

**MASTERING NATURE IN THE MEDIEVAL ARABIC AND LATIN WORLDS**



CONTACT AND TRANSMISSION  
INTERCULTURAL ENCOUNTERS FROM  
LATE ANTIQUITY TO THE EARLY MODERN PERIOD

VOLUME 4

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# Mastering Nature in the Medieval Arabic and Latin Worlds

*Studies in Heritage and Transfer of Arabic Science  
in Honour of Charles Burnett*

*Edited by*

**ANN GILETTI and DAG NIKOLAUS HASSE**



**BREPOLS**

British Library Cataloguing in Publication Data  
A catalogue record for this book is available from the British Library.

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ISBN: 978-2-503-60448-0  
e-ISBN: 978-2-503-60449-7  
ISSN: 2736-6952  
e-ISSN: 2736-6960  
DOI: 10.1484/M.CAT-EB.5.132219

Printed in the EU on acid-free paper.

D/2023/0095/122



Portrait of Charles Burnett. Photo by I. Bavington Jones.





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## Avicenna's *On Floods* (*De diluviis*) in Latin Translation

*Analysis and Critical Edition with  
an English Translation of the Arabic*

Chapter II.6, the last chapter of Avicenna's *Meteorology* of his great summa *The Cure* (*al-Shifā'*) bears the title 'On the Great Events which Happen in the World' (*Fī al-ḥawādith al-kibār allatī taḥḍuthu fī al-ʿālam*), but is often simply referred to as Avicenna's *On Floods*. It not only treats water floods, but also fire storms, earthy deluges, and destructive winds, as well as the possibility of a deluge that extinguishes a complete genus of living beings, and the possibility of the generation of living beings without procreation after such an extinction. In the Latin West, this chapter had a special transmission and reception history. It was translated independently of the rest of Avicenna's *Meteorology* and travelled in Latin manuscripts under the title *Capitulum in diluviis dictis in Thimeo Platonis* ('Chapter on Floods Mentioned in the Timaeus of Plato'). The Latin title does not contain any reference to Avicenna, but six of the twelve known manuscripts exhibit an additional *titulus* on the first page or a colophon which mentions the author: *capitulum Avicenne* or *tractatus Avicenne*. There does not yet exist a critical edition of the Latin version, which is offered in this article, together with an analysis of the doctrinal content of Avicenna's *On Floods*.

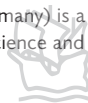
When Albert the Great between 1251 and 1254 wrote his *De causis proprietatum elementorum*, he referred to a major 'controversy' (*altercatio magna*) between Avicenna and Averroes 'in their books on such floods' (*in suis libellis de diluviis istis*) on the question of whether living beings are generated spontaneously after catastrophic floods.<sup>1</sup> At least since the time of Albert, Avicenna's *On Floods*

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\* I am very grateful for advice from Jon Bornholdt, Katrin Fischer, Stefan Georges, Andreas Lammer, Jon McGinnis, Colin Murtha, Eva Sahr and Jens Ole Schmitt.

1 Albert the Great, *De causis proprietatum elementorum*, I, 2, 13, p. 86, ll. 32–36. There is no treatise on floods by Averroes known to us. The reference must be to Averroes's *Long*

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*Mastering Nature in the Medieval Arabic and Latin Worlds: Studies in Heritage and Transfer of Arabic Science in Honour of Charles Burnett*, ed. by Ann Giletti and Dag Nikolaus Hasse, CAT 4 (Turnhout: Brepols, 2023), pp. 107–141

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10.1484/.CAT-EB.5.134028

was an important reference point for Latin discussions of the extinction of life through floods and the spontaneous generation of animals and human beings: by Pietro d'Abano in the early fourteenth century, for instance, and later in the Renaissance by Antonio Trombetta, Pietro Pomponazzi, Tiberio Russiliano, and Pedro Fonseca.<sup>2</sup> Avicenna's views on spontaneous generation remained a major topic of academic writings until the late sixteenth century.<sup>3</sup> Avicenna was the main authority for the position that the spontaneous generation of animals and human beings is possible, as the result of an interplay between mixtures of elemental qualities and the giver of forms, which is the lowest of the celestial intelligences. Averroes's *Long Commentary on the Metaphysics*, in turn, was often quoted for the opposite position, which denies the possibility of spontaneous generation of human beings. For Averroes, even the animals that seem to arise from matter caused by a specific constellation of celestial bodies are in fact not natural beings but monstrous, unnatural beings.<sup>4</sup> The scholastic discussion of spontaneous generation is only one area where Avicenna's *On Floods* was influential; and its reception within the meteorological tradition proper still needs to be explored.

As Charles Burnett has shown, the Arabic-Latin translation of meteorological writings followed a programme which was to provide the Latin West with the full range of scientific disciplines, apparently after the model of al-Fārābī's *Enumeration of the Sciences*.<sup>5</sup> Gerard of Cremona, the most prolific Toledan translator, translated the first three books of Aristotle's *Meteorology* from Arabic into Latin in the second half of the twelfth century, as part of his attempt to create an Arabic-Latin version of works of Aristotle, which can be regarded 'as a continuation of the Alfarabian Peripatetic tradition'.<sup>6</sup> Gerard did not translate the fourth and final book, because, as his students (*socii*) wrote shortly after his death, 'he surely found that it (i.e. *the fourth book*) had already been translated',<sup>7</sup> namely, from Greek into Latin by Henricus Aristippus in

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*Commentary on the Metaphysics*, II (Alpha elatton), comm. 15, and his *Long Commentary on the Physics*, VII, comm. 46, as the scribes of two manuscripts of Avicenna's *De diluviis* note (see the manuscript descriptions below). This passage in Albert probably was the source for later ascriptions of a treatise *De diluviis* to Averroes, as in the influential Renaissance chronicle by Foresti da Bergamo (Hasse, *Success and Suppression*, p. 32).

- 2 Hasse, 'Arabic Philosophy and Averroism', pp. 125–29; Martin, *Renaissance Meteorology*, pp. 71–72. See Pietro d'Abano, *Conciliator controversiarum*, fols 44<sup>v</sup>–45<sup>r</sup>; Trombetta, *Opus in Metaphysica*, qu. V, fol. 58<sup>rb</sup>; Pietro Pomponazzi, Lecture on the *Physics* in Bologna in 1518, in Nardi, *Studi su Pietro Pomponazzi*, pp. 315–19; Russiliano, *Apologeticus adversus cucullatos*, p. 173; Fonseca, *Commentariorum In Metaphysicorum Aristotelis*, VII, 7, 1, p. 246.
- 3 See Suarez, *Disputationes Metaphysicae*, Disp. xv, Section II, p. 508.
- 4 On Avicenna's and Averroes's views on spontaneous generation, see: Freudenthal, '(Al-) Chemical Foundations', pp. 47–73; Freudenthal, 'Medieval Astrologization', pp. 47–73; Hasse, 'Spontaneous Generation', pp. 150–75; Hasse, *Urzeugung und Weltbild*; Bertolacci, 'Averroes against Avicenna', pp. 37–54.
- 5 Burnett, 'Coherence', pp. 249–88.
- 6 Burnett, 'Arabo-Latin Aristotle', p. 101.
- 7 Burnett, 'Coherence', p. 260.

Sicily earlier in the century. Alfred of Shareshill, the Toledan translator of the generation after Gerard of Cremona,<sup>8</sup> was apparently aware of this: he put Gerard's and Aristippus's translations together and added his own Arabic-Latin translation of two chapters on minerals at the end of this meteorological corpus, probably because mineralogy is the sixth part of natural science in al-Fārābī's *Enumeration*, following right upon meteorology. The chapters on minerals Alfred took from the first book of Avicenna's *Meteorology* (Chs 1.1 and 1.5).<sup>9</sup> This combined Aristotelian-Avicennian corpus of meteorological writings translated by Henricus Aristippus, Gerard of Cremona and Alfred of Shareshill became very successful in the Latin West. It was much read in the arts faculties of later medieval universities as part of the Aristotelian curriculum and had a wide distribution in manuscripts. As a result, Avicenna's two chapters *De mineralibus*, which are extant in more than 130 manuscripts, is by far the most widely known Avicennian text in the Latin Middle Ages.<sup>10</sup>

Avicenna's *On Floods* fits into this story of meteorological translations. Its translator probably was aware of the fact that this latter part of Avicenna's *Meteorology* had not yet been translated.<sup>11</sup> This time, the translator was not Alfred of Shareshill, as has been shown by a quantitative analysis of the translator's style,<sup>12</sup> but a younger contemporary who also started his career as a translator in Toledo: Michael Scot.<sup>13</sup> Michael Scot's interest in extraordinary meteorological phenomena is attested also in his *Liber introductorius*, which treats thunder, lightning, abysses in the ocean, crevices, earthquakes, volcanos, and storms. He relates that some of these topics had been raised by Emperor Frederick II Hohenstaufen,<sup>14</sup> and that the Emperor experimented with the artificial incubation of hens' eggs, i.e., with some form of spontaneous gen-

8 Burnett, 'Shareshill [Sareshel], Alfred of', p. 992.

9 Burnett, *The Introduction*, pp. 71–72; Mandosio, 'Follower or Opponent of Aristotle?', pp. 469–76 (replacing earlier research published in Mandosio and Di Martino, 'La "Météorologie" d'Avicenne'). For the structure of Avicenna's *Meteorology*, or more precisely Avicenna's *On Minerals and Lofty Impressions* (*al-Ma'ādin wa-l-āthār al-'ulwiyya*), see the very useful table in Mandosio, 'Follower or Opponent of Aristotle?', pp. 464–65.

10 Kischlat, *Studien zur Verbreitung*, p. 53. Avicenna's *De mineralibus* is often, but confusingly, called by the title of its first chapter, *De congelatione et conglutinatione lapidum* (see Mandosio, 'Follower or Opponent of Aristotle?', p. 470 n. 54).

