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Chance and Determinism
in Ibn Sīnā and Ibn Rushd

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A Thesis submitted for the degree of Doctor of Philosophy

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Abstract of *Chance and Determinism in Ibn Sīnā and Ibn Rushd*

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Michaelmas Term 2004

This thesis analyses the concept of ‘chance’ as it is understood by two Muslim philosophers, Ibn Sīnā (Lat. Avicenna, CE 980-1037) and Ibn Rushd (Lat. Averroes, CE 1126-1198). On the philosophical plane, I seek to ascertain whether they are determinists, i.e., whether they hold that everything that happens is necessarily conditioned by its causes so that it could not have been otherwise. This analysis discusses chance from a physical and a metaphysical perspective. Physics is here understood in the Aristotelian sense as the study of nature and change, and metaphysics as the study of being *qua* being (ontology) and of the divine (theology). Hence a particular stress on natural causation and on divine providence and causation.

On the historical-philosophical plane I endeavour to determine the historical/philosophical sources of their views, namely the Graeco-Arabic philosophical tradition - Aristotelian and Neoplatonic on the one hand, and the tradition of Islamic theology (*kalām*) on the other. Particular emphasis is laid upon the original way in which Ibn Sīnā and Ibn Rushd combine these two traditions.

*Of your philosophy you make no use
If you give place to accidental evils*

Shakespeare, *Julius Caesar*

... il ne faut jamais dire le hasard, mon enfant, dites toujours la Providence.

Stendhal, *Le Rouge et le Noir*

Note on Transliteration

For Arabic and Persian I have used the English Transliteration System of the *International Journal of Middle East Studies*.

For Hebrew I have used the transliteration system of *Vetus Testamentum*.

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Introduction

Determinism: the concept and some historical aspects

The aim of this thesis is to ascertain whether Ibn Sīnā (d. 428/1037) and Ibn Rushd (d. 595/1198), also known as Avicenna and Averroes, are determinists. Determinism can be broadly defined as the theory that every event or substance in the world has a definite and necessary cause such that it could not have been otherwise. This view presupposes a strict necessary causality ruling the world, so that everything is necessarily conditioned by its cause or causes, which can be said potentially to 'contain' their effect and produce it under determinate conditions.¹ Because it is based on the notions of causality and necessity, this definition of determinism is tied

¹ The definition of determinism is not an undisputed issue. According to Butterfield, 'since the seventeenth century, it has been commonly understood as the doctrine that every event has a cause', 'Determinism and Indeterminism', in *Routledge Encyclopedia of Philosophy* (ed. Edward Craig), vol. 3, p. 33. However, this definition has more recently come under attack owing to an alleged obscurity of the notions of cause and effect – see Earman, *A Primer on Determinism*, pp. 5-6, and also the aforementioned article on determinism. Consequently, a narrower definition of determinism using terms drawn from physical theory such as 'systems', 'states' and 'laws of the theory' has been propounded to assess determinism in current physical theory and more specifically quantum theory. (For Earman's definition see, op. cit., p. 13). In his *Necessity, Cause and Blame* Sorabji seeks to separate necessity and causation, p. xiii and leaves out causation in his definition of determinism: 'by determinism I shall mean the view that whatever happens has all along been necessary, that is, fixed or inevitable ... I have deliberately defined determinism by reference, not to causation, but to necessity', *Necessity, Cause and Blame*, p. ix. However, I have preferred the classical definition of determinism – with the underlying notion of cause as that which produces something (see Taylor, 'Causation', in *The Encyclopedia of Philosophy*, ed. P. Edwards, vol. 2, p. 56) – because it is broader and not confined to physical theory; it encompasses also ontology and theology, being consequently better suited to accommodate the doctrines of such medieval philosophers as Ibn Sīnā and Ibn Rushd, whose interest in explaining God's unitary effect upon the world was paramount. The necessary connection between cause and effect has been questioned by numerous philosophers and thinkers, most notably Hume in the modern period, but also al-Ghazzālī in the Middle Ages. However, it was firmly upheld by both Ibn Sīnā and Ibn Rushd.

up with the ontological structure of the universe rather than the issue of predictability, which pertains to the epistemological domain.²

In turn, chance can be defined as the occurrence of random or contingent events which have no definite cause but come to be spontaneously. A chance event is thus an event without a cause, or an event that issues 'loosely' from its cause (given that a cause or a set of causes may have many possible effects). Chance can also be defined as the coincidence or coming together of two independent causal chains.³ An upholder of chance in this sense states not only that the future is unpredictable, because the full causal connexions obtaining in the present are in principle unknowable due to the randomness of chance, but also that past events could have happened otherwise because not everything occurs of necessity.

Three major kinds of determinism can be distinguished. Metaphysical or causal determinism states that every being is necessarily conditioned by its causes. Metaphysics is here understood in the Aristotelian sense as the branch of philosophy

² Earman has argued that it is a mistake to construe determinism in terms of Laplace's Demon because this focuses our attention on the epistemological issues of prediction and knowability, while determinism's real importance is as an ontological theory', Weatherford, *The Implications of Determinism*, p. 57. 'Many of the ways in which we use the probability concepts are primarily epistemological rather than metaphysical: they govern our rational expectation or the logical probability of a conclusion on given evidence, or the like', *ibid.*, p. 120. The differentiation between determinism and probability is particularly important for the discussion on the impact of current physical theories on the philosophical issue of determinism: 'the Copenhagen Interpretation of the Heisenberg Uncertainty Relations ... says that we cannot simultaneously *know* the position and momentum of an elementary particle beyond a certain level of precision, though we can know either. When this is construed as a result of the inference due to the process of observation, it has no implications at all for determinism, only for knowledge', *ibid.*, p. 200. 'I conclude, therefore, that it is certainly not the case that science has demonstrated the falsity of determinism. The fundamental problem is that at present there are things that science *cannot* demonstrate or explain. Quantum mechanics is not the final word, it is a makeshift description and probabilistic correlation that is of great practical value in the absence of a scientific explanation of certain phenomena, but it does not constitute such an explanation', p. 201.

³ See Erbrich, *Zufall*, p. 91, p. 92. He also distinguishes between 'subjective chance', absence of knowledge, and 'objective chance', absence of cause, p. 101.

which studies being *qua* being in its most general sense and God as the supreme being.⁴ It thus comprises both ontology and theology.

Physical determinism states that every event in nature unfolds according to strict natural laws and a set pattern, whereby every natural process can be explained.

Finally, ethical determinism claims that man's acts are determined, either by natural laws, or through God's action, or a combination of these two, through natural laws pre-established by God. It explicitly rules out free will in human beings. Ethical determinism has traditionally been the most controversial owing to its negative consequences on such issues as human responsibility and the legitimacy of punishment, human and divine.

Other kinds of determinism have been distinguished by contemporary philosophers, such as theological determinism, the view that God determines all events; and logical determinism, which states that 'each proposition is either timelessly true or timelessly false. Thus each proposition purporting to describe a future event is either true or false'.⁵ Theological determinism can be subsumed under metaphysical determinism, since theology, in the Aristotelian tradition, is one of the two branches of metaphysics.

This thesis focuses specifically on physical and metaphysical determinism. The reason for this choice lies in the fact that 'chance' was discussed by Aristotle in his *Physics* in the context of the debate on causation. Due to the immense influence of Aristotle's works on Islamic philosophy, and because some of the most important

⁴ See Aristotle, *Metaphysics*, IV, 1, 1003^a21-22 and VI, 1, 1026^a29-32. God's determination (*qadar*) and divine causation in the supralunary and sublunary worlds according to Ibn Sinā and Ibn Rushd will be dealt with within the framework of metaphysical determinism.

⁵ Weatherford, *The Implications of Determinism*, p. 7. Weatherford further distinguishes 'psychological determinism' as distinct from the aforementioned kinds, op. cit., p. 3.

works by Ibn Sīnā and Ibn Rushd are paraphrases or commentaries on Aristotle's works, they too discuss chance within the context of natural philosophy. Consequently the issue of determinism cannot be discussed without reference to physical questions in both philosophers. Also a fundamental element of the concept of determinism as defined above is the notion of metaphysical necessity, discussed mainly in metaphysics, and the general notion of causality, which is discussed by Aristotle in his physical and in his metaphysical works.⁶

The issue of ethical determinism, or the view that human action is determined rather than free, as well as the complex issue of logical determinism would require a separate treatment. Ethical and logical determinism will be mentioned in passing, where closely connected with the two kinds of determinism in hand, physical and metaphysical. Most contemporary philosophical studies on determinism focus on the ethical implications of assuming or denying determinism, hence this thesis departs from the widespread treatment of determinism within the framework of ethics and human freewill. Other reasons for leaving aside ethical determinism are philosophical and also tied up with the corpora of Ibn Sīnā's and Ibn Rushd's writings. Concerning philosophical reasons, one can theoretically separate the different kinds of determinism. Thus one might coherently argue in favour of metaphysical and physical determinism while repudiating ethical determinism. Indeed, one can defend determinism or indeterminism in the natural world, independently of ethical implications. Within the history of philosophy an example of physical determinism would be the Epicurean theory of atomic swerve which produces haphazard events.

⁶ Judson distinguishes in general causal determinism and necessity or necessitarianism, see *Aristotle on Necessity*, p. 152.

Its opposite would be the Stoic theory that all events in nature are causally necessitated. One philosopher who distinguishes the two realms is Kant (d. 1804), by putting forth the notion of human autonomy or freedom – whereby humans are free in the sense that they are not subject to a necessary and inescapable chain of natural causes. He formulates the problem of determinism as the third antinomy of pure reason. In the thesis, Kant presents the argument for human freedom: ‘Causality according to the laws of nature is not the only causality which produces the phenomena in the world. A causality through freedom must necessarily be presupposed to account for these phenomena.’ The antithesis puts forward the deterministic position: ‘There is no [such thing as] freedom, rather everything in the world happens solely according to the laws of nature’⁷ Kant states that either one defends a necessary natural order which encompasses human actions, and embraces all causation; or one thinks of human causation as autonomous and not determined by natural causation. Even though usually one kind of determinism goes hand in hand with the other, they are distinguishable. In this sense too human freedom need not necessarily entail the acceptance of deviations in natural processes.

Another reason for downplaying ethical issues in this thesis is the fact that Ibn Sīnā wrote little about ethics.⁸ Ibn Rushd was more concerned with ethics than Ibn Sīnā, but the volume of his physical and metaphysical works greatly outweigh his works on ethics, and consequently in his case also more can be said about physical and metaphysical determinism than about ethical determinism.

⁷ Kant, *Kritik der reinen Vernunft (Critique of Pure Reason)*, in *Kant's Gesammelte Schriften*, pp. 308-309. All translations are mine unless otherwise indicated.

⁸ Gutas mentions Ibn Sīnā's little interest in ethics, *Avicenna and the Aristotelian Tradition*, pp. 257-258.

It has to be said that neither Ancient Greek nor medieval Arabic provides a term which denotes exactly our modern concept of 'determinism'. However, certain passages in Aristotle suggest that he was aware of what we call 'determinism'. This thesis endeavours to show the way in which it is possible to find a deterministic or indeterministic outlook in Ibn Sīnā and Ibn Rushd according to the above definition.

The term 'determinism' appears in Kant and later in Hegel;⁹ but not in Spinoza, who among the modern philosophers is considered to offer the most consistent and systematic model of philosophical determinism. The term has been applied to philosophical systems and philosophers who did not use it.

A systematic study or survey of the history of determinism cannot be carried out here, so among the philosophers who defended the notion of determinism I would like to highlight two paradigmatic cases, first that of the Stoics and then that of Spinoza.

The issue of fate and determinism was broached by Aristotle, Plato and the Presocratics, but it is the Stoics who incorporate it into their philosophical system as an essential part.¹⁰ They defend in classical antiquity what can be described as the first form of physical/metaphysical/systematic determinism in the way above described, thus setting the tone for the debate on determinism for centuries to come.¹¹ Already in Antiquity they were considered to hold that all events happen through a cause and are determined by their causes, to the exclusion of freedom or chance. This is evinced by a passage from Alexander's *De fato*, who often mentions and rejects their arguments for determinism and an all-encompassing divine providence.

⁹ See Lalande, *Vocabulaire technique et critique de la Philosophie*, pp. 221-224.

¹⁰ Bobzien, *Determinism and Freedom in Stoic Philosophy*, p. 2.

¹¹ *Ibid.*, p. 5.

The things which happen first become causes to those which happen after them. In this way all things are bound together, and neither does anything happen in the world such that something else does not unconditionally follow from it and become causally attached to it, nor can any of the later events be severed from the preceding events so as not to follow from one of them as if bound fast to it ... and everything that happens has something prior to it with which it causally coheres. For nothing in the world exists or happens causelessly.¹²

In modern philosophy Spinoza has propounded a kind of determinism which resembles that of the Stoics. In the preface to the third part of his *Ethics*, he states:

Nothing comes to pass in nature, which can be set down to a flaw therein; for nature is always the same, and everywhere one and the same in her efficacy and power of action; that is, nature's laws and ordinances, whereby all things comes to pass and change from one form to another, are everywhere and always the same; so that there should be one and the same method of understanding the nature of all things whatsoever, namely, through nature's universal laws and rules.¹³

Clearly Spinoza does not accept that nature or natural processes may entail a degree of randomness or deviation from strict natural laws. If we combine this view of natural causation with his view that human action is not isolated from natural causation, his determinism becomes patent.¹⁴

¹² Long, and Sedley, *The Hellenistic Philosophers*, vol. 1, pp. 337-338, translated by Long and Sedley. 'The Stoics viewed themselves as determinists. They clearly believed that everything happened according to Fate, necessity, or God's will', Weatherford, *The Implications of Determinism*, p. 27. While 'in Antiquity problems of determinism and freedom were from the middle of the third century BC onwards collected and discussed under the heading 'on fate' ... no Stoic treatise on fate has survived', see Bobzien, *Determinism and Freedom in Stoic Philosophy*, pp. 5- 6. Hence Stoic positions have been gleaned from other ancient authors such as Alexander of Aphrodisias.

¹³ Spinoza, *Ethics*, in *The Works of Spinoza*, vol. 2, (transl. by Elwes), p. 129. 'Of his determinism there is no doubt. That everything happens necessarily and that nothing is contingent, are among his most central claims', Sprigge, *The Significance of Spinoza's Determinism*, p. 2.

¹⁴ *Ibid.*, p. 6: 'According to Spinoza the ordinary belief in free will is a straight error, arising from the view that the human will is something outside the ordinary course of nature' 'The determinist will not believe, on so little evidence, that human beings are discontinuous with the rest of nature', Weatherford, *The Implications of Determinism*, p. 16.

What were the main philosophical influences on Ibn Sīnā and Ibn Rushd, and how did they stand in relation to this issue?

Among the philosophers, Aristotle is the single most influential figure. Both Ibn Sīnā and Ibn Rushd were self-confessed Aristotelians, for whom Aristotle was the first teacher.¹⁵ Through Aristotle, they were acquainted with the Presocratic philosophers, their atomism and materialism, and also, significantly, with Plato and his theory of forms. Late Aristotelians such as Themistius and Alexander of Aphrodisias were known to Ibn Sīnā and Ibn Rushd, and through them also some Epicurean and Stoic positions. Finally they were influenced by their predecessors in Islamic philosophy such as al-Fārābī, and the pseudo-Aristotle of the *Theology of Aristotle*. Among Ibn Rushd's influential predecessors, in addition to al-Fārābī, Ibn Sīnā's and al-Ghazzālī's philosophical works had a great impact, as well as those of Ibn Bājja, whom he frequently mentions in his commentaries. Alongside the philosophical influences, of paramount significance in shaping Ibn Sīnā's and Ibn Rushd's views was their Islamic background comprising the Qur'ān and *ḥadīth* literature, and the complex theological debates that commenced early in the history of Islam. One particular debate relevant to our discussion on determinism was that of God's determination, *qadar*, which was well known to both philosophers. The main theological (*kalām*) schools participating in the debate were the Mu'tazilites and the

¹⁵ Yet Ibn Sīnā in certain cases detached himself from the Aristotelian tradition: 'In the introduction to the Easterners all direct affiliation with the Aristotelian tradition is expressly rejected; Aristotle merely provided the foundation and the direction, but Avicenna's purpose is to build beyond it, not to expound or explain, as formerly, its hidden meanings', Gutas, *Avicenna and the Aristotelian Tradition*, p. 295. For his opinion of Plato, see page 38. For the evolution of his views on Plato and Aristotle, see pp. 286-288.

Ash'arites. In consequence the issue of determinism in these philosophers has a religious as well as a philosophical dimension.

With regard to the determinism, or otherwise, of these sources, Aristotle's philosophy, for instance, has been variously construed as deterministic by some interpreters and indeterministic by others, both ancient and modern, as explained by Van Rijen:

[One of two ways in which] Aristotle speaks about the necessity of a state of affairs or of an event ... [states that] (some) events or states are looked on as the effects of certain sufficient causes. Regarded in this way, every event as far as it is an effect is necessary relative to its sufficient cause. At various places in the *corpus*, Aristotle suggests that all events are necessitated in this way, which would imply a total determinism. Indeterminism requires that 'fresh starts', i.e., uncaused states that come about in the course of time, are allowed in explaining what goes on in the world. Some commentators indeed believe that Aristotle thought that such fresh starts exist. Others, however, have denied this.¹⁶

In classical Antiquity, Aristotle was considered a determinist by some.¹⁷ More recently, Richard Sorabji has argued against the view of Aristotle as a determinist.¹⁸ While the issue in Aristotle is present at all levels, logical, metaphysical, physical and ethical, Aristotle does not express a systematic view on determinism, the issue becoming explicitly and systematically debated among Stoics and Epicureans, who held diametrically opposed views on the subject.¹⁹

¹⁶ Van Rijen, *Aristotle's Logic of Necessity*, p. 119.

¹⁷ See Cicero, *De fato*, 17, 39.

¹⁸ See Sorabji, *Necessity, Cause and Blame*, p. ix.

¹⁹ Comparing the position of Aristotle and that of Alexander of Aphrodisias, Donini says: 'Aristotele non ebbe una posizione esattamente definita nella questione precisamente perché non la conosceva ancora come tale in tutte le sue implicazioni, che erano al contrario anche troppo presenti al commentatore, erede di una disputa ormai secolare', 'Aristotelismo e indeterminismo in Alessandro di Afrodisia', pp. 86-87.

As for the Islamic tradition which informed Ibn Sīnā's and Ibn Rushd's views, the Qur'ān presents views in support of God's determination but also of human responsibility, with the underlying assumption of free will. Within *ḥadīth* literature, certain traditions support the idea of men's freedom of action, but after A.D. 700 the overall view among traditionists is that man does not have full control of his destiny and that God's omnipotence cannot be underestimated.²⁰ According to Watt, the fact that the traditions express a predominantly predestinarian view, as opposed to the libertarian view to be found in the Qur'ān, goes back to the Pre-Islamic era and draws from it.²¹ Whatever the origin of the predestinarian doctrine to be found in early Islam, it is certain that the issue of *qadar* engaged the attention of Islamic scholars from an early stage.

Also in Islamic theology (*kalām*), the issue was not settled and different views regarding (God's) determination of events and human responsibility had been put forth by different schools. There were those schools and theologians who advocated God's justice and thus held that men were responsible for their actions. The principle of God's absolute justice meant that He could only command what is good, and was in no way responsible for the evil perpetrated by men, as the Mu'tazilites saw it. If men did not act of their own free will they could not be held accountable for their acts. In short, they could not possibly be rewarded or punished for actions for which they were not responsible or could not avoid. Others, like the Ash'arites, strove to steer a middle course between God's determination of events and human responsibility, but were in fact considered to be upholders of God's determination to

²⁰ Watt and Marmura, *Der Islam*, vol. II, chapter 4, 'Bestimmung der Ereignisse durch Gott', p. 100.

²¹ Watt, *Free Will and Predestination*, p. 21.

Introduction

the detriment of human agency. Al-Ash‘arī does not refrain from stating that God is the creator of everything, including man’s sins, and his actions in general. All is willed by God, including evil acts. This is based on a Qur’ānic verse, 96 of sura 37, to the effect that, ‘it is God who created you and what you do’. While both these schools sought to uphold divine omnipotence, they differed on whether God’s agency is universal. The Mu‘tazilites and the Ash‘arites were perhaps the best known schools of theology to have debated the issue, but many others attempted a solution.

Although these philosophical and Islamic influences should be borne in mind in discussing the issue of determinism, the views of Ibn Sīnā and Ibn Rushd shall be analysed as those of philosophers in their own right, rather than merely as the recipients of a long-standing tradition going back to Aristotle. The solutions found by these philosophers to certain debates surrounding philosophical and theological issues were both original and innovative, which justifies the emphasis on their philosophical ideas.²²

Contemporary scholarship on Ibn Sīnā and Ibn Rushd with reference to the issue of determinism



Ibn Sīnā’s views on necessary causation have been broached by many a scholar and disparate, even contradictory conclusions have been reached as to whether Ibn

²² On Ibn Rushd, De Libera states, ‘Commentant Aristote, Averroès ne se contente pas de “réciter les opinions des philosophes” antérieurs: il cherche la vérité’, *Averroès. L’intelligence et la pensée*, p. 38.

Sīnā unambiguously embraces determinism as a satisfactory explanation of reality or, on the contrary, acknowledges the occurrence of chance events in the world.

In his work on Ibn Sīnā, L.E. Goodman summarises some of the positions, in particular those of scholars who argue for Ibn Sīnā's determinism. Gardet is one such scholar: 'although he [Ibn Sīnā] affirms the essential contingency of all that is other than the Necessary Being, [he] leaves no place for existential freedom. The emanation of the world, willed by God, is necessary emanation. The secondary causes are all determined; there is no contingent future. As the text of the *Najāt* puts it "If any man could know all events and phenomena of earth and heaven and understand their nature, he would know with certainty how all that is to come in the future will come to be"'.²³ Other scholars mentioned by Goodman as defending that Ibn Sīnā is a determinist are G. F. Hourani and M. Marmura. Hourani defends the same view as Gardet in his article entitled 'Ibn Sīnā's 'Essay on the Secret of Destiny' on the basis of Ibn Sīnā's treatise on God's determination (*qadar*);²⁴ M. Marmura argues for Ibn Sīnā's determinism on the strength of his assertion that existing contingent beings are necessitated.²⁵ The view that Ibn Sīnā's system is deterministic was already put forth by A.-M. Goichon, who states that Ibn Sīnā leaves contingency out of his deterministic system.²⁶ R. Frank also states that according to Ibn Sīnā everything is determined.²⁷ More recently, Y. Michot has consistently argued for the absolute

²³ Goodman, *Avicenna*, p. 86. See also Gardet, *La pensée religieuse d'Avicenne*, pp. 45-46.

²⁴ Hourani, 'Ibn Sīnā's Essay on the Secret of Destiny', pp. 25-48.

²⁵ Marmura, 'The Metaphysics of Efficient Causality in Avicenna (Ibn Sīnā)', pp. 172-187.

²⁶ Goichon, *La Distinction*, pp. 162-163.

²⁷ Frank, *Creation and the Cosmic System: Al-Ghazālī and Avicenna*, pp. 23-24.

determinism of this philosopher, not only on the basis of his cosmology but also of his views on *qadar*.²⁸

Among the scholars defending Ibn Sīnā's indeterminism or affirmation of freewill are A. Ivry, J. Janssens and M. Rashed. Ivry bases himself on the theory, which he ascribes to Ibn Sīnā, of a twofold theory of matter, whereby matter has a positive as well as a negative role. In its positive role, it creates haphazard and unpredictable events.²⁹ His assertion and its implications are the subject of the second chapter of this thesis.

J. Janssens defends that according to Ibn Sīnā there is real contingency in the natural world and that humans have a certain degree of free choice.³⁰

M. Rashed argues for Ibn Sīnā's indeterminism from his view that the spheres do not repeat the exact same motion regularly, and that there is no eternal recurrence of the same motions of the spheres, which leads to the generation of unpredictable events.³¹

Goodman himself rejects the view that God's necessitation of the world makes it necessary, and all events are necessary in Ibn Sīnā's system.³²

With regard to Ibn Rushd's views on the issue of determinism, different interpretations have been offered by modern scholarship. More has been written about Ibn Sīnā's than Ibn Rushd's determinism or indeterminism, and in Ibn Rushd's case the debate has revolved around his views on God's determination (*qadar*) rather than

²⁸ See *Destinée*, in particular pp. 61-64. See also his edition of Ibn Sīnā's *Lettre au Vizir Abū Sa'd*, p. 123*, n. 4.

²⁹ 'Destiny Revisited: Avicenna's Concept of Determinism', p. 167.

³⁰ Janssens, 'The Problem of human Freedom in Ibn Sīnā', pp. 112-118.

³¹ Rashed, 'Théodicée et approximation: Avicenne', pp. 229, 232, 239, 240, 256-257.

³² Goodman, *Avicenna*, p. 81.

his philosophy as a whole. Von Kügelgen, who studied the impact of Ibn Rushd's philosophy on contemporary Arab thought, holds that Ibn Rushd strikes a middle position with regard to the issue of God's determination and its implications for human action, between the Mu'tazilites, upholders of human choice and the determinists, including the Jabarites and also the Ash'arites, who, in Ibn Rushd's view, failed to find a middle ground. According to von Kügelgen, Ibn Rushd puts forth a theory of limited freedom. She mentions previous scholars such as Renan, as holding that Ibn Rushd has a true theory of freedom.³³ According to her, one contemporary Arab thinker, Qumair, goes as far as to say that Ibn Rushd restricts God's omnipotence by saying that while God creates the substances, the accidents are entirely created by man, and thus are exempted from divine omnipotence.³⁴ Another author mentioned by her, 'Iraqi, faults Ibn Rushd for not having tackled the problem thoroughly.³⁵

Another scholar, Hourani, deems that Ibn Rushd's treatment and proposed solution to the issue of God's *qadar* leaves something to be desired, while Ismail Mohamed holds that according to Ibn Rushd our actions are predestined and that his attempt to solve the debate is not entirely satisfactory.³⁶

Notwithstanding these studies there has not been a systematic study of Ibn Sīnā's or Ibn Rushd's determinism, or a comparison of the two concerning this topic. The issue of chance, which is fundamental to understanding their determinism or

³³ Von Kügelgen, *Averroes*, pp. 51, 52. Renan states that according to Ibn Rushd man is free in his soul but conditioned by external causes, so his analysis of Ibn Rushd's position is more complex than asserting that Ibn Rushd defends human freedom, see *Averroès et L'averroïsme*, pp. 159-160.

³⁴ Von Kügelgen, *Averroes*, p. 145.

³⁵ *Ibid.*, p. 316.

³⁶ Hourani, 'Averroes on Good and Evil', pp. 24-28; Mohamed, 'Concept of Predestination', pp. 406-407.

otherwise, has not been taken into account in these discussions.³⁷ Hence for the debate not only the broad cosmological and theological questions have to be addressed but also issues in natural philosophy such as causation, including material causation, and indeed 'chance'.

Synopsis

Chance is an obvious topic to discuss in the context of the debate on determinism. Through Ibn Sīnā's and Ibn Rushd's views on chance it is possible to elicit an answer as to whether, according to these philosophers, there is such thing as a spontaneous, causeless event. Connected with their discussion of chance is on the one hand the issue of matter and evil. Matter could be seen as an agent cause independent of the other three causes in the Aristotelian scheme, final, efficient and formal, and considered to produce haphazard events or be the cause of abnormal occurrences in nature, hence the need to ascertain whether for both philosophers matter is independent of the other causes. Thus the issue of chance bifurcates into matter and evil, on the one hand, and, on the other hand, into the issue of the origin of the world, hence creation and divine causation. In his treatment of chance, Aristotle goes into the discussion not only of whether there is such thing as haphazard, uncaused individual events, an issue which pertains to natural philosophy, but also whether the world as a whole is the product of chance. These Muslim

³⁷ For Ibn Sīnā, however, there is an introductory study on chance by Verbeke in *Avicenna Latinus, Liber Primus Naturalium*, pp. 37*-52*. For the most part, Verbeke holds that Ibn Sīnā's text is closer to Aristotle's (except in its focus on the issue of divine providence, absent from Aristotle's text) than, in my view, it actually is. See below, Chapter 1.

