many, for the cause of multiplicity is the difference between the intellect and the intelligible in us. He probably means that the indication that in the cause of everything which has no matter, its intelligible aspect is not separable from the human intellect, is that we see that through its being free from matter in its essence, although the intellect and its intelligible are not absolutely free, it becomes the same thing (as the intelligible), and if this is so, then the intelligible of that which is absolutely free from matter, and the intellect are absolutely the same thing.

1705 His words: "and that of the composite excellent in this (respect) in this way" mean: composite things surpass one another by the insignificance of the composition and their proximity to the simple and the first in this genus. He means that if there exists a genus of intelligible of which one element surpasses another in composition, i.e. in the differentiation of the intelligible from the intellect, then the better of the two is that in which there is less composition in this genus, or indeed the simple in this genus.

Having said that superiority, in a given genus, is obtained according to the insignificance of the composition, he says: "but the excellent in something is whole and something else". He means: it follows that the excellent in every genus is whole and simple and indivisible; it is something isolated by itself, outside the composite, I mean its essence is not in the composite. For instance, hot things surpass one another by the small or great amount of heat; therefore, the absolutely hot thing is that in which there is no composition, that is to say fire, since no other body is mixed with it because it would become low in heat and abate. Likewise, the first intellect must be absolutely simple and one.

His words: "in this way, intellection is of itself throughout eternity" mean: because it does not think anything outside itself, since it is simple, its thinking itself is something which does not entail any change throughout eternity, and it is not to be feared that<sup>176</sup> this should entail

<sup>176</sup> *Yukhāfu allā*: for this construction, cf. Wright II 304D.

for it any weariness, as is the case of our intellect. This is how it must be 1706  
 in the case of all the other separate intellects, except that the first is the  
 simplest of them. Therefore, the absolutely one is that in which there is  
 no multiplicity at all, neither on account of the differentiation between  
 the intellect and the intelligible, nor on account of the multiplicity of  
 intelligibles; for the multiplicity of intelligibles in the same intellect, as  
 happens with our intellect, is the consequence of the differentiation  
 which exists in it, that is between the intellect and the intelligible;<sup>177</sup> for  
 when the intellect and the intelligible are completely united, it follows  
 that the many intelligibles of this (intellect)<sup>178</sup> are united and become,  
 for<sup>179</sup> this intellect, one and simple<sup>180</sup> in every respect, because if the  
 intelligibles occurring in one intellect are many, then they are not united  
 with its essence and its essence is distinct from them.

This is what escaped Themistius when he allowed that the intellect may  
 think many intelligibles at once, for this contradicts our theory that it 1707  
 thinks itself and not something outside itself and that the intellect and its  
 intelligible are one in every respect. For he (= Themistius) says that it  
 thinks all things by thinking that it is their principle; all this is the theory  
 of somebody who did not understand Aristotle's demonstrations here.  
 But this entails an objectionable consequence, namely that the deity will  
 be ignorant of what is here below.

Therefore, some people said that it knows what is here by a universal  
 knowledge, not by a particular knowledge.

The truth is that because it knows only itself, it knows the existents  
 through the existence which is the cause of their existences. For instance,  
 one does not say, with regard to him who knows the heat of fire only,  
 that he has no knowledge of the nature of the heat existing in hot things,  
 but he is the one who knows the nature of heat *qua* heat. Likewise, the 1708  
 First (praise to Him!) is He who knows absolutely the nature of being  
*qua* being, which is His essence. Therefore, the word "knowledge" is said  
 of His knowledge and our knowledge by homonymy. For His knowledge  
 is the cause of being and being is the cause of our knowledge; and His  
 knowledge cannot be described as universal, nor as particular, for he  
 whose knowledge is universal knows potentially the particulars which are  
 in actuality and the object of his knowledge is of necessity knowledge in  
 potentiality since the universal (knowledge) is only knowledge of par-

<sup>177</sup> Bouges here inserts a *minnā* (1706,6) which is not in B (cf. *app. crit.* n. 253) and is unnecessary.

<sup>178</sup> Cf. Bouyges' *app. crit.* n. 254.

<sup>179</sup> Read; *li-dhālīka* with B (*app. crit.* n. 256).

<sup>180</sup> Omit *shay<sup>an</sup>* (*app. crit.* n. 258).

ticular things; if the universal (knowledge) is knowledge in potentiality and there is no potentiality in His knowledge, then His knowledge is not universal. A clearer (argument) is that His knowledge is not particular, because the particulars are infinite and no knowledge encompasses them; He is not characterized by the knowledge which is in us, nor by the ignorance which is its opposite, just as that which is not fit to possess any of these two (knowledge and ignorance) is not characterized by them. The existence of a knowing existent which is not characterized by the knowledge which is in us, nor by the ignorance which is in us, and whose existence is not distinct from his knowledge has thus become evident.