11 For the context of the other Avicenna translations from Arabic into Latin, see the lists in: Burnett, 'Arabic Philosophical Works', pp. 814–22; Bertolacci, 'Reception of Avicenna', pp. 246–47.

12 Hasse and Büttner, 'Notes', pp. 346–47. On the identity of the translator of *De diluviis*, see also Di Donato, 'Les trois traductions', pp. 335–43. D'Alverny surmised in 1952 that Alfred of Shareshill was the translator: d'Alverny, 'Notes', p. 355.

13 On Michael Scot's life, works and translations, see the fundamental article by Charles Burnett, 'Michael Scot', pp. 101–26; as well as Ackermann, *Sternstunden*, pp. 13–61; Hasse, *Latin Averroes Translations*; Voskoboynikov's introduction to Michael Scot, *Liber particularis*, pp. 5–35.

14 Michael Scot, *Liber particularis*, pp. 187–211 and pp. 219–23. On Michael Scot's views on various meteorological and alchemical matters, see Thorndike, *Michael Scot*, pp. 60–71 and 110–15.

eration.<sup>15</sup> It is probable that Michael Scot's selection of texts for Arabic-Latin translation was influenced by Jewish scholars in Toledo, and by Samuel ibn Tibbon in particular, who visited Toledo between 1204 and 1210. Samuel ibn Tibbon not only shared many interests in meteorology, cosmology and astronomy with Michael Scot. He also quoted and translated into Hebrew a very similar range of Arabic authors: Alpetragius, Averroes, and Avicenna, and employed with much approval Avicenna's *On Floods* for a philosophical explanation of the Book of Genesis.<sup>16</sup> Perhaps it was Ibn Tibbon who made Michael Scot acquainted with this Avicennian text.

The aim of this article is to increase our understanding of Avicenna's *On Floods* by offering an analysis of its content, an English translation of the Arabic, and an edition of the Latin translation, which turns out to be considerably shorter than the Arabic text. Abbreviating the text is a translation technique often practised by Michael Scot. In this case the technique is particularly drastic, as we will see. In what follows, I shall discuss first the contents of the chapter and then the character of the Latin translation.

## 1. The Content of Avicenna's Chapter

The content of Avicenna's Ch. 11.6 on floods loosely corresponds to Ch. 1.14 of Aristotle's *Meteorology*.<sup>17</sup> Here Aristotle explains that the distribution of mainland and sea on the earth changes over large periods of time, as a result of excessive rains and deluges, which recur periodically. There is empirical evidence for this, Aristotle explains, in dry areas that bear vestiges of earlier times when they were covered by sea. This process does not affect the entire earth at once: some parts dry up, while others are flooded. We do not have historical records of this, argues Aristotle, because these processes are very slow compared to how long human beings and even entire peoples live. People die out in certain areas that have become inhabitable, but this is a process too long for memory (351a19–353a27).

Avicenna discusses these Aristotelian topics not only in *On Floods*, but also in Ch. 1.6 of his *Meteorology*: rivers and, as a consequence, entire seas may dry up and thus disappear, and entire areas of the mainland may be drowned by water, but there are no written records of this.<sup>18</sup> A very similar doctrine is embedded in Avicenna's treatment of the saltiness of the sea in Ch. 1.2 of his *Actions and Passions*, an earlier part of *al-Shifā'*: 'Nothing in the nature of the

<sup>15</sup> Haskins, *Studies in the History of Mediaeval Science*, p. 289.

<sup>16</sup> See Freudenthal, 'Medieval Hebrew Reception', pp. 269–311, on Samuel ibn Tibbon and on the later Hebrew reception of Avicenna's *On Floods*. On Samuel ibn Tibbon's works and translations, see Robinson, 'Samuel Ibn Tibbon'.

<sup>17</sup> Jean-Marc Mandosio has pointed this out: Mandosio, 'Follower or Opponent of Aristotle?', pp. 465 and 467.

<sup>18</sup> Lettinck, *Aristotle's 'Meteorology'*, pp. 144–45.

sea necessitates that it be specific to one location over another and in fact the sea is displaced over periods of the time that lifetimes do not comprehend'.<sup>19</sup> Hence, when Avicenna returns to the topic of floods in the last chapter of his *Meteorology*, he treats the topic of 'great events which happen in the world' from a more specific angle: in addition to watery excesses, he discusses excessive 'floods' or 'storms' (*tūfānāt*) originating from the predominance of fire, earth, and air, and he spends the greatest part of the chapter on the specific problem of catastrophic floods and their consequences for the rebirth of life on the earth.<sup>20</sup>

The line of argument of *On Floods* is difficult to understand at times, and unfortunately there does not seem to be a parallel passage in the eight major *summae* of Avicenna, except for a short passage in *The Easterners* (*al-Mashriqiyyūn*), where the beginning of the chapter is repeated almost verbatim from *al-Shifā'*: 'great events which happen in the world, which are the dominance of one of the four elements over an inhabited quarter either of the whole of it or of a part of it'. Then follow sentences about the watery, earthy, fiery and airy floods, and Avicenna concludes: 'All this is possible; there is no proof of its impossibility. Rather, these things suffice for the possibility of it'.<sup>21</sup> Then begins the section on the soul in *The Easterners*. We are left therefore with the very text of *On Floods* in *al-Shifā'* itself.

Avicenna starts with a definition of *tūfān* (flood): flood is the dominance of one of the four elements over an inhabited quarter of the earth. The cause for this dominance is conjunctions of the planets (*ijtimā'āt min al-kawākib*) in a certain configuration (*hay'a*), together with the assistance of earthy causes and elemental predispositions. Avicenna then discusses four kinds of flood: watery, fiery, earthy, and airy floods (§§ 2–3). There is historical evidence of the existence of such floods, Avicenna says (§ 4), but their existence can also be proved: on the one hand by proving that extreme increases and decreases of such phenomena are possible (§§ 4–5), on the other hand by recourse to the celestial influence on the sea (§§ 6–7). While Avicenna adds a caveat that the theory of influential astronomical situations may not be convincing (§ 8), he is sure that the first alternative is true: relative increases and decreases of such phenomena exist, and the possibility that increase and decrease reach extreme degrees cannot be denied.

Avicenna's theory of celestial influence (§§ 6–7) belongs to a longer history of linking extreme natural phenomena to rare celestial events. Such theories were current already in Late Antiquity, three of which were particularly influential. The first is Plato's Perfect Year, as expounded in *Timaeus* 39d,

19 Avicenna, *al-Afāl*, p. 208, ed. by Madkour and Qassem.

20 The possibility that the entire human race may be extinguished is also discussed in Avicenna's *On Animals*; see: Avicenna, *al-Ḥayawān*, p. 386; Latin version *De animalibus*, xv, 1, in Avicenna, *Perhyapatetici philosophi*, fol. 59<sup>va</sup>.

21 Avicenna, *al-Mashriqiyyūn*, pp. 131–32.



which is the greatest of all cyclical periods and is completed when all planets are in conjunction in one place of the heaven. The second is Aristotle's idea in *Meteorology* I, 14 (352a) that, just as there is a yearly winter, there also happens a 'great winter' at much longer intervals, that goes along with excessive meteorological phenomena. Olympiodorus, the sixth-century commentator on Aristotle's *Meteorology*, spells out in more detail that the 'great winter' arises when all planets are in conjunction at the winter solstice, and likewise for the 'great summer' at the summer solstice.<sup>22</sup> The third influential theory is the astronomical theory of precession, that is, the return of the sphere of the fixed stars to the same position, which takes 36,000 years according to Hipparchus's theory as reported in Ptolemy's *Almagest* VII, 2 (rather than the c. 25,800 years in the modern calculation). The main difference between, on the one hand, the Platonic and Aristotelian theories and, on the other hand, the Ptolemaic theory of precession, is that the first astronomical phenomenon concerns the planets, while the second concerns the sphere of the fixed stars. In addition to these theories, Avicenna could also have drawn on Indian, Persian and Islamic astrological traditions of great cycles and rare planetary conjunctions.<sup>23</sup>

Avicenna does not mention a numerical value for the interval in *On Floods*, and his passage about celestial influence remains rather vague. At one point he speaks about 'conjunctions of the planets' (*ijtimā'āt min al-kawākib*); at another point he speaks of apogee, perigee and places 'close to the equator', which apparently is a reference to the nodes, i.e. the intersections of an orbit with the celestial equator (§ 6). There seem to be at least two possible interpretations of the passage. One is that Avicenna is speaking about the Ptolemaic precessional movement of the sphere of the fixed stars and, together with it, the movement of the tropical and equinoctial points. This would be close to how Avicenna's rough contemporaries, the Ikhwān al-Ṣafā' (Brethren of Purity), present the topic.<sup>24</sup> The other possible interpretation is that Avicenna offers a conjunctionist theory, making great floods dependent on the conjunctions of all planets close to the summer and winter solstices, or the equinoctial points. This would be a theory similar to that in Olympiodorus's commentary on *Meteorology*, which is extant in Arabic translation. The phrase 'conjunctions of the planets' makes it more likely that Avicenna is thinking of the second, conjunctionist alternative.<sup>25</sup>

22 Olympiodorus, *In Aristotelis Meteora*, comm. 1, 14, 351a19 et seq., pp. 111–12. See de Callatāy, *Annus Platonicus*, pp. 1–4 (on Plato), 38–39 (on Aristotle), and 118–19 (on Olympiodorus, with an English translation of the passage).

23 For instance, by drawing on Abū Ma'shar. On such doctrines, see the comments by editors Yamamoto and Burnett in Abū Ma'shar al-Balkhī, *On Historical Astrology*, I, pp. 580–98.