Introduction

philosophers extend the debate to encompass the issue of God's providence and God's determination of events according to the Islamic tradition. Chance opens the discussion and lends itself to ascertaining their position vis-à-vis determinism because it introduces the main topics connected with determinism. In Ibn Sīnā's case, had his philosophy been treated in isolation it would also have been appropriate to start with his metaphysics of the possible and the necessary, but imposing that order in Ibn Rushd's case would have made the exposition less clear. Hence the parallelism in the order of treatment of the three main topics in both Ibn Sīnā and Ibn Rushd.

Consequently the subject of the first chapter is Ibn Sīnā's analysis of chance in his paraphrase of Aristotle's *Physics* in *al-Shifā'*. In the second chapter I look into his theory of matter to assess Ivry's claim that matter, in Ibn Sīnā's point of view, can produce haphazard events. The third chapter discusses Ibn Sīnā's modal metaphysics, and how it gives rise to the process of emanation; his theory of motion of the heavenly spheres as following the final cause through love and as an attempt of assimilation to God is considered. Finally, his views on providence and *qadar* are discussed.

I follow almost exactly the same order of analysis for Ibn Rushd because this facilitates the comparison between the two philosophers. Chapter four starts with his analysis of chance. Chapter five goes on to study his theory of matter in relation to chance and the concepts of possible and necessary, which in his case are directly linked with his views on matter. The last chapter analyses his theory of the heavenly motions and providence, which rules the terrestrial realm, and of *qadar*. Throughout the study of Ibn Rushd's positions I also mention and assess his frequent criticism of

Ibn Sīnā. In the conclusion the positions of both philosophers are compared in a more systematic way and a decision is reached as to whether they are determinists. Thus the three themes of chance, matter and providence are treated first according to Ibn Sīnā and then according to Ibn Rushd, with the aim of achieving a comprehensive overview of their metaphysics and physics with reference to the issue of determinism.

For the study of determinism in these two philosophers I have sought to discuss the relevant passages from their major works on physics and metaphysics, without attempting to make an exhaustive study of all references to chance and related issues, which would be outside the scope of this thesis. For Ibn Sīnā, the major works such as *al-Shifā'* (*The Cure*), *al-Najāt* (*Salvation*), *al-Ta'liqāt* (*Comments*), *al-Mubāḥathāt* (*Discussions*), *al-Ishārāt* (*Pointers*) and *Dānishnāmah* (*The Book of Knowledge*) have been included in the analysis, as well as shorter treatises on *qadar* and other related issues.

For Ibn Rushd, the main sources for this study were the long commentaries on *Physics* and *Metaphysics*, as well as the short and middle commentaries on these disciplines. The *Tahāfut al-tahāfut* (*Incoherence of the Incoherence*), and the *Kashf* (*Uncovering*) are also taken into account in this study, together with other commentaries and treatises on physical and metaphysical questions such as the commentaries on *De coelo* and *De substantia orbis*.

Chapter 1

Ibn Sīnā on chance

Introduction: chance and causality

The concept of ‘chance’ (*ittifāq*) is analysed and duly developed by Ibn Sīnā in the *Physics* (*al-Samā’ al-Ṭabī’ī*) of *al-Shifā’* in conjunction with the concept of ‘fortune’ (*bakht*). Two chapters are dedicated to chance. Chapter thirteen, entitled ‘On fortune and chance and the divergence [of opinions] regarding them; clarification of their true nature’, opens with the enumeration of four different views on chance put forth by four different schools of thought, mentioned by Aristotle. Ibn Sīnā goes on to present his own explanation and argument. In chapter fourteen, entitled ‘Critique of the arguments of those who erred regarding the issue of chance and fortune and refutation of their doctrines’, Ibn Sīnā refutes the four schools previously mentioned and introduces in the debate fundamental related issues such as the concept of the accidental and the role of matter.³⁸

³⁸ The terms *fortune* and *chance* respectively reflect the Greek *τύχη* and *τὸ αὐτόματον*. The expression *min tilqā’ nafsī-hi* (spontaneous), closely equivalent to *τὸ αὐτόματον*, occurs only once, at the opening of chapter thirteen. In Ishāq ibn Ḥunayn’s translation, *τὸ αὐτόματον* is consistently translated as *min tilqā’ i nafs-ihi*. See Aristotle, *al-Ṭabī’iyyāt*, Arabic translation by Ishāq ibn Ḥunayn. More on the terminology used by Ibn Sīnā later.

The discussion is closely modelled on Aristotle's exposition of chance in book 2 of the *Physics* (195b31-200b8): Ibn Sīnā addresses the same topics and uses the same examples as Aristotle. Like Aristotle, Ibn Sīnā contests the idea that the world as a whole or in its parts came about by chance rather than for a purposeful end.

A long section of the argument is dedicated to asserting the purposiveness of nature and the notion of a universal order. On occasion, Ibn Sīnā criticizes late Peripatetics for misinterpreting Aristotle and adding superfluous and erroneous qualifications to their master's position. This shows his eagerness to preserve the true meaning of Aristotle's view. These chapters are not, however, a literal commentary on Aristotle's parallel passage. Rather, Ibn Sīnā extracts Aristotle's ideas and construes his own argument. The result, although not at variance with Aristotle's fundamental message, is distinct. Most notable is Ibn Sīnā's unambiguous and systematic exclusion of chance as an essential or substantial cause in the natural world beside the four natural causes. A comparison between Aristotle's passage on chance and fortune and Ibn Sīnā's gloss, which deserves a detailed study on its own, reveals that Aristotle does not reject chance as systematically as does Ibn Sīnā. Ibn Sīnā's usage of the term *ittifāq* rather than *min tilqā'i nāfsi-hi* (spontaneous) to denote the general concept of chance is itself telling. While *ittifāq* (coincidence) does not exclude the deterministic view that every event has a necessary cause and hence cannot be otherwise, *min tilqā'i nāfsi-hi*, has much stronger indeterministic overtones, since it suggests something coming about by itself, without a cause. However, there is

no scope here for a detailed comparison between Aristotle and Ibn Sīnā on this subject.

It is my intention here to show that the argument pursued by Ibn Sīnā in this account of chance epitomises his deterministic agenda, laid down in the *Metaphysics* of *al-Shifā'*.³⁹ That his deterministic position concerning the philosophy of nature derives from and confirms his metaphysical position can be inferred from the fact that he refers the reader to the first philosophy. The link he establishes between metaphysical and physical determinism is also observable in his use in these two chapters of key concepts such as divine power, which in his metaphysics is developed into a deterministic theory, in particular in his discussion of God's determination (*qadar*).

It is important not to lose sight of the fundamental questions addressed in these two chapters: is chance a cause? If so, how is it related to the four causes, agent, form, matter, and purpose/end? At the opening of chapter thirteen, Ibn Sīnā introduces the issue in the following way:

Since we have spoken of the causes, and fortune and chance and the spontaneous (*min tilqā' nafsī-hi*) have been thought to be among the causes, it is appropriate for us not to neglect the consideration of these concepts (*ma'nā*), namely: are they among the causes or not, and

³⁹ According to Ibn Sīnā's definition of chance (*ittifāq*) in the *Metaphysics* of *al-Shifā'*, 'chance comes to be from these clashes (*muṣādamāt*), and if all matters are analysed, they [are seen to] rest on the principles that necessitate them, which come from God most high'. Ibn Sīnā, *al-Shifā'*, *al-Ilāhiyyāt*, p. 439. This definition contains in a nutshell the main elements of Ibn Sīnā's view of chance: a coincidence generated by the clash of two different bodies or causal chains that can ultimately be traced back to God, the causer of all causes.

if they are among the causes, in what way are they [to be found] among the causes?⁴⁰

Both chapters analyse the way in which chance relates to the four causes. The argument roughly divides into two parts. The first part analyses the relation between chance and the efficient cause. This part occupies chapter thirteen. The second part, occupying chapter fourteen, analyses the relation between chance and the final cause. I shall argue that for Ibn Sīnā chance is not an efficient cause. Chance has a place within the general scheme of causation only in connection with the final cause. Chance becomes an accidental cause in actions that have a purpose, i.e., in events that have a final cause, and in as much as they have a purpose.

Chance and the frequency of events

For the sake of clarity, rather than complying with the order of Ibn Sīnā's exposition, I begin with his own views before turning to the four conflicting views listed by him, followed by his refutation.

In accordance with Aristotle, Ibn Sīnā distinguishes between events or states of affairs that occur always (given the right circumstances), events that occur for the most part, and events that happen rarely. The assumption is that an efficient cause will always produce its effect provided that there is no obstacle precluding it. For

⁴⁰ Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 60. See also a more recent edition of the same work, *al-Samā' al-Ṭabī'ī*, (from *al-Shifā'*), ed. by Ja'far Āl Yāsīn, p. 118. (This edition will henceforth be referred to by the editor's name).

instance, 'fire burns the firewood for the most part if it comes into contact with it, and someone who leaves his house for his garden reaches it for the most part'.⁴¹

Events occurring always encounter no obstacle at all, while events that occur for the most part may encounter some sort of obstacle. With regard to events occurring for the most part, it is important to bear in mind that the causes of a particular event or thing may not of themselves be able to bring about the effect, and may need a subsidiary, determining cause in order to do so. The following passage summarizes the basic features of events or processes that occur always, for the most part, or rarely:

The coming to be [of that which happens for the most part] ... results either from an uninterrupted sequence in the nature of the cause itself ... or not. If not, either the cause requires a subsidiary [cause] ... or the removal of an obstacle, or does not require it ... If the cause does not require this ... the effect is not more likely to come to be from the cause than not ... If that which renders preponderant (*mā yurajjihū*) the coming to be over the not coming to be is not in the thing itself ... or ... in its subsidiary [causes], then this thing will not more likely come to be from another thing than not, and the thing/event will not happen for the most part. If the cause does not need the aforementioned subsidiary cause, it is necessary that it should form an uninterrupted sequence by itself and that it should lead to the effect ... if nothing opposes it ... Hence it follows necessarily ... that if an obstacle does not hinder it ... and its nature is able to continue towards what it pursues, then the difference between that which always occurs and that which occurs for the most part is that what always occurs does not have something opposing it at all and that what is for the most part has something opposing it. It follows that what is for the most part, pending the removal of obstacles ... is necessary, and this appears in the natural realm as well as in the voluntary realm.⁴²

⁴¹ Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 62. Reading '*fi-akthar al-amr*' with Zayid and Madkūr l. 6. (Āl Yāsīn, p. 119).

⁴² *Ibid.*, p. 62. Reading '*yakūnu*' in lines 7 and 8 with Zayid and Madkūr. (Āl Yāsīn, p. 119).

In this passage, Ibn Sīnā begins by explaining the difference between events that happen always or for the most part. We see an emphasis on the efficient cause to produce its effect, and this implies that the effect issues necessarily from its cause if the right conditions are met and in the absence of obstacles. Another point made in this passage is that if there is no sufficient cause, i. e., a cause that does not require auxiliaries, the effect is not produced. Ibn Sīnā comes close to the notion of contingency when he explains the lack of a determining principle, and the possibility for a thing to be or not to be. He clearly dismisses contingency for actually existent beings since he implies that if the effect is not more likely to be produced than not, it does not come to pass. That which happens for the most part is opposed to what happens rarely.⁴³ However, as we shall see, rare events, according to Ibn Sīnā, also have a necessary cause. Therefore, all conditions being equal, and in the absence of obstacles, the same cause will always, and necessarily, produce the same effect. Fire will always burn any firewood it comes in contact with, as long as there is no obstacle to the cause's efficiency. The other important notion introduced here is that of an uninterrupted sequence (*iṭṭirād*); it implies not only that a cause will always produce its proper effect but also that whatever comes to be always has a cause which necessarily produces it. If a piece of firewood does not burn that is due to an obstacle and the obstacle itself – say, water or moisture – will be the cause of the firewood's failure to burn.

This view is explicitly stated in other works by Ibn Sīnā: that everything that comes to be has a cause, and that what does not come to be also has a cause. '[as for]

⁴³ Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 62. (Āl Yāsīn, p. 119).

the possible existent with regard to itself, its existence and non-existence are both due to a cause (*bi-‘illa*)’.⁴⁴

The determining factors are thus the efficient cause, together with a subsidiary cause if need be, and the absence of obstacles. Given the right conditions, the efficient cause will produce its proper effect; nowhere is it suggested that causes may fail or that something can come about without a cause. He holds that even the rare, when its conditions are met, becomes necessary: ‘indeed the rare turns out to be necessary (*wājib*) if the conditions in it are established and the circumstances are expressed’.⁴⁵

The example given in this instance is that of the generation of a sixth finger. What is the link between the frequency of an event and chance? Ibn Sīnā claims, like Aristotle, that chance is not to be found in events that take place always or for the most part.

There remains that which has equal chances of happening (*mā yakūnu bi-l-tasāwī*). Here, Ibn Sīnā engages in a debate with late Peripatetics on Aristotle’s true position. Late Aristotelians had claimed that chance is only to be found in rare occurrences or substances, not in those with equal chances of happening. This, in Ibn Sīnā’s view, deviates from the position taken by Aristotle, who had merely stated that chance is not to be found in events taking place always or for the most part, passing over in silence that which has equal chances of happening. Although this is not mentioned by Aristotle, Ibn Sīnā discusses the theory propounded by the late

⁴⁴ Ibn Sīnā, *al-Shifā’*, *al-Ilāhiyyāt*, p. 38. For Ibn Sīnā’s usage of ‘*illa* and *sabab*, see Kennedy-Day, *Books of Definition in Islamic Philosophy*, p. 56.

⁴⁵ Ibn Sīnā, *al-Samā’ al-Ṭabī’i*, p. 63. (Āl Yāsīn, p. 119).

Peripatetics and disagrees with them on the events which are said to have equal chances of happening, especially in the realm of voluntary action. While the late Peripatetics consider that the chances of a man's walking or not walking, eating or not eating are equal, Ibn Sīnā holds that 'if someone walks or eats by his will this is not said to have happened by chance'.⁴⁶ When eating and walking go back to an act of will, 'walking and eating go from being equally possible to being [the case] for the most part'.⁴⁷ This means that in theory, walking and eating have equal chances of happening, but as soon as a determining factor such as will comes into play, the indeterminacy of such an event is lifted.

Furthermore, something can be considered to occur for the most part or be necessary in one respect, and to have equal chances of happening in other respects. For example, a sixth finger is a rare occurrence in a human being, but if there is matter in excess of the usual five fingers, and 'if the divine power which flows into bodies finds complete readiness (*isti'dād tāmm*) in natural matter for a deserved form (*ṣūra mustahaqqa*), the divine power ... does not deprive the matter of form and produces a sixth finger' and 'even if this is most rarely found and rare with regard to the universal nature, it is not rare or anomalous with regard to the causes which we have mentioned. Indeed it is necessary'.⁴⁸ Thus even if something is generally

⁴⁶ Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 63. (Āl Yāsīn, p. 119).

⁴⁷ *Ibid.*, p. 64. (Āl Yāsīn, p. 120). In this instance, the action is not a chance event because the will becomes its necessitating efficient cause. Whether the will acts autonomously or is determined by external factors is a different matter altogether. In passages on God's determination, Ibn Sīnā suggests that everything falls under God's determining power, including human will. This emerges clearly from his definition of *qadar* and *qaḍā'* in *Risāla al-Qaḍā'*, original Arabic text in *Lettre au Vizir Abū Sa'd*, pp. 105-108. My italics. See below, p. 124.

⁴⁸ Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 63. Reading '*idhā*', l. 14, and '*wujūd*', l. 15 with Zayid and Madkūr. (Āl Yāsīn, p. 119-120). In another passage, Ibn Sīnā mentions the fact that most people are born right-handed. See Ibn Sīnā, *al-Ḥayawān*, p. 172. I am grateful to Jon McGinnis for this reference.

considered to be rare and a chance event, it will turn out to be necessary by virtue of its cause, and hence does not actually qualify as a spontaneous event. In the above quoted passage Ibn Sīnā stresses that for every natural phenomenon, even those that seem unnatural because they are unusual or rare, there is a necessary cause. The implication is that even aberrations in nature are necessary and could not have been otherwise. This is because every single event in nature is determined by its causes.

Ibn Sīnā goes on to say that 'as long as one thing's existence does not necessarily derive from its causes and does not leave the nature of the possible it does not come to be from them'.⁴⁹ The reader is referred to the first philosophy, metaphysics. One of the fundamental principles of the ontology of the possible and the necessary in Ibn Sīnā's metaphysics is that whatever is possible becomes necessary the moment it comes to exist. Every actually existing being is possible in itself, necessary through another being, its cause, with the exception of God, who is necessary in Himself.

If everything that happens in the natural world is necessary, where does chance belong? According to Aristotle, chance is that which does not happen always or for the most part, a view sometimes espoused by Ibn Sīnā himself.⁵⁰ In *al-Najāt*, Ibn Sīnā gives a definition of chance events that supports the Aristotelian view:

⁴⁹ Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 63. (Āl Yāsīn, p. 120).

⁵⁰ Aristotle, *Physics*, 197a31-35. The opposition between chance and that which happens always or for the most part is also stated in Ibn Sīnā's *On Demonstration (al-Burhān) of al-Shifā'* in connection with his views on experimentation: 'since one always observes scammony's purging bile, one can infer that the relation between purging and scammony is not a mere chance or accidental relation. Thus Ibn Sīnā claimed: "since after all chance is not always or for the most part ... it is known that the [scammony's characteristic of purging] is something which the scammony necessitates by [its] nature, since it does not turn out that there is anything arbitrary about it"' (46. 2-3). In McGinnis, *Scientific Methodologies in Medieval Islam*, p. 318.

Chance events (*umūr ittifāqiyya*), are those which happen not always or for the most part ... Natural events are always and for the most part and are not by chance (*ittifāqiyya*) ... what is for the most part is by itself that which necessitates except that it has an obstacle ('*ā'iq*).⁵¹

This is the standard Aristotelian definition of chance: that which happens not always or for the most part, i.e., rarely. Moreover, it is important to notice here the distinction between nature and chance. On this interpretation, natural processes are those which happen either always or for the most part. This could suggest that chance is something beyond the natural realm, supernatural or monstrous, and as such unexplainable. We have seen, though, that according to Ibn Sīnā natural events happen without fail in the absence of an obstacle. The obstacle determines that the event happen for the most part rather than always, as he says in the above passage from *al-Najāt*. Like Aristotle, Ibn Sīnā denies that chance is at the root of events taking place always or for the most part. Aristotle claims that it is found in events that occur rarely. For him, chance is objectively linked with the frequency of an event.⁵² (Thus chance is said simply of what occurs neither frequently nor constantly). As constant events we could mention, for instance, the motion of the stars, which follows a definite and eternal pattern. An example of an event which happens for the most part or regularly is rain in the winter. This measure by which events are labelled as casual or chance events, their infrequency, such as rain in the summer, does not presuppose a theory of strict necessary causality. In this sense, one expects absence of rain in the summer although this is not a strict rule. Ibn Sīnā's theory goes further by

⁵¹ Ibn Sīnā, *Al-Najāt*, pp. 251-2.

⁵² Aristotle, *Physics*, 197a19-20. See also 198b34-36.

stating that what occurs for the most part is necessary. By framing the issue of chance within a theory of necessary or systematic causality, whereby every event has a necessary cause, Ibn Sīnā automatically excludes chance as a cause or explanation that on its own can account for an event or the origination of a substance. Thus Ibn Sīnā qualifies the theory according to which chance is defined by the frequency of events, and in this consists his most significant departure from Aristotle's theory. Ibn Sīnā's explanation of events occurring always, for the most part or rarely is a rejection of the statistical model, which states that chance resides in events occurring in a minority of cases *tout court*. In fact, chance is not objectively linked with the frequency of occurrence of any one event. The example of a sixth finger serves to show that all events, substances and nature in general are not possible, rather they are necessary, i.e., determined by their cause and hence could not have been otherwise. Every natural event or substance is necessary if one analyses the causes leading to it.⁵³ If all events are necessary, why does Ibn Sīnā take the trouble to explain chance in terms of the frequency of an event? Ibn Sīnā seems to exclude chance from all kinds of natural events, not only those that occur always and for the most part, but also those that are rare. He seems to be denying that chance belongs to the events that occur rarely. However, it is not the case that he denies chance altogether. This is one definition given by Ibn Sīnā in the *Physics*:

Chance is an accidental cause from among natural and voluntary things (*amr*), [which] does not necessitate always or for the most part,

⁵³ 'When Avicenna speaks of the occurrences happening "for the most part", he is not relinquishing necessitarianism. The exceptions to the natural regularities, he maintains, are due to impediments that are causally explicable', Marmura, 'The Metaphysics of Efficient Causality in Avicenna', p. 185.

pertaining to that which is for the sake of something, and [it does] not have a cause which necessitates it essentially.⁵⁴

It is explicitly stated that chance belongs to events that have a final cause, in as much as they have a final cause. That is to say, chance is never said of actions or events that are not for a purpose. Moreover, Ibn Sīnā is following in this passage the Aristotelian view that chance is that which happens neither always nor for the most part, as he does in the *al-Najāt* passage quoted above. He also seems to accept that there is no essential cause for the chance event. Also, according to this definition, chance would seem to be a cause that does not necessitate always or for the most part. In the course of his argument, Ibn Sīnā provides different and, it would seem, contradictory definitions of chance, sometimes accepting the statistical model, sometimes rejecting it. In the following passage he appears to reject it:

We could say that such and such [occurrence] happened by chance even if the event (*al-amr*) used to happen for the most part; as if someone were to say, 'I sought so and so for such business and it so happened that I found him at home'. The fact that Zayd is to be found at home for the most part does not prevent [this person] from saying this. The answer is that this person says it not with regard to the thing itself, but rather with regard to what he believes concerning it. For if it were his prevalent opinion that Zayd must be at home, one would not say that he happened [to find Zayd]. On the contrary this would have been said to have happened by chance if he did not find him.⁵⁵

In the above example, Ibn Sīnā maintains that chance is not objectively linked with the frequency of an event, but only subjectively. A chance happening consists in

⁵⁴ Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 65. (Āl Yāsīn, p. 120).

⁵⁵ *Ibid*, p. 65. (Āl Yāsīn, p. 120).

the situation where the agent acts with a view to a specific outcome and the outcome of the action is other than what he or she expected.

A chance happening is thus an action or event which has a goal and which leads to an unexpected result other than the purposed goal. This result could legitimately have been singled out by the subject of the action as a goal.⁵⁶ The chance element therefore is tied up with the expected outcome of an action, not with the essential causes of that action. For an action always has an essential cause according to Ibn Sīnā, and hence this would not be a criterion to single out chance events. Does this example mean that chance is confined to voluntary actions, i.e., actions that involve knowledge? What about natural events, or those involving animals? In the case of natural processes or animals, chance is linked with what a natural entity is wont to do and what its purpose is. Another definition of chance given by Ibn Sīnā in the same discussion of chance of the *Physics* of *al-Shifā'* is 'an accidental end (*ghāya*) of a natural or voluntary process (*amr*), or even of a forced event'.⁵⁷

This passage completes our picture of chance. Chance is not only said exclusively of actions that have a purpose, it is specifically connected with the final cause, not essentially but accidentally. Chance is attached to the final cause, not to the efficient cause, since chance is an end but not the one which was intended.⁵⁸ In Ibn Sīnā's philosophy, the efficient (and also the final) cause is threefold: natural, voluntary or accidental. By stating that the first cause is nature or will, Ibn Sīnā is

⁵⁶ In Aristotle too the chance outcome is not intended but it could have been chosen as a goal, *Physics*, 196b32-34, and so resembles a true final cause.

⁵⁷ Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 68. (*Āl Yāsīn*, p. 122).

⁵⁸ 'As for the case of chance and that it is a certain end (*ghāya*), it has already been established in the *Physics* (*al-Ṭabī'īyyāt*)'. Ibn Sīnā, *al-Shifā'*, *al-Ilāhiyyāt*, p. 284.

tacitly stating that that first cause is not accidental. Simultaneously, it is an affirmation that the world was produced by an essential efficient cause.⁵⁹

We still have an apparent contradiction. In certain passages, Ibn Sīnā maintains that chance pertains to events that happen rarely, in others he says even an event that is always the case could be a chance event. In another definition, the contradiction is resolved: ‘When something coming to be is in itself neither anticipated nor expected, since it is neither always nor for the most part, then it is right to say of the cause leading to it that it is either chance or fortune’.⁶⁰

The contradiction can be solved by saying that a rare event is a chance event because it is unexpected. A chance event is unexpected and therefore perceived to be rare or anomalous by the subject of the action. This, however, does not mean that it is actually or objectively rare or anomalous. The statistical model, which links chance with the frequency of an event, applies to cases involving an expectation on the part of the agent when performing an action. This holds true for living beings and inanimate substances. However, where rational beings are not involved, one uses the general term chance (*ittifāq*), while fortune (*bakht*) is reserved for actions that involve human beings.

If we take all these elements into account, then, chance is an accidental final cause and happens only where the outcome is unexpected. The examples given by Ibn Sīnā serve to illustrate his definition.

If we take Ibn Sīnā’s reference to accidental causation as final causality, finding a treasure is the accidental final cause of one’s digging a hole in the garden, because

⁵⁹ Ibn Sīnā, *Dānīshnāmāh*, *Ilāhiyyāt*, pp. 57-58. *Le Livre de Science*, pp. 172-173.

⁶⁰ Ibn Sīnā, *al-Samā’ al-Ṭabī’ī*, p. 64. (*Āl Yāsīn*, p. 120).

digging a hole does not lead always or for the most part to finding a treasure. The essential final cause would be to sow. However, as far as the efficient cause is concerned, digging would still be considered the essential efficient cause of finding the treasure. Because there is one single efficient cause, and chance is not brought to bear on the efficient cause, it is not related to the efficient cause or the source of the event or action. Rather it is related to the intention and its real outcome.

If something does not lead to anything at all and there is no causal connection between two events, it is not said to be an accidental cause of it. The example given is of someone sitting when the moon is eclipsed, ‘for it is not said that someone’s sitting so happened to be (*ittifaqa an kāna*) a cause of the moon’s eclipse; but it is right to say that it so happened to be at the same time as the eclipse’.⁶¹ Sitting is not a cause of the eclipse, which means that it may happen at the same time as an eclipse – a purely temporal coincidence. There is no accidental final cause in the connection between sitting and the eclipse, hence this is not a chance event. Still, because both chains of causality, one leading to the eclipse and the other to sitting, ultimately originate in God, any such occurrence is necessary, even though the link between the two is not immediately perceptible.

The accidental cause, which as we have seen is linked with the final cause, only rarely produces an accidental end. So in the case of the man who encounters his debtor after having set out to find him, one cannot say that it is a chance event. Since it was his intention to find his debtor the outcome is not unexpected. As we have seen, a rare event or substance is tied up with chance only if it is simultaneously

⁶¹ Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 64. (Āl Yāsīn, p. 120).

unexpected. For example, in the case of an oversized emerald, the essential or substantial causes determine that it should exist, as they necessarily lead to its formation. The notion implied in all these instances is that there is always an essential efficient cause for any chance event, as well as an essential final cause, the intended goal, which may or may not come true.⁶²

It is important to dwell on the concept of ‘accident’, since it is closely related to ‘chance’. An accident is typically an entity that only acquires its existence through subsisting in something else, to which it is attached. The definition of ‘accident’ in the *Logic of al-Shifā’* is ‘that which exists in something without being a part of it, the subsistence (*qiwām*) of which is not true without that in which it is’.⁶³ In turn, the substance ‘is separate from the accident and its subsistence obtains without it’.⁶⁴

In logic, accident is opposed to essence, in the sense of a non-constitutive predicate. Essential accidents always accompany the subject of which they are predicated, such as three-dimensionality in a body. A non-essential accident or predicate could be, for instance ‘white’ said of a person. However, ‘colour’ in general is an essential accident of a body. In ontology, accident goes hand in hand with substance, in the sense that it inheres in a subject without being part of it. In this sense, the nine categories other than substance are accidents.⁶⁵ Some of these accidents are permanent, some non-permanent. In both logic and ontology, there is a sense that whether permanent or not, an accident is not a constitutive part of the

⁶² According to Ibn Sīnā, chance events always have a preceding cause, see *al-Samā’ wa-l-‘ālam*, p. 61. For the view that the final cause takes precedence over the other causes, see Wisnovsky, ‘Notes on Avicenna’s Concept of Thingness’, pp. 201 and 207-211.

⁶³ Ibn Sīnā, *al-Maqūlāt*, p. 28.

⁶⁴ *Ibid.*, p. 32.