1709 *Textus 52 Aristotle says:*

1075a11 We must also inquire in which way the good and the excellent are in the nature of the universe: is it something distinct and by itself, or by the order, or by the two species, like the army; the good is in the order and the leader of the army, and more (in) the latter; for this is not because of the order, but this (= the order) is because of that (= the leader). All things are ordered together in a certain way, but fishes, birds and plants are not in the same order, and they are not in such a state that one of them is not linked to another at all, but (it is linked) to something. They are all ordered together by connection with one thing. But it is like the freemen of the house: they are scarcely free to do what they like (*litt.* apprehend) but all their actions, or most of them, are ordered. As for the slaves and the animals, their actions share a little in the actions of the former, but most of them (= their actions) are at random. The principle of each one of the two is such, like nature.

1710 *Commentary:*

This part is the third part of this book and his aim in it is to inquire whether the things which exist are because of one another and all because of the first, like the limbs of man with regard to the first principle, by virtue of which it becomes a man, or whether there is no link between them and they only exist next to one another by chance and all because of something outside them.

Since it is self-evident that every existent has a good because of which it exists, he inquires whether the good which is in the existents is something external and distinct from them, without there being for them a good existing in the order, that is to say without their being ordered one for the sake of another; for the good which is in the things ordered one for the sake of another is in the order, that is to say the good existing in them consists only in the order without there being for them a good distinct from the whole; or it is in both things together, i.e. (it is) a final cause.

For example, someone might ask whether the good existing in each category of human beings who are in the same rank, i.e. the end at which they aim by their actions, is something distinct from them and outside them, i.e. the first leader, so to speak, or whether the good which is in them is simply the result of the precedence of one over the other, or again whether it consists in both together, i.e. because of the precedence of one over another and because of the first leader. This is what he shows by the words: "we must also inquire in which way the good and the excellent are in the nature of the universe: is it something distinct and by itself, or by the order, or by the two species, like the army". He means: he must inquire whether the good which is in these existents, i.e. because of which they exist, is something outside them and distinct from them, or whether it is the order of one in relation to the other, i.e. one existing because of the other, or again whether it is present in them in both ways together, i.e. because of the order and because of something outside them, as is the case of the army. For in the army, the good is that which exists because of the leader of the army and because of the order existing in it (the army). The good which is in the leader of the army is much better than the good which is in the order of the army, for the order exists because of the leader of the army, and the leader of the army does not exist because of the order which is in the army, since the leader of the army is the cause of the order and the order is not the cause of the leader. This is what he indicates by his words: "the good is in the order and the leader of the army, and more (in) the latter". He means: the good is in both of them together, but more in the leader of the army.

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Then he gives the reason for that: "for this is not because of the order, but this because of that". He means: the leader of the army is not because of the order of the army, but the order of the army is because of the leader.

[Since] the good is present in this universe in both ways together, i.e. through the order and through the thing because of which there is order and which is the first principle, and everything that is below the first principle is not equal with regard to the presence of the order in it, as part of it contains a perfect order without being impaired by that which is accidental, and this is the state of the celestial bodies; moreover, part of it is without order accidentally, and it is that which is below the celestial bodies. This is quite similar to that which a house contains when it gathers together freemen and slaves; the freemen do not do anything unless it be because of the administration of the master of the house. As for the slaves, they often perform actions which do not conform to the administration of the house. He sets out to explain this idea about the universe by comparing it to that which exists in the house and says: "all

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things are ordered together in a certain way, but fishes, birds and plants are not in the same order". He means: if all the existents which are in the world are considered, they will be found to be all arranged not on one single level, but some are superior to others in it, as is the case<sup>181</sup> of fishes among animals, and birds and plants.

Then he says: "and they are not in such a state that one of them is not linked to another at all". He means: on examination and consideration, complete absence of order is not encountered, i.e. its (the universe) being in a state in which none of them exists because of another; order is apparent in them.

Then he says: "they are all ordered together by connection with one thing". He means: for it appears that what is common to all of them is that they all exist because of one thing, and that their actions tend towards this one which is the first cause because of which the world exists, just as everything which is in the house, as is well known, exists because of the master of the house.

1714 Then he says: "but it is like the freemen of the house: they are scarcely free to do what they like, but all their actions, or most of them, are ordered. As for the slaves and the animals, their actions share a little in the actions of the former". He means: the actions of the celestial bodies in their sharing one with another in the maintenance of the world are<sup>182</sup> like the actions of the freemen in the maintenance of the house; for just as the freemen are not allowed to perform all the actions which they desire, all their actions being due to the help which they give to one another, the same holds for the celestial bodies. As for the existents which are below them, their condition is like that of the slaves and the animals which guard the houses: just as the actions of the slaves which share in (those of) the freemen are few, and even more so those of the animals, so is the case with that which is below the celestial bodies with regard to the celestial bodies.

Then he gives the reason why the order present in the actions of material things is thought to be scanty and says: "the principle of each one of the two is such, like nature". He means: it is so because the principle of each one of these cannot possibly contain by nature more than this. He probably means: the principle of each one of these two categories, i.e. the voluntary and the natural, must of necessity have such an attribute in what is common (to them).