24 On the Ikhwān al-Ṣafā' and their views on the topic, see: de Callatāy, 'World Cycles', pp. 179–93; Ikhwān al-Ṣafā', *Sciences of the Soul*, Epistle 36, pp. 191–96 (Arabic) and 231–33 (English).

25 Celestial influence is a central piece of Avicenna's natural philosophy. Cf. for instance

The astronomical doctrine in § 7 is less difficult to understand. Here Avicenna refers back to what he had said in *On Generation and Corruption* about the orbit of the planets: if the orbit of the planets were not inclined, i.e. inclined against the celestial equator, there would be no variation of the celestial influence, and the ruling quality of the planet would be ruling on a single location on the earth, with the effect of extinction of all life in that location.<sup>26</sup> In *On Floods*, this astronomical situation is curtly expressed with the phrase 'correspondence of the ecliptic with the equator'. Hence, in §§ 6–7, Avicenna describes two different astronomical phenomena, rare planetary conjunctions and the convergence of ecliptic and equator, both of which he finds possible.

In the next section (§ 8), Avicenna reaffirms that meteorological excesses are possible; that there is empirical evidence of the displacement of the seas from north to south, and that such displacement may bring habitation to an end.

The rest of the chapter, §§ 9–23, is devoted to the topic of spontaneous generation of animals and plants, or in other words the generation of life without reproduction after a catastrophic flood. Avicenna not only holds this possible, but presents a full-fledged theory of spontaneous generation.<sup>27</sup> Spontaneous generation comes about because of a rare formation of the stars and a rare disposition of the elements, which arises on account of an elemental first, second or third mixture (§§ 10–11).

One may object, says Avicenna, that this is impossible without uterus and sperm, but he replies that the passive power of the uterus can be replaced by a well-measured meeting of some portions of earth and water, and that the active power of the sperm can be replaced by the deliverance of such power from the Giver of Powers (*wāhib al-qūwā*), when a suitably disposed mixture occurs under the influence of the stars. This is in agreement with what Avicenna will later say in the *Metaphysics* part of *al-Shifā'* about the lowest of the celestial intelligences, material disposition, and the influence of the stars on that disposition.<sup>28</sup> Some people may say that the uterus contributes something in addition to the elemental mixture, but the true Peripatetic position, argues Avicenna, is that the cause for the acquisition of the form from the higher principles is a specific mixture (§ 15).

Avicenna's conclusion therefore is that any composite being may be generated spontaneously. This process results from several conditions: a certain elemental mixture; dispositions arising from it; the absence of a contrary

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Avicenna, *al-Kawn wa-l-fasād* ('On Generation and Corruption'), Ch. 14, p. 192: 'The circular celestial motions causing the higher bodies' powers to be closer and farther away are the primary causes for generation and corruption, and their returns are undoubtedly the cause for the recurrent cycles of generation and corruption' (unpublished translation by Jon McGinnis).

<sup>26</sup> Avicenna, *al-Kawn wa-l-fasād*, Ch. 14, p. 193.

<sup>27</sup> For literature on Avicenna's theory of spontaneous generation, see n. 4 above.

<sup>28</sup> Avicenna, *Metaphysics*, IX, 5, ed. by Marmura, p. 335.

disposition; and the emanation of forms. If this were not the case, it would be possible that whole species, such as human beings or trees, would cease to exist entirely without any return, and this possibility would have already occurred in an infinite universe (which is a version of what today is called the 'principle of plenitude') (§§ 16–19).

Avicenna closes the last chapter of his *Meteorology* with a final argument in favour of the possibility of spontaneous generation of human beings. He says that among the human arts (*ṣināʿāt*, i.e. crafts and skills) some are such that they are needed for the survival of human beings. All arts come to be at some point in time, and their origin is dependent on individuals that have a special property, namely, to be able to exist without these arts, which they invent. Without these individuals, all other individuals would die. Hence, these inventors of the arts cannot be generated by procreation, but only by spontaneous generation (§§ 20–23).

## 2. The Latin Translation

As noted above, strong stylistic evidence points to Michael Scot as the translator of *De diluviis*. In particular, we encounter three expressions highly characteristic of his translations: *inopinabile* (which appears twice), *semper fuit*, and *non est rectum dicere*; as well as phrases less current in his writings but still characteristic, such as *quoniam quemadmodum* or *et maxime quia*.<sup>29</sup> This finding is corroborated by a salient feature of the translation technique employed for *De diluviis*, which can be seen by comparing the English translation of the Arabic with the Latin text: the translator abbreviates considerably, not by summarizing or paraphrasing, but by omitting half-sentences, full sentences or even groups of sentences. For the rest, he translates almost word for word. This technique is very typical of Michael Scot, who uses it when translating Averroes's long commentaries on *De caelo* and *Metaphysics*, and Averroes's compendium of the *Parva naturalia*.<sup>30</sup> In the case of *De diluviis*, the technique is applied in a particularly drastic fashion: the Latin translation is only half as long as the Arabic original.

What are Michael Scot's motives for abbreviating? This can be best explained by surveying his abbreviations section-wise. Avicenna's first five paragraphs on the different kinds of flood and their proof of existence are transported without much abbreviation into Latin, with the exception of a reference to Arabic philologists (§ 1). Paragraph 6, however, on rare celestial events that cause the displacement of seas, is much shortened. Among other things, the

<sup>29</sup> Hasse and Büttner, 'Notes', pp. 346–47. This can be confirmed by searching for these phrases in the quotations contained in Hasse and others, *Arabic and Latin Glossary*.

<sup>30</sup> Hasse, *Latin Averroes Translations*, pp. 32–38. For a comparison of Michael Scot's abbreviating technique with that of other translators, see Hasse, 'Abbreviation', pp. 159–72.

mentioning of the astronomical positions 'apogee or perigee or something else in proximity of the equator' is omitted, with the effect that the theory becomes even more unspecific in the Latin version.

In the following paragraphs on spontaneous generation, Michael Scot returns to his usual procedure of omitting material that he finds repetitive, without much interference with the content. A radical version of this strategy can be observed in paragraph 12, where he cleverly shortens Avicenna's reply to the objection that a uterus and sperm are needed for generation. Avicenna's somewhat convoluted sentences are reduced to the bare bones of the argument. In paragraph 13, however, the omission concerns an important ingredient of Avicenna's theory of spontaneous generation. The Latin version does not transport Avicenna's theory that, after a first mixture, it takes a second or third or more mixtures under the influence of the stars until a suitably disposed mixture occurs, which is the condition for the spontaneous generation of a certain being. The Latin readers could grasp this theory only from a half-sentence in paragraph 16, which mentions 'a second composition in a different proportion'.<sup>31</sup>

In paragraphs 16–19, which present Avicenna's conclusion on spontaneous generation, Michael Scot retains most of the essential information, but leaves out an important step in the argument, namely that the possibility of complete extinction would have already occurred in an infinite universe (§ 19). The final section of *De diluviis*, on the spontaneous generation of the inventors of the arts, is translated faithfully into Latin, with the exception of the last paragraph, which is omitted in its entirety (§ 23). This could be due to an accident of transmission, either in Arabic or from the Arabic into Latin, but it seems more likely that Michael Scot found the paragraph superfluous in content, since it does not add anything to the argument: the paragraph offers additional information on the special property of self-sufficiency owned by the inventors of arts.

The most glaring interference of the Latin translator concerns not omission but addition: Michael Scot on seven occasions inserts phrases such as 'as some say', or 'according to some whom you know', or 'according to the astronomers' that are not in the Arabic text, nor in the apparatus of the Cairo edition of the Arabic. Six of the seven additions occur in the later part of *De diluviis* (§§ 9–22) and serve to distance Avicenna from the theory of spontaneous generation. An example is in paragraph 16. Avicenna concludes that, when all conditions are given, 'it is fitting' that generation happens without reproduction; this Michael Scot translates as: 'it seemed correct to some' (*rectum igitur videbatur quibusdam*). Another example is



31 Averroes, who tendentiously describes Avicenna as holding that human beings can be generated from earth, does not mention Avicenna's theory of mixture either; for Averroes's simplifying presentation of Avicenna's theory, see Bertolacci, 'Averroes against Avicenna', esp. pp. 43–44.

the very last sentence in Latin. Michael Scot provides the translation ‘And these (i.e., *inventors of the arts*) are believed by some people to be generated without reproduction’ (*Et illi putabantur a quibusdam fieri sine gignitione*), where Avicenna had written: ‘Since this is the case, it is necessary that <these persons> came to be not by birth.’ Michael Scot’s purpose is obvious. He turns Avicenna from a protagonist of a theory of spontaneous generation into a person who presents a theory of others. Apparently, Michael Scot was not fully convinced of the possibility of spontaneous generation and of its explanation by Avicenna. The seventh addition appears in paragraph 2 of the treatise: ‘And some say (*Et dixerunt quidam*) that the cause of floods is a constellation.’ In the Arabic original, Avicenna had spoken of himself: ‘We say: The cause for the occurrence of floods is the conjunctions of the planets.’ Again, this serves to distance Avicenna from the content of the text, this time from the theory of celestial influence on floods.