⁶⁵ Goichon, *Lexique*, p. 216-219, n°422.

substance or essence. 'The substance constitutes the accidents. As for the accident, it does not leave [the substance] in the sense that it does not exist separately, indeed its existence follows from that which does not separate itself'.⁶⁶

Furthermore, if we take into account the division between permanent/essential attributes and non-permanent ones, it is clear that the concept of accident invoked by Ibn Sīnā in the context of the discussion of chance is that of 'accidental accident', a non-permanent accident, as opposed to substantial/essential accident.⁶⁷ The link between chance and accidental accident is clear inasmuch as chance is primarily associated with what happens rarely, whereas the notion of an essential accident implies that it always accompanies the substance/essence.

Transferring this concept of accidental accident into the theory of chance causes, one can say that chance causes do not subsist by themselves, as they are found only in events which do have an essential, substantial cause, and themselves do not determine events. Thus, 'chance causes come to be inasmuch as they are for the sake of something, but are causes that produce their effects by accident and the ends are ends by accident, for they belong to the group of causes that are by accident'.⁶⁸

⁶⁶ Ibn Sīnā, *al-Maqūlāt*, p. 37.

⁶⁷ Ibn Sīnā, *al-Madkhal*, p. 86. An instance of an essential accident would be the genus as predicated of the species, such as when colour is said of white. This sense is opposed to the accidental accident, such as white said of Zayd. Zayd's whiteness is unrelated to his essence, p. 85.

⁶⁸ Ibn Sīnā, *al-Samā' al-Ṭabī'ī* p. 65, reading '*min haythu*', l. 1 with Zayid and Madkūr. (Āl Yāsīn, p. 120). Causes by accident are explained in chapter 12 of *al-Samā' al-Ṭabī'ī*. The classical example is that of a physician who builds a house. A physician *qua* physician essentially cures people. Since building is not his essential attribute, his building activity is not said to be essential, pp. 55, 56. (Āl Yāsīn, pp. 100-101.) An accidental end can be said in different ways: something that is purposed but not for its own sake, i.e., a means to an end, like drinking a medicine in order to be cured; something which accompanies the end or befalls it accidentally, like eating in order to evacuate and beauty in relation to exercise, respectively; finally, that towards which the motion is not directed but which stands in the way of that motion, like a head which stands in the way of a falling stone, p. 58. (Āl Yāsīn, p. 101).

The relativity of the accidental vis-à-vis the essential cause is illustrated by means of the example of a stone falling.⁶⁹

If a falling stone breaks [someone's] head, it may stop or it may fall to its natural place. If it reaches its natural goal, this is in relation to it an essential cause and in relation to the accidental goal (*al-ghāya al-'aradīyya*) it is a cause by chance. If it does not reach its natural place, the stone's falling is a cause by chance in relation to the accidental goal, and it is thwarted (*bāṭil*) in relation to the essential goal.⁷⁰

The unintended end or result of the stone's fall is breaking someone's head, since that was not its purpose, or its natural tendency. The notion invoked in this example is that a heavy object, such as a stone, naturally falls to the ground. While it breaks a head, it may still fall to the ground, which was its essential goal. If it does not, it misses its natural target. The fall is accidentally the cause of the head being fractured inasmuch as the fractured head was not the essential goal of the stone's fall. The accidental cause, chance, comes to be attached to the essential causes, but only exists in conjunction with the essential cause, never on its own. Ibn Sīnā's argumentation and examples are consistently supportive of a deterministic efficient causality in the natural world. We must bear in mind that this example of the stone's fall is illustrative of accidental final causality, indeed it only makes sense if we take it as natural accidental final causality. Efficient causality is not the subject of the example. The fact that the stone is the essential efficient cause of the head's fracture is not disputed. In general to say that chance is an accidental cause means that chance

⁶⁹ Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, pp. 65-66. (Āl Yāsīn, p. 121).

⁷⁰ Ibn Sīnā, *ibid.*, pp. 65-66. (Āl Yāsīn, p. 121).

on its own does not account for events, but only in association with an essential cause.

At the close of his explanation, Ibn Sīnā distinguishes between chance (*ittifāq*) and fortune (*bakht*) by affirming that fortune is only found in actions performed by humans and that chance events are more general and embrace the totality of natural processes.

Chance (*ittifāq*) is more general than fortune (*bakht*) in our tongue, for every [instance of] fortune is an [instance of] chance, but not every [instance of] chance is an [instance of] fortune ... Fortune is what leads to a thing which is expected, and its principle is a volition on the part of a rational adult endowed with choice. If fortune were said of something else, if one said of something other [than humans], e.g. of a piece of wood, half of which is cut for a mosque and the other half for a public lavatory, that half of it is fortunate (*sa'īd*) and half is unfortunate, this is metaphorical. That which has a natural principle (*mabda'*) is not said to come to be by fortune (*bi-l-bakht*), rather it is properly named as coming to be spontaneously (*min tilqā' nafsi-hi*), except when it is related to another voluntary principle.⁷¹

Therefore chance comprises that which happens spontaneously or coincidentally – as it has already been pointed out, the term *ittifāq* literally means coincidence.

Chance and evil

In chapter fourteen of the *Physics* of *al-Shifā'*, a different issue related to chance is discussed. This chapter presents the second part of the debate, the relation between

⁷¹ Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 66. (Āl Yāsīn, p. 121).

chance, divine providence and the origin of the world. In the second part of his argument, Ibn Sīnā seeks to show that nature generally acts towards an end, an Aristotelian theme. In order to defend his teleological view of nature, he has to tackle the issue of matter and also of evil, which leads him to expound and develop views that are typically Plotinian. Thus he introduces into an argument that is based on Aristotle the Neoplatonic/Plotinian view of matter and evil as negative.

Before presenting his own views on chance, Ibn Sīnā listed four different philosophical schools, all dating back to Antiquity, as he follows Aristotle and their respective positions on the subject. Ibn Sīnā finds fault with each. From the controversy with these schools there emerges a related concern linked with the issue of chance. In addition to explaining the true nature of chance, Ibn Sīnā's task is to show in this second part of the argument that the universe as a whole and in its parts did not come about by chance, that is at random, but rather by a purposive and benevolent act of will. The thorniest issue he must tackle is the question of how deformations and death fit into this harmonic model of the universe, and in particular the role of matter in that process.

First, mention is made of those who deny that fortune and chance are included among the causes (*'illa*), indeed that they exist at all.⁷² This group argues that

it is impossible for us to find necessitating causes of things, to observe them and then shun them and deny that they are causes (*'illa*), seeking for these [things] unknown reasons among fortune and chance. For, if one digs a well, and then stumbles upon a treasure, the ignorant will say that he was fortunate, and if he slips in[to] the well and breaks his foot, they will say that misfortune befalls him. [That school holds that] this person is not at all fortunate. On the contrary, anyone who

⁷² Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 60. (Āl Yāsīn, p. 118).

digs deep enough to reach that which is interred will reach it, and one who bends down on a slippery edge will slip. Some claim that if so and so goes out to the market to do business and notices one of his debtors, he will obtain his due, this being a result of fortune. [This school, rejecting chance] denies that this is the case; on the contrary this [happened] because that person repaired to a place where his debtor was and, having the sense of vision, saw him.⁷³

The fact that someone who is digging a well finds a treasure cannot be termed an instance of good fortune, for, it is understood, digging a well will definitely lead to finding a treasure if the treasure is there. The cause is obvious. Ibn Sīnā's objection to this view lies in its complete neglect of the purpose or final cause, the same objection that underlies his criticism of the other schools. Followers of this school further claim that

Even if his goal in going out was not this one, it does not follow that going out to the market was not a real cause of reaching the debtor, for it is possible for one action to have many goals. Indeed most actions are like this, but it [so] happens that the performer of the action sets one of those goals as a goal, and the other [goals] are suspended by the fact that he sets this one [as his goal] ... while dismissing the others. If this person had been aware that the debtor was there, and had gone out to look for him and had obtained his due, it would not have been said to have happened to him by fortune.⁷⁴

Their position is in fact extremely close to Ibn Sīnā's, yet he wants to affirm that the final cause plays a role in the outcome of an action. As we have seen, Ibn Sīnā, unlike this group, does not dismiss chance altogether as a mere chimera. He denies its association with the efficient cause, while asserting its connection with the final cause. Also, as we have seen, chance has to do with the expectations of the

⁷³ Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 60. Reading 'rijlu-hu' with Zayed and Madkūr, and 'kull' instead of 'kāna' with Āl Yāsīn, p. 118, l. 12.

⁷⁴ *Ibid.*, p. 60-61. (Āl Yāsīn, p. 118).

subject of the action, and the expectation or essential final cause of the subject, also has an active role:

Do you not see that intention makes the event in one case more frequent and in the other rarer? For the person who goes towards his debtor knowing where he is, for the most part reaches him, and he who does not know this when he is going out to the store for the most part does not reach his debtor. For if a difference in intention implies a change in the judgement of the frequency of the matter, so the judgement determines whether the matter happens by chance or not.⁷⁵

The second group defends, even extols, the existence of chance, and believes it to be something divine and inscrutable. It cannot be comprehended by reason, and it is worshipped as such. This view receives only a brief mention and Ibn Sīnā does not bother to address it in detail.⁷⁶

For the third group, represented by Democritus and his followers, chance is a natural cause. The world came about by chance, rather than by design. Natural beings are formed when the smallest particles, which travel in the void, clash. This explains the origin of the world and its particulars, and these clashes come about by chance.

The fourth group, represented by Empedocles and his followers does not claim that the world as a whole originated by chance, rather that individual beings come about by chance from the natural elements. •

As for Empedocles and those who follow his view, they held the particulars to come to be by chance, but they mixed chance with

⁷⁵ Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 68 reading 'laysa' (omitted in Zayid and Madkūr) with Āl Yāsīn in line 6 (Āl Yāsīn, p. 122).

⁷⁶ Ibn Sīnā limits himself to commenting on Aristotle's mention of this group at 196b5-7. According to Ross's edition of Aristotle's *Physics*, the Stagirite may simply be referring here to the popular ancient Greek cult of the goddess Fortune (Τύχη), p. 515. The same view is expressed by Judson, *Aristotle on Necessity*, p. 179.

necessity. They thought that matter came to be by chance, and conjectured that it has its form by necessity, not for an end. For example, they said that the middle incisors are not sharp in order to cut but it chanced that there was matter that only admitted of this shape, consequently they were sharp by necessity. In this issue they had recourse to weak arguments, and said: how would nature act for the sake of something when it does not have deliberation (*rawīya*)? If nature acted for the sake of something there would be no deformations, outgrowths and death in nature at all. For these conditions are not for a purpose (*bi-qaṣd*), but it so happened that matter was in such a disposition (*ḥāla*) that these cases followed matter. And so regarding all natural events which happened to involve some benefit.⁷⁷ ... Whatever comes into being was formed from the elemental principles by chance, and the shape of its composition happened to be in a manner suited to survival ...⁷⁸ Even if one were to concede that growth and coming to be follow an order then conversely there is an order to corruption which is not inferior to that order, and that is the order of decay from its inception to its end, inverse[ly corresponding] to the order of growth. Then it would be necessary for one to think that decay is for the sake of something, for instance, death.⁷⁹

This position, like the first, refuses natural events any purposive aspect. According to this view, if something survives it is because it happened to be suited to survival, not because it was generated with a view to survive. The survival of the things which do survive is arbitrary in so far as this survival is not due to purposive action. According to this view, if nature acted according to a purpose, and some benefit, then death, which is not a rare occurrence but the norm for all physical beings, would not exist. If nature acted for a purpose, then death would have to be a purpose. Everything then follows matter, on this interpretation, and not the end, or the final cause. This view is obviously problematic because it calls into question the whole notion of teleology in nature and consequently, for a Muslim philosopher such

⁷⁷ Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 69. (Āl Yāsīn, p. 123).

⁷⁸ *Ibid.*, p. 61. (Āl Yāsīn, p. 118-119).

⁷⁹ *Ibid.*, p. 69. (Āl Yāsīn, p. 123).

as Ibn Sīnā, also the notion that the world is ruled according to God's benevolent design. The Empedoclean theory as described by Ibn Sīnā portrays the world as devoid of 'ethical' values. The process of generation and corruption is neither good nor bad, it simply is as it is.

Ibn Sīnā refutes all these positions. While doing so, he delves deeper into the issue of how the four causes relate to chance.

The first group wrongly denies chance any role, in Ibn Sīnā's view. This is not because he himself assigns chance an essential role. Since chance is tied up with the agent's expectations and intentions, to deny chance categorically means to deny that there is a purpose in every action and a corresponding expectation. Overlooking the final cause is the basic criticism levelled at all three positions. As regards the first group, Ibn Sīnā claims: 'even if everything has a cause, it does not mean that chance does not exist, rather the chance cause itself is that which necessitates the thing neither always nor for the most part'.⁸⁰

To say that opting for one thing as a goal does not change events, as this group maintains, is also false. We have seen how knowledge and the ensuing expectations determine whether an event is said to be casual or not. Furthermore, it is clear that volition has a determinative power. The person who knows the whereabouts of his or her debtor will in most cases find him, otherwise he or she is less likely to find the debtor. This does not detract from the view that every action and event has a definite and necessary efficient cause. We have seen that within the debate on *qadar*, Ibn

⁸⁰ Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 67, reading '*al-sabab al-mūjib*' with Zayid and Madkūr, line 12 (Āl Yāsīn, p. 122).

Sīnā states unambiguously that human will is effectively determined by divine power.⁸¹

Against Democritus - represented by the third group -, who believed the world to have come about by chance, Ibn Sīnā argues that will and nature, with the assumption of purposive action, precede chance, and that the first cause of the world is nature or will.

He goes on to refute Empedocles' position, that of the fourth group, that particulars originate by chance. Empedocles and his followers mixed chance and necessity by saying that the coming to be of matter is by chance while the shaping of it with a form is by necessity and without a purpose; i.e., has an efficient but not a final cause. As we have seen, they also deny that nature has any kind of deliberation, on the ground that deformities and death are found in nature. Since these are not intended, other natural processes cannot be either. For them, natural events come about through the necessity of matter and chance, intended here as a lack of purposiveness. One such example is rain:

We know for certain that rain comes to be due to the necessity (*ḍarūra*) of matter, because when the sun causes [water] to evaporate vapours are released into the cold air, becoming cold and becoming water which is heavy and so coming down, due to the necessity of matter.⁸²

Ibn Sīnā counters this view by asserting that although chance occurs in individual events, 'because this seed of wheat does not fall on this spot of land ...

⁸¹ See (p. 25) n. 47.

⁸² Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 69. (Āl Yāsīn, p. 123).

always or for the most part'⁸³, both in generation and corruption there is a definitely purposive order, since species are for the most part preserved.⁸⁴ A seed of barley produces barley, not wheat. The preservation of species for the most part - which in Ibn Sīnā's terminology means always if there is no obstacle - is indicative of the general purposiveness of nature and the achievement of God's plan for the universe.

One particular expression, the 'necessity of matter' recurs in this text on chance and has a pivotal role in the context of causality in nature and the debate on chance. It could be understood as attributing a determinative power to matter. However, this does not imply assigning to matter an active role. Matter, for Ibn Sīnā as for Aristotle before him, is synonymous with potentiality and receptivity.⁸⁵ This determinative power of matter is merely passive as we shall see in the next chapter. Thus the expression 'necessity of matter' serves to indicate the deficient nature of matter, more specifically informed matter, and its limitations. Ibn Sīnā not only does not explicitly grant matter an active role independently of form, as his theory is consistent in subordinating matter to the other causes, formal, efficient, and final. Whatever power matter possesses, it is a power of reception, and even that issues from a divine efficient power, which prepares matter to receive form and being informed by it.

In the context of the debate around chance Ibn Sīnā maintains that matter is always subordinate to, and always follows the end, and not the other way around. The views criticized state that everything in nature is for the sake of matter. Ibn Sīnā

⁸³ Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 70. (Āl Yāsīn, p. 123).

⁸⁴ In *al-Najāt*, Ibn Sīnā explains how the different celestial movements lead to the preservation of natural species, see p. 304.

⁸⁵ Aristotle, *Physics*, 193b6-8.

claims that it is for the sake of the end/final cause. This is illustrated by the following example.

In a house the stone is not placed at the bottom and the wood on top because the stone is heavier and the wood lighter, rather only this relation of the materials suits the plan of the craftsman and therefore he achieved it through this relation [of the different materials].⁸⁶

Also, he mentions that matter by itself does not move itself or others, instead it is moved towards a certain form by natural powers according to God's will. This motion is caused by a natural purpose always or for the most part, provided there is no obstacle.⁸⁷ The failure to attain an end leads to an evil that was not intended. Human intervention when nature fails to attain a particular end shows that everything in the world, natural and human, is for an end.

As we have seen, in explaining the connection between chance and the efficient cause, Ibn Sīnā automatically excludes matter from independently and actively intervening in the natural process of generation and corruption because for every generated being or event there is a necessary efficient cause. Also, this efficient cause is not matter but the end or the form. Matter is a means to the end in physical beings that are composed of form and matter. In the case of a house, it is the plan of the builder that sets the building process in motion. So in the world everything follows the plan of the Creator. God is the efficient cause by means of His design for the universe. That He is the primary efficient cause is illustrated in the following example:

⁸⁶ Ibn Sīnā, *al-Samā' al-Ṭabī'i*, p. 70, reading 'nasab' with Āl Yāsīn instead of 'bi-sabab', l. 9. (Āl Yāsīn, p. 123).

⁸⁷ *Ibid.*, p. 71. (Āl Yāsīn, p. 123).

It is impossible to say that the terrestrial and watery elements move of themselves and influence the substance of the wheat, making it grow. For it will appear that their movement from their [respective] positions is not of themselves. The movements which are of themselves are known. Necessarily their movement is only the drawing of latent forces in the seeds by God's permission/will.⁸⁸

Every generated being goes indirectly back to God through an uninterrupted chain of efficient causes, and as such matter does not constitute a principle of indeterminacy. Matter is neither an efficient cause nor the end or the final cause in nature. In itself, matter is inert; it is the passive element of any compound of matter and form. Ibn Sīnā explains in this context that matter acquires dimensions and a particular form, thereby coming into actuality, only by means of the form.⁸⁹ Yet Ibn Sīnā does not only have to prove that nature acts according to an end, but also that that end is good. This raises the broader question of evil.

It is clear from all this that the natural movements of the material elements are by way of a natural aim (*qaṣd*) from them to a definite place (*ḥadd maḥdūd*), and that that happens always or for the most part, and this is what we mean by the term 'end' (*ghāya*).

Then it is obvious that the goals that emanate from nature when nature is not opposed [to that], nor placing obstacles, are good and perfect. If they lead to a bad end that is not always or for the most part, rather in a way such that our soul looks for an accidental cause in these things, and it is said 'what made these palm shoots wither, and what made this woman miscarry?' Even if this happens, nature moves for the sake of good, and this is not only [observable] in animal and vegetable growth, but also in the movements of simple bodies and in the actions which emanate from them by nature (*bi-l-ṭabʿ*). For they always move towards ends, provided nothing

⁸⁸ Ibn Sīnā, *al-Samāʿ al-Ṭabīʿī*, p. 70. (Āl Yāsīn, p. 123).

⁸⁹ *Ibid.*, p. 70-71. (Āl Yāsīn, p. 123).

impedes them, according to a definite order (*nizām mahdūd*) without deviation, unless there is an opposing cause.⁹⁰

In a previous passage, it became clear how the effect follows necessarily/always from the efficient cause provided there is no obstacle to the causal sequence. This passage now shows that in nature the same applies to the final cause. Natural processes always follow an aim unless an obstacle presents itself. The obstacle that hinders the attainment of a good or perfection is matter. Hence matter is responsible for evil, not in the sense that it actively produces evil but because evil arises owing to the deficiency of matter.⁹¹

As for deformations and the like, some are due to a diminution or disfiguration or insufficiency in relation to the natural course, and some due to an excess. That which is diminution or disfiguration is a lack of action due to the disobedience of matter. We do not confirm that it is possible for nature to move every matter to the end, and we do not confirm that the absence of nature's acts is for an end but we say with certainty that in compliant matters (*mawādd muṭī'a*), nature is for an end which is proper to nature.⁹²

⁹⁰ Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 71, reading '*fa-bayyin*' with Zayid and Madkūr, l. 6, and '*fasīl*' with Āl Yāsīn, l. 10 (Āl Yāsīn, p. 123).

⁹¹ For Ibn Sīnā's conception of evil, see Michot, *La destinée*, pp. 59-68, and Steel, 'Avicenna and Thomas Aquinas on Evil': 'Having established that evil *per se* consists in privation, Avicenna explains how all forms of evil are connected to matter and therefore occur only in the sublunary sphere. In fact, if evil is a privation, it can only occur in those beings that are susceptible to privation, that is in those beings characterized by potentiality, which according to Avicenna is due to matter', p. 178. For the relation between potentiality/possibility and matter see McGinnis, 'The Relation between Essence, Possibility and Matter in the Philosophy of Ibn Sīnā'. I am grateful to Jon McGinnis for showing me this article in advance of publication. Ibn Sīnā's view of evil has its roots in a Neoplatonic/Plotinian theory of evil as privation and its association with matter. Matter comes last in the Neoplatonic emanation scheme. 'Alors que le Très-Haut est le "super-parfait" dont on ne peut pas dire qu'il "a" l'être mais plutôt, que l'être jaillit du trop plein de sa surabondance, l'être matériel, déficient, ne peut se parfaire que par une cause extérieure' Michot, *La destinée*, p. 59. The main Neoplatonic themes of emanation and progressive degradation as one moves away from God, the association of evil with matter, the necessity of evil, the providence theme of the order of the whole are set out by Ibn Sīnā in his Commentary on the *Theology of Aristotle*. For Plotinus' views on the link between matter and evil, see *Plotini Opera*, vol. 1, Ennead 1.8.3-4 and 6-7. For the influence of Plotinian views on matter on Ibn Sīnā, see Cruz Hernandez, *La metafísica de Avicenna*, p. 95-96.

⁹² Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 72-73. (Āl Yāsīn, p. 125).

What is the explanation for natural evil? Ibn Sīnā thinks that nature does not act in vain, but admits that sometimes nature is unable to move matter towards its end. The implication here is not that nature may not always act for an end, but that it may fail to attain its end because matter does not measure up to the task. Furthermore, this failure lay in what he terms ‘the disobedience of matter’ (*‘isyān al-mādda*). When matter is compliant, nature’s acts are for an end. The use of such expressions as ‘disobedience’ to characterize matter could suggest that matter is not mere passivity. However, as we have seen, the emphasis is placed on the shortcomings of matter rather than those of nature *qua* efficient cause. In this passage, matter is the reason for any natural process that does not attain its end. Deformations come down to an excess or surplus of matter – as illustrated by the example of a sixth finger. Evil is a result of the inactivity of matter, not any active property, which matter does not possess. Thus the disobedience is a mere metaphor to illustrate the shortcomings of matter. The above passage explains the reason for unfortunate rare occurrences, rare natural evils, as coming down to the deficiency of matter. However certain natural evils are the rule rather than the exception, as for instance death. How does Ibn Sīnā account for the kind of evil that is not rare but necessary? How does he solve the contradiction between the existence of evil and a nature that for the most part is good?

Death and decay are [due to] the incapacity (*quṣūr*) of corporeal nature (*al-ṭabī‘a al-badanīya*) to force upon matter its form and preserve form in matter by introducing a replacement (*badal*) for what disintegrates. The order/process of decay also is not inconducive to an end at all. For the order/process of decay has a cause other than the nature which is in charge of the body, and that cause is the heat and its

cause is nature, but by accident. Each of them has an end. The end of heat is the dissolution of moisture and its transformation. For matter leads to it according to an order, and that constitutes its end. For the nature of the body, its end is to preserve the body as far as possible ... Decay, inasmuch as it has an order and leads to an end, is an act of nature, even if it is not an action of the body's nature. We do not guarantee that every case/situation (*ḥāl*) in natural affairs necessarily has to be an end for their own nature, rather we said that every nature acts with a view to an end that belongs to her. As for other actions, they may not be for an end of theirs, and even if death, dissolution and decay and the like are not a useful end for the body of Zayd, they are a necessary end in the order of the whole.⁹³

Here Ibn Sīnā contrasts the universal good with individual good. What is bad for a particular individual is a necessary and good end in the context of the whole. A particular event may not benefit the individual, but it accords with the universal order, which Ibn Sīnā also calls the order of the good because it consists in the realisation of God's benevolent design for the world.⁹⁴ Ibn Sīnā goes on to say that death and any excess of matter is for an end, for nature always strives to find a form for it. As for the necessity of matter to be found in the already mentioned rain cycle, he stresses that divine action uses matter and imposes an end on it. In this sense, the necessity of matter does not explain every natural process, as some Presocratics maintain, rather it is divine action that disposes and indirectly shapes matter in a particular way and towards a goal. This becomes clearer if we point out the analogy between matter and evil. Matter, like evil, rather than being positive, or actually existing, is considered a privation, only existing in combination with form, or good.

⁹³ Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 73, reading '*sabab*', l. 3, '*al-badan*', l. 8, and '*wa-'in*', l. 10 with Āl Yāsīn, and '*fi 'la-hā li-ghāya la-hā*' with Zayid and Madkūr. (Āl Yāsīn, p. 125).

⁹⁴ *Ibid.*, p. 73. (Āl Yāsīn, p. 125). For the notion of the universal order, see also *al-Ta'liqāt*, pp. 46-47. In this passage, Ibn Sīnā explains how sin and the punishment of sinners are a constitutive and necessary part of the universal order. See also, on this passage and issue, Michot, *Destinée*, pp. 61-63.

Pure matter, prime matter, does not actually exist on its own; all matter can only be found in individual substances in conjunction with form. Evil too cannot be found in isolation, but only as a side effect of a purposive action. Evil, albeit undesirable, is a necessary effect of creation. This is affirmed in a passage from *al-Najāt*:

God wills (*jurīdu*) things (*al-ashyā'*) and wills evil (*al-sharr*) too, in as much as it is by accident (*'alā al-wajh al-ladhī bi-l-'arad*) ... Good (*al-khayr*) is necessary/decreed (*muqtadān*) by itself (*bi-l-dhāt*) and evil is necessary/decreed by accident (*bi-l-'arad*), and everything is according to [God's] determination (*bi-qadar*).⁹⁵

Clearly both good and evil are created according to God's will, but the former is intended for its own sake and the latter accidentally. The accidental end follows necessarily from the essential end. This, again, is in consonance with the thesis that everything, good or bad, is necessary because it was determined by God, as shall become clearer in the discussion on God's determination (*qadar*). Evil necessarily follows from creation, as its side effect, as it were. This is illustrated with an example in the *Physics* passage that is the subject of this chapter:

One must not be amazed [at the fact] that heat acts in order to burn something, rather heat acts in order to burn and destroy that which it burns and transform it into a likeness of itself ... Chance and the accidental end lay solely in the fact that for example the clothes of the pauper burn. This does not happen according to an essential end, for heat does not burn a pauper's clothes for the sake of burning a pauper's clothes. Also, there is not in the fire this burning power for the sake of that [particular] matter, rather in order to transform that which it touches into its [own] substance, and in order to dissolve that which is susceptible [to be dissolved] and to congeal that which can be

⁹⁵ Ibn Sīnā, *al-Najāt*, p. 325. For the theory that evil is included in God's creation, see Michot's introduction in Ibn Sīnā's *Lettre au Vizir Abū Sa'd*, p. 120-1. See also, *ibidem*, p. 123*, n. 4, where Michot expands on what he terms 'le déterminisme absolu d'Avicenne'. The same view of evil being part of God's design for the world and being turned to good by God is to be found in *al-Ta'liqāt*, p. 47.

congealed. It so happened now that these clothes touched fire, for there is a purpose to the action of fire in nature, even if fire only accidentally touches that [particular] combustible object. Moreover, the existence of the accidental end does not prevent the existence of the essential end, rather the end by itself precedes the accidental end.⁹⁶

Fire possesses certain qualities which ensure that it acts always in the same way under the same circumstances. It burns wood and other materials, while it melts wax. These qualities are inherent and cannot be transformed. Fire would not be fire if it did not act always in a certain way. Whether in particular circumstances it can lead to an evil rather than a benefit is accidental. It is clear that fire, the subject of this example, is generally good in itself, and was created as such. However, in certain circumstances, in a minority of cases it can lead to a detrimental end. That detrimental end is a side effect of its creation. God being the causer of causes, and benevolent, the real existence of evil must be explained away as a non-entity. Absolute evil is non-existence. Ibn Sīnā's theory combines a negative view of matter as passive and inert, which is already found in Aristotle, with the Plotinian view of matter as privation and source of evil.⁹⁷

In the metaphysics, Ibn Sīnā explains how evil is a necessary consequence of creation:

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Since it is necessary for the divine end (*al-ghāya al-ilāhiya*) – which is bounty (*jūd*) that every possible existent should receive its good existence, and that the existence of the composed beings should come from the elements, and that the composed beings should only come from the elements, and that they should only have as elements

⁹⁶ Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 74, reading 'yuta 'ajjaba', l. 8 and 'yuhraqa', l. 10, with Zayid and Madkūr. (Āl Yāsīn, p. 126).

