

THE CAMBRIDGE  
COMPANION TO  
RENAISSANCE  
PHILOSOPHY

EDITED BY  
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CAMBRIDGE  
UNIVERSITY PRESS

CAMBRIDGE UNIVERSITY PRESS  
Cambridge, New York, Melbourne, Madrid, Cape Town, Singapore, São Paulo

Cambridge University Press  
The Edinburgh Building, Cambridge CB2 8RU, UK

Published in the United States of America by Cambridge University Press, New York

[www.cambridge.org](http://www.cambridge.org)  
Information on this title: [www.cambridge.org/9780521608930](http://www.cambridge.org/9780521608930)

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First published 2007

Printed in the United Kingdom at the University Press, Cambridge

*A catalogue record for this publication is available from the British Library*

*Library of Congress Cataloguing in Publication data*

ISBN 978-0-521-84648-6 hardback

ISBN 978-0-521-60893-0 paperback

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## Arabic philosophy and Averroism

The names of the famous Arabic philosophers Averroes and Avicenna, alongside those of Alkindi, Alfarabi, and Algazel, appear in countless philosophical writings of the Renaissance. These authors are well-known figures of the classical period of Arabic philosophy, which stretches from the ninth to the twelfth century AD. The history of Arabic philosophy began in the middle of the ninth century, when a substantial part of ancient Greek philosophy had become available in Arabic translations: almost the complete Aristotle, numerous Greek commentaries on Aristotle, and many Platonic and Neoplatonic sources. A major centre of intellectual activity was Baghdad, the new capital of the Abbasid caliphs. It was here that Alkindi (al-Kindī, d. after AD 870), the first important philosopher of Arabic culture, and the Aristotelian philosopher Alfarabi (al-Fārābī, d. 950/1) spent the greater part of their life. A major turning point in the history of Arabic philosophy was the activity of Avicenna (Ibn Sīnā, d. 1037), the court philosopher of various local rulers in Persia, who recast Aristotelian philosophy in a way that made it highly influential among Islamic theologians. The famous Baghdad theologian Algazel (al-Ghazālī, d. 1111) accepted much of Avicenna's philosophy, but criticized it on central issues such as the eternity of the world. Averroes (Ibn Rushd, d. 1198), the Andalusian commentator on Aristotle, reacted to both Avicenna and Algazel: he censured Avicenna for deviating from Aristotle and criticized Algazel for misunderstanding the philosophical tradition.

Through Latin translations, the Christian Middle Ages became acquainted with important parts of the Arabic philosophical tradition between Alkindi and Averroes.<sup>1</sup> It is true that philosophy continued to flourish after Averroes, especially in North Africa and in the Near East, but the works of its protagonists were not translated into Latin and thus escaped the attention of the Christian readers. The Arabic-Latin translation movement began in eleventh-century Italy, picked up speed in twelfth-century Spain, and was continued into the early thirteenth century at the court of Frederick II

Hohenstaufen in southern Italy. The most important philosophical works translated were Alfarabi's *Catalogue of the Sciences* (*De scientiis*), Avicenna's *First Philosophy* (*Prima philosophia*) and *On the Soul* (*De anima*), and Averroes' long commentaries on Aristotle's *Metaphysics*, *De anima*, *Physics*, and *De caelo*. Many disputes of scholasticism from the time of Albert the Great onwards were deeply colored by the positions, arguments, and terminology of these Arabic works.

The influence of the medieval translations continued in the Renaissance. It would be wrong, however, to conceive of this influence as a mere survival of moribund scholastic traditions. In fact, some themes of Arabic philosophy reached the peak of their influence as late as the fifteenth and sixteenth centuries. This is true, for example, of Averroes' intellect theory, zoology, and logic, and of Avicenna's philosophical theory of prophecy. Before we turn to the discussion of three successful theories within these areas, a few comments are in order regarding the circumstances responsible for the rise of Averroist and Avicennist trends in the Renaissance.

A key factor was the extraordinary authority Averroes had acquired as a university author who was read and taught in arts faculties all over Europe and especially in Renaissance Italy. His expositions of Aristotle had an overwhelming influence on the Italian commentary tradition, in particular at the University of Padua, the most important center of philosophical study in Europe during the Renaissance. This prominence is reflected in the existence of several super-commentaries on Averroes' own commentaries, such as those by Agostino Nifo on Averroes' long commentaries on the *De anima* and the *Metaphysics*,<sup>2</sup> and by Pietro Pomponazzi on Averroes' *Long Commentary on the Metaphysics*, Book XII.<sup>3</sup> Much philological and editorial care was invested in new and emended editions of his works, and prominent Aristotelian philosophers such as Nicoletto Vernia, Nifo, and Marcantonio Zimara took part in these editorial efforts. Zimara composed three often-printed works which served as guides to the differences and concordances between Aristotle and Averroes.<sup>4</sup> The history of Averroes editions in the Renaissance culminated in the impressive multivolume Giunta edition of 1550/2 in Venice, which presented the entire Aristotelian corpus together with a complete set of Averroes' works.<sup>5</sup>

This edition also contains most of the new translations of Averroes which were produced in the Renaissance. For a long time, since the medical translations in Montpellier and Barcelona around 1300, hardly any translations of Arabic texts had been produced. Around 1480, however, there began a new wave of translations, many of them via Hebrew intermediaries.<sup>6</sup> The movement lasted about seventy years, until the death of the last prolific translator, Jacopo Mantino, in 1549. The result is impressive: nineteen commentaries of

Averroes were translated for the first time, in contrast with fifteen commentaries translated in the entire medieval period. Apart from Averroes' commentaries, the translations included other philosophical works by Averroes, several treatises on the soul by Avicenna, treatises by Alfarabi and Avempace (Ibn Bājja), and Ibn Tūfayl's philosophical novel *Ḥayy ibn Yaqzān*.<sup>7</sup> In the appendix to this chapter, the reader will find a list of Arabic philosophical works translated in the Renaissance.

Very few Renaissance translators worked directly from the Arabic, a notable exception being Andrea Alpago, the translator of Avicenna's treatises on the soul. That the other translations could be made was due to the richness of the Hebrew philosophical tradition. In contrast to the medieval translations, most of the new translations were made from the Hebrew, and most of the translators were Jewish scholars, often physicians by profession.

The reception of the newly translated works of Arabic philosophy has not yet been investigated. From a recent study we know that Jacopo Mantino's translation of Averroes' commentary on *De animalibus* was much used and cited by Agostino Nifo in his *De animalibus* commentary of the 1530s.<sup>8</sup> It is probable that other disciplines were influenced in a similar manner. Given the many commentaries on logic translated in the Renaissance, one can expect that this field was influenced by the new translations. A side-effect of the Averroes boom in Italian universities was that the arguments and positions of other Arabic philosophers mentioned in Averroes' commentaries received an increasing amount of attention, especially Alfarabi, Avempace, and Algazel.<sup>9</sup>

The most successful Arabic theories in the Renaissance, however, were not transmitted via the new translations. They had long been accessible in medieval Latin versions, but found particular resonance among Renaissance readers. Three theories will be discussed below: Averroes' theory of the unicity of the intellect, Avicenna's naturalistic explanation of miracles, and the opposing standpoints of Avicenna and Averroes on spontaneous generation, that is, on the generation of living beings from matter.