1715 It must be known to you that this is Aristotle's view concerning providence, and that the problems arising about providence are solved

<sup>181</sup> Read: *al-hāl* (*app. crit.* n. 56).

<sup>182</sup> B has *huwa*; the sentence is long enough for the pl. *af'āl* to be forgotten by the time one gets to *huwa*.

by (his view); for there are people who say that there is nothing for which God does not care, because they claim that the Sage<sup>183</sup> must not leave anything without providence and must not do evil, and that all his actions are just. Other people refuted this theory through the fact that many things happen that are evil, and the Sage should not produce them; so these people went to the opposite extreme and said that therefore there is no providence at all.

The truth in this is that providence exists, and that what happens contrary to providence is due to the necessity of matter, not to the shortcomings of the creator, so that some people carried on their reflection on this to the point that they said that there are two gods, a god who created evil and a god who created good.

Textus 53 *Aristotle says:*

1716

I say that they are all compelled to divide their judgement and that there are other things in this state in which all share<sup>184</sup> in the universe. We must not overlook all the absurdities and impossibilities resulting from the theories of other people, those of (these theories) which they say in jest, and from which of them there results less perplexity. All of them produce all things out of contraries. But they are not correct, neither with regard to "all", nor with regard to "out of contraries", for contraries are not affected one by the other. But we solve this by the incontrovertible doctrine that there is a third thing, although they take one of the contraries to be matter, like those who make the unequal for the equal, or for the one the many; we solve this too in this manner. The one matter is not contrary to anything.

1075a23

*Commentary:*

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Having finished explaining his view on these matters, he wishes to explain that his view is the view which is free from all objections, and by which all the difficulties which had befallen the Ancients concerning principles are solved; for they are compelled to recognize that in the voluntary things which share in one action there is something like these two categories of actions, and if this is found in voluntary things, we must not seek, in natural things, another reason for this. This is what he indicates by the words: "for they are all compelled to divide their judgement and there are other things in this state in which all share in the universe". He means: for everyone who talks about this notion is compelled to eliminate this discrepancy existing in nature and to

<sup>183</sup> Here one of God's "beautiful names".

<sup>184</sup> This word should be read *yushāriku* instead of *tushāriku*

distinguish what is in it, and thereby to acknowledge that some such thing is present in things which share in every action, and these are voluntary things. It is as though he had introduced this in order to scold them, since they must solve this difficulty in some such manner and hold that kind of opinion concerning the principles of the universe, but (they must) not introduce the impossibilities which they did when they wanted to adduce the principles of the existents and the cause of what appears in them. Therefore, he added these words: “we must not overlook all the absurdities and impossibilities resulting from the theories of other people”. He means: therefore, he who understands our statements must not ignore the difference between our statements and the statements of other people; and so we must explain the absurdities resulting from other people’s statements. The words: “those of (these theories) which they say in jest, and from which of them there results less perplexity”, mean: (one must) not ignore that what they said in this respect they did not say in jest and that there is not, among their views, a view from which (only) a small difficulty results.

Having mentioned this, he begins to recall their false views concerning the universe and says: “all of them produce all things out of contraries. But they are not correct, neither with regard to “all”, nor with regard to “out of contraries”. He means: the error afflicting all of them is that they make contraries the only principles of all the existents; their error in this resides in two things: one of them is that the principles of all things are not contraries, since the celestial bodies have no contrariety in their principles, and the second is that contraries alone cannot be principles.

Then he adduces the reason why contraries alone are not sufficient, in the existents whose principles are contraries, without introducing a third nature which is matter, and says: “for contraries are not affected one by the other”. He means: contraries are not sufficient as principles of generated things because a contrary does not receive its contrary while that which is in generation and corruption passes from contrary into contrary, and this is something which he has already explained in the first book of the *Physics*; he mentions it here only as a reminder.

The words: “but we solve this by the incontrovertible doctrine that there is a third thing” mean: but we solved this by adding to the contraries a third thing, matter, which receives the two contraries successively.

Then he says: “although they take one of the contraries to be matter, like those who make the unequal for the equal, or for the one the many; we solve this too in this manner. The one matter is not contrary to anything”. He means: they do not get rid of this by positing one of the two contraries as matter and element for the other contrary, for matter

must not be contrary to anything, for then it would not receive the thing as its matter; such are those who make unequal matter of the equal and the one matter of the many.

*Textus 54 Aristotle says:*

1720

Further, falsity will be incurred by all of them except one, for evil in itself is one of the elements; as for the others, they did not say that evil and good are principles although the good is principle in the highest degree in all things. Some of them say that this is a fine principle, but they do not plainly say that good is a principle as perfection, or as mover, or as form. Empedocles also says something absurd: he takes the good to be love and this a principle because as mover, it unites, and as matter, because it is part of the mixture; although one thing may have a principle as matter and as mover as well, nevertheless the essence is not one; in which way is love (a principle)? It is also absurd that it should be strife which did not decay at all, since this is a bad nature.