⁹⁷ See Corrigan, *Plotinus' Theory of Matter-Evil*, pp. 88-89. See also Ormsby, *Theodicy in Islamic Thought*, p. 14.

earth, water, fire and air, and that fire should only lead to the good intended end if it burns and separates, then it follows necessarily that it will harm the righteous (*sālihīn*) and corrupt many composed beings.⁹⁸

The realisation of the divine purpose, God's design for the world, implies that each being should attain its perfection within its own rank. God could have created only the superlunar realm, but this would mean that certain possible beings would have been deprived of a good, and that would detract from God's bounty. Beings that exist below the sphere of the moon are by definition composed of matter and form, more specifically of the four elements, one of which is fire. It was necessary for God to create fire in order for there to be material beings. Owing to its nature, fire has certain efficient powers by virtue of which it will always react in a certain way according to the kind of material with which it comes into contact.

Also, it is important to stress concerning this passage that there is a certain necessary order in nature and natural beings that cannot be reversed. Certain elements possess certain properties always. The chains of efficient causality are strictly observed. Fire always burns wood or clothing if it comes in contact with it and there is no obstacle, as we have seen. In this sense, the efficient cause can take precedence over the essential final cause, in which case the essential end is thwarted. This means that although the efficient cause is always active in this scheme, the end may never come to fruition, and this results in chance, and evil. Nevertheless, even when there is a deviation from the essential final cause, possibly leading to evil, this is only in a minority of cases and arises necessarily from the universal order set by God. This passage also mentions necessity in a particular sense of that which is unavoidable and

⁹⁸ Ibn Sīnā, *al-Shifā'*, *al-Ilāhiyyāt*, p. 289.

leads to chance and evil. We have already seen this sense associated with the treatment of matter. The necessity of matter shall be expounded in the next chapter.

Chapter fourteen of *Physics* closes with the reaffirmation that matter is for the sake of form and not the other way round, and that nature is for an end. These are themes Aristotle lays down in his analysis of chance. In addition to incorporating these Aristotelian theories into his paraphrase, Ibn Sīnā explains evil in two ways: on the one hand, evil is the exception rather than the rule and affects individuals rather than the whole. On the other hand, it is an accidental consequence of God's benevolent design for the universe.

Conclusion

Ibn Sīnā's analysis of chance, which excludes random events, is in consonance with his definition of chance (*ittifāq*) in the *Metaphysics* of *al-Shifā'*.⁹⁹ According to Ibn Sīnā chance is a coincidence generated by the clash of two different bodies or causal chains that can ultimately be traced back to God, the causer of all causes. Thus physics and metaphysics concur in asserting that chance is not an essential cause. In view of the broad meaning of cause in the Aristotelian sense, not only as an efficient cause (which is the modern sense of cause) but more generally as an explanation, one may conclude that chance is an explanation rather than an active principle. Ibn Sīnā's recourse to a theory of clashes, which, contrary to Empedocles' theory, are strictly determined, reinforces the view of a systematic universal efficient causality. All parts

⁹⁹ See (p. 20), n. 39.

of the world are in one way or another connected and influence each other, through God's omnipotent action.

In chapters thirteen and fourteen of the *Physics* of *al-Shifā'*, Ibn Sīnā has a twofold task: denying that chance is an essential efficient cause in natural events/things and stressing that nature always acts for an end. He seeks to show that chance has only a secondary, accidental role. In my view, he is consistent in affirming that every occurrence in nature has an essential efficient cause. In that sense his understanding of chance reveals an undeniably deterministic streak. This determinism, expressed here in philosophical terminology and presented in Aristotelian and Neoplatonic trappings, has deep roots in the Islamic notion of God's decree and determination, as will become clearer in the third chapter of this thesis. To that end, and in order to salvage God's benevolence, he argues that in nature everything is for an end, and that matter and evil are purely negative.

Ibn Sīnā's interpretation of Aristotle's text is strictly deterministic. All elements of indeterminacy, such as the statistical model, are removed. Whatever happens has a necessary cause and consequently the conclusion one must draw is that it could not have been otherwise. Moreover, not only each single event is conditioned, but also coincidences or clusters of events. There may not be a direct relation between two events, but because they originate in God, the coincidence itself is necessarily caused. This element of divine causation shall be expanded in chapter three.

The only element that could pose an obstacle to this theory of general determinacy is matter. In these chapters of the *Physics* Ibn Sīnā strongly advocates a view of matter as merely passive and incapable of bringing about events on its own,

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thus creating any random or spontaneous events, but is this so in other texts by the Shaykh al-Ra'īs? Is Ibn Sīnā's philosophy consistently supportive of this view? This is the subject of the next chapter.

Chapter 2

Ibn Sīnā on matter

Introduction: matter and chance

In the preceding chapter I have argued that for Ibn Sīnā chance is not a cause in its own right and thus plays no efficient role in the unfolding of natural affairs. On this account, chance consists in a rare occurrence in nature. One of the related issues in the discussion of chance is the material cause: at the close of chapter fourteen of the *Physics* of *al-Shifā'*, Ibn Sīnā discusses matter and its involvement in the development of natural substances. Certain rare occurrences in nature, such as physical deformations, are attributed to an insufficient quantity or a surplus of matter, to the 'reluctance' of matter to receive a certain form; or to the incapability of corporeal nature to 'force' form upon matter.¹⁰⁰ Moreover, there is a suggestion that matter 'deserves' a form.¹⁰¹ These related notions - of matter's 'reluctance' to receive form, and its 'right' to have a form - suggest that matter may be independent of the formal determining powers, and fly in the face of Ibn Sīnā's insistence that everything is strictly determined from above. Combined, these notions suggest that matter might

¹⁰⁰ Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, pp. 72, 73. (Āl Yāsīn, p. 125-126).

¹⁰¹ *Ibid.*, p. 63. (Āl Yāsīn, p. 119).

produce random effects. If the expression ‘the disobedience of matter’ is to be taken literally, matter has a ‘choice’ not to follow orders sent from above. It is termed ‘disobedient’ or ‘recalcitrant’ presumably when it fails to obey; but in order to disobey, matter has to have an independent active power of its own. This expression does not occur isolated but is followed by controversial assertions about matter’s behaviour; for Ibn Sīnā says that nature is not always able to move matter to an end, rather this is only the case with ‘compliant’ matters.¹⁰² It goes without saying that if this power of matter were truly autonomous it would be a serious stumbling block for the notion of God’s omnipotence. Moreover, it would entail a world where matter may play havoc with individuals. If matter were indeed a principle independent of higher powers, it would represent an obstacle to the claim that the world is determined, a theory that Ibn Sīnā presses upon the reader throughout the chapters thirteen and fourteen of his *Physics* as well as in his *Metaphysics*. Even if Ibn Sīnā does not explicitly ascribe matter an active role, is it possible that this is implicitly suggested in his philosophy? Is there a contradiction on this issue between his metaphysical and his physical writings?

One scholar, Alfred Ivry, attributes what he deems to be Ibn Sīnā’s indeterminism to what he terms his twofold conception of matter:

¹⁰² Earlier Ibn Sīnā uses the expression ‘obedient matter’ (*al-mādda al-muṭāwi‘a*), *al-Samā‘ al-Ṭabī‘ī*, p. 22. (Āl Yāsīn, p. 94). Stating the reason why in certain cases substances composed of matter and form are not corrupted, he says: ‘it happens to that which passes away (*yafsidu*) to be united to the form that has no contrary, so that the cause that it does not come to be and pass away lies in its form, which prevents its matter from that which is in its nature, [namely to receive a contrary] except on the part of an obedient matter’ The Latin translation reads ‘non ex parte materiae oboedientialis’, which suggests reading *lā* instead of *illā*, i.e., not because matter obeys (or disobeys). This latter reading would suggest that within the compound form is responsible for change, and matter’s role is passive. It rejects the view that generation or corruption might lie in matter’s obedience or otherwise. See Avicenna Latinus, *Liber Primus Naturalium*, p. 36.

[Ibn Sīnā] entertains two models of matter: one of matter as pure receptivity, a mere receptacle of forms, that mirrors them faithfully ... and the other of matter as a real principle of being, the source of chance and privation/evil, unknowable in itself and hence unpredictable in its relation to form.¹⁰³

Consequently, the question we must address is: does Ibn Sīnā, openly or covertly maintain a twofold theory of matter? Does he admit that matter is a real principle of being? What is the relation of matter to chance, privation and evil? Is matter unpredictable in its relation to form?

In order to answer these questions, a full inquiry into Ibn Sīnā's conception of matter is required. I shall seek to show that Ibn Sīnā answers all these questions in his works.

Matter and the material cause

The defining characteristic of matter is potentiality or passivity, in the sense that it is not active and is acted upon: '[the category of] being affected is proper to matter (*al-infi 'āl li-l-mādda*)'.¹⁰⁴ Moreover, the notion of matter in itself, disconnected from

¹⁰³ 'Destiny Revisited: Avicenna's Concept of Determinism', p. 167. Ivry rightly identifies the pivotal role of matter for the debate as well as the links with Ibn Sīnā's metaphysics: 'Avicenna's theory of providence as well as of determinism thus depends upon a cluster of related concepts, viz., potentiality, possibility, matter and evil, and above all upon the concept of the necessity of existence as we know it', p. 162. Ivry does not quote passages from the chapters on chance of the *Physics of al-Shifā'* in support of his thesis, and it is unclear how he infers that Ibn Sīnā endorses an underlying positive view of matter, but it is important to assume this hypothesis.

¹⁰⁴ Ibn Sīnā, *Al-Mubāḥathāt*, p. 94, §185. This view is standard fare in Aristotelian philosophy: 'As Aristotle before them, Avicenna and Averroes derived the existence of "first matter" from the transmutation of the four elements and they, like he, affirmed that 'potentiality' was its primary characteristic', Hyman, 'Aristotle's "First Matter" and Avicenna's and Averroes' "Corporeal Form"' in *Essays in medieval Jewish and Islamic Philosophy*, p. 345.

form, goes hand in hand with the notion of possibility: ‘matter qua matter is divested of form ... if hyle (*hayūlā*) is intelligised, possibility is intelligised with it’.¹⁰⁵

Potentiality is mainly associated with non-existence. Hence too, matter, due to its association with possibility and potentiality, is close to non-existence: ‘[it is] not true that potentiality (*quwwa*) is an active/efficient thing, or active/efficient existence. The nature of potentiality is non-existentiality (‘*adamiyya*), the nature of action (*fi ‘l*) is existentiality (*wujūdiyya*)’.¹⁰⁶ Hence matter too, because it is potentiality, is mainly associated with non-existence. In this quality of being potential rather than efficient, it is purely receptive: ‘all that matter has is reception (*qabūl*)’.¹⁰⁷

As a consequence, matter does not actually exist on its own, but only through an active principle. That principle is form. ‘There is no material cause ... if there is no form ... which is the cause ... that something exists in a certain way ... For the hyle ... only exists in relation to form, so that if there is no form there is nothing described as having hyle’.¹⁰⁸

Matter is no cause in its own right, but only through form or the formal cause. As mentioned before, cause can be understood in two ways, either as something effective and productive, or simply as an explanation.¹⁰⁹ Matter, not being an active principle, is primarily a cause in the sense of explanation. Even if it is required for the generation of a primary substance, it does not actively produce a substance.

¹⁰⁵ Ibn Sīnā, *Al-Mubāḥathāt*, p. 276, §794. ‘Hyle’ (*hayūlā*) usually means prime matter. See Goichon, *Lexique*, p. 413.

¹⁰⁶ Ibn Sīnā, *Al-Mubāḥathāt*, p. 216, §640.

¹⁰⁷ *Ibid.*, p. 92, §170. Also, Goichon, *Distinction*, p. 423. See also, *al-Najāt*, p. 240.

¹⁰⁸ Ibn Sīnā, *Al-Mubāḥathāt*, p. 296, §831.

¹⁰⁹ See, for example, Kogan, *Averroes and the Metaphysics of Causation*, p. 4.

Hence matter is a constitutive part of any particular physical substance, being its passive constituent, while form is the active constituent:

If the cause of something is part of its constitution and part of its existence it is either the part from whose existence alone it does not follow that it should be in actuality but that it should be in potentiality only and it is called hyle (*hayūlā*); or it is the part the existence of which [consists in] its becoming in actuality, and this is the form.¹¹⁰

Here, Ibn Sīnā introduces the concept of matter as part of a primary substance. Matter, like form, forms integral part of the substance of which it is the cause. Together they are called immanent, or proximate causes, unlike the efficient and the final causes, which are external to their effect. For instance, a wooden desk cannot exist without its matter, wood, and form (its shape) being immediately present. The desk remains even in the absence of the carpenter, who is its efficient cause. Also it remains a desk even if no one is using it, and it is not fulfilling its function.

Matter, according to this passage, stands for the potentiality and receptivity of the material substance. Ibn Sīnā says here that to assume the matter of the compound alone does not imply its existence in actuality, only potentially. Matter is not deemed to contribute to existence. Form, instead, is the necessary condition for the existence of the compound.

‘Every element (*‘unṣur*), qua element, only has receptivity (*qabūl*). As for its attainment of the form, the element has it from other than it[self]’.¹¹¹

¹¹⁰ Ibn Sīnā, *al-Shifā’*, *Al-Ilāhiyyāt*, p. 258.

¹¹¹ *Ibid.*, p. 281.

Element, *'unṣur*, is another name for matter alongside *mādda* and *hayūlā*.¹¹² Moreover, we are informed that form is not part of matter but is adjoined to it. Later we shall see which entity attaches form to matter. Together, form and matter constitute the individual substance, the material compound.

Yet another passage in the *Physics* of *al-Shifā'* reiterates the notion of the receptivity of matter: 'Matter does not avail (*yufīdu*) the thing in actuality, rather it contributes the potentiality of the thing's existence. In turn the form is that which turns it into actuality'.¹¹³

Form, unlike matter, lends actuality and hence existence. The association of existence and actuality goes hand in hand with the notion that nothing which is in potentiality actually exists as such: 'Nothing is in potentiality from every aspect (*min kull jiha*), nothing in its essence being in actuality ... Part of what has [a certain] potentiality [necessarily] goes into actuality'.¹¹⁴ This passage makes two important points. First, nothing actually existing is wholly potential. Secondly, and according to the Aristotelian principle of plenitude, whatever is in potentiality must at a certain point pass into actuality.¹¹⁵ This implies, as we have seen, that in principle matter never exists by itself. It only exists through form. 'Matter is something (*ma'nā*) that subsists by itself but it does not exist in actuality. It only exists in actuality through

¹¹² See Kennedy-Day, *Books of Definition in Islamic Philosophy*, pp. 55-59.

¹¹³ Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 36. (Āl Yāsīn, p. 103).

¹¹⁴ *Ibid.*, p. 81. (Āl Yāsīn, p. 131).

¹¹⁵ Goodman mentions 'Aristotle's thesis that there are no unrealised possibilities' (n. 2 *Physics* II 5, 196b10 and II 8, 198b32, *Metaphysics* Epsilon 2, 102b 26-34; *Prior Analytics* I 13, 32a 18-21.), *Jewish and Islamic Philosophy*, p. 148.

the form'.¹¹⁶ Thus the kind of matter which is devoid of any form is a mere abstraction, it only subsists by itself in theory.

Another way of explaining this disparity between matter and form is to say that form stands for the active power while matter stands for the passive power:

Active power (*quvvat*) is the state which is in the agent, such that from it the act may (*shāyad*) issue from the agent, just as [for instance] the heat [issues] from the fire. And the passive power is the state through which something is the recipient of something [else] such as [for instance] wax which receives form.

Everything which actually exists (*ḥāṣil būd*) is said to be in actuality.¹¹⁷

In other words, both form and matter possess a certain power. However, while form has an active power, matter only possesses a power of reception, which means that it may receive but does not actively participate in the compound. Its role is to bear form. In *al-Najāṭ*, active and passive power/potentiality (*quwwa*) are explained.

Ibn Sīnā enumerates and expounds the different meanings of *quwwa*, stating that:

It is a principle of change, either in the patient, and this is the passive power/potentiality (*quwwa infī āliyya*) or in the agent, and this is the active power/potentiality (*quwwa fī liyya*). Potentiality is said of that through which something can act or be acted upon, and of that which something comes to constitute another ... In prime matter there is potentiality for everything, but by the intermediary of something to the exclusion of something [else]. Something may have a passive

¹¹⁶ Ibn Sīnā, *Al-Ta'liqāt*, p. 39. See Hyman, 'Aristotle's First Matter', p. 347, n. 56, 'Avicenna, *al-Shifā'*, *Physics* 1, 2, 14r, 2, '... matter is never stripped of forms, so that it would exist by itself in any way ...' *Hudūd*, p. 58 (Introduction, p. 74): '... and it ['first matter'] does not have in itself a form proper to it except in the sense of having a potentiality ...'. See also Kennedy-Day, *Books of Definition in Islamic Philosophy*, pp. 105-106.

¹¹⁷ Ibn Sīnā, *Dānishnāmah, Ilāhiyyāt*, pp. 61-62. *Le Livre de Science, Métaphysique*, p. 175.

potentiality with regard to [receiving] contraries, as, for example, wax has the potentiality to become hot or cold.¹¹⁸

This passage evinces the connection between form and the active power and matter and the passive power. Each of these two powers is a principle of change in the compound. For it is the combination of form and matter, or the active and passive powers, which originates change. The reference to prime matter deserves attention. Prime matter has the potentiality to become all things. We have seen that matter is pure potentiality. However, it has this power not by itself but through something else, which as we shall see later is form. One form in a particular substance may lead to another form being conjoined with matter or may prevent the occurrence of another form. This is an obvious assumption in the light of the view that matter only acts through form. Elsewhere, the connection between matter, possibility and non-existence becomes more explicit. Ibn Sīnā states that when something is possible but does not yet exist, the possibility of its existence is called potentiality (*quvvat*).¹¹⁹

Before something comes to exist it is possible. Potentiality is the possibility of existence in that which will exist at some point in time. Each corruptible substance has to be in potentiality before it exists. This latency is potentiality, or real possibility, and differs from mere possibility. Something that is merely possible does not necessarily ever come into existence. As an example of mere possibility one might think of a unicorn. It is nonetheless an imaginary being which no one expects will actually exist, as opposed to a horse. Moreover, potentiality is something in itself, as

¹¹⁸ Ibn Sīnā, *Al-Najāt*, p. 250. The Arabic term ‘*quwwa*’ is polysemic. In the context of natural physics it is usually translated as potentiality or potency, but it can also mean power, which seems to be the most plausible meaning in this passage. In the realm of psychology it is normally translated as ‘faculty’

¹¹⁹ Ibn Sīnā, *Dānishnāmāh*, p. 62. *Le Livre de Science, Métaphysique*, p. 175.

opposed to impossibility or non-existence/privation.¹²⁰ Matter consists in the potentiality or real possibility of any particular material substance.¹²¹

In corruptible beings, matter equals potentiality. Because for Ibn Sīnā all beings other than God are possible in themselves, they possess some form of matter. Thus possibility as logically conceived becomes fused with the real potentiality of matter, as will become clearer in the third chapter of this thesis.

Even though matter contributes to the compound, it is not an active power that can act independently: 'If someone says that this possibility (*shāyyad*) is [the same as] the power of the agent, that person errs'.¹²²

Matter is not an active power, it is not a principle at all – this point is explicitly pressed:

You must not take the element (*al-'unṣur*) which constitutes the receptive part [of the compound] as a principle of the form but of the compound. The receiving element is only a principle by accident, because it is first only constituted in actuality by the form, while its essence, considered in itself, is only in potentiality; and that which is in potentiality in as much as it is in potentiality is not a principle at all. Indeed it is only principle by accident, for the accident requires the subject to be ... already in actuality, before it becomes a cause of the subject's constitution (*qiwām*).¹²³

We have seen that the material compound is a combination of matter and form, the latter constituting the active principle, the former the passive. Consequently, form

¹²⁰ The difference between possibility and potentiality is explicitly expounded by Ibn Sīnā in his logical works. See *Al-Shifā'*, *Al-Manṭiq*, *al-'Ibāra*, p. 118.

¹²¹ Ibn Sīnā, *Dānishnāmah, Ilāhiyyāt*, pp. 62-63. *Le Livre de Science, Métaphysique*, p. 176. See also Goichon, *Distinction*, 'cette possibilité qui est pure puissance dans l'ordre logique présente une analogie très frappante avec la puissance pure de la matière dans l'ordre entitatif', p. 193. Goichon often rightly points out the parallelism between the logical and the ontological planes in Ibn Sīnā.

¹²² Ibn Sīnā, *Dānishnāmah, Ilāhiyyāt*, p. 63. *Le Livre de Science, Métaphysique*, p. 176.

¹²³ Ibn Sīnā, *Al-Shifā'*, *Al-Ilāhiyyāt*, p. 258.

is a principle of matter by way of actualising matter, while matter is not a principle of form. Matter, as part of the compound, is a principle of the compound but not directly a principle of form. This compound cannot dispense with either form or matter, and in it matter and form coexist. In fact, Ibn Sīnā repeats at several counts that form too does not exist independently of matter.¹²⁴ Form by itself does not join itself to matter, but rather this is due to a third entity, on which more later.

What does it mean to say that matter, the receptive element, is only accidentally a principle? It is not a principle by itself, but only becomes a principle of the compound once the subject is actualised by the form. It is only a principle through the form. The reason it is not a principle lies in its being typically potentiality. Something that is potential needs something in actuality in order to be rendered actual. Just the definition of matter as potentiality implies that on its own it does not give rise to substances or events. Moreover, matter does not exist isolated from form:

Matter is not divested of form, subsisting by itself at all, and does not exist in actuality unless the form is attached to it. Hence it exists in actuality through form. If, when the form leaves it, another form does not arrive which substitutes the [previous] form and takes its place, the material part of the compound ... perishes.¹²⁵

The generation of an individual substance occurs when a certain form becomes united with matter. Corruption occurs when matter and form become dissociated

¹²⁴ This hints at an interdependence between form and matter in individual substances: 'Matter exists with form; if one is removed so is the other; if one is wanting the other is wanting, and the non-existence of one is cause of the non-existence of the other; at any time that one does not exist so the other does not exist.' *Al-Najāt*, p. 258. Ibn Sīnā's view that forms do not have independent existence is tied up with his refutation of the Platonic theory of forms. See *al-Shifā'*, *al-Ilāhiyyāt*, p. 317-324.

¹²⁵ Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 14. Also in Aristotle: "our doctrine is" Aristotle writes in the *De Generatione et Corruptione* II, 1, "that there is a [first] matter ..., but it has no separate existence" Quoted by Hyman, 'Aristotle's First Matter', p. 343, n. 43 [in] 329a, 24-28. Cf. *De Gen. Et Corr.* I, 5, 320b, 16-17; *Metaph.* VII, 3, 1029a, 26-28; IX, 7, 1049 a, 24-27.

because form departs from matter. Since matter is only sustained by a form, it ‘perishes’ or vanishes upon the departure of form. The view that matter does not actually exist on its own issues from matter’s association with potentiality and non-existentiality. Notwithstanding the interdependence of form and matter, the primacy of form is always stressed by Ibn Sīnā.

One way in which Ibn Sīnā reinforces the notion of matter’s subservience to form is by claiming that matter is not a subject.

There is a difference between the receptacle (*al-maḥall*) and the subject (*al-mawḍūʿ*). By ‘subject’ is understood what has become subsistent by itself and by its species. Then it becomes a cause that something which is not like a part of it comes to be through it. [By] receptacle [is understood] something in which something inheres so as to acquire a certain state through it.¹²⁶

The statement that the recipient is not a subject serves to highlight that matter, which receives form and becomes place of inherence, does not subsist by itself; for the subject is something that exists by itself. Also, the subject is cause of that which subsists in it inasmuch as it subsists in it.

¹²⁶ Ibn Sīnā, *al-Shifāʾ*, *al-Ilāhiyyāt*, p. 59. See also Stone, ‘Simplicius and Avicenna on the Essential Corporeity of Material Substance’, in *Aspects of Avicenna* (ed. Wisnovsky), p. 78. ‘Avicenna states in no uncertain terms that prime matter is *not* a subject in the relevant sense of the word: it is indeed called “subject” (*mawḍūʿ*), but “the sense [*maʿnā*] of ‘subject’ here is not the sense which we took in logic as part of the description of substance; the hyle is not, in that sense, a subject at all”. His reason for maintaining this, in the face of so much prima facie evidence to the contrary, is precisely the *Categories* definition of substance. For substantial form is in prime matter, so that, if prime matter is a subject, substantial form is in a subject; but substantial form is a kind of substance, therefore not in a subject ... The textual problem is then resolved by claiming that, when matter is called a ‘subject’, that is a secondary or equivocal use of the term. By “subject” in the *relevant* sense, Avicenna explains, “is meant that which is has become existent [*qāʾim*] in itself and in its specificity, and then became a cause that there be constituted in it [another] thing, not as a part of it”. The upshot is that “substance”, insofar as it is predicated of matter, is not a positive predicate or determination at all”. See also, Goichon, *Lexique*, no. 780, pp. 438-439.

It is not implausible [to think] that something exists in a receptacle and that that receptacle does not become a species subsisting [by itself] and in complete actuality; rather its subsistence (*qiwām*) results from that which inheres in it ... making this thing come to exist in actuality, or turning it into a definite species.¹²⁷

The distinction between receptacle and that which inheres in it evokes the distinction between matter and form as part of a primary substance. The point made here again is that matter does not exist in actuality by itself but is constituted by the form or forms which inhere in it. Thus Ibn Sīnā dispels the erroneous conception that matter might exist permanently while successive forms inhere in it, in which case matter could be thought to constitute a substance on which form would inhere as an accident. Contrary to what might be expected it is form that is substantial and constitutes matter. This is stated explicitly in another passage: ‘If that which exists not in a subject is called substance, then form too is a substance ... whatever is in a subject is in a receptacle but not vice versa’.¹²⁸ If matter is not subject but receptacle, form, which is in matter, cannot be said to be in a subject. Hence it is called substance, because the Aristotelian definition of substance is ‘that which is not in a subject’.¹²⁹ Ibn Sīnā also differentiates between existing in a receptacle and existing in a subject. Form exists in a receptacle, but not in a subject, and even though everything that exists in a subject exists in a receptacle, not everything that exists in a receptacle – such as form in matter – exists in a subject.

However, Ibn Sīnā states elsewhere that matter is a substance:

¹²⁷ Ibn Sīnā, *al-Shifāʾ*, *al-Ilāhiyyāt*, p. 59.

¹²⁸ *Ibid.*, pp. 59-60.

¹²⁹ Aristotle, *Categories*, 2a11-13.

Absolute *hyle* is a substance (*jawhar*) which exists in actuality only when it receives the 'corporeal form', because of a potentiality in it for receiving forms. This matter does not have in itself a form proper to it except in the sense of [having a] potentiality. And the meaning of my saying that 'matter' is a substance is that its existence in actuality comes to it through itself, and *hyle* is said of everything in as much as it receives a certain perfection and something that is not in it, so that it is, in relation to what is not in it, matter, and subject in relation to what is in it.¹³⁰

However, for Ibn Sīnā, prime matter is not really a substance, even if it is not in a subject.

The meaning of [matter's] substantiality is nothing other than that it is something which is not in a subject. Now the affirmation here is 'that it is something' whereas 'that it is not in a subject' is a negation. But it does not follow, from 'that it is something,' that it is any singular thing [*shay' mu'ayyan*] in actu.¹³¹

Thus matter is not a substance in any positive sense, it does not exist as a particular physical substance. It is neither a primary substance nor a secondary substance, i.e., a universal.¹³² Inasmuch as matter acts as substratum for the form it must be the subject of inherence without itself inhering in something else – in this consists its substantiality, a purely negative sense of substantiality.