### Averroes' intellect theory

In his *Long Commentary on Aristotle's De anima* Averroes develops his most controversial philosophical thesis: that there is only one intellect for all human beings. No other Arabic philosophical theory received a similar amount of attention in the Renaissance. Averroes' theory of the intellect is difficult in itself, and its understanding is further complicated by the fact that the *Long Commentary* has not survived in Arabic (except for some fragments), but only in a thirteenth-century Arabic–Latin translation.<sup>10</sup> With

respect to the unicity thesis, the most pertinent passage is the long digression contained in section III.5 of the commentary. Renaissance philosophers referred to this text as *digressio magna*, or simply as *commentum magnum*. It explicates Aristotle's *De anima* Γ.4, 429a21–4. Averroes here rejects the positions of previous Greek commentators on the human intellect, especially of Themistius and Alexander of Aphrodisias. Themistius is criticized for holding that both the material intellect and the grasped intelligibles are eternal. Alexander is rejected for maintaining that the human intellect is generated and corruptible.<sup>11</sup> Averroes' own position starts with the assumption, shared by Themistius, that for Aristotle the material intellect is pure potentiality to receive intelligible forms, and therefore must be incorporeal and eternal.<sup>12</sup> The material intellect is the ontological place and receiver of the intelligible forms, but not the medium through which the human being is joined to the intelligible. This role is taken by the actualized imaginative forms (the *phantasmata*): we grasp the intelligibles via the faculty of imagination.<sup>13</sup> Hence, in contrast to Themistius, Averroes insists that the intelligibles are grasped by each single individual insofar as they have their epistemological basis (*subiectum*) in imagination. They are eternal only with respect to their ontological basis, the eternal and unique material intellect, which is their incorporeal receiver.<sup>14</sup>

Averroes developed his own position in order to avoid several unhappy consequences which previous commentators did not account for. In his own view, his theory had the following advantages: it takes seriously Aristotle's claim in *De anima* Γ.4 (429a22 and 24–5) that the (material) intellect is pure potentiality and unmixed with the body; it explains universal intellection with a theory of abstraction from imaginative forms, rather than with a theory of the mere reception of eternal intelligibles through the material intellect, as did Themistius; it explains how individual intellection is possible even though the material intellect is eternal.

In the Latin West, Averroes' thesis found followers among university masters of arts of different times and places. Since it was integrated into a wide variety of intellect theories, it could assume different formats.<sup>15</sup> Its first followers belonged to a group of masters of arts around Siger of Brabant at the University of Paris. Thomas Aquinas reacted in 1270 with the *Treatise on the Unicity of the Intellect against the Averroists* (*Tractatus de unitate intellectus contra Averroistas*), in which he argued that Averroes could not explain the fact that a single person thinks (*hic homo singularis intelligit*).<sup>16</sup> Etienne Tempier, the bishop of Paris, included the unicity thesis in his well-known condemnations of philosophical theses of 1270 and 1277.<sup>17</sup> But Averroes' theory continued to find followers among the masters of arts. In the fourteenth century, the thesis was accepted, in different formulations, by



a circle of scholars around Jean de Jandun, Thomas Wilton, and John Baconthorpe associated with the University of Paris, and by a group of teachers belonging to the arts faculty in Bologna.<sup>18</sup> When the term *averroista* was used in the Middle Ages by Thomas Aquinas and others, it was meant to refer to these defenders of the unicity thesis. The Averroist philosophers often promoted further theses of Averroes as well, such as the eternity of the world, the negation of God's infinite power, or the negation of God's knowledge of the particulars.<sup>19</sup> But it was the unicity thesis which most obviously served to identify partisans of Averroes.

In Renaissance Italy, Averroism for several reasons acquired an intensity and dynamism unparalleled in the Middle Ages. First of all, the number of Renaissance Averroists was simply larger than that of their medieval predecessors: the unicity thesis was adopted, more or less openly, in various writings of Paul of Venice, Niccolò Tignosi, Nicoletto Vernia, Alessandro Achillini, Agostino Nifo, Pietro Pomponazzi, Luca Prassicio, Francesco Vimercato, and Antonio Bernardi. Moreover, Renaissance Averroism displays greater coherence as a distinct tradition through a long line of teacher-student relations at the University of Padua: from Paul of Venice, via his students Gaetano da Thiene and Tignosi, to Vernia and his students Nifo and Pomponazzi, and, in the next generation, to Vimercato and Bernardi. Then, too, the Averroist current is more frequently the object of attack in the Renaissance than in the medieval period. And, most importantly, it is only in the Renaissance that the doctrinal direction of the Averroist school is challenged and debated openly within the school.

The founding figure of Renaissance Averroism<sup>20</sup> is Paul of Venice (d. 1429), a professor of the arts faculty in Padua. In the *Compendium of Natural Philosophy* (*Summa philosophiae naturalis*) of 1408, Paul accepts the unicity thesis and attributes it to Aristotle and Averroes. He argues inter alia that the unicity thesis is the only Aristotelian way to account for Aristotle's statement that "the intellect comes from outside" (*intellectus venit de foris*).<sup>21</sup> Moreover, since the intellective soul is ungenerated and incorruptible, there cannot be a plurality of souls, since otherwise there would exist an infinite number of souls.<sup>22</sup> There is a very tangible difference between Averroes' and Paul's version of the unicity thesis. Paul of Venice explicitly disagrees with Averroes' thesis that the individuality of intellection is rescued by the fact that we think by actualizing imaginative forms. Instead, Paul of Venice says that it is the intellective soul which is the medium of our knowledge. He therefore holds that the intellect is united to the body as its substantial form – a theory difficult to combine with the complete separability and incorporeality of the unique intellect.<sup>23</sup> In later years, Paul of Venice repeats the unicity thesis, but adds that it is not true from the

standpoint of faith (*secundum opinionem fidei*).<sup>24</sup> This then is the ambiguous heritage of Paul of Venice to the subsequent discussion: on the one hand, a clear vote in favor of the unicity thesis as the true Aristotelian doctrine and as a thesis supported by many arguments; on the other hand, the modification that the intellect nevertheless is the substantial form of the body, and that the unicity thesis is false from the vantage point of Christian faith.

Nicoletto Vernia (d. 1499), Paul of Venice's second successor on the Paduan chair, was particularly outspoken about his Averroism, as we know from a *Quaestio* of 1480 with the title: *Whether the intellectual soul ... is eternal and one in all human beings* (*Utrum anima intellectiva ... eterna atque unica sit in omnibus hominibus*).<sup>25</sup> The *Quaestio* seems to be incomplete: a final part on the true doctrine of the Christian faith is missing. Apart from a short introductory section, the text is divided in two parts. The first is a presentation of Averroes' thesis that the intellectual soul is eternal and one in all human beings, and that the soul cannot be conjoined with the human body as its substantial form, but only like a captain to his ship. Vernia musters a series of arguments against Averroes' position and shows that they can be refuted. This section in defense of Averroes is particularly informative about Vernia's own standpoint on the topic. The second part of the treatise is meant to demonstrate that Averroes' unicity thesis is in full accordance with Aristotle.