1075a34

*Commentary:*

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The words: "further, falsity will be incurred by all of them except one, for evil in itself is one of the elements" mean: some people posited for all things two principles: the good and the evil which are form and matter; if this is so, the evil will exist in all things except one, namely form, and it follows that all composite things, in their entirety, are evil, for one of their two elements, namely matter, is evil. This is what he means by the words: "for evil in itself is one of the elements"..

Then he says: "as for the others, they did not say that evil and good are principles, although good is principle in the highest degree in all things". He means: as for the others, they did not say that good and evil are two principles, since good appears to be the principle in all things in most of their states.

Then he says: "some of them say that this is a fine principle, but they do not plainly say that good is a principle, as perfection, or as mover, or as form". He means: some of the Ancients believed that the first principle is good, but they did not say in which way good is a principle, whether as final cause of the universe, or as mover, or again as form, and they did not make this distinction, but said this in a general way, not in detail and plainly.

Then he says: "Empedocles also says something absurd: he takes the good to be love and this a principle because as mover it unites, and as matter because it is part of the mixture". He means: and also that which Empedocles says concerning the principles is a theory from which absurdity results; for he takes the principle which is the good to be love

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and the principle which is evil to be strife; but insofar as love unites things, it is for him a principle as mover, and insofar as it is a part of the mixed thing, it must be a principle as element, so that he happens to make of the thing imparting motion from outside an element of the thing moved by it, i.e. that the mover is mixed with the thing moved.

Then he says: "although one thing may have a principle as matter and as mover as well, nevertheless the essence is not one; in which way is love (a principle)?" He means: but if it happens to one thing to have a principle like matter and the element, and a principle like the mover, it is not possible that the essence of the mover should be the essence of the matter; in which one of these two ways, then, I should like to know, shall we take love as a principle: as mover or as matter? One thing cannot be the cause of one thing in both ways together.

1723 Then he says: "it is also absurd that it should be strife which did not decay at all, since this is a bad nature". He means: it is part of the absurdity attending upon Empedocles in his theory that strife, insofar as it is a principle, should be incorruptible although it is evil, a bad nature and compulsory, as compulsion does not endure.

*Textus 55 Aristotle says:*

1075b8 Anaxagoras says that good is a principle as mover; for the intellect imparts motion, but it imparts motion because of something; therefore, he said something different, although it is similar to what we say, because medicine is, in a way, health, and it is impossible too that the contrary of good and of the intellect should not come into being.

*Commentary:*

1724 He says: Anaxagoras says, concerning good, that it is a principle imparting motion, since it was he who assumed that the intellect is the mover of all things, but he did not say for what reason it imparts motion; for everything that imparts motion imparts motion because of something, and that because of which it imparts motion is good in a higher degree than the good imparting motion. Therefore, he put forward a defective theory because he is compelled to posit another principle, unlike our theory that the prime mover imparts motion as perfection and completion. In the same way, we find that medicine imparts motion towards itself because it imparts motion towards health, and medicine is the form of health. If health were not in a substratum, like the prime mover, medicine would impart motion in both ways together, I mean as agent of motion and as end.

His words: "it is impossible too that the contrary of good and of the intellect should not come into being" mean: it is impossible, according to

Anaxagoras, that the intellect which is good should not effect both contraries together, i.e. good and evil, i.e. this is a necessary consequence.

Textus 56 *Aristotle says*:

1725

All who speak of the contraries do not make use of the contraries if one does not compound. And no one says why some do not decay and others do decay. They produce all essences from non-essence, and some of them, in order not to be compelled to this (inference) make all of them one. Further, none of them says, if there is generation, for what cause there is (generation), and for what cause it exists. And for those who posit two principles, there must be another principle, more powerful. And for those who posit the Forms, because there is another more powerful principle, for what cause does it participate or does it not participate?

*Commentary*:

He says: those who regard the contraries as principles, their error is also manifest. The introduction of the contraries is useless if there is not a mover to put the contraries together and unite them.

Then he mentions the error of other people and says: "no one says why some do not decay and others do decay 'until' make all of them one". He means: those who admit that of the existents some come into being and decay and others are ungenerated and incorruptible could not explain the cause of this because they produced the existents from one single principle, which is matter, both the generated existents and the ungenerated. Therefore, some of them regarded them all as generated and corruptible. He means: he<sup>185</sup> is able (to say) this because the matter of the celestial bodies and the matter of things subject to generation and corruption, according to him, are (the same) matter by homonymy,<sup>186</sup> since the former is in actuality and the latter in potentiality, i.e. the matter of the celestial bodies is the body and the matter of things subject to generation and corruption is prime matter.

Then he mentions yet another error which befell the Ancients who admitted that generation exists eternally, and says: "further, none of them says, if there is generation, for what cause there is (generation) and for what cause it exists". He means: for they did not say for what cause there is generation and corruption, I mean the efficient cause,<sup>187</sup> and

<sup>185</sup> This is still Aristotle speaking, in a kind of indirect speech.

<sup>186</sup> I.e. the two kinds of matter have in fact nothing in common but their name. This is not strictly Aristotelian, but aimed at Ibn Sīnā (cf. 1447, 15-16).