¹³⁰ Ibn Sīnā, *Kitāb al-Ḥudūd*, p. 17, no 6, translation by Hyman, (modified), 'Aristotle's First Matter', p. 349, n. 67. See also Kennedy-Day, *Books of Definition in Islamic Philosophy*, p. 105. Goichon, *Distinction*, p. 21. Also, p. 380, 'Mais "substance" au sens large signifie "toute essence dont l'être n'est pas dans le réceptacle d'une substance; et encore toute essence dont l'être n'est pas dans un sujet d'inhésion". Et ces deux sens sont expressément donnés comme convenant à la matière.'

¹³¹ Ibn Sīnā, *Al-Shifā'*, *Al-Ilāhiyyāt*, p. 68, translated by Stone in 'Simplicius and Avicenna on the Essential Corporeity of Material Substance', pp. 78-79.

¹³² Within a hierarchy of beings or deservedness of existence, matter ranks above the accident and below body: 'The things preceding in existence (*ūlā bi-l-wujūd*) are substances, then accidents. The substances which are not bodies precede in existence, except matter. Because these substances are three, matter, form and separate (substance) which is not a body or part of a body ... The first of the substances to deserve (*istihqāq*) existence is the separate substance, which is incorporeal, then form, then body, then matter; and this, although it is a cause for the body, it is not a cause which gives existence, rather a receptacle for obtaining existence', *al-Najāṭ*, p. 244, French translation by Goichon in *Distinction*, pp. 380-381.

Other than receiving form, the role of matter is to individuate.¹³³

In a material compound the individuation is down to matter, and such a substance's actions are also individuated by matter: 'it is necessary for the acts of the material powers to be individuated by that which is material in them'.¹³⁴

Form is responsible for the efficient element in a substance, while matter has the specific role of individuating particular substances when it is combined with form. It is conditioned in this role by the form. Although the material part has its powers individuated and thus determined, 'matter by itself does not suffice for individuating (*tashakhkhuṣ*) [the corporeal forces] so long as it does not have a [particular] position and it is individuated by a certain position (*ikhtaṣṣa bi-waḍ' mā*)'.¹³⁵ According to Cruz Hernandez, in order to individuate instances of universals, matter has to acquire dimensions, for which it needs to be prepared, and so receive forms.¹³⁶

Matter individuates non-material elements but only in conjunction with form. For matter itself possesses no quantity, or extension, and only acquires these through form. Also, it only acquires a position through form. The individuation process is attributed specifically to matter, but it is conditioned by a formal element.¹³⁷

¹³³ See Ibn Sīnā, *Al-Mubāḥathāt*, p. 45, §24 and Goichon, *Distinction*, p. 424.

¹³⁴ Ibn Sīnā, *Al-Mubāḥathāt*, p.105, § 228. There is a sense in which the mixture of the body individuates the soul according to a passage from the *Ishārāt*, as translated by Goichon, yet a more accurate reading of the text suggests that the mixture only individuates owing to a soul-like form (*hay'a*). See *Livre des directives et remarques*, translated by Goichon p. 522, and *al-Ishārāt wa-l-tanbīhāt*, (ed. Forget), p. 220.

¹³⁵ Ibn Sīnā, *Al-Mubāḥathāt*, p. 180, §526.

¹³⁶ Cruz Hernandez, *La metafísica de Avicena*, pp. 102-104.

¹³⁷ A parallelism between the matter and form in the perishable compound and the relation between human body and soul can be observed here, and in a certain way the individuation of each human soul requires more than the body. For a discussion of individuation of the human individual and human souls, see Michot, *Destinée*, pp. 74-77.

Matter and the material compound. Prime Matter

Having concluded that matter is essentially potentiality, it is now necessary to examine in greater detail the role of matter within the compound. In a passage of *al-Shifā'*, Ibn Sīnā, stating that in matter resides the potentiality of a thing's existence, illustrates the ways in which matter is found in a primary substance by a string of examples: 'Sometimes it will be like [the relation] of the slate to writing, in that it is disposed to receive something that happens to it (*ya 'riḍu la-hu*) without changing or the disappearance of something which it possessed'.¹³⁸

Matter has different roles in its association with form. Like the slate, which can potentially be written upon, matter has the potentiality to receive forms. In this example the purpose or end and the form of the table converge. Presumably the carpenter who makes the table chooses the shape of table to fulfil its purpose. In this instance the slate does not lose its fundamental quality or quantity or change when it is written on. The slate is the recipient of writing as matter is the recipient of form, performing a passive role.

'Sometimes it will be like [the relation] of the wax to the idol and of the boy to the man, namely that it is disposed to receive something that happens to it without a change in any of its states, except motion in place, or quantity and the like'.¹³⁹

In this example, the recipient is disposed to receive something, but unlike the slate, it changes in the process of receiving the new form(s). The wax is shaped in

¹³⁸ Ibn Sīnā, *Al-Shifā'*, *Al-Ilāhiyyāt*, p. 278.

¹³⁹ *Ibid.*, p. 279.

such a way as to become an idol, so even though the substrate - matter - does not change, its shape must change, and so its form. From being a lump of wax, it becomes an idol, an artefact. In the case of the boy who becomes a man, there is a quantitative change because the man is taller than the boy he previously was, so this change involves locomotion. This change is categorical, i.e., it is a change according to one of the ten categories, or rather the nine accidents other than substance. The unity of the substance is not affected. The boy and the man are the same substance, as are the wax and the idol.

‘Sometimes it is like [the relation of] the wood to the bed, for by being carved it is made to lose part of its substance’.¹⁴⁰ In this case, unlike the previous ones, beside the change in shape, part of the material of the original piece of wood of which the bed is made is discarded, and hence Ibn Sīnā calls this change in substance, or substrate.

‘Sometimes it is like [the relation of something] black to [something] white, for it changes and loses its quality (*kayfiyya*) without losing its substance’.¹⁴¹

This is an instance of a change according to one particular category, quality, but not according to substance. The substrate remains the same, and only a change of colour occurs. This example is rather problematic, because it is not the black which becomes white, but the substrate that bears these accidents or qualities that loses its blackness and acquires whiteness. This particular change will be better understood when the issue of privation is analysed.

¹⁴⁰ Ibn Sīnā, *Al-Shifāʾ*, *Al-Ilāhiyyāt*, p. 279.

¹⁴¹ *Ibid.*, p. 279.

‘Sometimes it is like [the relation] of water to air, for air only comes to be from it through its corruption’.¹⁴² This is a reference to the change of the four elements into one another.¹⁴³ This is so, according to Ibn Sīnā, because the elements retain the same matter and substrate while differing in form,¹⁴⁴ which means that they are only distinguishable by their form and not by their common substrate.

‘Sometimes it is like [the relation] of semen to the animal, for it will have to shed its forms several times until it is prepared to receive the form of the animal. And likewise the unripe grape to the wine’.¹⁴⁵ Here, the same underlying substrate acquires several different forms before attaining its goal. The underlying substrate merely receives and sheds a succession of forms. The reception of a succession of forms by a substrate is conditioned by the way the substrate is made ready to receive those forms.

‘Sometimes it is like prime matter, for it is prepared to receive form, being constituted by it in actuality’.¹⁴⁶ Prime matter is pure potentiality, being prepared to receive forms, through which it is actualised. Ibn Sīnā does not give an example.

‘Sometimes it is like myrobalan to the electuary, for the electuary does not come from myrobalan alone, rather [it originates] from it and from something else for

¹⁴² Ibn Sīnā, *Al-Shifā’*, *Al-Ilāhiyyāt*, p. 279.

¹⁴³ ‘These four [elements] change into one another, water becomes air, and air becomes water; earth becomes water and water becomes earth, and the same applies to fire ... it is possible to know [this] by experience’. Ibn Sīnā, *Dānishnāmah*, *Ṭabī’iyyāt*, pp. 49-50. *Le Livre de Science, Science Naturelle*, p. 40. He goes on to give examples, and explain how these processes take place. Also, in the *Physics* of *al-Shifā’*. ‘It appears that these four [elements] are generated from one another, and that they have a shared matter, which in reality is the first element (*al-’unṣur al-awwal*)’, Ibn Sīnā, *Al-Shifā’*, *Al-Ṭabī’iyyāt*, *Fi-l-kawn wa-l-fasād*, p. 189.

¹⁴⁴ ‘The cause [of these transformations] is that these four elements differ in form, and their substance and matter are one; and each form in matter is not preferable (*avvaltarin*) to another, it takes now this form now that form, according to the form which intervenes’, Ibn Sīnā, *Dānishnāmah*, *Ṭabī’iyyāt*, p. 52; *Le Livre de Science, Science Naturelle*, p. 41.

¹⁴⁵ Ibn Sīnā, *Al-Shifā’*, *Al-Ilāhiyyāt*, p. 279.

¹⁴⁶ *Ibid.*, p. 279.

it is before [being electuary] one part of its [constitutive] parts in potentiality'.¹⁴⁷ A medicinal substance like the electuary is made up of several constituents, one of which is myrobalan, a fruit. The myrobalan is but one material constituent of the end product.

All the abovementioned ways in which the material element features as part of the compound show that matter's characteristic feature is to receive form and provide it with a substrate of inherence. As a result, matter is the less noble of the two components of an individual substance, as Ibn Sīnā states:

'Of the compound the recipient is the more vile and the agent the more noble, for the receiver avails itself and gives not[hing] while the agent provides and does not take'.¹⁴⁸

The most remarkable feature of these passages is not what Ibn Sīnā says in his enumeration of the different ways in which the material element behaves within the compound, but what he omits. It is remarkable that the only instance where he fails to give an example is in mentioning prime matter. The passage about prime matter appears casually among the other examples, but in fact it constitutes quite a separate case. The absence of an example is not surprising prime matter as such does not exist in actuality, it is pure potentiality to receive. All actually existing matter already comes in some kind of prepared state. In view of this, prime matter is a purely theoretical entity. It must be assumed for the sake of the theory that in material substances forms inhere in the material substrate, but prime matter does not

¹⁴⁷ Ibn Sīnā, *Al-Shifā'*, *Al-Ilāhiyyāt*, p. 279.

¹⁴⁸ Ibn Sīnā, *Al-Najāt*, p. 248.

correspond to a real entity.¹⁴⁹ In the *Physics* of *al-Shifā'* and elsewhere, Ibn Sīnā says remarkably little about prime matter - references to it are few and far between. This is in contrast to Aristotle and to Ibn Rushd who, as we shall see, explicitly address the issue of prime matter. In one passage, Ibn Sīnā says that: 'no matter is more commonly shared and further removed from form ... than prime matter'.¹⁵⁰

Matter is something indeterminate that serves all purposes, in the sense that it can receive any form if it has been prepared accordingly and can be shared by anything material. Also it is at the opposite pole of form in the ontological framework. It is wholly passive and malleable.

Elsewhere, he says that prime matter 'does not come to be and does not pass away, rather it depends on creation for its origination (*innāmā hiya muta 'allīqa al-ḥuṣūl bi-l-ibdā'*)'.¹⁵¹ Prime matter originates as a result of the emanation process, rather than eternally pre-existing, a theory that also detracts from its possible 'autonomy'.¹⁵² Before something exists, its potentiality as such does not exist, as Janssens puts it: 'For Ibn Sīnā it is clear that the potentiality of a created Being is not a state preceding its existence, but the potential character of such a Being is only

¹⁴⁹ Buschmann, 'Man könnte sagen ... dass die Materie ... in sich widersinnig ist, und deshalb hart an das logisch unmögliche, das ontologische Nichts grenzt. ... Ontologisch ist sie eine notwendige Voraussetzung, also seiend, wenn auch nur zugleich mit der Form. Logisch jedoch, und Ontologie und Logik sind bei Avicenna untrennbar miteinander verknüpft, ist sie, aufgrund ihrer Unerkennbarkeit, in sich falsch ... dem Nichtsein näher stehend als dem Sein', Buschmann, *Untersuchungen*, p. 78.

¹⁵⁰ Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 47. (Āl Yāsīn, p. 110).

¹⁵¹ *Ibid.*, p. 24. (Āl Yāsīn, p. 95).

¹⁵² Avicenna Latinus, *Liber Primus Naturalium*, 'Quant à la matière première, elle dépend seulement, pour se réaliser, de la création absolue', p. 39, n. 82, French translation by Van Riet.

revealed at the very moment it exists'.¹⁵³ The issue of possibility and potentiality shall be further explained in the third chapter.

Returning to the previous passages on 'element', with the exception of the example of prime matter, none of the other examples refer to matter in its pure state, the primordial matter that is divested of all form and preparation. For preparation, as we shall see, already implies matter's being endowed with form. It is not difficult to see that in all these examples, Ibn Sīnā is referring to concrete substances, namely material substances that are already informed, rather than pure matter. The slate is informed, as is the wax from which the idol is fabricated. The wood for the bed also has a shape and concrete existence. The four elements are informed, as Ibn Sīnā himself states in the passages quoted. The semen is informed as is the unripe grape, and finally the myrobalan is informed. All these examples refer to concrete substances because it is impossible to expound something that does not actually exist and can never actually be found in nature. Everything to be found in nature is already formally prepared in some way or another.

If pure matter does not actually exist as such, does it equal nothingness? If so, how can it contribute to the compound? Ibn Sīnā distinguishes three constituents involved in the origination of primary substances, form, matter, and privation:

¹⁵³ Janssens, 'Creation and Emanation in Ibn Sīnā', p. 473. Since the possibility of something does not inhere in something else before it exists, Smith's assertion is wide of the mark when he says that for Ibn Sīnā, the non-existent does not depend on God for its possibility, and as such 'Avicenna's God cannot create'. In this sense the non-existent would not need a cause for its non-existence, and the possible clearly falls into the domain of non-existence. See Smith, 'Avicenna and the Possibles', pp. 348 and 357. In *al-Mubāḥḥathāt*, p. 285, §813, Ibn Sīnā says that what possibly exists is preceded by the possibility of its existence, but possibility of existence is not a substance, and does not inhere in a subject, which is a necessary condition for individualised existence.

That which is changeable, in as much as it is changeable, must necessarily have something that receives, that from which it changes, and that into which it changes, a form that inheres [in it]; and [it has to have] a privation [corresponding] to the form ... like [for instance] a garment which is black [plus] whiteness and blackness, the black being absent (*ma 'dūm*) if the white is present (*mawjūd*).¹⁵⁴

Hence for each corruptible being there are not two, but three principles, matter, form and privation. Privation is the opposite of possession, *habitus*. Thus if a primary substance is white, its privation is black. These two opposite attributes, as Ibn Sīnā calls them, have to have a receiver, which is matter or potentiality. This receiver has to be assumed, for forms do not exist separately and need a principle in which to inhere.

Ibn Sīnā explains why privation has to be presupposed: if there is no privation, something cannot change or be perfected, for the form and the perfection would always belong to it.¹⁵⁵ Nevertheless, privation itself is not a principle.¹⁵⁶

In what do these three elements involved in change in the compound exactly differ?

Matter differs from both [form and privation] because it exists together with each [while remaining] in its state. Form differs from privation because form is a quiddity by itself, adding existence to the existence which belongs to matter, whilst privation does not add to the existence which belongs to matter; rather privation accompanies matter in relation to that form if the form does not exist, and if the potentiality to receive it exists. This privation is not absolute privation [i.e., absolute non-existence], rather it is privation in relation to existence, for it is the privation of something with readiness and preparation (*tahayyu' wa-isti'dād*) in a specific matter. For man does not come from humanness in general, but from the non-humanness

¹⁵⁴ Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 17. (Āl Yāsīn, p. 91).

¹⁵⁵ *Ibid.*, p. 17. (Āl Yāsīn, p. 91).

¹⁵⁶ *Ibid.*, p. 17. (Āl Yāsīn, p. 91).

[existing] in that which receives humanness. Also coming to be occurs through form, not through privation, and passing away occurs through privation not through form.¹⁵⁷

Matter and privation share common features, such as the association with potentiality, but are not identical. Matter coexists with form, but privation does not exist with form, or rather it represents the contrary of the form occupying a particular matter at a certain time. While form lends existence, privation does not. Although it exists alongside matter, it adds nothing positive to it, but rather is appended to matter inasmuch as matter has a potentiality for both contraries. This privation is not pure non-existence, but the absence of a certain quality the opposite of which exists in actuality. As opposed to the other two elements, form lends actuality and consequently existence. Whatever particular substance exists, it obtains its existence through form. Something is said to perish when it loses its form, and hence privation, the absence of a particular form, leads to corruption. How does this relate to the previous discussion? Form and privation are the two opposite elements that can attach to matter, so privation represents the contrary that matter does not have but has the potentiality to receive. Ibn Sīnā's treatment of privation goes to show that although matter is not pure non-existence, it only exists in actuality through form.

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Origin and preparation of matter

Two different questions are distinguishable concerning the coming into existence of matter. One is the origin of matter through the emanative process and the

¹⁵⁷ Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 18. (Āl Yāsīn, p. 92).

other is the preparation of matter. Since the two are not unrelated, this distinction is more conceptual than real. In general, matter only comes to exist through form, and only receives form after it has been prepared to receive it. The emanative process too involves some kind of preparation of matter.

I shall first deal specifically with the origin of matter, which is briefly mentioned by Ibn Sīnā, and then address the issue of the preparation of matter.

Matter originates as the last effect of the emanative process.

When the number of the celestial spheres (*kurā*) is complete, the existence of the elements necessarily follows. That is because the elemental bodies come to be and pass away, and so their proximate principles necessarily have to be things that are subject to some kind of change and motion; that which is pure intellect cannot be its cause alone.¹⁵⁸

This passage does not explicitly mention matter or prime matter, but the creation of matter can be subsumed under the creation of the four elements.¹⁵⁹ Of all actually existing material substances, the four elements are the closest to prime

¹⁵⁸ Ibn Sīnā, *Al-Shifāʾ*, *al-Ilāhiyyāt*, p. 410. See also Goichon, *Distinction*, p. 301. This view is in line with the Plotinian view of the origin of matter 'Matter itself [according to orthodox Neoplatonism and following from Plotinus' own theory] is created, and no independent stuff is needed for its creation. So far from existing independently, it scarcely exists at all, and so far from being required for creation, it is itself created only at the ultimate point where creation peters out ... Gilson appears to overlook the Platonists when he argues that the Greeks do not have the conception of a creator who relies on nothing independently existent. He supports his statement by pointing out that Plato's demiurge does not create matter, but only rearranges matter which already exists, while Aristotle's God is only a mover and not a creator at all. Instead, he finds the idea of a creator who genuinely accounts for existence, without relying on something existent, in Avicenna. From there it was taken by Albert the Great and by Peter of Auvergne, respectively the teacher of Thomas Aquinas and the Rector of his University, and it also appears in Thomas himself. But in justice to the Platonists, it should be pointed out that Avicenna was inspired by the Arabic epitome of Plotinus' *Enneads* which went under the name of *The Theology of Aristotle*'. Sorabji, *Time, Creation and the Continuum*, p. 314.

¹⁵⁹ See *Dānishnāmāh*, *Ilāhiyyāt*, 157-160, *Le Livre de Science*, pp. 252-254. Davidson states that '[according to Avicenna] matter can never actually exist without the form of an element ... from all eternity, every portion of matter is endued with one or another of the elemental forms thanks to the emanation of the active intellect', *Alfarabi, Avicenna, and Averroes*, pp. 78-79.

matter, because the four elements are the first visible form of matter. The generation of the four elements is directly tied up with the celestial bodies, and their motion. Pure intellect cannot be the cause of the terrestrial elements, because, since they are subject to generation and corruption, their 'creators' must too undergo some kind of change. Even though the celestial spheres are eternal and incorruptible, they possess a certain degree of potentiality by virtue of their motion.

In the same way that motion is the vilest of states in the supralunar world, equally matter is the vilest of essences in the sublunar world. Moreover just as motion entails a certain nature in potentiality in the celestial realm, so matter in the terrestrial world entails what is in potentiality.¹⁶⁰

Ibn Sīnā draws a parallelism between motion in the celestial world and matter in the sublunar world. Motion and matter represent potentiality respectively in the celestial and terrestrial realms. The spheres have a certain potentiality by virtue of their motion and the sublunar substances are potential by virtue of their matter.

The origin of matter lies in the celestial world and, as we shall see, in the tenth emanated intellect, the giver of forms. Unlike al-Fārābī, for whom the cause of sublunar matter lay in the spheres, for Ibn Sīnā, the active intellect as well as the spheres are the cause of matter, on the basis of his principle that a body cannot produce another body.¹⁶¹ Hence matter does not originate spontaneously or independently of the celestial principles. So Ibn Sīnā explains, in broad strokes, the

¹⁶⁰ Ibn Sīnā, *Al-Shifā'*, *al-Ilāhiyyāt*, p. 412.

¹⁶¹ Davidson, *Alfarabi, Avicenna, and Averroes*, pp. 76-77. The active intellect is furthermore responsible for all natural forms that inhere in matter; *ibid.*, p. 78, 'all natural forms are contained in the active intellect in a unified, undifferentiated mode, and the active intellect eternally emanates them not through choice but as an eternal, constant, and necessary expression of its being', p. 78.

origin of matter. He does not explicitly refer in these passages to the creation of matter as such. One must infer it from the process of emanation, whereby the four elements come to be, as it appears to be the last stage of the emanation process.

The preparation of matter is a complex issue because Ibn Sīnā gives different accounts of the way in which matter is prepared and becomes predisposed to receive a certain form.

Why does matter need to be prepared?

Since matter does not remain without form, its subsistence (*qiwām*) does not only come ... from the first principles, but from them and from the form. Since matter previously subsisted without the form which now constitutes it, the subsistence of matter was not from ('*an*) the form alone but by means (*bi*) of the form, and by means of the remaining principles. ... If it were from the first principles alone it would dispense with the form, and if it were from the form alone it would not have preceded the form.¹⁶²

Because in the same compound of matter and form different forms alternate in succession, something other than the form must be responsible for the change of different forms within the compound. These are the first principles, which prepare matter to receive form.

What does matter's preparation involve? How does a certain element come to acquire certain qualities?

You must know that potentiality is one thing and that perfect preparation (*isti'dād*) is something else. In matter are all the contraries in potentiality, but it is individuated by one of the contraries ... by way

¹⁶² Ibn Sīnā, *Al-Shifā'*, *al-Ilāhiyyāt*, pp. 411-412.

of a complete preparation which occurs in it and which specifies one thing [to the exclusion of another].¹⁶³

Matter is pure potentiality to receive one of two contraries. Logically, the same subject cannot receive two contraries at once and in the same sense. Hence in unprepared or potential matter are all contraries. Preparation goes hand in hand with individuating it with one of a pair of contraries.

Prime matter does not possess any inherent characteristic of its own. It is mere receptivity and possesses no particular dimensions, extension or divisibility as these already involve a degree of preparation.¹⁶⁴ Even the first preparation is only a preliminary step towards receiving a particular form. 'If matter were in its first preparation, its relation to the two contraries would be alike and one of them would not prevail'.¹⁶⁵

This first preparation has to be a disposition to receive both contraries rather than a true preparation, for it is the true preparation which disposes matter to receive one contrary rather than its opposite. What is perfect preparation? 'Complete preparation (*al-isti'dād al-kāmil*) is but a perfect appropriateness (*munāsaba*) to [receive] something specific, namely that for which it is prepared'.¹⁶⁶ Ibn Sīnā also says that

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¹⁶³ Ibn Sīnā, *Al-Shifā'*, *Al-Ṭabī'iyāt*, *Fi-l-kawn wa-l-fasād*, p. 191. Also in the *Dānishnāmah*, 'The difference between preparation and potentiality (*quvvat*) is that potentiality is the same regarding existence (*būdan*) and non-existence (*nābūdan*); but preparation is [the fact] that one potentiality becomes predominant (*avvatar*)', *Ilāhiyyāt*, p. 159, *Le Livre de Science, Métaphysique*, p. 254.

¹⁶⁴ Goichon, *Livre des directives et remarques*, p. 262, n. 3 'Position et lieu entraînent qu'elle [matière] peut être divisée, et la division postule une forme corporelle parce qu'elle exige une mesure'

¹⁶⁵ Ibn Sīnā, *Al-Shifā'*, *al-Ilāhiyyāt*, p. 411.

¹⁶⁶ *Ibid.*, p. 411.

The things which individuate matter are those which prepare it, the preparer being that through ('*an*) which something comes to exist in the prepared thing ... and that preparation (*i 'dā'd*) makes preponderant (*murajjih*) a certain existence which is more appropriate from (*min*) the principles that bestow forms.¹⁶⁷

The preparation process is twofold, consisting of a general preparation and a specific preparation. In the first stage matter is indifferently prepared to receive two contraries. In the following stage it can only receive one of two contraries. Why the need for two stages in the preparation of matter before the reception of form? It would seem that matter is so removed from form that it must be rendered receptive in general, and then more specifically receptive to a particular form. We learn that what prepares matter also specifies it, and endows it with form. These preparing principles are in the plural.

Two preparing principles are at work, form and the celestial bodies. The circular motion of these is responsible for disposing matter, and these celestial principles are responsible for specifying a form. The form is a principle separate from the celestial bodies, fundamental in actualising the compound. Since this process is separate, there must be something whose task it is to provide the form.¹⁶⁸ This is the giver of forms. 'There flows into this matter, which comes to be in common, [something] of the

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¹⁶⁷ Ibn Sīnā, *Al-Shifā'*, *al-Ilāhiyyāt*, p. 411.

¹⁶⁸ Ibn Sīnā denies that the motion of the stars alone can be cause of beings in the sublunar world acquiring forms. There has to be something that specifically allocates forms here and this has to be the sphere that is closest to us, that is the active intellect. See Ibn Sīnā, *Al-Shifā'*, *al-Ilāhiyyāt*, pp. 413-414. At a lower level a similar process unfolds, for example, in seeking the solution to a problem the geometer is busy drawing while in effect receiving the solution from the *dator formarum*. See Michot, *Dés-altération*, p. 26.

celestial bodies ... that prepares [it] for the form of a simple body. And if this is prepared it obtains the form from the giver of forms (*wāhib al-ṣuwar*)'.¹⁶⁹

According to these descriptions, the preparation of matter, general and proper, is effected by the celestial spheres. 'The spheres (*falak*) concur in producing circular motion, so it is necessary that what is determined by that nature should specify the existence of the matter; and that that which differs in it should be principle of preparation of the matter for the different forms'.¹⁷⁰ After this preparation, matter is disposed to receive a form, furnished by the giver of forms.

The giver of forms is needed because the uniform movement of the spheres alone does not guarantee the assignment of a specific form to matter.

The various things which share species and genus are not alone, without the association of something specific, cause of an essence which is in itself one ... It is necessary then that from the separate intellects, rather the last one ... there should emanate, in association with the celestial movements, something in which are inscribed (*rasama*) the forms of the inferior world ... Then from [the intellect] the forms emanate (*tafiḍu*) into the sublunar substances individually (*bi-infirād*) ... by association with the celestial bodies, and if the compound is individuated by the heavenly influences - with or without the intermediary of an elemental body they give it an individual preparation [*isti'dād khāṣṣ*], after a general one (*'āmm*) ... then a specific form emanates from that separate [intellect] and is inscribed on that matter.¹⁷¹

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Due to the multitude of celestial movements, which are the expression of a desire to attain higher principles, one particular form cannot be singled out for matter,

¹⁶⁹ Ibn Sīnā, *Al-Shifā'*, *al-Ilāhiyyāt*, p. 413.

¹⁷⁰ *Ibid.*, p. 410.

¹⁷¹ *Ibid.*, pp. 410-411.

hence the role of the giver of forms. Those movements are of one genus and species. It is for the giver of forms to isolate forms, with the aid of the celestial spheres.

In the *Dānishnāmah*, the different spheres and intellect are combined to form and prepare matter. The existence of matter depends on several things, the celestial spheres, and form, bestowed by the giver of forms, which renders matter actual in providing forms. Once matter has been prepared through its relation to the celestial bodies, form comes to it through the giver of forms. In the *Dānishnāmah* the celestial bodies seem responsible for both general and proper preparation.¹⁷² The existence of matter and corporeity comes from an intellectual substance, and the specification (*maḥdūd shudan*) and complete preparation from the first body, but Ibn Sīnā also mentions physical preparation through the four elements, and concludes the passage by stating that the forms of the four elements come from a separate intellect.¹⁷³

One scholar, Buschmann, has sought to give a comprehensive account of the process whereby matter, itself formless, becomes ready to receive form. On her interpretation of Ibn Sīnā's theory of matter's preparation, the first form to inhere in matter is the corporeal form. Then the four elements are formed, and influenced by the celestial spheres: in this consists the passive preparation of form.¹⁷⁴ Then intervenes the active intellect, which imparts a form: •

¹⁷² Ibn Sīnā, *Dānishnāmah, Ilāhiyyāt*, pp. 158-159. *Le Livre de Science, Metaphysics*, p. 253.