In his defense of Averroes, Vernia argues as follows. It is true, he says, that the union between soul and body is loose, but it suffices for establishing a unified act of intellection.<sup>26</sup> The intellect operates eternally and without dependency upon any body. It is not the intellect itself, but only the thinking individual human being that depends upon *phantasmata*. The intellect is eternally united with the substance of the active intellect, which is a separate and eternal entity as well.<sup>27</sup> Vernia thus likens the possible intellect to a separate intelligence that has eternal intellection. In consequence, he argues that the unicity of the intellect is not affected if two individuals are of contrary opinion; the intellect is able to unite both sides. This is why Vernia does not follow Averroes' solution that the intelligibles are diversified insofar as they reside in the imagination of the individual human being.

The unicity thesis was attractive philosophically not only because it made the (material) intellect completely separate from matter, as Aristotle had postulated, but also because it elegantly explained the universality of intellectual knowledge. From a theological point of view, its major drawback was the implication that there was no personal immortality after the death of the body. This was the basis of the fierce opposition to Averroes from theologians and humanists. Francesco Petrarca castigated Averroes as the enemy of

Christ. Coluccio Salutati found his views on God and on the soul most irreligious. Lorenzo Valla defamed him for his ignorance of Greek and for the wretched Latin style of his translators. Marsilio Ficino argued that his psychology was a danger to religion. If there was anything of value in his commentaries, said Ermolao Barbaro and Giovanni Faseolo, it had been stolen word for word from the Greek commentators.<sup>28</sup> The depiction of Averroes as a criminal found its counterpart in legendary stories describing him as a murderer.<sup>29</sup>

It is not surprising therefore that the partisans of Averroes were put under pressure, as happened in the case of Nicoletto Vernia. In a decree dated 4 May 1489, the bishop of Padua, Pietro Barozzi, threatened to excommunicate anybody who dared to teach publicly the unicity of the intellect. Vernia recanted in the following years. In 1492, he wrote a treatise entitled *Against Averroes' Perverse Opinion on the Unicity of the Intellect*.<sup>30</sup> In his testament, he declared that he never truly believed in the unicity thesis even if he had once erroneously taught in class that it accords with Aristotle. One should not, however, rely too heavily on these self-protective public statements. Even in the 1492 treatise *Against Averroes*, there are passages which are reminiscent of Averroes' theory. Vernia here declares on the authority of Albert the Great that the intellect, when it is knowing in actuality, has a universal power which guarantees that the intelligibles do not lose their universal character when grasped by the individual human being.<sup>31</sup> From this standpoint it is only a small step to Averroes' thesis that the intelligible forms are universal insofar as they reside in the intellect, and not in the *phantasmata*.

Agostino Nifo and Pietro Pomponazzi, both students of Vernia, concede in their early years that Averroes' theory appears to be the correct interpretation of Aristotle and that it is difficult to refute philosophically. Later they turn their backs on Averroes. In his 1504 treatise *On the Intellect (De intellectu)*, Nifo for the first time sets out to refute the thesis as a philosophical error. He admits that a number of traditional arguments against Averroes cannot convince, for instance the argument that, if the intellect was one, a person would know something known by another person. In Nifo's eyes this can easily be countered by arguing that the two persons know individually because the intelligible form of the object coincides with and is connected to forms of the imagination.<sup>32</sup> It is clear from such passages that Averroes' thesis had epistemological strengths which Nifo finds difficult to counter. The reasons which Nifo advances against Averroes are of a different character. The standpoint of Averroes, says Nifo, is in conflict with certain principles of moral philosophy: God has to be honored; souls have their origin in God; the human being is a divine miracle; the divine law derives

from God; human beings cannot live together without God.<sup>33</sup> Moreover, the unicity thesis violates two principles of natural philosophy. First, a single mover (such as the captain of a ship) moves exactly one appropriate object and not many, as a single intellect would. Second, no mover produces different effects of the same kind at the same time.<sup>34</sup> In other words: Nifo refers to the moral implications of the unicity thesis, since it jeopardizes the doctrine of individual immortality, the basis of religious morality, and he tries to demonstrate the impossibility of a causal connection between a single intellect and many persons. Apparently, Nifo's turn against Averroes was prompted by a cluster of moral, theological, and philosophical motivations. Since his writings bear clear signs of substantial reworking and self-censorship, it is possible that pressure from the Church played a role too. In view of this we should not take at face value what Nifo says in 1508: that he had defended Averroes in his youth, but later found his position to be ridiculous when reading and examining Aristotle in Greek.<sup>35</sup> If he did read Aristotle in Greek, it left hardly any traces in his published critique of Averroes.

Pietro Pomponazzi, in a manner similar to Nifo's, declares in the early Paduan lectures of 1503–4 that he dislikes Averroes' thesis, but that it nevertheless appears to be the proper interpretation of Aristotle. Pomponazzi was stuck in a dilemma. What he found attractive was the position of the Greek commentator Alexander of Aphrodisias, who had argued for the soul's complete dependency upon the body. But "against Alexander there is that very valid argument about universal <intellection>."<sup>36</sup> By this he means: Alexander's materialistic theory of the soul is countered by Averroes' argument that the intellective soul would not be able to know universal intelligibles if it was immersed in matter. In his famous *Treatise on the Immortality of the Soul* (*Tractatus de immortalitate animae*) of 1516, Pomponazzi finds a way to circumvent Averroes' argument. He now asserts that universal intelligibles are never properly received by the intellect. Rather, it is through the *phantasmata* only that a human being grasps the intelligibles. "The universal is comprehended in the particular," he says.<sup>37</sup> Pomponazzi has sacrificed Averroes' idea that an incorporeal intellect is a necessary condition for grasping universal intelligibles.

Not all Renaissance Averroists, however, later turned into fierce opponents of Averroes. Alessandro Achillini (d. 1512), for instance, does not explicitly adopt Averroes, but shows great sympathy for the unicity thesis: his arguments for Averroes are formulated with much diligence and persuasive power, whereas the counterarguments remain brief and unconvincing.<sup>38</sup> Luca Prassicio (d. 1533) writes a very explicit defense of Averroes' position. He believes that Averroes should not be accused of denying immortality; rather, Averroes is the best defender of immortality since he holds that the

intellective soul is *simpliciter* immortal with respect to both active and material intellect. Prassicio's text was printed in 1521 as a contribution to the Italian-wide controversy over the immortality of the soul which was provoked by Pomponazzi. But Prassicio's real target is Nifo: he wants to show that Nifo's treatise on immortality of 1518 is full of misinterpretations of Averroes. Prassicio thus enters a fully fledged debate about the correct interpretation of Averroes. This is a salient feature which distinguishes Renaissance Averroism from earlier Averroisms: the correct interpretation of the party's leader, Averroes, becomes itself a topic of explicit dispute.<sup>39</sup>

The last two authors to defend Averroes' thesis in print apparently are Francesco Vimercato, a humanist and Aristotelian philosopher, who bases his position on arguments from Themistius and Averroes,<sup>40</sup> and Antonio Bernardi in 1562.<sup>41</sup> It is noteworthy that the key thesis of the Averroists disappeared so late; obviously, then, its disappearance cannot be explained solely by reference to the new knowledge of the Greek commentators, who presented alternative readings of Aristotle. The thesis also lost its philosophical attraction for figures exemplifying new trends within Aristotelianism, as can be witnessed in the writings of Melanchthon, Zabarella or Suárez.<sup>42</sup> These Aristotelian philosophers could dispense with the unicity thesis because they developed alternative explanations of universal intellection within the framework of Aristotelianism.