<sup>187</sup> I.e. the celestial motions, efficient cause of generation and corruption according to Ibn Rushd.

they did not say anything concerning the cause of its eternity. But he had already talked about this and said that the efficient cause is the celestial bodies and the recipient (*qābil*) prime matter, and that generation and  
 1727 corruption take place cyclically in finite matters. Others among the Ancients were compelled by the doctrine of the eternity of generation to posit things existing in actuality and infinite (in number), as was the case of Anaxagoras; but this is impossible.

His words: “and for those who posit two principles, there must be another principle, more powerful” mean: it is necessary that he who posits several first principles of the universe, i.e. two or more, should posit one principle better than those which is that which wills<sup>188</sup> the order and the unity existing in this universe; if the different principles were not united, the universe would decay.

His words: “and for those who posit the Forms, because there is another more powerful principle, for what cause does it participate or not participate?” mean: further, those who regard the Forms as the  
 1728 principles of all the existents must introduce another principle which puts the Forms together and unites them with the things endowed with Forms; otherwise, the matters would not be fitter to receive the Forms than not to receive them; They do not say for what cause they are received at one time and not at another time. But he put forward a complete theory with regard to all this and solved all the difficulties involved in this.

Textus 57 Aristotle says:

1075b20 Further, other people are compelled to give a contrary to wisdom and the exalted knowledge, whereas we are not. For the First has no contrary, because all contraries have matter and they are the same thing in potentiality, and the contrary ignorance (leads) to the contrary; but the First is not a contrary at all. And if there are no other things apart from the sensibles, there is no principle, no order and no celestial, but the principle will always have a principle; as happens with the partisans of the divine discourse, so with the partisans of the natural discourse.<sup>189</sup> If  
 1729 there are Forms and Numbers, they are causes of nothing, and therefore not of motion. Further, how does a continuous magnitude arise out of that which has no magnitude? Numbers will not produce a continuum either as mover or as form.

<sup>188</sup> *yurīdu*, note the wholly un-Aristotelian character of this ascription of will to the first cause.

<sup>189</sup> This is an interesting islamizing of the Greek, θεολόγοι and φυσικοί. There is λόγος (= *kalām*) in θεολόγος, but not in φυσικός.

*Commentary:*

He says: further, all who posit that the principles are contraries must admit that the first principle has a contrary, and if wisdom is the knowledge of the first principle and the knowledge of the existents from the point of view of the first principle, then if this principle has a contrary, its knowledge and the knowledge of what it perceives of itself must have a contrary, and if its knowledge and the knowledge of what it perceives of itself are contrary to this wisdom then there must be a knowledge contrary to this knowledge and an existence contrary to this existence, and this is absurd and impossible in the highest degree.

Then he says: "whereas we are not. For the First has no contrary, because all contraries have matter and they are the same thing in potentiality, and the contrary ignorance (leads) to the contrary; but the First is not a contrary at all". He means: whereas we are not compelled to accept this absurdity because we do not posit a contrary to the first principle, since everything that has a contrary has matter and it and its contrary are the same thing through matter, and it has been shown that the first principle is supremely free from matter. His words: "the contrary ignorance (leads) to the contrary" mean: if wisdom had a contrary, this contrary would be ignorance because wisdom is knowledge and the knowledge really contrary to it is ignorance. 1730

Since many of the natural philosophers had expressed doubts about the fact that the celestial bodies are sufficient as a principle of the universe, he said: "and if there are no other things apart from the sensibles, there is no principle and no order, but the principle will always have a principle; as happens with the partisans of the divine discourse, so with the partisans of the natural discourse". He means: further, if no substance besides the perceptible is posited as principle of the sensible substance, there is no first principle and no principle of the apparent order, and therefore no celestial order, but the principle will have a principle and so on *ad infinitum*, as happens in the theory of those who deal with divine science and of those who deal with natural science. By "those who deal with divine science" he alludes to those who said that the principle of the universe is mist and darkness, and by "those who deal with natural science" (he alludes) to those who said that the principle is water or fire or one of the elements. Those are compelled to give a principle to the principle, for all who say that the principle is a body are compelled to say that the principle of body has a body. 1731

Since what they said concerning the separate substances, they being those who spoke about Numbers and Forms, was useless with regard to the apparent order and eternal motion, he said: "if there are Forms and Numbers, they are causes of nothing, and therefore not of motion". He

means: if the separate substances are Forms and Numbers, as Plato and others said, it is not possible that there should be efficient causes, nor a mover; these substances will be a jest, for the Forms are models and the matters do not move to receive the Forms without a mover, as is the case of manufactured objects.

Then he says: "further, how does a continuous magnitude arise out of that which has no magnitude? Numbers will not produce a continuum either as mover or as form". He means: he who posits Numbers as principles of bodies will be compelled to say that continuous magnitudes are composed of non-magnitudes, and that the continuous is composed of indivisible things. But number cannot be a cause as matter, and it cannot either be regarded as a cause as mover, or as a cause as form.