The Latin title contains another significant alteration. It reads ‘Chapter on the floods mentioned in Plato’s *Timaeus*’ (*Capitulum in diluviis dictis in Timeo Platonis*), where the Arabic had been ‘Chapter on the great events which happen in the world’. As is obvious from the apparatus criticus below, the Latin heading is preserved in all manuscripts. Hence, in all likelihood, the translator himself transformed the original title into the new one, which links Avicenna’s discussion to Plato’s *Timaeus*. It is not surprising that the Latin translator saw this connection in content, given that Calcidius’s Latin translation of the *Timaeus* was one of the most popular philosophical treatises of the early Middle Ages,<sup>32</sup> that Michael Scot cites *Plato in Timeo* also in his commentary on Sacrobosco’s *Sphera*,<sup>33</sup> and that twelfth-century authors such as William of Conches took their cue from the *Timaeus*’s mention of recurring catastrophic floods (22–23b) when developing their own natural explanation of such catastrophes.<sup>34</sup> The Platonic title chosen by Michael Scot did not misdirect scholastic authors from citing *De diluviis* as a treatise of Avicenna, as did Albert the Great in his *De homine*,<sup>35</sup> *De causis proprietatum elementorum*,<sup>36</sup> and *De IV coaequaevis*,<sup>37</sup> and Thomas Aquinas in his *Scriptum super Sententiis*.<sup>38</sup>

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<sup>32</sup> Leinkauf and Steel, *Platons ‘Timaios’*.

<sup>33</sup> Thorndike, *The ‘Sphere’ of Sacrobosco*, p. 248: ‘Nam sicut dici Plato in Timeo’.

<sup>34</sup> William of Conches, *Philosophia*, 3 § 39, p. 86.

<sup>35</sup> Albert the Great, *De homine*, p. 131: ‘Avicenna [...] Item, idem in capitulo de diluviis quae numerantur in Timaeo Platonis’.

<sup>36</sup> See n. 1 above.

<sup>37</sup> Albert the Great, *De IV coaequaevis*, p. 745b: ‘ut dicit etiam Avicenna in libro de diluviis’.

<sup>38</sup> Thomas Aquinas, *Scriptum super Sententiis*, III, D. 3, Q. 2, Art. 1 c: ‘dicit Avicenna in capitulo de diluviis’.

### 3. Editorial Note

The Latin translation of *On Floods* is preserved in twelve manuscripts, as far as we know today. Eleven of these are described in Marie-Thérèse d'Alverny's *Codices* volume of the *Avicenna latinus* series, which appeared in 1994; one manuscript was found later in the Universitäts- und Landesbibliothek Tirol of Innsbruck. *De diluviis* first appeared in print in 1949, when Manuel Alonso Alonso published a mildly edited transcription of Seville, MS Biblioteca Capitular y Colombina, 5-6-14.

The present critical edition is based on a collation of all twelve manuscripts. The variant readings of two manuscripts are not recorded in the apparatus, for different reasons. Manuscript P (Palermo, MS Biblioteca Comunale, Qq. G. 31), of the later fifteenth century, written by a Franciscan friar in Brittany, offers not Michael Scot's translation itself, but a thorough stylistic revision of it. Manuscript C (Chicago, MS Newberry Library, 23) contains numerous errors, some of which are shared with manuscript E, while others show that the scribe did not recognize words. Because of the sheer number of faulty readings, this manuscript was excluded from the apparatus.

Marie-Thérèse d'Alverny mentions dates and places of origin for the manuscripts, for the most part without giving reasons. According to this information, which has to be treated with caution, six manuscripts date from the thirteenth century, one from the turn to the fourteenth century, and five from the fourteenth century. The only manuscript of the fifteenth century is the above-mentioned Palermo manuscript with the stylistic revision of the text. As to the places of origin, five manuscripts probably come from Northern France, four from Germany or Austria, one from Italy, and two from unidentified areas. Hence, the manuscript tradition is entirely late medieval and largely central-European. This did not preclude important Renaissance authors from studying and using the text, as was mentioned above. *De diluviis* travelled in the context of other philosophical treatises, mainly of the Graeco-Latin and Arabic-Latin tradition, often together with other twelfth- or early thirteenth-century translations, but, remarkably, not with Plato's *Timaeus*. One manuscript (Krakow, MS Biblioteka Jagiellońska, 1718) stands apart from the group; it also transmits theological works by Thomas Aquinas.

As to the relationship among the manuscripts, two groups share significant variants that bind them together: manuscripts CENaVa and manuscripts KVb, while manuscripts GMNüS are grouped together in a loose way only. This judgement is based on the following evidence, which can only be limited for a short text:

- § 4: potest credi per hanc rationem] per hanc rationem potest credi KVb
- § 4: aut prope medium] *om.* CEKNaVb
- § 7: similiter] si *add.* GIKMNüSVb
- § 7: totam] tota G *om.* KVb

- § 8: sufficere in hoc] in hoc sufficere CEKNaVb sufficere I  
 § 8: habitabilis] animalis GMNüS habitabiles I habitatio Na  
 § 10: in multis annis] *om.* KVb  
 § 11: fuerit possibilis congregatio earum] *om.* CENaVaVb  
 § 13: si] non GKMNüSVb sicut E tamen I  
 § 16: et facientem aliquam complexionem et componantur secundo in  
 aliam proportionem] *om.* CENaVa  
 § 18: generationis] maxime *add.* CENa  
 § 19: secundum astronomos non venirent] non venirent secundum  
 astronomos CENa

The two manuscripts KVb are joined together also by a long additional *titulus*, which mentions parallel passages in Averroes and Albert, as is obvious from the manuscript descriptions below. Often, but not always, the GMNüS group offers a cleaner text with fewer copying mistakes than the rest of the manuscripts. For establishing the critical text, however, it was more important to find the correct reading by comparing the literal translation to the Arabic. The present edition therefore does not have a base manuscript. In five cases, I suggest a reading against all manuscripts, often with the help of the Arabic; these are: *nivea*<sup>39</sup> instead of *una* or *viva* (§ 3); *septentrionalis* instead of *habitabilis* (§ 8); *animalia et plante* instead of *et plante* (§ 9); *homines* instead of *omnes* (§ 20); and *sine eis* instead of *eis* (§ 21).

The apparatus does not record orthographic variants, such as *multotiens* / *multociens*, *sed* / *set*, *imp-* / *inp-*, *arena* / *harena*, *augmen-* / *aucmen-*, *gignitio* / *gingnitio*, except in names. In such cases of orthographic variety, the reading adopted for the edition follows the more common reading in the manuscripts. The punctuation and the paragraph division of the main text is editorial.

Note that the final paragraph (§23) is not transmitted in Latin.

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39 I owe this reading to a suggestion by Stefan Georges.

## Manuscripts

### C = Chicago, The Newberry Library, 23, fols 181<sup>r</sup>–182<sup>r</sup>

First half of the 14th c.

**Or.** Germany or Austria.

**Prov.** Monastery of Melk, formerly no. 398 (529, I 47), listed in the 1483 catalogue of Melk as 'F 1'. Note in a seventeenth-century hand on fol. 1<sup>r</sup>: 'Monasterii Mellicensis L. 35'. London library of E. P. Goldschmidt, from whom acquired in 1938 by The Newberry Library.

Parchment, 182 fols, two columns.

**Philosophy:** much Aristotle, Averroes, Thomas Aquinas, Avicenna, Costa ben Luca.

**Lit.** *Aristoteles latinus*, I, no. 60; *Avicenna latinus*, pp. 293–97. Paul Saenger, *A Catalogue of the Pre-1500 Western Manuscript Books at the Newberry Library* (Chicago: University of Chicago Press, 1989), pp. 39–41.

**Colophon:** *Explicit capitulum de diluviis. Amen.*

### E = Erfurt, Universitätsbibliothek, CA. 4° 15, fol. 49<sup>r-v</sup>

14th c.

**Or.** probably Germany.

**Prov.** Amplonius Rating (1363–1435), signature '49 phil. natur.' in Amplonius's 1412 catalogue; Erfurt, Collegium Porta Coeli in 1412.

Parchment, fols 3<sup>r</sup>–91<sup>r</sup>, 91<sup>v</sup> vacat, one column, several German hands, many marginal and interlinear glosses, also on fol. 49<sup>r-v</sup>, bound together with other manuscripts to a composite volume of 196 fols.

**Medicine and Philosophy:** Constantinus Africanus, Aristotle, Alkindi, Thomas Aquinas, Albert the Great, several anonymous texts.

**Lit.** Wilhelm Schum, *Beschreibendes Verzeichnis der Amplonianischen Handschriften-Sammlung zu Erfurt* (Berlin: Weidmannsche Buchhandlung, 1887), pp. 295–98; *Aristoteles latinus*, I, no. 890; *Avicenna latinus*, pp. 202–05.

**Titulus on top of page:** *Tractatus de diluviis Avicenne.*

**Colophon:** *Explicit tractatus Avicenne de diluviis. Deo gratias.*

### G = Graz, Universitätsbibliothek, 482, fols 241<sup>v</sup>–242<sup>r</sup>

End of the 13th c.

**Or.** probably Northern France.

**Prov.** Benediktinerstift St Lambrecht, Austria.

Parchment, 242 fols, two columns.



**Philosophy:** Asclepius, Apuleius, Maimonides, Avicenna, Alexander of Aphrodisias, Alfarabi, Algazel, much Averroes, Costa ben Luca, Alfred of Shareshill, Dominicus Gundisalvi.

**Lit.** Anton Kern, *Die Handschriften der Universitätsbibliothek Graz: Band 1* (Leipzig: Harrassowitz, 1942), pp. 281–86; *Aristoteles latinus*, I, no. 57; *Avicenna latinus*, pp. 173–80.

**Titulus at bottom of page:** *Incipit Avicenne capitulum de diluviis enumeratis in Thimeo Platonis.*

**I = Innsbruck, Universitäts- und Landesbibliothek Tirol, 302, fols 94<sup>v</sup>–95<sup>v</sup>**

13th c. (first part of the MS).

**Or.** probably Northern France (first part of the MS).

**Prov.** Donated to Kloster Stams, Austria, 14th c. Since 1808 University Library Innsbruck, Austria.

Parchment, two parts, fols 1–95 and fols 96–142, one column, probably only one hand.