### Prophecy by imagination and will-power

When Avicenna's *On the Soul* (*De anima*), the psychological part of his philosophical summa *The Healing* (*al-Shifā'*), was translated into Latin around 1160, the Western scholastic world was confronted with a philosophical theory of the soul that was formulated within the terms of the Peripatetic tradition. One theory proved particularly challenging to the Latin West: a naturalistic explanation of prophecy and miracles. Avicenna in *De anima*, chapters IV.2, IV.4, and V.6, describes three different kinds of prophethood, which are all based on extraordinarily disposed faculties of the soul. The first kind concerns visions in waking life, which are perceived by persons equipped with a particularly powerful imaginative faculty. The second kind of prophecy rests on extraordinary will-power which is able to influence the matter of the world. The third is the highest prophetic power. It enables people who possess a very high degree of intuition to grasp the middle terms of a syllogism without instruction and thus to receive all intelligible forms from the separate active intellect in almost no time.

There is a history of scholastic reception in the case of all three of these prophethoods, but it was the second, prophethood by will-power, which was

particularly influential in the Renaissance. Avicenna's theory is based on the observation that the soul of a human being is able to influence its own body, as when a sick person imagines that he is cured. Avicenna continues:

This is the reason that a man can run fast on a plank of wood when it is put across a well-trodden path, but when it is put like a bridge over a chasm, he would hardly be able to creep over it. This is because he pictures to himself a fall so vividly that the natural power of the limbs accords with it.<sup>43</sup>

Hence, when beliefs are firmly fixed in the soul, they influence matter. Often the soul influences not only the matter of its own body, but also that of others, as in the case of the evil eye (*oculus fascians* is the term used by the Latin translator). The underlying principle of Avicenna's reasoning is that nonmaterial causation of material effects is possible. Avicenna then distinguishes people with the evil eye from prophets who have a particularly noble and powerful soul, resembling the supra-human intelligences, and also have a body of pure nature. Matter throughout the world obeys such souls. They are able, by sheer will-power, to heal the sick or produce rain and fertile seasons. It is noteworthy that Avicenna does not once mention the divine realm in this context. In his view, neither sorcerers with the evil eye nor the prophets who produce miracles are in need of divine assistance.

In the Latin West, Avicenna's theory was often discussed, mostly critically.<sup>44</sup> From the time of Albert the Great onwards, it was argued that the theory is in conflict with the Aristotelian principle that there is no causation between separate things without mediation. One medieval solution to the problem was to adopt an explanation furnished by Aristotle for long-distance effects. Aristotle had argued in *On Dreams* (*De insomniis*) that certain kinds of mirrors are covered with a blood-like fog when a menstruating woman looks into them. This is because the air between eyes and mirror is moved and affected by the woman and thus functions as a medium.<sup>45</sup> Another solution was to assume that the soul emits material particles – a solution advanced by the Arabic philosopher Alkindi, who claimed in the treatise *On Rays* (*De radiis*) that the bodily spirit of the faculty of imagination emits rays which alter external bodies.<sup>46</sup> The Aristotelian mediation theory was adopted by Thomas Aquinas, the Alkindian extramission theory by Roger Bacon.<sup>47</sup>

Marsilio Ficino in his *Platonic Theology* (*Theologia platonica*) of 1469–74 presents a theory of long-distance effects of the soul which owes much to Avicenna without naming him. He adopts Avicenna's basic principle that the soul is able to influence the matter of its own body just as it can influence the matter of another person's body. But the distinction between sorcerers and prophets is drawn differently. Ficino contrasts the evil effects of imagination

(*phantasia*), to which belongs the evil eye, with the beneficial effects of reason (*ratio*). The imagination of a malign person can cause fever in a child. This effect happens because the imagining of fever arouses certain bodily spirits in the sorcerer with the effect that fetid vapors are emitted from the sorcerer's eyes and intrude the child's body.<sup>48</sup> Here Ficino clearly sides with the Alkindian tradition of extramission theories. If imagination has such a great power, it is not surprising that the nobler faculty of reason has even more so, says Ficino. The rational souls of some people, for example, are able to heal sick persons, because they are divinely gifted with a perfect balance of humors, live on purified nourishment and are educated piously. Moreover, the rational soul of some people is able to turn its entire rational intention upward, order its imagination to be silent, dismiss the usual paths of reason and, with the help of God, cease to be a soul and instead become an angel.<sup>49</sup> It is apparent that Ficino in the latter part of his theory has dropped the naturalistic traits of Avicenna's theory: God's influence is essential for the rational soul to produce miraculous effects.

There are Renaissance authors who accept Avicenna's theory with fewer modifications. This is particularly true of Andrea Cattani (d. 1506) who – in contrast to most other authors – agrees with Avicenna that the souls of prophets and sorcerers may influence matter without any mediation. In his *On the Causes of Miraculous Effects* (*De causis mirabilium effectuum*), printed c. 1502, Cattani argues in explicit adoption of Avicenna's standpoint that the souls of some people are so noble that they are able to influence other bodies without mediation simply on account of their very strong imagination. We call these people prophets, Cattani says. They acquire this disposition through the influence of the stars and through the inspiration of the Holy Ghost.<sup>50</sup> The case of the sorcerers runs parallel to this. They successfully alter other bodies through the evil eye and through incantations by sheer use of their imagination, if it is well prepared through a divine power and through an adequate bodily temperament.<sup>51</sup> It is also possible that these effects come about through the transmission of bodily spirits via the eyes.<sup>52</sup> Cattani closes his treatise with a Christian caveat, as Ficino in fact had also done.<sup>53</sup> It is clear that Avicenna's theory of prophecy remained a naturalistic challenge even if divine influence upon the prophets was added to it. Cattani remarks that almost all of what he had written is in disagreement with the faith and with truth. He therefore refers his readers to a *quaestio fidei* (which does not seem to be extant) in which he refutes all errors on this matter.<sup>54</sup> Cattani's concluding remarks are in open disagreement with the programmatic praise of Avicenna in his dedication: "Among the philosophers' standpoints which we have come to know we have found none which is closer to the true faith than the standpoint of Avicenna."<sup>55</sup>

It is noteworthy that the Renaissance discussion does not differentiate between prophecy by imagination and prophecy by will-power, as Avicenna had done. This is a tendency which dates back to the thirteenth century.<sup>56</sup> Cattani in fact also integrates the third Avicennian kind of prophethood into his treatise when he explains that the prophets gifted with extraordinary imagination also receive all abstract knowledge from the intelligences. For Cattani, the prophetic power rested ultimately on the inspiration of the Holy Ghost. The Turin physician Pietro Bairo (d. 1558) adopted Avicenna's theory without this Christianizing addition. In his early *Small Treatise on the Plague* (*Opusculum de pestilentia*) of 1507, Bairo uses Avicenna to support his own view that a powerful imagination may have a considerable effect on its own plague-stricken body if the person is much afraid of death. This is very probable, says Bairo, in view of the fact that a powerful imagination is able to alter the body even of a different person, as Avicenna holds. Bairo gives lengthy quotations from Avicenna's *De anima*, including the *exemplum* of a person balancing on a plank of wood, as well as passages on the evil eye, the healing of the sick, and the production of fertile seasons. The term *propheta* is avoided, but otherwise the theory is not hedged around with any reservations.<sup>57</sup>