¹⁷³ Ibn Sīnā, *Dānishnāmah, Ilāhiyyāt*, pp. 158-159. *Le Livre de Science, Métaphysique*, pp. 253-254.

¹⁷⁴ The first form received by matter is corporeal form. 'Avicenna held that the "corporeal form" is a form having a predisposition for receiving the three dimensions, while Averroes identified it with "indeterminate" three-dimensionality", p. 336. It is worth mentioning how Simplicius introduced the corporeal form into the debate on matter. 'Simplicius introduced the "corporeal form" to remove what he considered a contradiction in Aristotle's account of "first matter". Simplicius found that Aristotle's proof for the existence of "first matter" – taken from the transmutation of the elements – implied that this matter is corporeal and extended, while there were passages in Aristotle's works in which he described this matter as incorporeal and unextended. To resolve this apparent contradiction, Simplicius

Die Materie muss also zusätzlich zu der allgemeinen Form der Körperlichkeit eine der elementaren Formen (feurig, luftig, wässrig oder erdig) aufnehmen. Und dazu wird sie durch den Einfluss der Bewegung der Himmelskörper (entsprechend ihrer Nähe oder Ferne) in passiver Weise disponiert. Die actualisierende Form dagegen stammt vom intellectus agens (in seiner geistig – aktiven Funktion, als dator formarum).¹⁷⁵

Thus Ibn Sīnā distinguishes three moments, passive preparation, active preparation, and the imparting of forms by the active intellect.

Elsewhere, Ibn Sīnā speaks not of one but of several intelligences that furnish forms.

The proximate causes join the forms to the matters and to the concomitants (*lāḥiq*) of matter, but you must know that the role of the celestial bodies is preparation (*i'dād*) and making ready ... Like the specific forms which flow (*fā'ida*) from the incorporeal principles.¹⁷⁶

In this text, the proximate causes of certain forms being joined to matter are the celestial principles. These principles are the forms thought by the intellects of the

distinguished between “first matter” which was incorporeal and unextended and the matter immediately underlying the four elements which was corporeal and extended. The latter matter is composed of “first matter” and the “corporeal matter”. Simplicius’ discussion shows a similarity to Plotinus’ account of “matter” and “body”, Hyman, ‘Aristotle’s “First Matter” and Avicenna’s and Averroes’ “Corporeal Form”’, p. 335, n. 3. Also, Stone, ‘Simplicius and Avicenna on the Essential Corporeity of Material Substance’ in *Aspects of Avicenna*, ‘Avicenna argues that corporeity is the first substantial form in matter: a form which all material substances share’, p. 99. Buschmann also speaks of the form of corporeality as ‘potentielle Dreidimensionalität’, not ‘bestimmte Dreidimensionalität’, *Untersuchungen*, pp. 37-38.

¹⁷⁵ Buschmann, *Untersuchungen*, p. 52, also sums up different ‘influences’/similarities to Ibn Sīnā’s theory of (prime) matter. ‘Sie [erste Materie] wie bei Aristoteles, das letzte Substrat der Veränderung, das den Übergang eines Elements in das andere durch seine Indifferenz und die daraus resultierende Unzerstörbarkeit ermöglicht. Sie ist, wie bei den Neuplatonikern, von dem göttlichen Prinzip am weitesten entfernt, ethisch böse und unmittelbar an das Nicht-Sein grenzend. Und sie trägt durch ihre Definition als eine der vier Grundarten des Seins (bei Avicenna “Substanzen” genannt) noch deutlich die Züge des platonischen “apeiron” Und diese Elemente fließen zusammen in einer Definition, die nicht widersprüchlich sein muss, obwohl sie die Materie letztlich als ein logisches Paradoxon definiert: als die Grenze zwischen relativem Sein und absolutem Nicht-Sein’, *Untersuchungen*, pp. 29-30. See also Cruz Hernandez, *La metafísica de Avicenna*, pp. 102-104.

¹⁷⁶ Ibn Sīnā, ‘Commentary on the Theology of Aristotle’, in *Aristū ‘inda al-‘Arab*, p. 40.

celestial bodies. Here Ibn Sīnā speaks not of one celestial principle but several ‘*datores formarum*’.

The account of the preparation of matter and its reception of form through the celestial principles and the *dator formarum* seems to predominate, yet in other passages Ibn Sīnā presents what can be considered two other alternative accounts.

In another passage Ibn Sīnā accounts for the different forms of the four elements by having recourse solely to the celestial spheres and their motion, seemingly doing away with the *dator formarum*.

The elements have a matter which is [commonly] shared, and forms in which they differ. Then it follows necessarily that the difference of their forms is due to ... the difference of the states of the [celestial] spheres ... and that the agreement/conformity (*ittifāq*) of their matter is due to ... the agreement in the states of the spheres.¹⁷⁷

We have already seen that the elements share a common matter, and differ only in form. Thus it is necessary to ascertain where the difference in forms arises, for it is form that determines matter. Ibn Sīnā here states that the differences in the forms are determined by the difference in the states of the celestial spheres. The differences in forms then are related directly to these motions of the celestial spheres.¹⁷⁸ Also, the agreement or conformity of matter to their respective forms is due to the conformity in the celestial movements. This account differs from the one previously presented in that there is no specific mention of the *dator formarum* as required to furnish forms. All formal differences are attributed to the motion of the spheres. It is possible, however, to harmonise the two accounts, if this motion of the spheres is seen as

¹⁷⁷ Ibn Sīnā, *Al-Shifāʾ*, *al-Ilāhiyyāt*, p. 410.

¹⁷⁸ See Davidson, *Alfarabi, Avicenna, and Averroes*, p. 78.

implying the partaking of forms. Because a body cannot influence another body, all causation must be formal, including the preparation imparted by the celestial principles.

However another account, the second which deviates from the preparation as effected by the celestial principles and the *dator formarum*, does not explicitly take form into consideration. It merely portrays a seemingly ‘physical’ preparation, through the four primary qualities.

In the same way that the individual and shared natures in the supralunary world are principles or specifiers (*mu‘ayyināt*) of the specific and shared natures in this realm, equally that which follows from the specific and shared natures in the supralunary realm - ... due to motion is a principle of change and alteration for the states here, and so the mixture (*imtizāj*) of their relations there is cause or auxiliary of the mixture of the relations of these elements. The celestial bodies have an influence on the bodies of this world through the qualities that are proper to them.¹⁷⁹

The disposition which results from the influence of the celestial bodies is effected through the qualities. Here Ibn Sīnā explains that the relations and mixtures between the elements in this world are a reflection of those that occur in the superlunary world. The physical agency of the supralunary elements is also acknowledged by Michot:

En plus des liens purement intelligibles unissant le ciel et l’humanité, Avicenne distingue aussi divers influx que les corps et les âmes célestes exercent sur la corporéité sublunaire; par exemple, la préparation de la matière à la réception des formes, les influences atmosphériques, etc.¹⁸⁰

¹⁷⁹ Ibn Sīnā, *Al-Shifā‘*, *al-Ilāhiyyāt*, p. 412.

¹⁸⁰ Michot, *La Destinée*, p. 105, n.2.

An example of change of form through qualities is given by Ibn Sīnā:

For example if water is excessively heated the extraneous heat is joined to the form of water, the former bearing a distant relation to the form of water and a close relation to the fiery form. If this occurs in excess and the relation becomes more intense, and the preparation (*isti'dād*) becomes more intense, it is the turn (*ḥaqq*) of the fiery form to flow and of the other [form] to disappear.¹⁸¹

Coldness is an essential property of water, so when it is heated, heat being an essential quality of fire, the underlying substrate is prepared to receive the form of fire. If the heating occurs in excess, water is transformed into fire. In this passage the preparing principles, the qualities, dispose matter to the reception of that form. As Davidson explains, 'the new form comes from without, "emanated" from the active intellect'.¹⁸² Although the qualities precede the form in the compound according to this example, in other passages the forms are conceived as preceding their respective qualities. 'For the form of water constitutes the matter of water as a species. That [form] is not sensible and from it issue the sensible affections (*al-āthār al-mahsūsa*), such as coldness'.¹⁸³ On this account first comes the form, which as it were is 'imprinted' on matter and thereafter this combination gives rise to the sensible qualities that pertain to water. In this sense, once matter receives the form of water, it naturally receives coldness rather than heat – although it can accidentally become hot through heating, an example often used by Ibn Sīnā for illustrating a natural accident. In this particular case the watery form seems to constitute the very first preparation of

¹⁸¹ Ibn Sīnā, *Al-Shifā'*, *al-Ilāhiyyāt*, p. 411. See also, Davidson, *Alfarabi, Avicenna, and Averroes*, p. 79.

¹⁸² Davidson, *Alfarabi, Avicenna, and Averroes*, p. 79.

¹⁸³ Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, pp. 34-5. (Āl Yāsīn, p. 102).

matter, for we have seen that there is a common matter underlying the four elements, which is prime matter. From the four elements are constituted all corruptible beings. The theory that form comes before the qualities or accidents is confirmed by a passage from *al-Ta'liqāt*, to the effect that

The form of the thing is its first perfection (*kamālu-hu al-awwal*), and a quality (*kayfiyya*) is its second perfection. The quality becomes more and less intense, while the form does not. Moreover, if the quality is intensified in such a way that it is prepared to receive another form, then this happens through moving and traversing (*sulūk*) from an end (*ṭaraf*) to an[other]. However the form does not move [gradually], rather it is shed suddenly (*daf'atan*).¹⁸⁴

Clearly, matter receives first a certain form before taking on any particularity within any of the nine accidents that together with 'substance' constitute the ten categories. This means that extension is not a characteristic of matter itself, for prime matter is formless, and shapeless. Also, extension immediately recalls the category of quantity, and consequently implies a certain degree of preparedness. This passage denotes that the preparedness of matter is achieved by imparting form to matter. That form itself, such as the form of water, is not itself sensible, but when it is 'impressed' on matter the sensible qualities that we perceive in water arise. These two aspects of the influence of the celestial bodies, through furnishing form and the quality need not be seen as contradictory. For the celestial bodies do not possess the four qualities that they impart.

We have one main account of preparation and information of matter, through the joint action of the celestial bodies and the active intellect and two differing

¹⁸⁴ Ibn Sīnā, *Al-Ta'liqāt*, p. 33.

accounts, (1) through the celestial principles only, (2) through different qualities furnished by the celestial bodies.

These three accounts need not be seen as contradictory. The celestial spheres have their own intellects, and thus act in the capacity of *datores formarum*. As for the last account, which seems merely physical, we must keep in mind that qualities are always attached to forms, and hence the primacy of form is present even in that account. The view of the primacy of form is furthermore encapsulated in the principle that a body does not produce or affect another body.¹⁸⁵ All efficient causality is formal. Testimony to this compatibility has to be the fact that these three accounts are all presented in the same long passage of the *Metaphysics* of *al-Shifā'* about the preparation of matter and heavenly influence on the sublunar elements, and sometimes presented only lines apart in the text. Davidson extracts a unified view from *al-Shifā'*, consisting of different sets of factors. Among the different sets of factors involved in the preparation of matter Davidson distinguishes the 'influences' emitted by the celestial bodies, 'for although themselves free of qualities, the spheres instil the four basic qualities – heat, cold, dryness, wetness – in matter'. He further mentions the motions of the spheres, and finally 'forces indigenous to the sublunar world'.¹⁸⁶ Moreover, according to Davidson, Ibn Sīnā contests the view of a purely mechanical transmission of the qualities from the supralunar world, 'according to which friction transforms the sublunar matter nearest the celestial spheres into fire, while the forms of the other three elements result directly from their distance from the element fire. The hypothesis would, he submits, entail that each portion of prime

¹⁸⁵ Ibn Sīnā, *Dānīshnāmāh, Ilāhiyyāt*, p. 157, *Le Livre de Science, Métaphysique* p. 252.

¹⁸⁶ Davidson, *Alfarabi, Avicenna, and Averroes*, p. 78.

matter first exists without the form of any of the four elements and that it then receives a form by virtue of the place it occupies within the sublunar region and the resulting rapidity with which it moves. But Avicenna contends by way of refutation, matter can never actually exist without the form of an element'.¹⁸⁷

Whatever the different accounts state, the bottom line is that the preparation and production of matter comes from on high, as aptly stated by Michot: 'Le processus de préparation, d'appropriation, de détermination de la matière se résume pour Avicenne à la réception d'une série complexe mais parfaitement ordonnée d'influences provenant d'en haut, du ciel'.¹⁸⁸

Matter and desire

Matter, then, is wholly subordinated to higher principles. Could it be that, as a negative principle, it would by itself attract certain forms to the detriment of others? In the *Shifā'*, Ibn Sīnā forestalls a possible objection to his theory of matter as passivity by propounding the view that matter is devoid of desire.

As for animal desire (*al-shawq al-nafsānī*), there is no disagreement in denying it of hyle (*hayūlā*). As regards the natural preponderant desire (*al-shawq al-taskhīrī al-ṭabī'ī*) ... e.g., when a stone falls in order to regain ... its natural place, this desire too is improperly [said] of matter. It is possible for matter to desire form if there is an absence of all forms or the restlessness (*mulāl*) of a departing form; or if there is dissatisfaction with whatever perfecting forms occur in matter as species. In this case it would be possible for matter to move by itself towards attaining the form as it is [possible]

¹⁸⁷ Davidson, *Alfarabi, Avicenna, and Averroes*, p. 78.

¹⁸⁸ Michot, *Destinée*, p. 70.

for the stone to attain [its] place, if there is a propelling power (*quwwa*) in it, and if it is not devoid of all forms.¹⁸⁹

Matter, then, does not have the kind of desire that characterises animals or inanimate beings. Animals and plants have this desire in the way that they move towards an end, and this end is the perfection or preservation of their natures. But matter does not have an end in itself, rather it ultimately serves the purposes of the celestial spheres and God, and hence does not move or desire by itself. All actuality inherent in form comes from the form(s) it is attached to. Hence matter can only 'desire' if it is already conjoined with a form.

It would follow that matter would not desire the form even after a long period, for the desire occurs to it (*'ārid la-hā*) after a while, not as something in[herent in] its substance, since there is a [external] cause which necessitates it. Also, it is not possible that matter should not be content with what comes to it, or that it should desire all the contraries in itself, which is impossible.¹⁹⁰

Here, too, matter is seen not to desire form by itself, rather by means of an external cause. Because matter can only act through form, its accidental desire of a form would have to be through another form.

As for the preponderant desire (*al-ishtiyāq al-taskhīrī*) it is only towards an end in the perfectible nature, and [in the event that] the natural ends are not impossible. Consequently how is it possible that matter should move towards an end, since the form which joins matter only does so by a cause, [which is] that its existing form is removed not that matter acquires form by its [own] motion?¹⁹¹

¹⁸⁹ Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 20. (Āl Yāsīn, p. 93).

¹⁹⁰ *Ibid.*, p. 20. (Āl Yāsīn, p. 93).

¹⁹¹ *Ibid.*, pp. 20-21. (Āl Yāsīn, p. 93). See Stone in *Aspects of Avicenna* (who also translates this passage), p. 79, "Adapted to every thing", however, as it applies to prime matter, is just such a predicate. It certainly does not mean that prime matter has some positive power by which it actively receives or seeks out form. That is why Avicenna expresses astonishment at Aristotle's suggestion that

Thus matter itself cannot desire anything. This absence of an essential desire is in sharp contrast with the desire that characterises the celestial spheres and directs their continual circular motion.

However, in his *Risāla fi-l-‘ishq* (*Treatise on Love*), Ibn Sīnā states that matter desires form.

As for matter, because it is permanently striving for the lost form and craving (*walū* ^) for the present form, when divested of a form it rushes to exchange it with another form, concerned (*ishfūqan*) that it might adhere to absolute non-existence ... matter is the abode (*maqarr*) of non-existence (*‘adam*) ... it has been established that an instinctive desire (*‘ishq gharīzī*) is in matter.¹⁹²

This passage seems to be in flagrant contradiction with the view expressed in the *Shifā*. There is a contradiction in affirming matter’s desire, as Goichon points out: ‘Si elle [la matière] a cette existence négative, cette sorte de non-être, comment peut elle conserver un ‘amour inné’ pour la forme, tendance positive vers le bien naturel, vers l’obéissance aux lois propres d’une entité?’¹⁹³

Goichon seeks to explain away the contradiction by pointing to Ibn Sīnā’s philosophical system, where every entity occupies its place and is subordinated to a

the matter, so to speak, yearns for the form, as the female (allegedly) yearns for the male: ‘for how is it possible that the hyle could move to the form? The incident form [*al-ṣūra al-ṭāri‘a*] comes to it because its existent form ceases ... not because it [the hyle] acquires it [the incident form] by its motion.’ Matter is ‘adapted to everything,’ rather by virtue of its own indeterminate nature, which does not exclude whatever might attach to it. Neither the genus nor the ‘differentia’ of prime matter, therefore, implies any distinction of form and matter in it. ‘The substance of hyle, and its being hyle in actu, is not any other than its being a substance adapted [for form].’”

¹⁹² Ibn Sīnā, *Risāla al-‘ishq*, (ed. Mehren), pp. 6-7.

¹⁹³ Goichon, *Distinction*, p. 415.

higher good.¹⁹⁴ The language used in the *Treatise on Love* can be said to be less rigorous than the philosophical terminology of *al-Shifā'*, and both versions of matter's desire do not at bottom contradict each other. Even in *al-Shifā'*, Ibn Sīnā speaks of matter desiring form when it is not completely devoid of forms. Thus when speaking of matter, because it has to be assumed within natural philosophy, it has to be assumed to have a certain rank, obtained through the emanation process, and as such desire God like other beings. Philosophically this is not an accurate description and hence it has to be expressed metaphorically.

The usage of metaphorical language is explicitly accepted by Ibn Sīnā. When speaking of prayer and God's fulfilment of human wishes, he states that, in a certain way (*bi-wajh mā*), God is moved by us and answers our prayer, but, in reality (*bi-l-ḥaqīqa*), God is the cause of both our prayers and their fulfilment.¹⁹⁵ In the same sense, it may seem to us that matter possesses a certain degree of autonomy, and this must be assumed in order to understand the functioning of the world order, but in reality everything comes from God (and is created turned towards, and desiring, God), for according to Ibn Sīnā the effect has no influence on the cause, God and the celestial beings in this case.

¹⁹⁴ Goichon, *Distinction*, pp. 418-424.

¹⁹⁵ Michot, *Destinée*, pp. 62-63. See Ibn Sīnā, *al-Ta'īqāt*, p. 48.

Conclusion

The picture of matter that emerges from this analysis of Ibn Sīnā's texts is largely negative. Matter is an entity that must be presupposed for the sake of the system but has no intrinsic, independent reality. In his philosophy, the form reigns supreme, as has been aptly described by Michot:

Avicenne dématérialise le matériel au point de n'en laisser apparaître que des formes ... il s'agit ici d'une sorte de formalisme au carré ... Ce sont des images, des formes de formes, qui constituent pour les hommes les choses matérielles, parce que celles-ci ne peuvent être pour eux que saisies par eux.

Le formalisme d'Avicenne s'étend donc à l'extrême ... ce que le monde sublunaire est en soi, il le doit moins à la matière qu'aux formes qui lui viennent d'en haut, à tous les moments et de tous les points de vue de son être.¹⁹⁶

From the foregoing passages it becomes evident that there is no justification for the view that Ibn Sīnā entertained a twofold theory of matter. Not only does he not ascribe any active role to matter but also the theory that matter is active would be incongruous within his strictly deterministic system. We have seen that matter is not a principle of being. So what should we make of his expression, the 'disobedience of matter'? This expression is metaphorical and must be interpreted in the light of his general outlook on matter. Indeed matter may be recalcitrant but its rejection or incapability of supporting form boils down to a form it possesses and ultimately to higher principles. The disobedience itself must come from above.

¹⁹⁶ Michot, *Destinée*, p. 82.

Moreover, Ibn Sīnā does not think that matter is unpredictable in relation to form, as Ivry states. This is amply shown in an example from the *Physics* of *al-Shifā'*, where Ibn Sīnā talks about knowledge of causes:

When someone sees the moon conjoined with the (pseudo-) planet which is in the degree of the (Moon's) node, and the sun [is] at the other end of the diameter, the intellect judges [that there will be] an eclipse. Equally if he knows that matter is becoming putrescent, he knows that a fever is in the offing.¹⁹⁷

The comparison between the prediction of an eclipse and that of a fever is striking because it brings down the barrier between the celestial and the terrestrial worlds in terms of predictability and stability. It shows that Ibn Sīnā deems matter to be in principle no more unpredictable than the motion of the celestial spheres. As matter is not the principle of anything by itself, it cannot be the principle of something unpredictable. In another passage he says that we only do not know the necessity of every occurrence because we do not know all its causes.¹⁹⁸

Matter, as we have seen, does not act independently:

En soi, il n'y a donc d'action matérielle que par la médiation des formes. Ou, plutôt même, il n'y a pas d'action matérielle du tout ... Une formule du *Livre de la genèse et du retour* résume à merveille le

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¹⁹⁷ Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 11. (Āl Yāsīn, p. 87). The 'pseudo-planet' (*kawkab al-jawzahar*) is the celestial dragon, which, according to Indian mythology, is imagined as moving round the ecliptic in a West-East direction and causing the eclipse of the Moon when in the same degree as it. I am grateful to Charles Burnett for this explanation and translation of the technical astronomical terms.

¹⁹⁸ 'Nothing exists until it becomes necessary. Hence everything has a cause; but the causes of things are not completely known to us; therefore their necessity is not known to us. If we know certain causes then doubt, not certainty prevails ... perhaps another cause is required or an obstacle occurs', *Dānishnāmah, Ilāhiyyāt* p. 89, *Le Livre de Science, Métaphysique*, p. 199. See also, for the relation between the universal order and our failure to understand all its implications, *al-Shifā'*, *al-Samā' wa-l-ʿĪlam*, p. 49.

formalisme avicennien: 'Tout monde est seulement ce qu'il est par sa forme'.¹⁹⁹

Ibn Sīnā's exposition of *ittifāq* and his theory of matter constitute ample evidence that he upheld the view of a strictly determined terrestrial world. Matter is that which characterises the world of generation and corruption and distinguishes it from the celestial world. Since matter is not a principle of indeterminacy, the terrestrial world cannot be contingent on account of it, as suggested by Ivry. In order fully to grasp this systematic view of a determined universe we must now turn our attention to the divine causation that rules the celestial realm.

¹⁹⁹ Michot, *Destinée*, p. 72, p. 73.

Chapter 3

Ibn Sīnā on celestial causation and providence

The treatment of chance and matter belongs to the domain of natural philosophy. Ibn Sīnā's theory of chance and matter goes to show that there are no causeless events or substances in nature, i.e., under the sphere of the moon. The causation ruling the celestial realm must now be discussed in order to ascertain whether Ibn Sīnā's determinism extends to his cosmology.

The necessary and the possible

In his analysis of chance, Ibn Sīnā refers the reader to his metaphysics for clarification of the view that every event has a necessary cause. What does 'necessary' mean in this context? One of the very first concepts to be expounded, the 'necessary', is thus introduced and defined in the metaphysics of *al-Shifā'*: 'The necessary (*al-wājib*) indicates certainty (*ta'akkud*) of existence and existence is better known than non-existence, because existence is known by itself and non-existence is

known, in a certain way, through existence'.²⁰⁰ Ibn Sīnā defines necessity as equivalent to existence, to certainty or affirmation of existence. The assertion that it is known by itself implies that it is a primary intelligible which cannot be defined by anything else. It also means that it is a self-evident concept. Its opposite, non-existence, is understood through existence. The starting point of Ibn Sīnā's metaphysics is thus the necessary. In the same passage, Ibn Sīnā criticizes those who explain the necessary by reference to the possible and the impossible; this would result in a vicious circle.²⁰¹

On this view, necessity is convertible with existence. Yet existence is only one of two concepts fundamentally associated with necessity. The 'necessary' is also convertible with the state of being caused. In *al-Najāt*, Ibn Sīnā states that what is necessary is not necessary because it exists but by virtue of a condition attached to it, such as a cause. The cause is described as a certain necessity or condition: 'The existent is not necessary because it exists, but when a condition is set, namely ... by positing ... the cause and the reason (*al-'illa wa-l-sabab*), not existence itself'.²⁰² Here the existent is not said to be necessary because it exists, but owing to a condition, namely a cause. Are these two views on existence contradictory? Or, alternatively, in the *Metaphysics* passage is he referring to logical necessity, whereby existence and necessity are tautologically identical whilst in *al-Najāt* he is referring to metaphysical necessity, which involves causality?

²⁰⁰ Ibn Sīnā, *Al-Shifā'*, *Al-Ilāhiyyāt*, p. 36.

²⁰¹ *Ibid.*, p. 35. Ibn Sīnā mentions the Ancients (*awwalūn*) as having fallen into this vicious circle, but does not specify which philosophers he has in mind.

²⁰² Ibn Sīnā, *Al-Najāt*, p. 275.

In fact these two views on metaphysical necessity go together. Existing beings are necessary but, moreover, they are necessary by virtue of their causes. The concept of necessity goes hand in hand with the two aspects, existence and being caused.

In a passage from the *Dānishnāmah*, the two senses of necessity appear entwined: ‘Nothing exists until it becomes necessary. Hence everything has a cause’.²⁰³

Everything that exists is necessary and has a cause. It is necessary by virtue of its cause, as stated in *al-Shifā’*: ‘everything that is not necessary through its cause does not exist’.²⁰⁴ Clearly, necessity is here equated with being caused. The cause is that which brings about the existence of the effect. The effect only exists through the agency of the cause.

All beings are necessary in the sense that they exist. However, the usage of necessity as cause has one exception – God. God is necessary in Himself, not through a cause. Only God is necessary in every aspect. The reason for this is that in Him existence and essence are identical, as stated by Goichon: ‘Est nécessaire, l’être dont l’existence fait partie de l’essence, ou mieux, dont l’existence, l’être, est l’essence même’.²⁰⁵ Whatever is possible for God is immediately necessary for Him.²⁰⁶ There are no unrealised possibilities or potentiality in God. As for other beings, necessary by virtue of another, their necessity and existence depend on a cause. Thus every

²⁰³ Ibn Sīnā, *Dānishnāmah*, *Ilāhiyyāt*, p. 89; *Le Livre de Science, Métaphysique*, p. 199.

²⁰⁴ Ibn Sīnā, *Al-Shifā’*, *al-Ilāhiyyāt*, p. 385.

²⁰⁵ Goichon, *Distinction*, p. 159. ‘C’est l’identification de l’essence et de l’existence qui fait la nécessité de l’Être premier, et le pose, de droit, comme cause première efficiente’, p. 165. As the only existent by itself, God is the only (efficient) cause of all existence and all existing beings, *Distinction*, p. 180.

²⁰⁶ Ibn Sīnā, *Al-Najāt*, p. 265.

being that is necessary through another is possible in itself.²⁰⁷ The concepts of necessity and possibility are jointly applicable to actually existing beings. All actually existing beings divide into necessary in itself, in effect only God, and necessary through another, all beings other than God.

Both the necessarily existent and the possibly existent have a proper [quality] (*khāṣṣ*). We say that the things that begin to exist bear in the intellect a twofold division: the existence of something is not necessary if that thing is considered in itself. It is equally obvious that their existence is not impossible, otherwise they would not begin to exist. [In this sense] this thing is in the realm of possibility. In addition, there is among the existents that which, when considered in itself, is necessarily existent. We say that the necessarily existent by itself has no cause and that the possibly existent by itself has a cause. The necessarily existent by itself is necessarily existent in every aspect.²⁰⁸

Ibn Sīnā divides all existents into possible in themselves and necessary in themselves. That which is necessarily existent by itself has no cause, and the possible existent in itself requires a cause for its existence. They both exist, so the necessarily existent is without cause and the possible existent with cause. Moreover every actually existing being is not just possible in itself, but at the same time necessary through another. ‘The possible [existent] does not exist as long as it is not necessary’.²⁰⁹ In his metaphysics, Ibn Sīnā identifies ‘possible’ with ‘non-existent’: ‘Avicena utiliza a veces el término *posible* ... tanto como opuesto a *lo necesario*,

²⁰⁷ Ibn Sīnā, *Al-Najāt*, p. 262.

²⁰⁸ Ibn Sīnā, *Al-Shifāʾ*, *al-Ilāhiyyāt*, p. 37.