**Philosophy, mainly natural philosophy:** Aristotle, Ps.-Aristotle, Averroes.

**Lit.** Walter Neuhauser and Lav Subaric, *Katalog der Handschriften der Universitätsbibliothek Innsbruck, Teil 4: Cod. 301–400* (Vienna: Österreichische Akademie der Wissenschaften, 2005), pp. 34–38; not in *Aristoteles latinus*; not in *Avicenna latinus*.

**K = Krakow, Biblioteka Jagiellońska, 1718, fols 225<sup>v</sup>–226<sup>r</sup>**

End of the 13th c.

**Or.** probably Northern France.

**Prov.** On the cover a note ‘magistri Petri de Zwanow’, master of arts and bachelor in theology at Cracow in the fifteenth century.

Parchment, I+227+I fols, two columns, several hands; the text of 226<sup>v</sup>–227<sup>r</sup> is added later (14th c.).

**Theology:** Thomas Aquinas.

**Lit.** *Avicenna latinus*, pp. 253–54.

**Titulus at bottom of page:** *C(apitulum) Avi(cenne) de diluviis enumeratis in Thimeo Platonis. Aver(oes) autem uidetur esse contra hoc secundo me(taphisi)ce et 8 phi(si)chorum et de hoc Albertus primo de proprietatibus elementorum tractatu secundo, capitulo tredecimo.*

**M = Munich, Bayerische Staatsbibliothek, Clm 8001, fol. 26<sup>r-v</sup>**

End of the 13th c.

**Or.** perhaps German.

**Prov.** Cistercian monastery of Kaisheim.

Parchment, 270 fols, two columns, several hands.

**Philosophy and Theology:** Averroes, Giles of Rome, Dominicus Gundisalvi, Thomas Aquinas, Albert the Great, Alkindi, Alfarabi, Alexander of Aphrodisias, Isaac Israeli.

**Lit.** *Aristoteles latinus*, I, no. 1035; *Avicenna latinus*, pp. 209–13; David Juste, *Les manuscrits astrologiques latins conservés à la Bayerische Staatsbibliothek de Munich* (Paris: CNRS Éditions, 2011), p. 117.

**Na = Naples, Biblioteca Nazionale, XI AA 49 (2), fol. 1<sup>r</sup>**

Second half of the 13th c.

**Or.** Italian.

**Prov.** Augustinian monastery San Giovanni a Carbonara in Naples.

Parchment, 100 fols, one column, one hand.

**Philosophy:** much Avicenna, Thabit ibn Qurra.

**Lit.** *Avicenna latinus*, pp. 75–76.

**Colophon:** *Explicit tractatus de diluviis Avicenne. Deo gratias.*

**Nü = Nuremberg, Stadtbibliothek, Cent. V 21, fols 181<sup>r</sup>**

14th c.

**Or.** Unknown.

**Prov.** Nuremberg, Dominican monastery.

Parchment, I+231 fols, two columns, several hands, composed of two formerly independent manuscripts.

**Philosophy:** Radulphus Brito, much Avicenna, Costa ben Luca, Aristotle.

**Lit.** *Aristoteles latinus*, I, no. 1089; *Avicenna latinus*, pp. 213–15; Ingeborg Neske, *Die Handschriften der Stadtbibliothek Nürnberg. Bd.4, Die lateinischen mittelalterlichen Handschriften: Varia 13.-15. und 16.-18. Jh.* (Wiesbaden: Harrassowitz, 1997), pp. 56–60.

**P = Palermo, Biblioteca Comunale, Qq. G. 31, fols 199<sup>v</sup>–201<sup>r</sup>**

Second half of the 15th c.

**Or.** Written by the Franciscan friar Mauritius Gaufridi, Brittany.

**Prov.** Franciscan monastery of Cuburien, near Morlaix, Brittany, founded 1458.

Paper, III+202+IV fols, two columns.

**Philosophy:** Aristotle.

**Lit.** *Aristoteles latinus*, II, no. 1497 (full description); *Avicenna latinus*, p. 320.

The MS does not offer Michael Scot's translation, but a thorough stylistic revision of it, as d'Alverny noted (*Avicenna latinus: Codices*, p. 320: 'Textus abundanter interpolatus').

**Titulus:** *Incipit liber de natura diluvii.*

**Incipit:** *Capitulum de diluviis dictis in thimeo platonis. Dicitur autem diluvium unius victoria elementi super quartam habitabilem aut super unam aliquam regionem ...*

**Explicit:** *... hominibus sed in paucis in quibus virtus et fecunditas renovatur.*

**Colophon:** *Explicit de natura diluviorum.*

**S = Seville, Biblioteca Capitular y Colombina, 5–6-14, fols 92<sup>v</sup>–93<sup>r</sup>**

End of the 13th c.

**Or.** Unknown.

**Prov.** Fernando Colón, donor of the MS to the Biblioteca Capitular of Seville.

Parchment, I+164 fols, one column, one hand.

**Philosophy:** Alexander of Aphrodisias, Alfarabi, Aristotle, Avicenna, Costa ben Luca, Alfred of Shareshill, Avicbron, several anonymous texts.

**Lit.** *Aristoteles latinus*, II, no. 1181; *Avicenna latinus*, pp. 222–25.

**Titulus:** *Incipit quoddam Capitulum Avicenne de diluviis.*

**Va = Vatican City, Biblioteca Apostolica Vaticana,  
Vat. lat. 725, fols 36<sup>r</sup>–37<sup>r</sup>**

13th–14th c.

**Or.** German.

**Prov.** Unknown.

Parchment, 69 fols, one column, several German hands.

**Philosophy:** Albert the Great, Thomas Aquinas, Aristotle, Costa ben Luca, Avicenna, Dominicus Gundisalvi.

**Lit.** *Aristoteles latinus*, II, no. 1825; *Avicenna latinus* p. 89.

**Titulus:** *Incipit de diluviis.*

**Colophon:** *Explicit liber de diluviis generalibus.*

**Vb = Vatican City, Biblioteca Apostolica Vaticana,**  
**Vat. lat. 4426, fol. 1<sup>r-v</sup>**

First half of the 14th c.

**Or.** Northern France or Flanders.

**Prov.** Unknown.

Parchment, 70 fols, two columns, one hand of Northern France.

**Philosophy:** Avicenna, Alfarabi, Alexander of Aphrodisias, Alkindi, Giles of Rome, Thomas Aquinas, Dietrich of Freiberg, Costa ben Luca, Ps.-Augustine, Proclus, Henry of Ghent.

**Lit.** *Avicenna latinus*, pp. 96–99.

**Titulus (rubric):** *C(apitulum) Avic(enne) de diluviis enumeratis in Thy(me) o Platonis. Av(er)roys autem uidetur esse contra hoc secundo me(taphysi)ce et octavo ph(ysice) et de hoc Albertus primo de proprietatibus elementorum tractatu secundo, capitulo tredecimo.*

**Colophon:** *Explicit liber de diluviis Avicenne.*

## Editions

A = Latin edition: Manuel Alonso Alonso, 'Homenaje a Avicenna en su milenario.

Las traducciones de Juan González de Burgos y Salomón', *Al-Andalus*, 14 (1949), pp. 291–319, at 306–08.

Arab = Arabic edition: Avicenna, *al-Shifā': al-Ṭabī'īyyāt: al-Ma'ādīn wa-l-āthār al-'ulwiyya*, ed. by 'Abd al-Ḥalīm Muntaṣir, Sa'īd Zāyid and 'Abdallāh Ismā'īl (Cairo: al-Hay' al-'amma li-shu'ūn al-maṭābi' al-amiriyya, 1965), pp. 75–79.

## Abbreviations

add.	add(s)
coni.	conjecture by the editor
corr.	correct(s)
del.	delete(s)
marg.	margin
inv.	invert(s)
lac.	lacuna
om.	omit(s)
sup. lin.	above the line
< >	added by the editor
( )	suggested reading
{ }	difficult to read



## Capitulum in diluviis dictis in Thimeo Platonis.

(1) Et est diluvium victoria unius elementorum super quartam habitabilem aut super unam partem. Et quando est ex aqua dicitur proprie diluvium in ydiomatibus.

(2) Et dixerunt quidam quod causa diluvii est constellatio  
5 que facit unum elementum vincere cum causis accidentibus et preparationibus materialibus. Aquosum ergo accidit ex mutationibus marium subito per maximas causas ventosas aut per multas pluvias propter magnam alterationem aeris in aquam.

(3) Igneum autem accidit ex incensione ventorum fortium  
10 et istud est fortius. Et terrestre accidit ex multis arenis cadentibus de uno loco in alium aut propter qualitatem terrestrem frigidam congelatam sicut dictum est de una terra. Aereum autem fit ex motibus ventorum fortium.