Pietro Pomponazzi's treatise *On the Causes of Natural Effects, or, On Incantations* (*De naturalium effectuum causis sive de incantationibus*) of 1520 draws on Ficino's and Cattani's treatments of the topic. In many respects, this is a provocative piece of work – as was his earlier treatise on the mortality of the soul. Pomponazzi's main target is the popular belief that miracles, which break with the ordinary course of nature, are produced by angels and demons. He reasons as follows: there are changes in the material world which result from invisible causes, such as the invisible qualities of certain stones, of the torpedo fish, etc. Such occult qualities exist in an enormous number of cases. Occasionally, intelligent people who know about these effects use them to impress and deceive ordinary people, who attribute the effects to angels and demons.<sup>58</sup> An example is the recent miracle in the Italian town of Aquila, where the image of a saint appeared in the sky when the people of the town had sent fervent prayers to the saint. If we follow Avicenna, says Pomponazzi, the effect comes about only by the sheer will of the people of Aquila. The "Peripatetic explanation," however, is that the effect was the result of the transmission of vapors from the people to the sky – Pomponazzi thus shows his sympathies for an extramission theory.<sup>59</sup> The most rational (*magis sensatus*) explanation is that the image in the sky was not, in fact, the image of the saint.<sup>60</sup> It is apparent that Pomponazzi's standpoint is much influenced by Avicenna's, but that it is modified according to the Aristotelian principle that there is no causation without contact.



A fervent critique of this Avicennian tradition, especially of Ficino and Pomponazzi, was launched by the Protestant theologian Thomas Erastus (d. 1583) of Heidelberg in the *Disputations Concerning the New Medicine of Paracelsus*, first published in 1572. Erastus argues that imagination cannot exert any influence upon matter, since its sole function is the representation of images.<sup>61</sup> The mediation and extramission theories are refuted as well: the vapors and *spiritus* are too thin and fine to produce fog on a mirror. It can be easily shown by an everyday experiment that mirrors are never misted up with red fog when menstruating women look into them.<sup>62</sup> The same applies to the evil eye: because the *spiritus* are so fine, they would disintegrate as soon as they leave the eye. Moreover, it is unclear how the *spiritus* could be steered towards their target after having departed from the eyes. In truth, says Erastus, if there are really cases of harms produced over a distance, they are the work of the devil.<sup>63</sup> It is curious to see that these arguments, which are partly based on experience and common sense, are advanced by a conservative theologian whose theory culminates in reintroducing the devil into miracle theory. Erastus explicitly singles out Avicenna as the philosopher who has misled others to adopt an erroneous theory of prophecy.<sup>64</sup>

Thomas Erastus, Michel de Montaigne, and Blaise Pascal, among others, all use Avicenna's argument of the tree trunk (they probably draw on Pietro Bairo); Montaigne and Pascal do this silently. While Erastus is skeptical about the explanatory force of the argument,<sup>65</sup> Montaigne and Pascal adapt it to a different, anti-Stoic context: they use it to show that the intellect of even the wisest philosopher is overtaken by the senses, when a person is forced to balance on a plank which leads from one tower of the Cathedral of Notre Dame to the other (Montaigne)<sup>66</sup> or which covers a gorge (Pascal).<sup>67</sup> Montaigne, in fact, prolongs the Avicennian tradition also by taking the position that imagination, if it is in vehement agitation, is powerful enough to influence the bodies of other persons and cause illnesses, as if emitting arrows.<sup>68</sup>

### Spontaneous generation and the ontology of forms

The metaphysical debates of the later Middle Ages were dominated by three major works: Aristotle's *Metaphysics*, Avicenna's *Metaphysics*, and Averroes' *Long Commentary on Aristotle's Metaphysics*. Many issues and arguments came directly from the Arabic sources, such as the distinction between essence and existence, the theory of primary concepts, or the question whether God or being *qua* being is the subject matter of metaphysics. The latter topic continues to be formulated within Arabic parameters in the sixteenth century. When Francisco Suárez begins his well-known

*Metaphysical Disputations* (*Disputationes metaphysicae*) with a first section on the proper subject matter of metaphysics, he enumerates and refutes six positions, finally siding with a seventh. One of the refuted positions is attributed to Averroes and his *Long Commentary on the Physics*: that the proper subject matter is “the only supreme real being, namely God” (*solum supremum ens reale, Deum videlicet*). Suárez’ own conclusion is that being *qua* being is the proper subject matter. Both Avicenna and Averroes (this time the *Long Commentary on the Metaphysics*) are quoted as authorities that support this position.<sup>69</sup>

Since scholarly work on the reception of Arabic metaphysics in the Renaissance has only just begun, it is impossible to give a survey; instead, the focus will be on a particular topic. A prominent field of Arabic influence in Renaissance metaphysics is spontaneous generation.<sup>70</sup> When a living being is generated spontaneously, it arises from matter without there being any parents. An often cited example from antiquity onward was the generation of worms from decaying matter (*generatio per putrefactionem*). Aristotle had argued in *Metaphysics* VII.9 (1034b5–8) that natural beings which can be generated spontaneously are those whose matter is capable of self-movement – in imitation of the movement which in sexual reproduction is introduced from outside through the seed.<sup>71</sup> Themistius, the fourth-century AD commentator on Aristotle, argued that spontaneous generation is a challenge to the Aristotelian principle that all things are generated from their likes in form. Themistius concludes that spontaneous generation can only be explained with a Platonic theory of forms. In a very early time of history, he says, separately existing forms were planted into the earth by a higher cause. It is from these forms within the earth that animals can be generated spontaneously.<sup>72</sup>

It was well known in the Renaissance that Avicenna and Averroes took opposing views on the issue. In a small section *On Floods* (*De diluviis*) of the meteorological part of *The Healing* (*al-Shifāʾ*), Avicenna discusses global catastrophies, which reoccur in history – this again is a topic inherited from antiquity.<sup>73</sup> *On Floods* contains an explanation of how animals and human beings are generated again after their complete extinction: their generation is the result of a series of ever-refined mixtures of elementary qualities. When a certain level is reached, the “giver of forms” (*wāhib al-Ṣuwar, dator formarum*) delivers forms to adequately prepared pieces of matter. The giver of forms, the lowest of the celestial intelligences, is an important and well-known part of Avicenna’s ontology. It is not a god, since it reacts automatically when an adequate level of mixture is reached. For Avicenna, in contrast to Aristotle, the form of an animal or a human being is not eternal, but is generated by a separate principle, the giver of forms.<sup>74</sup>

This theory is rejected by Averroes, who returns to the Aristotelian tenet that forms are not subject to generation or decay. His own position in the *Long Commentary on the Metaphysics* is that the power of the celestial bodies takes the role of the power which is in the parental semen. The degree of the celestial influence depends upon the movements and relative positions of the Sun and the other planets. Averroes thus gives an astrological twist to the theory. In explicit contrast to Avicenna, Averroes denies the possibility of human beings being generated spontaneously. Strictly speaking, natural kinds can never be generated spontaneously, because the result of such processes is not a natural, but a monstrous, unnatural being.<sup>75</sup>