²⁰⁹ Ibn Sīnā, *Al-Taʾlīqāt*, p. 83. The usage of the term ‘necessary’ for God as well as other beings is analogical. Goichon uses the term ‘analogy’ to translate *bi-ishtirāk*, See *Distinction*, p. 178. See also, Madelung and Mayer, *Struggling with the Philosopher*, pp. 11, 37-38.

como a *lo actual*; es decir, que confunde posible con potencial, pero esto es una secuela de la exclusión de la contingencia'.²¹⁰

Nothing possible or contingent (that can be or not be at the same time) actually exists as possible, but only as rendered necessary by its cause. Consequently, what exists through another would deserve non-existence if it were considered in isolation.²¹¹ Because of the dependence of possible beings on their causes in order to exist, contingent beings have an intrinsic tendency towards non-existence.²¹² According to Ibn Sīnā nothing comes to be or perishes by itself, i.e., without a cause.²¹³ The reference to that which necessarily exists from every aspect also recalls the expression used by Ibn Sīnā to refer to the First. The distinction between the First as necessarily existent by itself and all other beings as possible in themselves and necessary through another, namely their causes, is laid out in his metaphysics.

It is obvious that the necessarily existent has no cause. For if the necessarily existent had a cause, it would exist through that cause. The existence of everything that exists through something [else], if it is considered by itself without something else, is not necessary.²¹⁴

Whatever is necessary by itself is not necessary through a cause. The same thing cannot be necessary by itself and through another. These are mutually exclusive.

²¹⁰ Cruz Hernandez, *La metafísica de Avicena*, p. 113.

²¹¹ 'Certes, en tant que telle, l'existence n'est pas quelque chose qui varie en plus ou moins: on existe ou l'on n'existe pas. D'autre part, en tant qu'intrinsèquement possibles et nécessaires par Dieu seulement, toutes les créatures, de la première intelligence angélique au plus humble objet matériel, ont un même statut négatif', Michot, *Destinée*, p. 58. Janssens states that 'it is a common Avicennian doctrine that the possible Being in itself inclines rather to non-Being than to Being, and that every created Being is a contingent Being, what is best exemplified by his radical essence-existence distinction', Janssens, 'Creation and Emanation in Ibn Sīnā', p. 471. See also, *ibid.*, p. 474. See also Vajda, 'Notes d'Avicenne sur la "Théologie d'Aristote"', p. 383, n. 4.

²¹² See previous note. For the view that creation by God consists in continuously giving existence and taking away non-being see *al-Mabda' wa-l-ma'ād*, p.77, p. 55 of the French translation by Michot.

²¹³ Ibn Sīnā, *Al-Najāt*, p. 278.

²¹⁴ Ibn Sīnā, *Al-Shifā'*, *al-Ilāhiyyāt*, p. 38.

Therefore the true necessarily existent obtains its existence from none other than itself. If something is caused, it must be necessary through the cause, not by virtue of itself.

The possibly existent has to become necessary through a cause, and in relation to it. For if it were not necessary, it would be when the cause exists, and in relation to it, also possible, and it would be possible for it to exist without being specified (*mutakhaṣṣiṣ*) with regard to one of the two [existence or non-existence].²¹⁵

Clearly, the cause determines the existence of its effect, and determines also which contrary comes into existence, otherwise an impossibility would ensue. For example, two contradictory qualities cannot inhere at the same time in the same subject. Something that can be and not be at the same time in the same sense would constitute a violation of the principle of non-contradiction. Here, Ibn Sīnā speaks in abstract about necessity in itself and necessity through another, and beings that are necessary in themselves and beings that are necessary through another. However, if we consider this principle with reference to the beings which exist in the supralunary and sublunary realm we see that the First is the only being necessary in itself, whilst all other beings are necessary through another, possible in themselves. The First does not have any opposite, unlike material beings, and hence there is nothing external to it that could determine which of two opposites would come into existence. Also, the possibility inherent in perishable beings is only theoretical and pertains to their essences rather than to existence. Whatever exists is necessary, i.e., through its cause. The cause determines both the thing's existence and equally its specific qualities. As

²¹⁵ Ibn Sīnā, *Al-Shifā'*, *al-Ilāhiyyāt*, p. 39.

a result of this whatever exists could not have been otherwise because the cause determines the way it should be. Ibn Sīnā's determinism is formulated at this purely ontological level, as it is based on the general view that nothing comes from nothing, a theory which in principle eliminates the possibility of spontaneous events.²¹⁶ Also, Ibn Sīnā says that there is nothing in the effect which is not in the cause. Whatever actual quality accrues to the effect, does so through the cause.

The metaphysical concept of the possible can be gleaned from Ibn Sīnā's analysis of the necessary. By exclusion, possible is what is not necessary. Since necessary is in any case what exists – with the added understanding that it is uncaused in God's case – what is possible is the non-existent. The possible *tout court* is the non-existent which is equally not impossible, namely that which in principle has no preponderance towards existence or non-existence. In metaphysical terms, the possible is the opposite of what is in actuality.²¹⁷ The possible in itself, necessary through another, exists, but its possibility in this case means simply that it does not exist by itself. This neat pairing of the necessary with existence and possibility with non-existence is itself deterministic. As Goichon neatly puts it, commenting on the view that the possible in itself is necessary through another: 'C'est seulement dans un système d'où liberté et contingence sont bannies ... que la conversion de cette proposition est légitime'.²¹⁸

²¹⁶ According to Sorabji, this theory was stated already by Parmenides, see *Time, Creation, and the Continuum*, p. 246.

²¹⁷ Goichon, *Distinction*, p. 164. She says in the same page: 'Le possible réalisé reste possible par nature, mais il est dans l'état de réalisation nécessaire'.

²¹⁸ *Ibid.*, pp. 162-163.

Emanation

In order to understand how God, necessarily existent by itself, determines the existence of beings that are possible in themselves, necessary through another, one has to have a close look at the emanation process through which the celestial realm that governs everything below the sphere of the moon comes into existence.

The concepts of necessary and possible play a crucial part in the emanation process, which starts in the First. Although the emanation theory has traditionally been considered Neoplatonic, in the Arabic Islamic philosophical tradition it is based on the Aristotelian notion that God is self-thinking intellect. By God's self-thinking process, as a necessary concomitant, there arises a first intellect, detached from the intellect that is God.

From the first intellect, then, by thinking the First, there necessarily follows the existence of an intellect below it, and by thinking itself [there follows] the existence of the form of the furthest sphere (*al-falak al-aqṣā*), and its perfection (*kamāl*), which is the soul. Through the nature of the possibility of the existence which comes to this intellect comprised in its intelligising itself [there follows] the existence of the corporeality of the furthest sphere ... this being what is tied up with potentiality.²¹⁹

²¹⁹ Ibn Sīnā, *Al-Shifā'*, *al-Ilāhiyyāt*, p. 406. The emanation process is summarized by Janssens thus: 'Ibn Sīnā (Avicenna) presents in his metaphysics a triadic emanationistic structure. Each higher Intelligence is the source of a further Intelligence, and of the soul and the body of the sphere proper to it. This threefold emanation is due to a threefold understanding, i.e., one of God, as the ultimate necessary source, and one of itself as possible, divided however into two moments: possible *in se*, and necessary *ab alio*.' Janssens, 'Creation and Emanation in Ibn Sīnā', p. 455. Janssens also mentions an important innovation in Ibn Sīnā's reading of the Neoplatonic *Theology of Aristotle*. By introducing 'the attribute of will in God's primary action' Ibn Sīnā rejects the view that the process of emanation is automatic and unfolds regardless of God's will or knowledge, p. 459, and states that 'in sharp contrast

According to Ibn Sīnā there are several separate intellects, but they do not originate from the first, divine, intellect directly, rather each of them follows from the previous one in succession, and below each intellect there is a sphere with its own matter and form. This form is its soul. To account for the existence of these successive intellects with their own body and soul Ibn Sīnā puts forth the emanation theory. The cause of this process is self-reflective thought on the part of each intellect.

The description of the process in the passage quoted above starts with the first intellect emanated from the First. From the First itself no multiplicity ensues, in accordance with the principle that from one only one proceeds, to which Ibn Sīnā strictly adheres. The fundamental separation between God and His Creation is highlighted by this principle and the view that creation and emanation are separate from God's essence. Hence there is no question of created beings participating, in the Platonic sense, in God's existence, or their existence being a direct continuation of God's existence.²²⁰ Why the insistence on God's producing only one effect? Because

to the *Theologia Aristotelis*, he never posits that the created things are generated "by God's Being alone", p. 458. For Hyman, the emanation process is Ibn Sīnā's account of God's creation of the world. See 'Aristotle, Algazali and Avicenna', p. 79. In the *Kitāb al-hidāya* (Book of Guidance) Ibn Sīnā offers a model of emanation which is different and simpler than the one put forth in *al-Shifā'*: 'La descrizione dell'intellezione angelica data nel *Kitāb al-Hidāya* è interessante perchè sembra distaccarsi da quanto affermato nello *Shifā'*. Dall'intellezione che le intelligenze hanno del Necessariamente Esistente, che le causa necessariamente, proviene ogni volta un'intelligenza; dall'intellezione che esse hanno di se medesime in quanto meramente possibili in sé, proviene "una natura possibile che ha un'anima". È l'anima del corpo della sfera. Ciò che è notevole è come Avicenna adotti qui uno schema doppio in luogo di quello esplicitamente triadico dello *Shifā'*' This means, according to Lizzini, that the body in this twofold scheme is less autonomous from the soul than in the threefold scheme, 'La metafisica del *Libro della guida*', pp. 381-2. In the *Kitāb al-mabda' wa-l-ma'ād* he has a tripartite scheme, see pp. 79-80, pp. 56-57 of Michot's French translation.

²²⁰ See Janssens, 'Creation and Emanation', p. 458.

God's self-thinking activity is one with God, if His thought were itself multiple, one would have to ascribe multiplicity to God. Hence only through the first cause can multiplicity arise. Moreover, in spite of the multiplicity involved in the emanation procession, Ibn Sīnā states that the first emanated intellect, a product of God's self-thinking thought, is in itself removed from this multiplicity and passivity, thus stressing His transcendence.²²¹

What is the cause of multiplicity, if God is simple? It originates through the first emanated intellect which, by contemplating the First, gives rise to an intellect below itself. By thinking itself, it produces a soul as a concomitant, which is a form of the sphere. Corporeality comes to be when the first emanated intellect becomes aware of its intrinsic possibility.²²² This possibility consists in the fact that it only exists through a cause, namely the First, or God. Two main elements, then, are involved in the emanation process as conceived by Ibn Sīnā. One is self-reflective thought and the other the metaphysical modalities of possible and necessary. The different emanated intellects, and the heavenly souls and bodies are a product of this 'unfolding' of the subject. The notions of possibility and necessity, as perceived by the created intellects, are used by Ibn Sīnā in an original way as having a causative function. All

²²¹ 'The first of the existents [coming] from the first cause is one in number. Its essence and quiddity are one, [and do] not [inhere] in matter. Hence none of the bodies or of the forms which are perfections of the bodies is a proximate effect (*ma'lūl qarīb*) of the First. The first effect is pure intellect ('*aql mahd*'), because it is a form which is not in matter. It is the first of the separate intellects which we have enumerated and it seems that it is the principle which moves the furthest body by way of desiring', Ibn Sīnā, *Al-Shifā'*, *al-Ilāhiyyāt*, p. 404.

²²² 'That which is nobler (*al-afḍal*) follows that which is nobler in different ways. Hence it necessarily follows from the first intellect, inasmuch as it thinks the First, the existence of an intellect [originating] from it, and inasmuch as it thinks its essence, from it follows the form of the furthest sphere and its perfection, namely the soul. Inasmuch as it is possibly existent in itself there necessarily follows from it the existence of the corporeality of the furthest sphere, that which is associated with potentiality, namely the body' Ibn Sīnā, *Al-mabda' wa-l-ma'ād*, p. 79. See also Michot's translation, Avicenne, *Livre de la genèse et du retour*, (by Michot), version exploratoire, p. 57.

emanated intellects are aware of their contingency, or ‘possibility’ to use Ibn Sīnā’s terminology, because they are caused.²²³ The role of modal notions here is crucial in that corporeality, and with it materiality, ensue upon the awareness by the first intellect of being contingent on God. In its capacity as effect, rather than cause, it is passive, and this passivity translates into materiality, apparent in the emergence of the intellect’s body, its sphere. The ‘matter’ which is to be found in the celestial realm is a result of passivity/potentiality, rather than created separately as an individual and autonomous entity; as such it results from wholly intelligible principles.²²⁴ It must be noted that while corporeality differs from materiality, it presupposes the latter, since the form constituted by the soul must inhere in matter. Ibn Sīnā often states that matter alone has no substantiality. ‘Every form is cause of its [own] matter becoming actual, as matter itself has no subsistence (*qiwām*)’.²²⁵ Thus the self-thinking process of the first intellect emanated from the First generates intellect, form and corporeality.

²²³ There is no exact term for ‘contingency’ in Ibn Sīnā’s Arabic, but one can say that his use of the term ‘possible’ for what is possible in itself, necessary through another fits that description, for those beings depend on a cause for their existence, hence they are contingent upon that cause. Goichon expands on these modal notions in Ibn Sīnā ‘La notion de contingent apparaît encore ici, bien que Ibn Sīnā n’ait pas de terme propre pour la désigner. De nouveau, “le possible” avicennien se partage en deux classes: ce qui peut être, le possible au sens de la scolastique latine; et ce qui peut ne pas être, le contingent. Mais les raisonnements portent tous sur le possible au sens large et les idées de “nécessaire par autrui” et d’“impossible par autrui chassent la contingence”’, Goichon, Ibn Sīnā, *Livre des Directives et remarques*, p. 358 n. 2. Since whatever exists is necessary through another, namely its cause, there are no contingent beings in the sense that they could be otherwise. A reason for the absence of the term may lie in the Arabic translations. Puig Montada suggests that the term ‘*endechómenos*’, ‘contingent’, was translated as *mumkin* in the Arabic version of Aristotle’s *De interpretatione*. See *Potencia y posibilidad*, p. 434.

²²⁴ Ibn Sīnā states in this context that ‘it is not possible for every preceding body of the spheres to be the cause of the following [body], because the body inasmuch as it is a body cannot be the principle of a body’, *Al-Ilāhiyyāt*, p. 407. See also *al-Najāt*, p. 314.

²²⁵ Ibn Sīnā, *Al-Shifā’*, *al-Ilāhiyyāt*, p. 409.

This process is then repeated, until a total number of ten intellects and nine spheres is reached.²²⁶

The separate intellects, although they generate multiplicity, are not multiple in themselves. The only multiplicity to be found in the separate intellects is generated by the necessary/possible dichotomy.

Other than the First all beings possess a certain degree of potentiality. However, in the separate intellects, the intellects of each sphere, this potentiality is restricted to a minimum, i.e., the fact that they are possible in themselves. The souls and especially the bodies have a greater degree of potentiality. Even so, this potentiality differs greatly from sublunar matter for the celestial spheres only suffer one kind of change, change in place, while corruptible beings suffer in addition to local motion also change in quantity, quality, and substance.²²⁷ The separate intellects are not subject even to local motion. The degree of potentiality and materiality increases in proportion to the degree of separation from the separate intellects and God.

Further to the issue of matter and potentiality, it has to be said that the first emanated intellect is not associated with matter. It is an essence, a form without matter. Does this not fly in the face of Ibn Sīnā's repeated assertion that form is never found in isolation of matter? For the solution to this apparent contradiction, one must think of the first emanated intellect in this case independently of the soul and body which emanate from it. In itself, regardless of what it emanates, it is detached from

²²⁶ For a succinct description of Ibn Sīnā's cosmological system, see Davidson, *Alfarabi, Avicenna, and Averroes*, p. 74. According to Davidson the reason why the emanation of spheres does not go on ad infinitum: 'As intelligences succeed one another, their power diminishes, and because the active intellect stands low in the hierarchy its power is no longer sufficient to emanate eternal beings like those emanated by the intelligences above it', *ibid.*, p. 76. This is in line with the Aristotelian and Ptolemaic cosmological models.

²²⁷ Ibn Sīnā, *Al-Shifā', al-Ilāhiyyāt*, pp. 389-390.

soul or body. In this it differs from the first soul, which is connected with the first sphere. The affirmation that the first emanated intellect is separate is a means of stressing the transcendence of the First. It serves as a buffer between the unity of God and the multiplicity generated through emanation; as we have seen, it is Ibn Sīnā's concern to stress that nothing participates in God's existence and His oneness – there is no *shirk* or association between God and other beings in his system. This first intellect is related to the first soul and body as a principle of motion, inasmuch as it is desired by the first soul. Another way of stressing the separation between God and His creation, pointed out by Janssens, is the creation's being a concomitant of God, thus an accident, as the emanation is separate from God's essence.²²⁸ Although God is in no way connected with materiality, He is the ultimate cause of all emanated bodies. The efficient principles which determine the emanation process are all spiritual or immaterial. In the celestial world efficient causality is intellectual rather than material.²²⁹

In a passage of *al-Shifā'*,²³⁰ Ibn Sīnā states that the principle of motion is the first emanated intellect, not God. However, in the same section of *al-Shifā'*, Ibn Sīnā had previously said that there is 'an infinite, incorporeal power ... which is the principle of the first movement'.²³¹ Ibn Sīnā seems to be referring to God as this infinite non-material power. In moving others it remains still, and necessarily moves others by means of another mover. This contradiction can be solved by distinguishing

²²⁸ Janssens, 'Creation and Emanation in Ibn Sīnā', p. 458.

²²⁹ Ibn Sīnā, *Al-Shifā'*, *al-Ilāhiyyāt*, p. 408. Also, *Dānishnāmah, Ilāhiyyāt*, p. 157, 'Because a body does not come to be (*nabūd*) from a body, it is not possible that the cause of their existence [of the corruptible bodies] should be the first bodies alone', *Livre de Science, Métaphysique* p. 252.

²³⁰ Ibn Sīnā, *Al-Shifā'*, *al-Ilāhiyyāt*, p. 404.

²³¹ *Ibid.*, p. 373.

between the two views - that on the one hand God is the principle of motion and on the other the first emanated intellect is that principle - by stating that God is indirectly, the first emanated intellect directly, the principle of motion. The difference between the two statements is significant – we shall see that Ibn Rushd strongly criticises Ibn Sīnā for departing from the Aristotelian theory of God as the Prime mover and principle of motion.²³²

After having examined Ibn Sīnā's description of the emanation process, the relation between the metaphysical modalities of necessity and possibility and the First becomes clearer.

The principle of the whole is an essence necessarily existent, and the necessarily existent renders necessary that which it brings into existence ... otherwise it would have a state which it did not have [before] and it would not be necessarily existent in every way.²³³

The necessity of existence of the First is linked with the fact that it is uncaused; as such it cannot not exist, for it is not dependent on a cause for its existence. Also the First is convertible with existence, for it is impossible to consider it as not existing. The remaining existents have no intrinsic necessity, and are rendered necessary through an external cause.²³⁴ Because God is pure existence only He produces their existence.²³⁵

²³² See Wolfson, 'Averroes' Lost-Treatise on the Prime Mover', p. 685.

²³³ Ibn Sīnā, *Al-Shifā'*, *al-Ilāhiyyāt*, p. 376.

²³⁴ Ibn Sīnā, *Al-Najāt*, p. 261.

²³⁵ 'L'existence, l'être, est donc l'essence pour l'Être nécessaire. ... Le 'nom' d'être nécessaire peut donc devenir commun à l'Être indépendant et aux êtres dépendants ... Il y a donc, avec la communauté de nom, une similitude de proportion en même temps qu'une diversité de nature. C'est ce que confirme l'emploi constant des expressions "être nécessaire par soi" et "être nécessaire par autrui"', Goichon, *Distinction*, pp. 177, 178.

An issue often debated with regard to emanation as conceived by Ibn Sīnā lay in its relation to the Islamic account of creation. Some, like Goichon, expressed her reservations and problems that this emanationist model is not wholly compatible with the Islamic creationist model. Others, like Janssens, have sought to show the convergence between the two models and the Islamicity of Ibn Sīnā's model. The Neoplatonic model goes hand in hand with the view that creation issues necessarily from God, and is at odds with the voluntarist model, propounded by Islam.

What prompts God's creating activity? In one sense God's power overflows in such a way that Creation issues necessarily from Him, in the sense that He had to create.²³⁶

The First's intellection (*ta' aqqul*) is cause of existence ... and this existence ... is by way of concomitant necessity (*al-luzūm*) and follows the First's existence. However, His existence is not for the sake of the existence of something other than Him[self].²³⁷

This emanation results from the First's self-thinking activity, and unfolds by concomitant necessity, *luzūm*.²³⁸ The term *luzūm* implies a closer link between cause and its effect than the term *wujūb*. More specifically, the process of the world's creation is a result of God's love for Himself and the consequent exteriorisation of

²³⁶ 'The idea of overflowing [underlying the term *fayḍ*] is nevertheless unambiguously expressed in terms of pure necessity. This necessary character is still more predominantly present in the *Theologia*'s use of *inbajasa*, the 'gushing forth', [... a] plainly automatical process', Janssens, 'Creation and Emanation in Ibn Sīnā', p. 457.

²³⁷ Ibn Sīnā, *Al-Shifā'*, *al-Ilāhiyyāt*, p. 403.

²³⁸ Also in *al-Mubāḥathāt*: 'what is the proof that creation (*khalq*) is among the 'concomitants' (*lāzim*) of the necessarily existent by itself? R[eply]: because creation is an effect, and we have shown that the effect does not exist so long as it is not necessary', p. 112, §§ 256, 257. This goes to show that the *lāzim* necessarily attaches to its cause. Also, necessity is transmitted to the effect.

His essence. While creation is a necessary concomitant of His thinking activity and love for Himself, it is not the cause but the result of His majesty.²³⁹ Thus creation is a reflection of God's goodness.

Yet Ibn Sīnā, as stressed by Janssens, explains that this emanation is voluntary rather than natural: 'The universe does not come to be from Him naturally (*'an sabīl al-ṭab'*) ... i.e., without [His] knowledge (*ma'rifa*) or by His consent (*riḍan*) ... as He thinks himself as pure intellect (*'aql maḥḍ*) and first principle'.²⁴⁰ Emanation is a voluntary rather than natural process because it implies knowledge on the part of God. Also, the different divine attributes, such as His knowledge and His power are one with God, and both intervene in the process of creation. As there is no obstacle to his self-thinking activity, because He is not conditioned by any cause or external factors, the world must necessarily emanate from Him.

Another topic, that shall be discussed later, is that the First does not produce its effects for the sake of them. This is in line with the view that the superior is not for the sake of the inferior, a theory which underlies Ibn Sīnā's theory of providence, on which more later.

The importance of this emanationist model for the purpose of the discussion of determinism is manifold. According to this model, all supralunar existents are strictly determined by the First. There are no breaks in the direct chain of causes that arise in God and terminate in the last caused being of the supralunar realm. Crucial in

²³⁹ Michot, 'Dés-altération', p. 31. Creation is a manifestation or revelation of God's existence, or an analogue of God at a lower level: 'l'inférieur comme dés-altération/épiphanie de la réalité supérieure dont il participe, à laquelle il est associé: telle semblerait être pour Avicenne ... la clef permettant d'expliquer ... le *secret* même de la création', p. 27.

²⁴⁰ Ibn Sīnā, *Al-Najāt*, pp. 310-311. Reading *wujūd* instead of *wujūb*, p. 311, l. 1.

connection with the discussion on determinism is the mode of causation described in this passage. Necessary in itself, the First lends its creatures a qualified kind of necessity, in that they are necessary through their causes, and ultimately through the First. The kind of divine necessitation described here fits neatly into the definition of determinism given in the introduction to this dissertation, namely that whatever exists does so through a necessary cause, with the implication that it could not have been otherwise. Ibn Sīnā's determinism is rooted in his model of divine causation and his understanding of emanation as necessary causation.

Causation in the supernal world: desire

Causation in the supralunary world can be seen to work in two different, but not contradictory, ways, namely as final causation and as efficient causation. The former commences in the foremost efficient cause, God, and descends through to the last intellect and sphere, thus reaching the lower confines of the celestial realm and proceeding to the terrestrial realm. This descending process is known in Neoplatonic philosophy as emanation.²⁴¹ The latter highlights, in an ascending direction, the motion of the spheres due to their souls and intellects, finally reaching the final cause *par excellence*, God. This movement is prompted by the desire of the celestial souls for God.

The movement of the spheres is due to the soul and its faculty of imagination.

²⁴¹ These two aspects of Ibn Sīnā's system presents a certain parallelism with his conception of *mabda'* and *ma'ād*, whereby 'à un mouvement descendant du plus parfait au moins noble fait suite un mouvement ascendant, un retour allant du plus vil au plus parfait' Michot, *Destinée*, p. 11. Lizzini stresses the intimate link between emanation and the return to God. See 'La Metafisica del *Libro della Guida*', p. 381.

The [celestial] sphere moves by virtue of the soul. The sphere's soul is the principle of its proximate movement, and that soul has renewed imagination and will. It imagines, i.e., perceives changing things, like particulars, and wills particular things in themselves. The soul is the perfection (*kamāl*) of the body of the sphere and its form'.²⁴²

The celestial spheres can be understood by analogy with human beings. They have bodies, although incorruptible, unlike human bodies. Each sphere possesses a soul and an intellect. The celestial intellects are separate, i.e., wholly immaterial. Furthermore, these intellects perceive universals. Only the soul of a celestial sphere, which is not detached from the body of the sphere, perceives particulars. 'The moving soul ... is corporeal, mutable (*mustahīla*) and changeable (*mutaghayyira*), and is not detached from matter, its relation to the sphere is [like] the relation of our animal soul [to our body]'.²⁴³

The proximate cause of motion, then, is a soul. The intellect occupies itself solely with universals, and cannot be cause of motion. The cause of motion must be something that conceives, desires and produces something particular, namely the motion of its respective sphere. The intellect alone does not produce anything changeable or potential; 'If the soul subsisted by itself in every way, it would be pure intellect, which does not change ... and would not be mixed with what is in potentiality'.²⁴⁴

²⁴² Ibn Sīnā, *Al-Shifā'*, *al-Ilāhiyyāt*, p. 386.

²⁴³ *Ibid.*, p. 387. In other texts this soul is also an intellect. See Michot, *Destinée*, pp. 113-114.

²⁴⁴ Ibn Sīnā, *Al-Shifā'*, *al-Ilāhiyyāt*, pp. 386-387.

The soul perceives and desires particulars because it is the form of a body, the sphere.²⁴⁵ If the soul were like the intellect, it would not move and as a result there would be no change in the supernal world. By functioning as form of the celestial body, the soul is its perfection or actualisation. Yet because it is attached to a particular body it conceives all kinds of particular imaginings and thus produces motion and change.

Motion is caused by desire. Each sphere desires and seeks to imitate its own intellect, and owing to this possesses its own particular motion. Yet ‘the first cause is desired by all in common’.²⁴⁶ This desire, which is characteristic of the soul, not of the intellect, results in the continual movement of the sphere in question. Ibn Sīnā affirms that this movement of the planets arising from their desire takes place in a necessary way. We, however, ignore the particulars of the necessity whereby this process takes place.

While the soul of each sphere desires its own intellect, all celestial souls desire the first cause, God. This motion by desire resembles a celestial worship. ‘The principle of this motion [of the celestial sphere] is desire and choice ... this movement is not intended according to primary intention. Moreover, this motion resembles a certain angelical or celestial worship’.²⁴⁷ This motion is not only by desire, but by will and choice. This means that it occurs neither by force nor by

²⁴⁵ Yet there is an evolution in Ibn Sīnā’s thought concerning the celestial souls towards a more immaterial conception: ‘Conçus, selon la *Métaphysique*, comme des âmes corporelles capables d’un certain mode d’intellection, les anges célestes deviennent ainsi, dans les *Ishārāt*, “des âmes raisonnables non imprimées dans leurs matières mais ayant avec celles-ci un certain lien”. Et, dans les *Gloses*, il est question non seulement de “l’âme animale de la sphère” mais, aussi, de son “intellect séparé”’. Michot, *Destinée*, p. 114.

²⁴⁶ Ibn Sīnā, *Al-Shifā’*, *al-Ilāhiyyāt*, pp. 400-401.