1732 *Textus 58 Aristotle says:*

1075b30 Further, none of the contraries will be cause or agent, since it was possible for it not to be, and also actuality is posterior to potentiality; therefore, the essences are not eternal, but something else besides these; and it has been said about this that it exists. Further, in which way number, soul and body are one, and all the forms and the things — none of them says anything at all about this — nor can anyone tell if he does not say what we say and introduce the mover. As for those who said that the First is the mathematical number, and in this way another substance and other principles always follow each one, they take the substance of the universe to be contained, part of it in another part. There is not, in an essence, another one, whether it be congruous or not. And if there are  
1733 many principles, the essences will not be in the best government, but the multiplicity of rulers is not praiseworthy, but the ruler is one.

*Commentary:*

He says: if all the principles are contraries, a time will come when none of the contraries will be agent, or mover. For the contrary may move its contrary or it may not, and if it does, it needs another principle because of which it will be a mover.

His words: "and also actuality is posterior to potentiality; therefore, the essences are not eternal" mean: also, if the principles are contraries, potentiality will be prior to actuality, and if so, the existents will have no eternity.

His words: "but something else besides these; and it has been said about this that it exists" may mean: but if there are existents before these existents, and before these, others, this will go on *ad infinitum*; and it has been said many times that this is impossible; and they may mean: but we must reject the doctrine that the principles are contraries and posit

something else, not contrary; and it has been said that this exists at the beginning.

Then he says: "further, in which way number, body and soul are one, and all the forms and the thing —, none of them says anything at all about this —". He means: those who say that the numbers are principles are unable to say why soul and body are one thing and, generally, the form and the thing which is the support of the form, unless they introduce a single moving principle by which body and soul are one. It is as though he meant by this that every compound needs a principle from outside by which this compound is one; and if this one thing is also a compound, it needs another one and so on *ad infinitum*. Therefore, we cannot avoid positing one first principle, non-composite, which is the cause of the existents' forming one universe and aiming at one end; and this can only be so if this principle is separate from matter. 1734

Then he says: "nor can anyone tell if he does not say what we say and introduce the mover". He means: if he does not introduce one principle of the world, such as the mover, which is the cause of the world's being one and every one of the things in it one, it is not possible for him to say why the world is one and why there is one and why there are in it compounds which are one.

Then he says: "as for those who said that the First is the mathematical number, and in this way another substance and other principles always follow each one, they take the substance of the universe to be contained, part of it in another part". He means: those who take as the first principle the line, the surface and the body, and then take these to be the principles of the things, as they make the lines from the dyad, the surfaces from the triad and the bodies from the tetrad, and then make the surfaces from the lines and the bodies from the surfaces, they assume the substance of the universe to be interpenetrating and woven together, nothing in it having one nature, nor the world as a whole. 1735

Then, he gives the reason for this and says: "there is not, in an essence, another one, whether it be congruous or not". He means: there is no congruence in the different things, neither in the realm of being, nor in the realm of non-being; that is, the existence of one of them is not the existence of the other, nor the absence of its existence,

Then he says: "and if there are many principles, the essences will not be in the best government". He means: if the first principles of the world are different principles, then, there cannot be among the existents which are there the best government, nor an order resembling the order of government and its good; in the same way, if there are many rules, there is no order and no right and justice in the government. Therefore, as he 1736

says: “there is no good in the multiplicity of the rulers, but the ruler is one”. He means: in all this, nature resembles art.

Here ends the exposition of this book, and at the same time ends our commentary on this treatise. To the Giver of intelligence and wisdom, praise in abundance and eternally.