By the time the topic reached the Renaissance, it had been the subject of much lively discussion in late medieval scholasticism. A good example of what had become the mainstream position is the solution advanced by Antonio Trombetta (d. 1517), professor of metaphysics *in via Scoti* ("in the Scotist tradition") at Padua University, in his question commentary on the *Metaphysics*. Trombetta presents Averroes and Avicenna as holding extreme opinions on spontaneous generation: according to Averroes no animal can be generated spontaneously, while for Avicenna all animals, even human beings, can. Instead, argues Trombetta, one ought to follow a middle course (*tenenda est media via*), by holding that only imperfect animals can be generated spontaneously, while human beings cannot. When spontaneous generation happens, it is the result of a power induced into matter by the Sun and the other stars.<sup>76</sup> The ultimate source of this theory of spontaneous generation is Thomas Aquinas. Thomas had followed Averroes in making celestial bodies the decisive factor in spontaneous generation, but he had distanced himself from Averroes in formulating the *media via* theory.<sup>77</sup> This tradition was continued in the Renaissance, for instance, by the Portuguese Jesuit philosopher and theologian Pedro da Fonseca (d. 1599), who devotes entire chapters to the standpoints of Avicenna and Averroes, but sides with Thomas Aquinas.<sup>78</sup>

In the milieu of the arts faculty of Padua, there is a greater variance of positions. Agostino Nifo follows Averroes' (and thus Thomas's) view on the role of the celestial bodies in spontaneous generation, but he adds an important qualification in his second *Metaphysics* commentary of the 1530s: "What Averroes says is not true, even though it appears to be Peripatetic. We have explained in the *Clarifier* [*Dilucidarium*] how the form can be produced by the intelligences and by God himself without the mediation of a celestial body."<sup>79</sup> Nifo distinguishes (in the early *Metaphysics* commentary entitled *Dilucidarium*) between a Peripatetic and Christian standpoint on the issue. The Peripatetics rely on the principles that generation and decay always involve bodies and that nothing is generated from nothing. "Thus,

Averroes' arguments are valid if his principles are presupposed. But if we speak in a Christian manner, all these principles are false."<sup>80</sup> The reason is that God is able to produce changes which happen *ex nihilo* and without any material alteration. The insertion of a Christian caveat in a philosophical context is typical of Renaissance Aristotelianism, as we have seen above with Cattani's views on the force of imagination. In this case, it also is a prolongation of a medieval tradition, since it was John Duns Scotus who had first pointed to the conflicting views of philosophers and theologians on the issue of spontaneous generation.<sup>81</sup>

A new chapter in the history of spontaneous generation theory was opened when a group of northern Italian Aristotelians turned to Avicenna: Pietro Pomponazzi, Paolo Ricci, and Tiberio Russiliano (Rosselli). Pomponazzi discusses the issue in many different lectures and writings from 1502 to 1522, most of which are not yet accessible in print.<sup>82</sup> As is apparent from a lecture on the *Physics* of 1518, Pomponazzi deviates from the *media via* theory and explicitly embraces Avicenna's view that human life can be generated spontaneously. Avicenna was moved to develop this position by experience and argument, says Pomponazzi. The argument was astrological in nature: as a result of certain conjunctions of planets there have been great catastrophes in world history that have extinguished all life. With the return of beneficial conjunctions, human beings and other animals were born from putrefying matter. From experience we observe countless instances of generation without sexual reproduction. Pomponazzi concludes that Averroes' arguments against Avicenna cannot convince (but Pomponazzi adds a Christian caveat by saying that he is going to follow the *opinio Latinorum*, i.e. the opinion of the theologians).<sup>83</sup> Pomponazzi thus adopts Avicenna's theory from *On Floods*, but combines it with the most popular astrological theory of the times, the theory of great conjunctions. Avicenna had admitted the possibility that the occurrence of catastrophic events was dependent upon celestial constellations, but his explanation of spontaneous generation does not involve the stars: it is solely based on the concept of increasingly refined mixtures of elements.

Paolo Ricci and Tiberio Russiliano were both students of Pomponazzi. Ricci adopts and defends the Avicennian theory against Averroes' criticism in a publication of 1514; his version of the theory is less astrological than Pomponazzi's and thus closer in spirit to Avicenna's original idea. In Ricci's eyes, the "great Peripatetic of the Arabs, Avicenna," has demonstrated with solid arguments that "from a certain mixture of elements the forms of human beings as well as of other animals arise" after flood or fire catastrophes, which extinguish all plants and animals.<sup>84</sup> Tiberio Russiliano, in a series of public disputations of 1519, defended a number of provocative

philosophical theories on the value of magical knowledge about Christ, on the eternity of the world, or on the Trinity – and barely escaped the inquisitorial proceeding which ensued. His fifth disputation defends Avicenna's theory of the spontaneous generation of human beings as most probable philosophically and as being in accordance both with Aristotle and Plato. Just as in Ricci's case, Tiberio's account does not adopt the astrological emphasis added by Pomponazzi to Avicenna's theory. Tiberio enriches the discussion by pointing to the recent discoveries of unknown islands, which are inhabited by human beings who could not have reached these islands by boat; hence they must have been born from the Earth and the Sun. This must also be true of the first human being ever, at least "if we discuss the case in purely natural terms."<sup>85</sup>

These examples show that Avicenna's theories of prophecy and of spontaneous generation contained much provocative potential. Some Renaissance philosophers employed them in order to challenge traditional religious or theological views.

### Arabic philosophy and humanism

It was mentioned above that Averroes did not have a good press among humanist authors. Many partisans of the humanist movement were highly critical of the entire Arabic tradition in the West. It was often claimed that the medieval translations of Arabic authors were not reliable and that they were written in a barbaric Latin. Also, it was argued that the Arabic philosophers and scientists did not know Greek, and that, if there was anything original in Arabic texts, it was plagiarized from Greek authors read in translation.<sup>86</sup> The anti-Arabic polemics were particularly fervent in the medical context, where humanists attempted to replace Avicenna and Mesue with Galen and Dioscorides.<sup>87</sup> These polemics had a long afterlife, and a number of prejudices, even if obviously unwarranted, such as charges of plagiarism, continue to color modern scholarship on the Renaissance.

In spite of the general antagonism between the humanist movement and the Arabic tradition of philosophy, there were still points of contact. The aristocratic patrons of the new Arabic–Latin or Hebrew–Latin translations, Giovanni Pico della Mirandola, the later cardinal Domenico Grimani, and the later bishop Ercole Gonzaga, had close ties to the philosophical climate of the University of Padua, but at the same time shared many humanist ideals.<sup>88</sup> Grimani, in fact, because of his collection of Greek manuscripts, was much admired among humanists. The Hebrew–Latin translators Paolo Ricci and Jacopo Mantino wrote their translations in a classicizing Latin style. To rescue Arabic science and philosophy for the humanist movement was

the motive of many Renaissance scholars who produced classicizing revisions of medieval translations of Arabic texts. And, finally, Arabic philosophers were cherished also by humanist Aristotelians, such as, for instance, Francesco Vimercato. We should be careful, therefore, not to adopt too easily the antagonist description of the relation between humanism and Arabic philosophy which we are offered by the polemical literature of the time.