(4) Et hoc potest credi per hoc quod narratur de diluvio  
15 aque. Et potest credi per hanc rationem quia res que suscipiunt

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**Tit.** in<sup>1</sup> de *EMNaVa* dictis in] sumptum de *M Thimeo*] thimeo *EIVa* thym(e)o *M*  
1 unius] unle *Vb* elementorum] elementi *I* quartam] totam *I* partem *add.* *Va* 2 habitabilem]  
habitabilem *EKMNaVa* habitabile *corr. ex* inhabitabile *Nü* partem] eius *add.* *I* quando est]  
quandoque *AGNüSVb* est] *om.* *I* ex] enim in *E* ab *Na* aqua] est *add.* *I* 3 dicitur] bene ab *E*  
proprie] bene *Na* proprie ... in] *om.* *E* diluvium] *om.* *INa* in] ab *NaVa* ydiomatibus] proprie  
diluvium *add.* *E* omathibus *I* diluvium proprie *Na* 4 est] esset quod *E* esset *Na* quedam *add.*  
*KNaVaVb* 5 elementum] altera *add.* *E* alia *add.* *Na* vincere] devincere *E* accidentibus] agentibus  
*EKMNaVaVb* 6 preparationibus] proportionibus *A* ergo] igitur *GKSVb* sibi *del.* *Va* 7 ventosas]  
ventorum *Na* per<sup>2</sup>] propter *EI* 8 pluvias] aut *add.* *I* propter] per *Vb* magnam ... aeris] aeris  
alterationem magnam *ENa* aquam] aqua *AEGMNaNüSVb* 9 Igneum] ignire *I* incensione]  
intensione *AEG* intensione *KNa* intencione *MVb* ventorum fortium] *inv.* *AS* 10 et] ac *A* ex *Na*  
istud] istis *ANü* *om.* *E* id *M* isto *Na* ist[ud] *S* illud *IVaVb* est] eis *add.* *E* ei *add.* *Na* Et] *om.* *ENa*  
terrestre] autem *add.* *ENa* et hoc *add.* *I* 11 de] ex *ANüS* uno] imo *M* alium] aliud *Na* terrestrem]  
ita *add.* *Nü* 12 frigidam] et *add.* *ANa* congelatam] gelatam *A* congelativam *GKMVb* est] *om.* *I* de]  
in *Na* una] *con.* viva *AGKMNaSVb* una *EINaVa* terra] thema *I* Aereum] aerema *I* 13 fit] sit *Na*  
14 per] propter *AS* ex *E* de *Na* 14/15 per ... credi] *om.* *I* 14 diluvio] diluviis *Na* 15 Et] hoc *add.*  
*Va* potest ... rationem] per hanc rationem potest credi *KVb* per] propter *A* ex *E* hanc] hac *E*  
rationem] ratione *E* quia] quod *E* res] rese *S*

## Chapter on the Great Events which Happen in the World

by AVICENNA

(Translated from the Arabic)

(1) //75 Among the things which we should discuss in this place is the matter of floods. We say: Flood (*tūfān*) is the dominance of one of the four elements over an inhabited quarter, either the whole or a part of it, or one element becoming dominant in this way, according to what the scholars of the <Arabic> language (*ahl al-lughā*) regard as the <proper> usage for the term. Best known among the common people concerning the matters of floods is what derives from water, as if this term were <only> applied to this sense.

(2) We say: The cause for the occurrence of floods is the conjunctions of the planets (*ijtimā'āt min al-kawākib*) according to one of the configurations which cause the domination of one of the elements in the habitable world, together with the assistance of earthy causes and elemental dispositions. The watery <floods> occur out of sudden displacements of the seas<sup>1</sup> over a large area because of gale-like conditions necessitating this, or because of causes which necessitate a severe rising of flood waters and of continuous rains, or because of an excessive alteration occurring of air into water.

(3) The fiery <floods> happen from inflammations through violently blowing winds, and these have a very great diffusion. The earthy <floods> happen because of an excessive deluge (*sayalān*), which comes about through sands in inhabited open countries, or because of a quality which makes a deluge of cold solid earthy <matter>; this is something that we have talked about. The airy <floods> result from very vehement and destructive motions of the air.

(4) What is convincing about the existence and occurrence of these <floods> is the many uninterruptedly transmitted reports (*al-akhbār al-mutawātira*) relating a flood of water. What is convincing with respect to proving this (*ithbāt*), is that



<sup>1</sup> Reading *biḥār* (seas) instead of *bukhār* (vapours).

magis et minus, licet esse in eis est medium aut prope medium inter duo extrema, tamen non exit a possibilitate ut sit in extremis ipsis.

- (5) Et sicut accidit multotiens quod sunt anni sine pluvia in aliqua terra, ita potest evenire pluvia subito et potest alterari in aquam subito. Et ita de aliis diluviis.

(6) Et si verum est hoc quod dicunt quod mare mutatur per mutationem celestium in tantum quod omnes aque cooperiunt habitationem, discooperietur unus polus aut duo.

- (7) Et similiter hoc quod dicunt de mutatione declinationis, si est verum in tantum quod zodiacus superponeretur equinoctiali, totam cooperiet habitationem.

16 magis] maius I {...}ag M et] uel AS esse] om. E et Na est Vb in] inter ENa eis] ea ENa est] sit E om. MNa aut] vel Va aut prope] propter I aut ... medium<sup>2</sup>] om. EKNaVb 17 tamen] cum I causam Va non] quandoque E om. I idem Na exit] erit A om. M a possibilitate] impossibile A a possibilitate G ap(otest?)ate I apo(ssibili)tate K uel aptatam Na a pos(sibilitate) S apost(erita)te add. in marg. S a possibilitate Va a p(ossibili)tate Vb sit] sic Na in] non Na cum Va extremis] extremum I 18 ipsis] ipsius E 19 sicut] om. Na accidit multotiens] inv. Na multotiens] mul{...} Vb sunt anni] c{in}mus sunt Na pluvia] om. I 19/20 in ... pluvia] om. Na 20 terra] et add. E ita] om. KVb evenire] aliqua add. I pluvia] in add. K cetera add. Vb et potest] incipit Na alterari] aer add. E 20/21 in aquam] om. AS in aqua EGKMNüVb 21 aquam] ita add. KVb subito] om. Na ita] est add. I aliis diluviis] inv. Va 22 hoc] om. ENa mare] corr. ex in ae Va mutatur] permutatur (sic) per terram vel E permutatur Na per] propter AENa 23 celestium] stellarum ENa 24 habitationem] habitabilem I habita Na Iū adh' Va discooperietur] discooperitur E discooperientium Na 25 Et] etiam AM similiter] in add. A si add. GIKMNüSVb de mutatione] om. M declinationis] decliva E detectionis I 26 si] hoc E sed IKVb est verum] inv. Va verum] om. Na in ... quod] tunc si E quod] et ita add. I superponeretur] supponeretur EIVa supponetur Na equinoctiali] et add. Na 27 totam] tota G om. KVb cooperiet] cooperiret EVa cooperiunt I habitationem] habitabilem I

the things which are receptive of increase and decrease, scarcity and multitude – even if most of the existence in their <case> is an existence in the middle between the two extremes of excess and deficiency, and what comes close to <the middle> – are such that the two extremes //76 are not outside the limit of possibility.

(5) Just as it often happens that years come about for great areas of the inhabited earth in which there is no rain at all, and this is on the side of decrease, likewise it is sometimes possible that rains are excessive in one instant and that the air undergoes alteration into a watery nature suddenly, since that which belongs to these middle <states> differs by increase and decrease, and likewise with the other floods.

(6) If it is true what we surmise about the dependency of the seas upon the direction (*jiha*) of the celestial sphere (*falak*), then it is necessary that <the sea> is displaced by its transfer (*intiqāl*) so that, at some time, it spreads over all of these regions beyond which inhabitation cannot extend; and this is when the position (*mawḍūʿ*) that moves the greater part of the sea by its transfer occurs belonging to the celestial sphere, such as apogee (*awj*) or perigee (*ḥaḍīd*) or something else in proximity (*fī qurb*) of the equator. Thus, the water deluges the place which should be inhabited, while one or both poles (*quṭbān*) are uncovered, and land, which is opposed to the sea, is displaced to it (*i.e., to the place of the poles*) and there inhabitation is prevented (*because of cold*). Thus, the earth is divided into land and sea <in a way that> neither of them permits inhabitation by air-breathing animals.

(7) Likewise, if the state of the inclination (*mayl*) and what we surmise about its change and its abating is confirmed truth,<sup>2</sup> so that it is true that there is a correspondence (*infibāq*), or something similar to correspondence, of the ecliptic (*falak al-burūj*) with the circle of the equator (*dāʿira muʿaddil al-nahār*), then indeed all this belongs to what necessitates the destruction of inhabitation.



2. Avicenna, *al-Kawn wa-l-fasād* (On Generation and Corruption), Chapter 14.

(8) Et si non est verum illud, illa ratio quam diximus potest  
 30 fuit cooperta aquis ita quod montes facti fuerunt et modo  
 maria sunt meridionalia, ergo maria sunt mutabilia. Et mutatio  
 eorum non est determinata, sed possibile est ut ita fiat ut abs-  
 cidat habitationem. Forte igitur sunt renovationes in annis multe  
 quarum memoria non potuit retineri.

(9) Et non est inopinabile secundum quosdam quos tu scis  
 35 ut corrumpantur <animalia> et plante et multa genera eorum et  
 post generentur per generationem, non gignitionem, quoniam  
 multa animalia fiunt per generationem et gignitionem et simili-  
 ter plante. Et ex capillis fiunt serpentes, ex ficibus scorpiones et  
 40 mus de terra et rane de pluvia. Et omnia huiusmodi gignuntur.

(10) Et quando hec gignitio absconditur in multis annis,  
 possibile est ut veniat secundum quosdam aliqua constellatio et  
 aliqua preparatio elementorum que faciat ea generari.