## BIBLIOGRAPHY

- Afnan, S., *A philosophical lexicon in Persian and Arabic*, Beirut 1969
- Alexander Aphrodisiensis, In *Aristotelis Metaphysica commentaria* ed. M Hayduck, Berlin 1891. Commentaria in Aristotelem Graeca, 1.
- Alexander Aphrodisiensis, *Scripta Minora* ed. I. Bruns, Berlin 1887-1892. Supplementum Aristotelicum, 2.
- Arnaldez, Roger, La pensée religieuse d'Averroès I, La création dans le Tahafut, *Studia Islamica*, 7, 1957, pp 99-114.
- Aubenque, P., *Le Problème de l'être chez Aristote*, Paris 1962.
- Aubenque, P., Les origines de la doctrine de l'analogie de l'être, *Les Études philosophiques*, 1978, pp 3-13
- Badawi, A., *Aristū 'inda 'l-'Arab*, Cairo 1947.
- Balme, D M., Development of biology in Aristotle and Theophrastus, *Phronesis* 7, 1962, pp. 91-104.
- Barbotin, E., *La Théorie aristotélicienne de l'intellect d'après Theophraste*, Louvain 1954.
- Berman, L V., The political interpretation of the maxim: the purpose of philosophy is the imitation of God, *Studia Islamica*, 15, 1961, pp 53-61.
- Berti, E., Physique et Métaphysique selon Aristote, *Naturphilosophie bei Aristoteles und Theophrastus*, Heidelberg 1969, pp. 18-31
- Brugman, J. et Drossaart Lulofs, H.J., *Aristotle, Generation of Animals, The Arabic Translation commonly ascribed to Yahyā ibn al-Bitriq*, ed with introd. and glossary, Leiden 1971.
- Daiber, Hans, *Ein Compendium der aristotelischen Meteorologie in der Fassung des Hunain ibn Ishāq*, Amsterdam/Oxford 1975 (Verhandelingen der Koninklijke Nederlandse Akad v. Wetenschappen, afd Letterkunde, n r.d. 89).
- *Das Theologisch-philosophische System des Mu'ammār ibn 'Abbād as-Sulamī*, Beirut 1975 (Beiruter Texte und Studien 19).
- *Aetius Arabus, die Vorsokratiker in arabischer Überlieferung*, Wiesbaden 1980, (Akademie der Wissenschaften und der Literatur, Veröffentlichungen der Orientalischen Kommission, 33).
- Davidson, Herbert A., Alfarabi and Avicenna on the Active Intellect, *Viator*, 3, 1972, 109-178.
- Drossaart-Lulofs, H J., Aristotle's de Plantis, *Journal of Hellenic Studies*, 77, 1957, pp. 75-80
- *Nicolaus Damascenus on the philosophy of Aristotle*, Leiden 1965.
- Epistula de Scientia Divina*, in Anawati, G., *Le Néoplatonisme dans la pensée musulmane, in Plotino e il Neoplatonismo in Oriente e Occidente*, Rome 1973, repr. in *Études de philosophie musulmane*, Paris 1974, pp 155-221
- al-Fārābī, *Ihṣā' al-'Ulūm*, ed. 'Uthmān Amīn, Cairo n.d.
- *Falsafat Aristū'ālīs*, ed. M. Mahdi, Beirut 1961.
- *Arā' Ahl Al-Madīnat al-Fāḍila*, ed. F. Dieterici, Leiden 1895.
- *Al-Fārābī's Philosophische Abhandlungen*, hrsg. von F. Dieterici, Leiden 1890
- Freudenthal, J., Die durch Averroes erhaltenen Fragmente des Alexanders, *Abhandlungen der Berliner Akademie*, 1884
- Gätje, H., Averroes als Aristoteleskommentator, *ZDMG* 114, 1964, pp. 59-65.
- Gauthier, L., *Ibn Rochd*, Paris 1948.
- Guidi, M. and Walzer, R., Uno scritto introduttivo allo studio di Aristotele, *Memorie della R. Accademia die Lincei*, Rome 1940.
- Guthrie, W.K.C., The Development of Aristotle's Theology, *Classical Quarterly*, 27, 1933, pp. 162-171, 28, 1934, pp. 90-98.
- Hamelin, O. *La Théorie de l'Intellect d'après Aristote et ses Commentateurs*.