## NOTES

1. For the medieval reception of Arabic philosophy see Burnett 2005, with further literature.
2. Nifo 1503 and Nifo 1559b.
3. Pietro Pomponazzi (MS), *Expositio in librum XII Metaphysicae*. For further manuscripts see Lohr 1988, 349.
4. Zimara 1508, 1537a, 1537b; see again Lohr 1988, 506–7, 511.
5. Aristotle and Averroes 1550–2. The relaunch of this edition in 1562 was reprinted in Frankfurt am Main 1962 and it still forms the basis for modern scholarship on the Latin Averroes, at least for those works that have not yet seen a critical edition. See the informative article on the 1550–2 edition by Schmitt 1984b.
6. On the Renaissance Arabic–Latin and Hebrew–Latin translation movement see Siraisi 1987, 133–43; Tamani 1992, Burnett 1999b, and Hasse 2006.
7. For a full list of Renaissance translations including works of Arabic science see Hasse 2006.
8. Averroes' commentary is on *De partibus animalium* I–IV and *De generatione animalium* I–III, but not on any part of *Historia animalium*. Nifo's commentary covers all three Aristotelian books on animals: see Perfetti 2000, 85–120.
9. The Paduan philosopher Agostino Nifo, for instance, composed a commentary on Averroes' reply to Algazel's *Incoherence of the Philosophers*, and thus indirectly also commented on Algazel; see Nifo 1497.
10. Averroes 1953. A few Arabic fragments in Hebrew letters have been preserved; see Sirat and Geoffroy 2005.
11. Averroes 1953, 391, lines 127–40, and 393, lines 176–95 (on Themistius), 395, esp. lines 228–35 (on Alexander) (III.5).
12. Ibid., 387, line 23, to 388, line 56.
13. Ibid., 404, line 500, to 405, line 520.
14. Ibid., 400, lines 379–93, 401, lines 419–23, and 412, lines 724–8.
15. On medieval Averroism see Hayoun and de Libera 1991.
16. Aquinas 1994, 134.
17. Piché 1999, 88 (art. 32/117).
18. Kuksewicz 1995.
19. Kuksewicz 1997, 96.
20. On Renaissance Averroism see the classic, but prejudiced study by Renan 1861, and the more recent work by Kristeller 1965b, Schmitt 1984b, Mahoney 2000, Hasse 2004a and 2004b, Martin 2007; on Renaissance intellect theory in general see Kessler 1988.
21. Aristotle, *De generatione animalium* 736b27–8 (2.3).

22. Paul of Venice 1503, fol. 88va.
23. Ibid., fol. 88ra, *quarta conclusio* (v.36); see also fol. 89ra, *ad tertium*.
24. Paul of Venice 1481, sig. Z8ra (III.27), quoted from Kuksewicz 1983, 1: 302.
25. The *Quaestio* has survived only in manuscript; see Vernia (MS). Extracts from this manuscript are quoted in Hasse 2004a, 135–7. On Vernia and Nifo see the collected articles by Mahoney 2000.
26. Vernia (MS), fol. 156rb.
27. Vernia (MS), fols. 157vb–157bis ra.
28. See the references in Kristeller 1952; Di Napoli 1963, 63–5 (to Petrarca), 72 (to Salutati), 84 (to Valla); Hankins 1994, 274 (to Ficino); Nardi 1958, 397 (to Faseolo). The passage in Ermolao Barbaro is in Barbaro 1943, 1: 92.
29. For the murder story see Hasse 1997, 234–6.
30. Vernia 1505.
31. Ibid., fol. 11rb.
32. Nifo 1554, fols. 33ra–b (III.26).
33. Ibid., fols. 33va–34ra (III.28).
34. Ibid., fols. 34ra–b (III.29).
35. See the references in Mahoney 2000, article 1, 201.
36. Pomponazzi, in Kristeller 1955, 93.
37. Pomponazzi 1990, IX, 110.
38. Alessandro Achillini, *Quodlibeta de intelligentiis*, in Achillini 1551, III, dub. 2–4.
39. Prassicio 1521; for an attack on Nifo, see e.g. sig. B4va. See Hasse forthcoming 2.
40. Vimercato 1574, 47a.
41. Antonio Bernardi 1560, 546, quoted in Di Napoli 1963, 364–5 (which incorrectly refers to page 564 in Bernardi).
42. This is argued in Hasse 2004b.
43. Rahman 1958, 50. The Latin text is in Avicenna 1968–72, II: 64.
44. On Avicenna's theory of prophecy and its twelfth- and thirteenth-century Latin reception see Hasse 2000, 154–74. On the concept of imagination/phantasy in the history of philosophy from antiquity to 1500 see K. Park's very informative introduction to Gianfrancesco Pico della Mirandola 1984, 16–43. See also Zambelli 1985.
45. Aristotle, *De insomniis*, 459b23–460a24. The authenticity of the passage is disputed. For a recent defense of its authenticity see Van der Eijk 1994, 183–93.
46. This text has not survived in Arabic. See the Latin edition, Alkindi 1975, 230–1. On its reception see Walker 1958, 147–59, and Burnett 1999a, 20–1.
47. Thomas Aquinas, *Summa theologiae*, I, qu. 117, a. 3, ad 2. Bacon 1859, 529.
48. Marsilio Ficino 2001–6, 192–5 (13.4.8–9). The classic on Ficino's theory of occult powers is Walker 1958, part 1, but see the important modifications by Hankins 2006a, who discusses Avicenna's influence on Ficino. For context see also Copenhaver 1988a.
49. Ficino 2001–6, 196–201 (13.4.10–12).
50. Cattani 1502, sigs. e6r–e7r.
51. Ibid., sigs. e7v–f1r.
52. Ibid., sig. f2v.
53. Ficino 2001–6, 216–17 (13.5.8).
54. Cattani 1502, sig. f8r.
55. Cattani 1502, sig. a2v.