(11) Immo dicimus quod quelibet species que fit per com-  
 45 plexionem elementorum in quantitativis scitis, dum elementa

28 est] *om.* AGKMS illud] tunc *add.* E istud GKMNāNū id I illa] ista NaVa illa ... quam] {...} Vb  
 ratio] tamen *add.* E quam diximus] *om.* M potest] *om.* KVb 29 sufficere] quam diximus *add.* M  
 sufficere ... hoc] in hoc sufficere EKNāVb sufficere I Et] quod Na scimus] propter hoc *add.* E pars]  
 terra E *om.* I hec Na vel *add.* Va septentrionalis] *coni.* animalis AGMNūS habitabilis EKVaVb  
 habitabiles I habitatio Na 30 fuit cooperta] sunt cooperte I *inv.* Va facti] *om.* Na modo] in G  
 31 meridionalia] distincta *add.* Va mutabilia] mutabilia S 32 fiat] diluvium *add.* E ut<sup>2</sup> et ENa  
 abscondit] abscondit E abscondatur Na abscondat INū 33 habitationem] habitatio Na igitur] ergo Va  
 renovationes] revocationes Na multe] multis ENaVa *om.* I lis *add.* *sup.* *lin.* M 34 quarum] quorum  
 EINa potuit] poterat Va 35 inopinabile] impossibile INa secundum] apud EMNaVaVb quos]  
 sed E quod Na ut Va scis] cui scripsi tractatum *add.* E 36 ut] quod ENaVa corrumpantur]  
 corrumpatur M animalia] *coni.* *om.* AEGIKMNāNūSVaVb et] ut E *om.* INaVa plante] planate Na  
 eorum] earum EM 37 post] postea E post ea Na *om.* Va generentur] regenerantur E generantur Na  
 generantur postea Va generationem] et *add.* E non] per *add.* EVa non gignitionem] cognitionem  
 Na 37/38 quoniam ... gignitionem] *om.* Na 38 animalia] alia AI fiunt] *om.* E sunt I gignitionem]  
 fiunt simul *add.* E generationem I et similiter] *inv.* E 39 plante] planete Na fiunt] sunt I  
 serpentes] et *add.* INaVa ficibus] *lac.* E ficibus I 40 mus] mures ENaVa gignuntur] gignuntur Na  
 41 gignitio] generatio I absconditur] absconditur EMNaVa in] *om.* Na in ... annis] *om.* KVb  
 42 est] secundum quosdam *add.* Va veniat] eveniat Na secundum quosdam] *om.* Va aliqua] *om.* A  
 43 aliqua] *om.* ENa elementorum ... generari] *om.* Va faciat] fuerit Na ea] animalia *add.* E  
 generari] regenerari E 44 Immo] ut *add.* E imo Na nos *add.* Va que] *om.* EVa fit] sit AES per] ex  
 Va complexionem] commixtionem I complexione Va 45 scitis] suis ENa sitis KVb dum  
 elementa] duella M

(8) If this is not possible either, then <at least> what we have said about the excesses and what we have certified about the possibility of displacement of the seas from one region of a pole to another pole is not beyond possibility. We know by very strong conjecture that the region of the north was covered with water until the mountains came to be; and now the seas are southern, so the seas were displaced. It is not necessary that their displacement is limited, but rather many ways are possible concerning it, some of which verge on bringing habitation to an end (*inqiṭā*). It seems that there are in the world upheavals (*qiyāmāt*), which appear in some years of which histories are not retained.

(9) It is not objectionable that animals, plants or //77 genera of them are destroyed and afterwards come about through generation (*tawallud*) without reproduction (*tawālud*). This is because there is no demonstration at all for the impossibility of the existence and origination of things after their extinction by way of generation without reproduction. Many animals come about by <both> generation and reproduction, and likewise plants: serpents may consolidate from hair, scorpions from chaff and basil, mice are generated from mud, frogs from rain. To all these things there also is reproduction.

(10) It is not necessary, when this generation comes to an end and so is not observed for many years, that it not have some existence rarely, when some rare configuration of the celestial sphere occurs, which is not repeated for some time, and in virtue of a disposition among the elements which chances to happen only at long intervals.

(11) Instead, we say: Whatever is generated from the elements through some mixture leads to the existence of a species due to the occurrence of that mixture by



fuerint et sua divisio secundum illas quantitates et congregatio eorum fuerit possibilis, congregatio earum erit possibilis. Et si prima complexio non sufficit, hec generantur ex secunda et tertia. Quoniam quemadmodum generatur animal ex comple-  
 50 xione humorum post complexionem elementorum, non est inopinabile quod fiat complexio secunda sine semine et sine spermate.

(12) Et si quis dixerit quod est impossibile nisi in loco determinato et per virtutem determinatam in matrice et spermate,  
 55 tunc sermo de istis erit sicut sermo de primo. Omnia enim ista generantur ex complexione elementorum et matrix nichil facit nisi retinere. Et radix est complexio.

(13) Et si est possibile ut una pars terre alteretur cum una parte aque in quantitate determinata, tunc non indiget aliquo  
 60 retinente et dator formarum dabit uirtutes agentes.

(14) Sed matrix faciet ad meliorationem. Tamen sine ea non erit impossibile hoc accidere ex motibus et aliis causis, nisi quis

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46 fuerint] fuerunt ANa fiunt M et<sup>1</sup> in EVa sua] suo ENaVa divisio] dñmo ENaVa illas] istas NaVa congregatio] cognitio Na 47 eorum] earum A ist{a}rum Va fuerit] erit K fuerit ... earum] om. ENaVaVb earum] eorum GINüS erit] fuerit G om. Vb si] om. I 48 non] om. Na sufficit] ut add. I hec] tunc E et Na generantur] generatur EM et] vel E 49 generatur] om. I 50 complexionem] consuetudinem E commixtionem I non] nec EMNaVb {nñc} K 51 inopinabile] impossibile INa fiat complexio] inv. Na secunda] om. ENa sine<sup>2</sup> om. I 52 spermate] et secunda add. I proprietate Na 53 quis] aliquis I est] om. Va impossibile] inopinabile EM sit add. Va determinato] om. I 54 per virtutem] parvitatem Na 55 de<sup>1</sup> ... erit] erit de istis Na erit] est A sermo<sup>2</sup>] modo Na 55/56 Omnia ... ex] lac. Na 56 nichil] in se add. E ut Na 57 nisi] om. E in se Na retinere] tenere KVb complexio] pulmo I elementorum add. Na 58 si] non AGKMNüSVb sicut E tamen I alteretur] alteratur I ab alia add. Na una<sup>3</sup>] altera AES 59 in ... determinata] determinata in quantitate Na aliquo] om. I aliqua M 60 et] tunc add. Va dator] corr. ex corda Va 61 faciet] facit EI non] om. ENa hoc Va 62 erit] om. Va impossibile] possibile EINaVa hoc] om. Va et] ex add. I quis] aliquis E

reason of the combination of the elements according to known proportions. Thus, as long as the elements exist, and <as long as> their being divided into these proportions and their combination is possible, the mixture which arises from them is possible. If the first mixture is not sufficient and instead the generation is only through a second and third mixture, then just as animals are generated from a mixture of humours (*akhlāt*) after a mixture of elements, it is not objectionable that a second combination will come to be and a second mixture after the occurrence of the first mixture, without seed or semen.

(12) If someone thinks that this is impossible save in a well-defined place and well-defined power, such as the uterus and the sperm, then <such a> doctrine (*kalām*), once conceded, is based on the mixture which occurs to the uterus, so that what is generated in it is generated, and on that <mixture> which occurs on account of the sperm, so that what is generated from it is generated. Indeed, this doctrine is just like the original doctrine. For all these are in fact generated from a mixture which ultimately goes back to the elements, because its beginning is from the elements, and then it undergoes alteration. The uterus, for example, does nothing but retain, combine and discharge. As to the original <doctrine>, there is the mixing, and the mixing comes from the combination. Just as this combination can happen from combining powers in the uterus and the like, so it is not absurd that it comes about through other causes and by chance.

(13) For it is not impossible that some portion of earth //78 appears together with some portion of water, meeting it with a known measure (*wazn*), and nothing prevents the occurrence of this measure nor is there an obstacle; then there is no need for a receptacle <like the womb>. As for the active powers, the Giver of Powers (*wāhib al-quwā*) delivers them when something <suitably> disposed occurs. After the first mixture, second and third mixtures necessary for the perfection of the species are produced, and the heavenly ordering assists <the mixtures> sufficiently.

(14) Admittedly, if there was, for example, a uterus, this will be easier and more suitable, but if there was not, it will not be impossible conceptually that this occur from motions and other causes. If the uterus contributes something other than the



dicat quod matrix est largiens causam.

(15) Sed hec non est sententia Peripatheticorum, sed forma  
65 et virtutes substantiales veniunt a principiis intransmutabilibus.

(16) Si igitur est possibile ut elementa congregentur secun-  
dum aliquam proportionem et facientem aliquam complexio-  
nem et componantur secundo in aliam proportionem et non  
obviaverint contrario corrumpenti, tunc dator formarum dabit  
70 formas ex principiis eternis. Rectum igitur videbatur quibus-  
dam ut omne compositum posset fieri ex elementis sine gigni-  
tione.

(17) Et si hoc non esset, tunc esset possibile secundum  
astronomos ut cessarent species. Non enim est necesse ut ex  
75 quolibet homine fiat homo necessario, sed hoc est ut in pluri-  
bus.