- Ibn an-Nadīm, *Kitāb al-Fihrist*, mit Anmerkungen herausgegeben von G Flügel, Leipzig 1871-1872.
- Ibn Rushd, *Tahāfut at-Tahāfut*, ed. M Bouyges, Beirut 1930.
- , *Commentarium Magnum in de Anima*, ed. F. Crawford, Cambridge Mass. 1953.
- Ibn Sīnā, *al-Shifāʿ, al-Ilāhiyyāt*, 2 vol., Cairo 1960
- , *at-Taʿlīqāt*, ed. A. Badawi, Cairo 1973.
- Jaeger, W., Diocles of Carystus, in *Aristotle*, pp.407-425, Oxford, 1962.
- Joachim, H. H., *Aristotle, On coming-to-be and passing-away, a revised text with introduction and commentary*, Oxford 1922.
- al-Kindī, *al-Rasāʿil al-falsafīyya*, ed. Abū Rīda, 2 vol., Cairo 1950-1953.
- Kremer, K., *Der Metaphysikbegriff in den Aristoteles-Kommentaren der Ammonius-Schule*, Münster 1961.
- , *Das Warum der Schöpfung, Parusia*, Festgabe J. Hirschberger, Frankfurt 1965, pp. 241-264.
- Kutsch, W., Ein Arabisches Bruchstück aus Porphyrios (?), *Mélanges de la faculté orientale de l'Université St. Joseph*, 31, 1954, pp. 265-286
- Lane E. W., *Arabic-English Lexicon*, London 1863 etc.
- Mahdi, M., al-Farabi against Philoponus, *Journal of Near Eastern Studies*, 1967, pp. 233-260.
- Merlan, P., *From Platonism to Neoplatonism*, 2d ed., The Hague 1960
- , *Monopsychism, Mysticism, Metaconsciousness*, The Hague, 1963.
- , *Metaphysik, Name und Gegenstand*, *Journal of Hellenic Studies* 77, 1957, pp 87-92.
- , Ein Simplicios-Zitat bei pseudo-Alexander und ein Plotinos-Zitat bei Simplicios, *Rheinisches Museum*, 1935, pp. 154-160.
- Morau, P., *Alexandre d'Aphrodise, exégète de la Noétique d'Aristote*, Liège, 1942.
- , *Der Aristotelismus bei den Griechen*, I, Berlin 1973.
- Oehler, Klaus, Ein Mensch zeugt einen Menschen, *Antike Philosophie und byzantinisches Mittelalter*, München 1969, pp.95-145.
- Petratis, C., *The Arabic Version of Aristotle's Meteorology*, Beirut 1967.
- Pines, S., *Beiträge zur Islamischen Atomenlehre*, Berlin 1936.
- , A new fragment of Xenocrates and its implications, *Transactions of the American Philosophical Society*, N.S. 51, 2, 1961.
- Philoponus, *De Aeternitate Mundi*, ed. H. Rabe Leipzig 1899.
- Plotinus, *Opera*, ed. P. Henry and H.-R. Schwyzler, I-II, Oxford 1964-1977.
- Proclus, *In Platonis Timaeum Commentaria*, ed. E. Diehl, 3 vol. Leipzig 1903-1906.
- Ptolemaeus, *Apotelesmatika (= Tetrabiblos)* ed. F. Boll and E. Boer, Leipzig 1957.
- Reinhardt, K., *Poseidonios*, Munich 1921.
- Ross, W., *Aristotle's Metaphysics*, 2 vol. Oxford 1924.
- , *Aristotle's Prior and Posterior Analytics*, Oxford 1949.
- Ruland, H.J., *die Arabische Fassung von zwei Schriften des Alexander von Aphrodisias*, Diss Saarbrücken 1976.
- Saliba, D., *Étude sur la Métaphysique d'Avicenne*, Paris 1926.
- Al-Shahrastānī, *Al-Milāl wa al-Nihal*, ed. M. S. Kīlānī, 2 vols., Beirut 1975.
- al-Sijistānī, *Muntakhab Šiwān al-Ḥikma et trois traités*, ed. A. Badawi, Tehran 1974.
- Simplicius, *In Aristotelis Categorias* ed. T. Kalbfleisch, Berlin 1907. *Commentaria in Aristotelem Graeca*, 8.
- , *In Aristotelis De Caelo* ed. I. L. Heiberg, Berlin 1894. *Ibid.*, 7.
- , *In Aristotelis Physica* ed. H. Diels, Berlin 1882-1895. *Ibid.*, 9-10.
- Solmsen F., Prime matter in Aristotle? *Journal of the History of Ideas* 19, 1958, pp. 243-252.
- , The Vital Heat, the Inborn Pneuma and the Aether, *Journal of Hellenic Studies*, 77, 1957, pp. 119-123.
- Steinschneider, M., *al-Farabi, des Arabischen Philosophen Leben und Schriften*, St. Petersburg 1869, repr., Amsterdam 1966.
- Theiler, W., *Die Vorbereitung des Neuplatonismus*, Berlin 1934.

- Themistius, *in de Anima*, ed R. Heinze, Berlin 1899. *Commentaria in Aristotelem Graeca* 5, 3
- , *The Arabic Version of Themistius' de Anima*, ed. M. Lyons, Oxford 1973
- , *in Metaphysicorum*  $\Lambda$ , ed S. Landauer, Berlin 1903. *Commentaria in Aristotelem Graeca*, 5, 4
- Theophrastus, *Metaphysics*, ed. W. D. Ross and F. H. Fobes, Oxford 1929.
- Thillet, P., *Remarques et notes critiques sur les traductions Arabes du livre  $\Lambda$  de la Métaphysique d'Aristote*, *Actes du Congrès G. Budé* 1958, pp. 114-125
- , *Un Traité inconnu d'Alexandre d'Aphrodise sur la providence*, *L'Homme et son Destin*, Louvain, 1960; pp. 313-324
- van den Bergh, S., *Averroes' Tahafut al-Tahafut*, 2 vol., Oxford 1954
- Walzer, R., *Aristotle de Philosophia fragment 24 in the Arabic tradition*, *Aristotle and Plato in the mid-fourth century*, Göteborg 1960, pp. 105-112.
- , *Greek into Arabic*, Oxford 1962.
- Wieland, W., *Die Aristotelische Physik*, Göttingen 1962.
- , *The problem of Teleology*, *Articles on Aristotle* ed. by J. Barnes, M. Schofield and R. Sorabji, London 1975, I, pp. 141-160.
- Witt, R. E., *Plotinus and Posidonius*, *Classical Quarterly*, 24, 1932, pp. 198-207
- Wolfson, Harry Austryn, *Averroes' Lost Treatise on the Prime Mover*, in *Studies in the History of Philosophy and Religion*, vol. I, pp. 402-429
- , *The terms Taṣawwur and Taṣdīq in Arabic Philosophy and their Greek, Latin and Hebrew Equivalents*, *ibid*, pp. 478-492
- Wright, W., *A Grammar of the Arabic Language*<sup>3</sup>, Cambridge 1967.

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