56. Hasse 2000, 167–8.
57. Bairo 1507, sigs. f5r–f6r (chapter *de cibo et potu*). On Bairo see Thorndike 1923–58, VI: 217–18.
58. Pomponazzi 1567, 21–4. For an interpretation of this work see Pine 1986, 235–74.
59. Pomponazzi 1567, 237–8.
60. *Ibid.*, 253.
61. Erastus 1572, 74. On Erastus see Thorndike 1923–58, VI: 652–67, and Walker 1958, 156–66.
62. Erastus 1572, 91.
63. *Ibid.*, 101–2, 108.
64. *Ibid.*, 115–17.
65. *Ibid.*, 115.
66. Montaigne 1965b, 594 (2.13).
67. Pascal 1946, II, 56.
68. Montaigne 1965b, 104–5 (1.21).
69. Suárez 1866, I: 1–12. The quotation is from p. 4.
70. On spontaneous generation in the Arabic and Latin tradition see Nardi 1965a; Kruk 1990; Van der Lugt 2004, 131–87; Hasse forthcoming 1.
71. Spontaneous generation is also discussed in Aristotle's biological work; the most comprehensive passage is in *De generatione animalium* 762a9–b32 (3.11).
72. Themistius' paraphrase of Book XII of the *Metaphysics* has not survived in Greek, but only in long Arabic quotations by Averroes and in a complete Hebrew version, which was translated from the Arabic in AD 1255. See the English translation of the quotations in Averroes' *Long Commentary on the Metaphysics* (on 1070a24) in Genequand 1986, 105–7.
73. See, for example, Plato, *Politicus* 269Bff., 271Aff.; Plato, *Timaeus* 22C, 23A–B. Aristotle does not share the conviction that immense famines or floods point to the fact that there have been past destructions of mankind; these catastrophes were of local character only; see *Meteorology* 352a17ff. (2.14).
74. Avicenna, *De diluviis*, edited in Alonso Alonso 1949, 291–319 (see 306–8).
75. See the English translation of Averroes' commentary on *Metaphysics* XII.3 in Genequand 1986, 94 and 111. Of the commentary on *Metaphysics* VII.9 there is only one translation into a Western language, the Latin translation Aristotle and Averroes 1562, VIII: fol. 180r–IV (VII.31).
76. Trombetta 1504, fol. 58vb.
77. Aquinas 1950, 344 (§§ 1399–1403).
78. Fonseca 1615–29, II: 246–55 (VII, vii, qu. 1 and 2). On Fonseca see also chapter 13 below.
79. Nifo 1559b, 431b (VII, text. 31): “Sed haec an vera sint, petenda sunt a Dilucidario, ubi declaravimus haec quae Averroes ait non esse vera, licet videantur peripatetica. Illic enim explicavimus quonam modo ab intelligentiis et ab ipso deo effici possit forma sine interventu corporis coelestis.”
80. Nifo 1559c, 195a: “Et sic rationes Averrois sunt valide suppositis principiis eius. Sed si loquimur catholicae, omnia haec principia sunt falsa.”
81. Scotus 1999, 1252–3 (qu. 7).
82. Extracts are published in Nardi 1965a. See also the references in Zambelli 1994, 81–2.



83. Nardi 1965a, 315–19.
84. Ricci 1514, sig. 13r.
85. Russiliano 1994, 170–83 (disp. 5); the quotation is from p. 175: “cum phisice tantum disputemus.” I am grateful to Bernd Roling and Henrik Wels for drawing my attention to these passages in Ricci and Tiberio Russiliano.
86. See n. 28 above. Ficino, for instance, blames Averroes for his ignorance of Greek and for having read Aristotle in bad translations in a “barbarous tongue,” i.e. Arabic, in *Platonic Theology* 15.1.2 (Ficino 2001–6, v: 9).
87. Siraisi 1987, 65–76.
88. Hasse 2006.

Appendix: Renaissance Latin translations of Arabic philosophy  
(1450–1700)\*

- Elia del Medigo (d. 1493), Venice,  
Padua, Florence, transl. from  
Hebrew
- Averroes:  
Comp. Meteor. + Comm. med.  
Meteor. (fragm.), 1488  
Comm. mag. Metaph. Prooem XII  
(two times), 1488  
Quaest. in An. pr., 1497  
Comm. med. Metaph. I–VII, 1560  
Comm. med. Animal. (MS Vat.  
lat. 4549)  
Epitome of Plato's *Republic*, 1992  
(ed. A. Coviello)  
*Tractatus de intellectu speculativo*  
(MS Vat. lat. 4549)
- Anonymous Hebrew scholar H
- Averroes  
Comm. med. An. (MS Vat. lat. 4551)
- Algazel  
*Liber intentionum philosophorum*  
with commentary by Moses of  
Narbonne (MS Vat. lat. 4554)
- Anonymous Hebrew scholar  
attached to Pico della Mirandola  
(before 1493) H
- Ibn Tufayl:  
*Hayy ibn Yaqzān* (MS Genoa Bibl.  
Univ. A.IX.29)
- Andrea Alpago (d. 1522),  
Damascus, transl. from Arabic
- Avicenna:  
*Compendium de anima* ..., 1546
- Giovanni Burana (d. before 1523),  
Padua H
- Averroes:  
Comp. An. pr., 1524  
Comm. med. An. pr., 1524  
Comm. med. An. post., 1550/2  
Comm. mag. An. post., 1550/2
- Abraham de Balmes (d. 1523),  
Venice, Padua H
- Avempace:  
*Epistola expeditionis* (MS Vat.  
lat. 3897)
- Alfarabi:  
*De intellectu* (MS Vat. lat. 12055)

Averroes:

Comp. Org., 1523  
*Quaesita logica*, 1523  
 Comm. mag. An. post., 1523  
 Comm. med. Top., 1523  
 Comm. med. Soph. El., 1523  
 Comm. med. Rhet., 1523  
 Comm. med. Poet., 1523  
 Comp. Gen., 1552  
 Comp. An., 1552  
 Comp. Parv. nat., 1552  
 Comm. med. Phys. (MS Vat.  
 lat. 4548)  
*Quaesita naturalia* (MS Vat. ottob.  
 lat. 2060)  
*De substantia orbis* cap. 6–7, 1550/2  
*Liber modorum rationis de opinio-*  
*nibus legis* (MS Vat. ottob. lat.  
 2060, MS Milan Ambros. G. 290)

Calo Calonymos ben David  
 (d. after 1526), Venice H

Averroes:

*Destructio destructionum*, 1527  
*Epistola de connexione intellectus*  
*abstracti cum homine*, 1527

Vitalis Nisso (d. ?) H

Averroes:

Comp. Gen., 1550/2

Paolo Ricci (d. 1541), Padua and  
 Pavia H

Averroes:

Comm. med. Cael., 1511  
 Comm. mag. Metaph. Prooem.  
 XII, 1511

Jacopo Mantino (d. 1549),  
 Bologna, Venice, Rome H

Averroes:

Comm. med. Animal., 1521  
 Comp. Metaph., 1521  
 Comm. med. Isag., 1550/2  
 Comm. med. Cat., 1550/2  
 Comm. med. Int., 1550/2  
 Comm. med. Top. I–IV, 1550/2  
 Comm. med. Poet., 1550/2  
 Comm. med. Phys., 1550/2  
 Comm. mag. Phys. Prooem., 1550/2  
 Comm. mag. An. III.5 + 36, 1550/2

	Comm. mag. An. post. (fragm.), 1562
	Epitome of Plato's <i>Republic</i> , 1539
Tommaso Obicini of Novara (d. 1632), Rome A	<u>Al-Abharī:</u>
Johann Buxtorf Jr. (d. 1664), Basel H	<i>Isagoge . . . in scientiam logices</i> , 1625
Edward Pococke Sr. (d. 1691) and Edward Pococke Jr., Oxford A	<u>Maimonides:</u>
	<i>Liber mōre nevūkīm</i> , 1629
	<u>Ibn Tufayl:</u>
	<i>Epistola . . . de Hai Ebn Yokdhan</i> , 1671

\* On these translations, see the literature referred to in n. 6. Not included are Moses Arovas, Pier Nicola Castellani, and Jacques Charpentier, who translated and later revised the Neoplatonic *Theology of Aristotle* (pseudo): see Kraye 1986, 265–86.