(18) Et maxime quia coitus, qui est principium generationis,  
est voluntarius et casus seminis in terram est naturalis, non  
necessarium, in maiori autem parte voluntarium. Et res que non

63 dicat] dixerit *E* 64 Sed] et *I* hec] hoc *E* homo *M* Peripatheticorum] peripateticorum *ENa* perhyphathe(ti)corum *G* perypaticorum *I* pery(patheti)corum *M* perypa(thetic)orum *Nü* perhipathecorum *S* perypa(theti)corum *Va* peripa(theti)corum *KVb* Hic expresse ponit Auic(en)na datorem formarum similiter in phisica sua capitulo x et 9 metaphisice cui consentit Algazel in sua phisica item Rabimoy(ses) parte ii capitulo xiii. Item Auic(en)na in tractatu de anima capitulo penultimo Au(erroes?) uero uadit contra hoc super 7 et v metaphisice *add. K* forma] forme *GIS* 65 virtutes substantiales] *inv. Na* substantiales] s{ubstantia}les *Vb om. GI* principiis] {elt} *add. Na* intransmutabilibus] transmutabilibus *ANaS* 66 est] *om. Na* possibile] impossibile *I* ut] quod *ENa* congregentur] congregent *E* congregantur *INa* 67 aliquam] aliam *KVb* 67/68 et ... proportionem] *om. ENaVa* 67 facientem] faciant *A* faciat etiam *I* fati(en)tem *S* aliquam] a materia *KM* aliam *Vb* 68 componantur] componuntur *M* secundo] illis *I* proportionem] compositionem proportionalem *I* 69 obviaverint] obviavit *AGS* obviaverunt *EM* obviat *I* obviaverit *Nü* obviat *Va* contrario] contraria *I* contrarie *Va* corrumpenti] cor(ruptio)ni *I* 70 igitur] *om. Na* igitur videbatur] *iter. K* videbatur] videbitur *AES* videretur *Na* 71 posset] possit *AE* 73 si] *om. Na* tunc] *om. Na* tunc esset] *om. M* esset possibile] *inv. Na* secundum] proprios *Na* 74 astronomos] astronomios *Na* ut] et *Na* cessarent] restatur *I* cessarent species] *inv. Va* species] *om. K* est] esset *Na* est necesse] *inv. EVa* est *add. I* 75 homine] *om. M* fiat] fiet *Va* homo] *om. I* necessario] *om. Va* 77 maxime] *om. ENa* qui] quod *E* generationis] maxime *add. ENa* 78 voluntarius] voluntarium *E* in] ad *ENa* terram] terra *I* non] nam *EKMVa* 79 necessarium] necessarius *AINa* in] *om. Na* maiori] maiore *A* autem] *om. I* parte] est *add. et del. K* est *add. Va* voluntarium] {i}s *add. E* voluntarius *Na* Et res] enim *I* que] quod *I om. Na*

mixture through which <the mixtures> are disposed for the form, then the uterus will be a contributing cause for the forms.

(15) <But> this is not the way <taken> by the people of the truth among the Peripatetics. Rather, all substantial forms and powers are acquired from the principles – which permanently exist and are not subject to change – <only> when the disposition occurs, the disposition being the mixture.

(16) When it is possible that [1] the basic elements (*al-arkān*) are combined according to some ratio among their parts, which determines whatever mixture there is, and <that> they are combined into a second composition according to whatever ratio there is, and [2] the dispositions occur because of this, and [3] a corrupting contrary need not constantly resist, and [4] there is the emanation (*fayḍ*) giving the forms from the eternal principles, then it is fitting that any composite you wish may be generated from the elements not by way of reproduction.

(17) If this were not the case, it would be possible that an extinction (*inqitāʿ*) of the species could occur. That is because it is not necessary that from each human being a human being come to be necessarily, nor from each one of mankind (*nās*), and likewise from every tree; rather, this is possible in most cases (*jāʿiz aktharī*), and it is not impossible to suppose a time in which it chances that things subject to generation pass away without a successor being generated from any of them, because not one of them exists from whom someone else is generated necessarily.

(18) For sexual intercourse, which is the beginning of procreation, //79 is voluntary, not necessary, while the seeds' falling on <fertile> grounds is <something> natural belonging to the category of what is for the most part, not to the category of the necessary or the voluntary. Nothing of the two <i.e., the natural



80 est necessaria possibile est ut eveniat aliquando suum contrarium.

(19) Et si constellationes secundum astronomos non venirent que facerent individua illarum specierum, esset possibile quod ille species absunderentur sine reversione.

85 (20) Et tu cum consideraveris artes, invenies quod omnes sunt invente ex cogitatione aut ex revelatione divina, et suum principium non est nisi cogitatio individui. Et id cuius principium est particulare est novum. Ergo omnis ars est nova, et significat hoc quod in quolibet tempore augmentatur, et hoc  
90 quod sunt nove significat quod homines sunt crescentes post abscisionem,

(21) quoniam plures earum sunt tales quod individuum hominis, quod proprie non habet revelationem a deo quam omnes non habent, non potest esse <sine> eis. Ergo homo qui  
95 invenit eas non indigebit eis per aliquam proprietatem quam ipse habuit quam nos non habeamus.

(22) Et non est rectum dicere quod illa proprietas semper fuit in primis hominibus inventa et post absunderetur. Sed illa

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80 est<sup>t</sup>] *om. Na* necessaria] *necessarium I* possibile] *tamen add. I* est<sup>t</sup>] *om. Va* ut] *aliquando add. G* est aliquando *add. Na* eveniat] *veniat ENa* aliquando] *om. EGMNaVa add. in marg. S* contrarium] *si nullus homo generatur add. E* 82 secundum] *s(ecund)us Na* secundum ... venirent] *non venirent secundum astronomos ENa* venirent] *invenirent I* 83 facerent] *fatiunt Na* individua] *in differentia I* illarum] *istarum Va* esset] *esse A et E* 84 ille] *iste Va* absunderentur] *absunderentur ENaNuVa* absunderentur *KVb* et *add. Va* reversione] *resilione I* 85 tu] *om. INa* tu cum] *inv. E* cum] *si I om. K* consideraveris] *consideraveris S* 86 sunt] *sint E* fuerint] *I* invente] *pauente Na* cogitatione] *cognitione I* aut] *vel AS* ex<sup>t</sup>] *om. IVa* et] *om. Na* 87 id] *om. ENa* 87/88 principium est] *inv. ENa* 88 est<sup>t</sup>] *om. M* particulare] *et novum add. AEGKMNaNuSVb* quod novum *add. I* est novum] *om. ENa* Ergo] *et add. E* genus *I* Ergo omnis] *inv. KVb* ars] *individuum add. E* 89 hoc<sup>t</sup>] *id EKMVaVb* illud *Na* quod] *ars nova add. E* quolibet] *qualibet AEI* omni *Va* tempore] *specie AE* tempore] *G parte I om. Na* augmentatur] *augmentantur AS* argumentatur *K* hoc<sup>t</sup>] *om. I* 90 sunt<sup>t</sup>] *sint ENa* significat] *significant K* homines] *con. omnes AEGKMNaNuSVb* omnes artes *I* sunt<sup>t</sup>] *sint Na* post] *pot(est) per Na* 92 quoniam] *quam KVb* quem *Na* plures] *per(un)es Na* earum] *eorum AEGIKMNuS om. Va* quod] *quoniam AEGIKMNuSVb in add. Na* individuum] *in desiderium I* 93 non] *om. ENa* habet] *habent I* quam] *quod AS* quoniam *Va* 94 non<sup>t</sup>] *om. I* esse] *eis I* sine] *con. om. AEGIKMNuSVb* eis] *eadem E* esse *I om. MNa* eum] *Va* Ergo] *genus I* sic *Va* 95 invenit] *inveniret A* eas] *res I* indigebit] *invenit E* indigebat] *INaVa* proprietatem] *prosperitatem Na* quam] *quoniam Va* 96 ipse] *om. Na* ipse habuit] *inv. E* non] *om. E* vere *Na* habeamus] *habemus IKNaVb* 97/98 semper fuit] *pers(ona)m Na* 98 fuit] *fuerit INVa* post] *postea Na* absunderetur] *absunderetur EKSVa* illa] *ista Va*

and the voluntary> needs to happen necessarily, and for all that does not happen necessarily, it is possible that its contrary happens in rare cases.

(19) If there were no motions and returning relations among the celestial spheres which necessitate that individuals of these species begin, preventing that some species are extincted without any return, then an extinction without any return would be possible. <But> then this possibility would have already occurred in what is infinite by the power of God.

(20) If you consider the arts, you will find them to be created by the reflection of the soul or by God's inspiration and <you will find> that their beginning can only be the reflection of an individual or the inspiration of an individual. For the universal is something imagined which has no existence. Whereas that whose beginning is something particular, is something that comes to be, and so it comes to be after not having existed at all. Each art is something that comes to be, and that they increase at all times indicates that they come to be, and their coming to be indicates that the people are creative after extinction.

(21) <That is> because many of <the arts> are such that the subsistence of an individual human being would not be possible without them, except in the case of a person distinguished by a property of divine inspiration and of divine help different from what belongs to us. Hence, the person who has created <the arts> must have no need of <the arts> because of some special property which belongs to persons who are unlike us.

(22) It would be wrong to say: This special property always belonged to the first people and then became extinct. Rather, this special property belongs to people only individually, and the first person and the first people in this chain



100 proprietas non est nisi in hominibus paucis notis. Ista igitur  
 proprietas erat in quolibet homine primo in hac continuatione  
 veniente ad nos. Et illi putabantur a quibusdam fieri sine gigni-  
 tione.

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99 hominibus] omnibus *Na* hominibus paucis] *inv. Va* notis] *om. Va* Ista] i(II)a *K* illa *Vb* igitur]  
 ergo *I* autem *Va* 100 erat] erit *I* primo] *om. A* continuatione] declinatione *Na* 101 putabantur]  
 putabant *I* a quibusdam] fore sine *I* aliquo modo *Va* a ... fieri] fieri a quibusdam *Na* quibusdam]  
 quodam *E* gignitione] Explicit *add. AKM* Explicit tractatus Avicenne de diluviis Deo gratias *add. E*  
 Explicit tractatus de diluviis Avicenne Deo gratias *add. Na* Explicit liber de diluviis generalibus *add. Va*  
 Explicit liber de diluviis Avicenne *add. Vb*

which leads to us were specifically equipped with it. Since this is the case, it is necessary that <these persons> came to be not by birth.

(23) This special property is a self-sufficiency (*istighnā'*) either because of the natural disposition, as <in> animals, resulting in an impulse of the will to produce the art for a reason external to this self-sufficient person, or because of the great superiority (*istizhār*) of the self-sufficient person, or <because of> a celestial inspiration which immediately reaches someone who is devoid of it, who <serves as> a storage place until the time of someone else's demand through deliberation and thinking.



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