²⁴⁷ *Ibid.*, p. 391.

nature. Even though one can metaphorically claim that motion is natural to these celestial bodies, voluntary agency is more properly said of it because this movement occurs knowingly, whereas natural efficient agency does not involve knowledge. For instance, a stone will fall to the ground naturally, not voluntarily. Voluntary action is the prerogative of beings endowed with knowledge, like humans and the celestial souls. This motion is not intended for its own sake, but is the result or 'side-effect' of their attempt to imitate their intellects and God, hence Ibn Sīnā's affirmation that this movement is not according to primary intention. The true goal or final cause of the soul is the imitation of its intellect. The motion results as a secondary feature. 'From the very desire to imitate the First in as much as it is in actuality there emanates the celestial motion in the way that the thing imagines that which necessitates it, even if the thing/the emanation is not intended by itself according to primary intention'.²⁴⁸ The celestial motion emanates necessarily from the desire of the celestial soul to imitate the First. It follows upon the soul's imagination of the higher principles. This process of emanation which leads to the motion of the spheres derives from the wish to imitate the First according to secondary intention.²⁴⁹ Therefore the emanation process and the motion it produces are not sought for their own sake. The expression

²⁴⁸ Ibn Sīnā, *Al-Shifā'*, *al-Ilāhiyyāt*, p. 390. Conversely, 'the arrangement of the Beings, emanating from the First, is not because what is aimed at in them is this (litt. the) order, but they only possess this (litt. the) order, because it is willed by the First, and this being willed by the First is identical (*nafs*) with this (litt. the) order' Ibn Sīnā, *Al-Ta'liqāt*, ed. Badawi, Cairo, 1973, p. 49, 11-12, translated by Janssens, in 'Creation and Emanation in Ibn Sīnā', p. 459.

²⁴⁹ The motion which results from the love of the spheres towards God is a side effect of their love: 'pour toute créature, il n'est d'activité qu'à titre de conséquence, ou rejaillissement, de sa propre conversion vers le Bien qui est son principe. En d'autres termes, il n'est d'action qu'à titre d'effet secondaire' d'une quête du Principe et c'est cette quête même qui assure la valeur bénéfique de cet effet. Ainsi, ce qui meut le ciel, c'est la force même de l'amour avec lequel l'ange extatique contemple son principe ... et cherche à s'assimiler à sa perfection, assurant de la sorte la transmission des grâces d'en haut vers les univers situés en contrebas. Non recherché en lui-même, ce mouvement est la suite, la conséquence, le concomitant accompagnant nécessairement cet amour', Michot, 'Dés-altération', p. 30.

‘according to secondary intention’ implies that certain things are sought for their own sake, imitation of the First in this instance, while others derive from that primary activity. Moreover, this expression alludes to the principle that what is inferior is a result of what is superior. Motion is a side effect of the imitation process and the desire of the sphere’s soul for what is above it, namely its own intellect. Equally, God creates as a side-effect of His self-thinking activity and love for Himself.

The emanation and desire processes are at bottom identical, God reveals Himself in his creation as manifestation of His essence and through desire the created beings associate themselves to God’s project. The correlation between the two processes is stressed by Michot: ‘Chaque fois, le processus de nature inférieure n’est pas le processus de nature supérieure et celui-ci ne se réduit pas à celui-là alors même qu’il y a corrélation entre les deux. Quant au sens de cette corrélation, il est toujours double: d’une part, l’association des dimensions inférieures du sujet à son projet supérieur neutralise les obstacles qu’elles pourraient constituer à la poursuite de ce projet – c’est la *dés-altération*; d’autre part, cette participation des dimensions inférieures du sujet à son projet supérieur manifeste en ses modalités mêmes l’essence de ce projet, en est la transcription et l’extériorisation à ces registres inférieurs – c’est l’*épiphanie*’.²⁵⁰

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The sphere’s intellect moves the sphere then through the soul’s desire for it. The direct mover is the soul, the indirect is the intellect. Yet beside this mover which is proper to each sphere there has to be a general mover, which is one, the first mover, ‘It is not possible that this first mover which is for the whole of the heavens should be more than one, even if every single sphere of the heaven has its own proximate

²⁵⁰ Michot, ‘La réponse d’Avicenne’, p. 150.

mover, its own desiring [principle] and its own loved [object]'.²⁵¹ This is an unmoved mover and 'it is necessary that it should move ... through the intermediary of another mover.'²⁵²

Divine providence

God's causation is not exhausted in his emanation and his agency as object of desire of the spheres. The theme of providence, as developed by Ibn Sīnā, shows that God is not just a deity completely removed from what happens beneath Him, but in fact cares about particulars that occur both in the sublunar and the supralunar realms.

Moreover, with providence, the debate on chance (*ittifāq*) comes full circle. The issue of *ittifāq* is discussed in the *Physics* as part of the causality debate, but it re-emerges in Ibn Sīnā's metaphysical works precisely as part of the exposition of God's providence. Already at the end of the debate on *ittifāq* in the *Physics*, Ibn Sīnā argues, against some Greek philosophers, that the world is not the result of chance but was created by God with a benevolent purpose.

The exposition and defence of the idea of God's providence presupposes a rejection of chance. While the connections between matter and chance, studied in the previous chapter, seek to show that the world in its particulars is determined by God, the discussion of providence shows that for Ibn Sīnā the world as a whole is determined by God. The theme of providence understood as *'ināya* is tied up with the

²⁵¹ Ibn Sīnā, *Al-Shifā'*, *al-Ilāhiyyāt*, p. 392.

²⁵² *Ibid.*, p. 387.

‘order of the Good’, but another theme is also frequently raised by Ibn Sīnā in the providence context. This is providence understood as *tadbīr*, the arrangement of causes that issue from on high. The English term ‘providence’ denotes both meanings and the two Arabic terms, namely providence as the benevolent creation and providence as determination through a hierarchy of secondary causes. This latter sense overlaps somewhat with the concept of *qadar*, on which more later.

The relation between *ittifāq* and chance is explicitly brought up as Ibn Sīnā introduces the issue of providence: ‘In no way can one deny the wondrous traces in the generation of the world, and the parts of the heavens and the parts of the animal and the plants. All that does not proceed (*sādara*) from chance (*ittifāq*), but presupposes a certain arrangement (*tadbīr*)’.²⁵³

Here, providence is opposed to chance. As the chapters on chance show, Ibn Sīnā denies chance on two counts, in connection with the essential efficient cause and with the essential final cause. Chance is not the denial of a design for the world but is accidentally associated with it. It is an accidental result, or final cause, of God’s providence and ordering of the world. ‘Providence (*ināya*) is the fact that the First knows by itself/its essence what existence must be like in the order of the good, and

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²⁵³ Ibn Sīnā, *Al-Shifā’*, *al-Ilāhiyyāt*, p. 415. A very similar passage is found in *al-Najāt*, together with the notion that what is superior does not act for the sake of its inferior, p. 320: ‘the higher causes cannot do what they do in accordance with providence for our sake, and cannot in general be concerned by anything or be prompted by something, and that something should be impressed upon them. And one cannot possibly deny the wondrous traces in the coming to be of the world and in the parts of the heavens and in the parts of the plants and of the animals, of what does not emanate/proceed by chance (*ittifāqan*), rather it is necessitated by a certain arrangement (*tadbīr*). And you must know that providence (*ināya*) is the fact that the one knows what exists of the order of the good and is cause by itself of the good and of the perfect as much as possible’, p. 320. See also p. 337.

that itself is the cause of the good and of perfection (*kamāl*) insofar as it is possible (*bi-ḥasab al-imkān*).²⁵⁴

The First transmits goodness to its creation, because it is itself supreme goodness, and through thinking itself as goodness. The proviso that concludes the passage, ‘insofar as it is possible’ is an allusion to the problem of the existence of evil in creation. Evil, as we have seen, is not a substance, only occurs in a minority of cases and contributes to the order of the good.²⁵⁵ It is subsumed under the order of the whole. In the concept of providence as understood by Ibn Sīnā we find a rejection of any opposition to God’s omnipotence and also the denial that such things as evil and matter have the upper hand in the unfolding of events in the world. Implicit in this explanation is also the notion of a hierarchy of beings and causes, the less noble being subordinated to the more noble. The problem of evil shall be discussed in greater detail in the sub-chapter on God’s determination of events (*qadar*).

The intertwinement between the themes of chance (*ittifāq*) and providence is further observable in Ibn Sīnā’s theory of clashes (*muṣādamā*). This topic is treated in the *Physics* of *al-Shifā’* and also, albeit in less detail, in his metaphysical works. In the *Physics*, Ibn Sīnā states that ‘chance events occur as a result of clashes (*muṣādamā*) which occur between two or more things. In every clash either both colliding objects are moving until they clash, or one of them is still and the other is moving towards [the other]’.²⁵⁶ Ibn Sīnā does not illustrate this theory with an

²⁵⁴ Ibn Sīnā, *Al-Shifā’*, *al-Ilāhiyyāt*, p. 415.

²⁵⁵ See Michot, *Destinée*, p. 63.

²⁵⁶ Ibn Sīnā, *Al-Samā’ al-Ṭabī’ī*, p. 66. (Āl Yāsīn, p. 121).

example, but the theory goes hand in hand with the example used to introduce chance, the person who goes out to the marketplace and accidentally finds the man who owes him money. The clash in this instance lies in the unexpected meeting between the two persons.²⁵⁷ In this example, voluntary and natural motions are seen to converge, and Ibn Sīnā states that there are clashes between voluntary and natural motions. The intention of the person who goes to the marketplace is clearly the voluntary motion, while the actual physical encounter with the debtor is the natural motion. His theory of collisions does not represent a deviation from his overall determinism, for these collisions are seen ultimately to go back to one cause. All different and even contrary movements in the universe are traceable back to God.²⁵⁸ Ibn Sīnā clearly thinks of the two chains as being on a par and forming part of the same set of chains of causes and effects. The example of going to the marketplace, expounded in the *Physics*, explains these clashes and their relation to chance within a physical perspective, as an unintended or unusual meeting of particulars. In the *Metaphysics* these clashes are analysed within a broader framework. In the *Metaphysics of al-Shifā'*, as we have seen, *ittifāq* is defined in the following way: 'Chance comes to be from these clashes

²⁵⁷ Ibn Sīnā, *Kitāb al-hidāya*, The accidental cause is the result of the collision, but the collision itself is determined: "La causa per accidente è ciò da cui una certa cosa consegue non per se, ma per qualcosa che gli accade come per uno scontro (*muṣādama*), cosicché [la cosa] sarà un accidente [per la causa], ma [dipendrà] obbligatoriamente dallo scontro. Infatti, tutto ciò che proviene da una causa, che sia causa in atto, ne proviene in modo obbligatorio", 'La Metafisica del *Libro della guida*', p. 397.

(Translated by Lizzini). For the concept of collision in Ibn Sīnā's metaphysics, see above, (p. 20) n. 39.

²⁵⁸ See also *Risāla fi-l-qadā'*, 'Know that causes are linked with causes, and the motives (*al-dawā'ir*) face obstacles ... and collisions (*muṣādama*) of causes may occur which swerve from [certain] purposes (*maqāsid*) and directions towards [other] purposes and directions, and perhaps one clash (*ṣadma*) runs into another, and perhaps the clash restrains, or diverts [something] ... and learn from all this that the wills are necessitated (*mūjaba*)' *Traitées mystiques d'Avicenne*, p. 15, lines 13-16, p. 16, line 1. It is important to mention that both nature and will are efficient causes (*Dānishnāmah, Ilāhiyyāt*, 57; *Le Livre de Science*, p. 172), they both obey strict causal rules which originate in the Godhead, hence Ibn Sīnā's ethical determinism.

(*muṣādamāt*), and if all matters are analysed, they [are seen to] rest on the principles that necessitate them, which come from God most high'.²⁵⁹

Chance is a result of clashes that happen in the supralunary world, and ultimately are caused by God. The principles alluded to in this passage have to be the celestial spheres with their souls and intellects. This link between chance and clashes in the natural world appears also in *al-Najāt*:

These causes [that originate in God] through clashes (*bi-muṣādamāt*) lead to the existence of particulars ... and the First knows the causes and their congruence (*muṭābaqa*), and so necessarily knows what leads to something and the times between them.²⁶⁰

The clashes which originate in the causes foreordained by God lead to the production of particulars. Between God and the particular effects mediate the celestial bodies. 'The events which occur in this world happen through the clashes (*min muṣādamāt*) of the celestial efficient forces (*quwwa fa'āla samāwiya*) and the earthly passive forces follow the clashes of the celestial efficient causes'.²⁶¹ All events occurring in the sublunar world are produced by the movements of the celestial world, and are indirectly caused by God. All particulars are determined in this way. Whatever happens in the sublunar world is subsumed under the causality at work in the supralunary world, which in turn is governed by God. When all different factors, circumstances and causes are duly examined, one can potentially attain absolute

²⁵⁹ Ibn Sīnā, *Al-Shifā'*, *al-Ilāhiyyāt*, p. 439. See (p. 20) n. 39.

²⁶⁰ Ibn Sīnā, *Al-Najāt*, p. 284.

²⁶¹ *Ibid.*, p. 334-5.

knowledge.²⁶² God's providence means not only that He is the ultimate cause of everything but also responsible for the concatenation of causes: 'The causes are in every way finite, and each level (*tabaqa*) of causes has a first principle, and the principle of all of the causes/levels ... is different from all existents, [for only it] is necessarily existent'.²⁶³ It is a standard Aristotelian doctrine that the infinite only exists potentially. Whatever actually exists is finite. Whatever actually exists comes under God's providence and rule.

God's decree and determination: *al-qada' wa-l-qadar*

Ibn Sīnā's treatment of providence confirms the deterministic approach, which is at work in his analysis of chance and his conception of matter. As we have seen, there is no exact equivalent of the term 'determinism' in Arabic. The closest is the Islamic notion of '*qadar*', God's determination of events. Is Ibn Sīnā's approach to *qadar* in line with his position in physics and metaphysics, in the sense that it favours determinism?

The issue of God's omnipotence and free will usually has ethical connotations. The theory of God's omnipotence conceived in isolation does not pose a problem.

²⁶² 'Chi conoscesse le cause senza tralasciarne alcuna, conoscerebbe per ciò stesso anche gli eventi che determinano i veri e propri "scontri", le collisioni delle cause e che sono come le occasioni che si presentano e che permettono il concreto realizzarsi dell'efficacia di esse. Chi conoscesse le cause, senza tralasciarne alcuna, conoscerebbe anche qual è il loro fine, il loro termine ultimo', Lizzini, 'La metafisica del *Libro della Guida*', pp. 367-424. According to Ibn Sīnā, if we knew all the events that occur in both sublunar and supralunar worlds, and their natures, we would know the future, see *al-Najāt*, p. 337. In the same passage, Ibn Sīnā says that - according to the general rules of causation - for voluntary events like natural ones the rule is valid that whatever comes to be does so through a necessary cause.

²⁶³ Ibn Sīnā, *al-Ilāhiyyāt*, p. 327.

The problem arises when one tries to reconcile God's omnipotence and justice with the notion of human responsibility. Humans can only be made responsible for their actions and rewarded or punished accordingly, if they have power over their actions. Many Muslim theologians, such as the Jabarites and the Ash'arites, believed that any power attributed to humans would detract from divine omnipotence. The problem can be seen through another prism, that of the Islamic doctrine of divine attributes, among them omnipotence and justice.²⁶⁴ This is typically a theodicy controversy: God cannot justly punish or reward humans if He alone determines their actions.

Ibn Sīnā tackles the problem purely from God's perspective and does not concern himself with the theory of human action in his treatises on *qadar*. He employs all his argumentative efforts in sustaining God's omnipotence and benevolent providence.

Determination (*qadar*) is the existence of causes ('*illa*) and reasons (*sabab*) and their harmonisation in accordance with their arrangement and order, leading to the effects and caused beings. These are what is necessitated by the Decree (*qadā'*) and what follows from it. There is no [ultimate] reason for the action of the Creator because His action is due to His essence and not due to a motive (*dā'in*) that would incite him to [do] something.²⁶⁵

The distinction between *qadā'* and *qadar* can be inferred from this passage.

While God's decree is a single action, His first command, the equivalent of the first stage of the emanation process in his philosophical system, *qadar* is the principle of

²⁶⁴ Referring to the issue of *qadar*, Schwarz states that 'The starting point was a desire to conceive of God as good and just rather than to conceive of man as a free agent. The idea of freedom (*takhliya*) appears already in al-Hasan's letter, but never attained a decisive importance. The stress is on the divine, rather than the human, side of the question', *Theodicy*, p. xxv.

²⁶⁵ Unedited MS translated by Y. Michot in his Ibn Sīnā. *Lettre au vizir Abu Sa'd*, p. 122*.

necessary divine causation or the detailed unfolding of God's creative command. Here *qadar* is divine determination, but not direct determination, rather it alludes to the causal determinism whereby causes are subordinated to other causes that can be traced back to the first principle, which is the prime mover as we have seen in Ibn Sīnā's metaphysical works. God does not decide arbitrarily what to do or create, rather everything is under His control through a network of causes that are all interconnected and ultimately go back to Him. We have seen that from God only one effect proceeds, hence he creates particulars through a medium, not directly, but this is not to say that He does not absolutely control everything. This causation is tantamount to necessitation, lacking as it does any randomness. The other important aspect of this passage is that there is nothing prompting God to create. Other than His own nature, his knowledge and His love for Himself, there is nothing external inciting Him to do this. We have seen in the emanation process that creation emanates from Him, but not for its own sake.

Another treatise conveys a similar message.

The decree (*qadā'*) of God Most High is His first, single decision (*ḥukm*) which comprises everything; from this branches out everything in the course of time; His determination (*qadar*) is His arrangement of the things arising in that first decree, one after another ... If the motives and the deterrents are traced back to their principles and related to their origins, [if] their causes are explored and the circumstance[s] exhausted with regard to the causes' ranks leading up to causes which the creator of Creation set before, [causes] which the owner of the first arrangement organised and which He who has the Creation and the command (*amr*) disposed; [if] it is known in all eternity that the first of them subordinates the second and the preceding seeks to be followed by the subsequent and that their order proceeds to necessitating several wills and various actions, opposing movements, clashing enterprises, laudable and reprehensible effects,

rightly guided and misguided consequences and that the Creator does not hate for all that His Creation and does not alter His judgement (*ḥukm*) and ‘is not concerned with what will be, for He created these for Heaven and is not concerned and those for the Fire and is not concerned’, then it would be known that His volition (*mashī’atahu*) does not conform to the judgement (*ḥukm*) of the intellects which were not fecundated with the semen of wisdom and do not judge by the criteria of the religious authorities and were not refined by the culture of insight.²⁶⁶

Ibn Sīnā starts by defining *qaḍā’* and *qadar*. *Qaḍā’* is a single judgement while *qadar* consists in the realisation of that in full particulars, as implied by the previous quoted passage, the *risālat al-qadar*.²⁶⁷ He rebuffs the view that not everything goes back to God as its cause. Other than being the foremost cause, God also organises the causes, which are clearly interconnected. Ibn Sīnā affirms that causes follow one upon another successively, as we have seen that they do in the emanation process. This extends to the sublunar world. This determination of events by God is not confined to the natural realm but encompasses also voluntary causation. When he says that wills are necessitated, this can be considered as a defence of the view that human action is determined by causes that ultimately go back to God. Ibn Sīnā does

²⁶⁶ Ibn Sīnā, ‘*Risāla fi-l’qaḍā’*’, in Michot, *Lettre au vizir Abū Sa’d*, pp. 103-107.

²⁶⁷ According to the *Encyclopaedia of Islam*, *al-qadar* ‘has the meaning of measure, evaluation, fixed limit ... In its technical sense *qadar* therefore designates the divine decree in so far as it sets the fixed limits of each thing, or the measure of its being’, *The Encyclopaedia of Islam*, (New Edition), vol. IV, pp. 365-6 (Gardet). The differentiation of *qadar* and *qaḍā’* follows traditional Islamic usage: ‘On the basis of the Qur’an the word *qaḍā’* can be understood as God’s “eternal decision or decree” concerning all beings. It is given different interpretations, especially when contrasted with another term, *qadar* ... For instance, according to al-Bukhārī *qaḍā’* is the eternal, universal and all-embracing decree of God, while *qadar* denotes the details of His eternal, universal decree. Contrary to this, al-Rāghib interprets *qadar* as predestination and *qaḍā’* as the detailed, definite decree.’ (Gy. Káldy Nagy), pp. 364-365. ‘When combined into one expression, these two words have the overall meaning of the Decree of God, both the eternal decree (the most frequent meaning of *qaḍā’*) and the Decree given existence in time (the most frequent sense of *qadar*)’, *ibid.*, p. 365. According to Schwarz, the expression *al-qaḍā’ wa-l-qadar* goes back to pre-Islamic fatalism, *Theodicy*, p. 8, and ‘in pre-Islamic poetry, *qaḍā’* meant already God’s decision, while *qadar* was one of the words for impersonal fate’, p. xxiii.

not specify whether he refers to human will or the wills of the celestial spheres, but it is possible that he means both, as this would be in consonance with his view that everything is determined by God.²⁶⁸ The link between clashes and chance appears once more, as in his discussion of providence.²⁶⁹ God's determination rules voluntary and natural causation, and hence He controls all natural and voluntary processes. The defence of God's omnipotence is reinforced and legitimised by the use of a predestinarian *ḥadīth* from the collection of Ibn Ḥanbal, which traditionally supported the predestinarian view against Qadarites, who upheld freedom of human action. This *ḥadīth* states that everything is determined and God has decided whom to punish and whom to reward, and that all souls are predestined to salvation or damnation. What may seem a coincidence to us, because we are not aware of all its causes, is in reality necessary: 'The things which we call accidents (*ittifāq*) are necessary (*wājib*), for God knows their causes and reasons'.²⁷⁰

With regard to human action, we have seen that it is at the receiving end of divine causation, as Ibn Sīnā's conception of prayer illustrates. We may think that we can influence God by our prayer, but in fact prayer itself is determined by Him.²⁷¹

Another treatise, on the 'secret of *qadar*' confirms the theory of divine omnipotence, and shows the link between *qadar* and providence:

The first premise is that you should know that in the world as a whole and in its parts, both heavenly and earthly, there is nothing which deviates from the fact that God is the cause of its being and

²⁶⁸ For the view that everything comes from God, see also *Rasā'il Ibn Sīnā*, ed. Ülken, p. 37, translated by Michot in *Lettre au Vizir Abū Sa'd*, pp. 120*-122*.

²⁶⁹ See definition of *ittifāq* in the *Metaphysics of al-Shifā'*, Ibn Sīnā, *al-Ilāhiyyāt*, p. 439.

²⁷⁰ Ibn Sīnā, *al-Ta'līqāt*, p. 115.

²⁷¹ *Ibid.*, pp. 47-48. See also Michot, *Destinée*, p. 61-62, n. 18

coming to be and that God knows it, controls it, and wills its existence; it is all subject to His control (*tadbīr*), determination, knowledge, and will ... Thus, if it were not that this world is composed of elements which originate good and evil things in it and produce both virtue (*ṣalāḥ*) and corruption (*fasād*) in its inhabitants, there would have been no completion of an order for the world. For if the world had contained nothing but pure virtue, it would not have been this world but another one, and it would necessarily have had a composition different from the present composition; and likewise if it had contained nothing but sheer corruption, it would not have been this world but another one. But whatever is composed in the present way and order contains both virtue and corruption.²⁷²

Here, Ibn Sīnā reiterates the notion that everything comes under God's determination, and again the fact that it extends to the supralunar as well as the sublunar world. Also, God not only produces causes but preserves their existence as mover, and as source of the eternal creation or emanation of the world. The determination of events is effected by His will, not automatically. This is because He emanates through His thought and His knowledge. According to the previous passage, everything, good or bad, is willed by God. Ibn Sīnā implies that evil is a necessary side-effect of creation. The world has to be created in the way it actually is because of God's determination, even if that involves the coming into being of evil. God cannot renounce the creation of something good, such as the sublunary world, because of its lesser evils. Unlike chance and evil, good happens for the most part.²⁷³ Ibn Sīnā's assumption about the necessary way in which the world is created excludes the possibility that it could have been created differently.

²⁷² Hourani, Ibn Sīnā's 'Essay on the Secret of Destiny', p. 28, lines 10-22. Translation (modified) by Hourani, pp. 31-32. The authenticity of this text has been called into question – see Reisman, *The Making of the Avicennan Tradition: the Transmission, Contents and Structure of Ibn Sīnā's al-Mubāḥathāt* (The Discussions), p. 140, n.79.

²⁷³ Ibn Sīnā, *al-Najāt*, p. 325.

In the *Najāṭ*, Ibn Sīnā goes as far as to say that God wills evil, albeit accidentally as we have seen.²⁷⁴ God knows and wills everything that He creates. Since evil is among the things we encounter in creation, and since God creates everything that exists, evil too is willed and created by God. However, the nature of evil is negative rather than positive. It is the absence of some perfection rather than a substantial reality. Hence too it is accidental. Like chance, evil is that which is possible in rare occasions.²⁷⁵ It is also accidental, and contingent on the creation of good because God is benevolent. Thus good is created for its own sake, for God is the ultimate good. As pure good and pure perfection, God is desired by all beings, which in turn are perfected through their quest for the pure good.²⁷⁶ In the emanation process good issues from God as from His essence. Evil, on the contrary, is an accidental result of creation. While God is absolute necessity and existence and good, evil is non-existence. While evil exists only in the sublunar world, where matter forms part of composite substances, God, who is pure good, is divested of matter.²⁷⁷ God Himself is the order of good (*nizām al-khayr*).²⁷⁸ Evil and matter are closely connected. Both are not actual or active, but represent a lack or failure of action: ‘These evils occur not through the action of an agent (*bi-fi’l fā’il*), but because the agent does not act’.²⁷⁹ Evil thus has a necessary place in creation, in the sense that it

²⁷⁴ In an epistle addressed to Ibn Zaylā, Ibn Sīnā reiterates his view that even the slightest motion is determined by God, and that evil is a result of His decree and determination, see *Lettre au Vizir Abū Sa‘d*, Ed. Michot, pp. 120-121*. See also Ormsby, *Theodicy in Islamic Thought*, p. 257.

²⁷⁵ Ibn Sīnā, *al-Najāṭ*, p. 322.

²⁷⁶ *Ibid.*, p. 265.

²⁷⁷ *Ibid.*, pp. 265, 280.

²⁷⁸ *Ibid.*, p. 286.

²⁷⁹ *Ibid.*, p. 326.

is not possible for it not to exist. Evil is also necessary in the sense that it serves a goal. Because pure evil is non-existent, existing evil is actually a good.²⁸⁰

Turning again to Ibn Sīnā's treatise on the secret of determination (*risāla fi sirr al-qadar*), it becomes apparent that according to him the world, as a whole and in its parts, could not have been otherwise, and even that which is bad in the world is not without a cause and justification. 'The apparent evils which occur in the world are, on the principle of the Sage [Aristotle], not purposed for the world - the good things alone are what is purposed, the evil ones are a privation'.²⁸¹

The negative view of evil is confirmed in other passages. If God is goodness, how does evil come to exist? 'No evil attaches to anything whose existence has reached the highest perfection (*'alā kamāli-hi al-aqṣā*), and has nothing in potentiality. Evil only attaches to what in its nature has something in potentiality, and that is due to matter'.²⁸² Is there a complete identification between evil and matter? Evil has no essence, as Ibn Sīnā explicitly affirms, rather it is a privation. The term '*adam*' in Arabic means both non-existence and privation, i.e., either the opposite of existence or the lack of something. But matter is not privation, and combined with

²⁸⁰ According to Michot 'La dernière division fondamentale de la philosophie première consiste à "exposer que le Tout instauré par Dieu est complet, qu'il n'y a disharmonie et rupture ni en lui ni en ses parties, que son cours véritable se fait suivant ce qu'exige le Bien pur, que le mal qui s'y trouve n'est pas pur mais se fait au contraire avec sagesse et de façon bénéfique, qu'il est donc, d'un certain côté, un bien"; *Gloses* (édition Badawī, p. 47): "Le mal rentre dans le décret (*qaḍā'*) divin en ce sens qu'il suit la nécessité ... Mais cette nécessité a été tournée par le gouvernement divin en préservation de l'ordre du tout de la façon la plus complète possible" ... Du point de vue de la "politique" que constitue l'ordre providentiel, le système du meilleur et unique bien possible, le mal apparaît en somme à Avicenne comme une sorte de délit d'État, c'est-à-dire qu'il n'est plus un mal', Michot, *Destinée*, pp. 63-64, n. 21.

²⁸¹ Hourani, Ibn Sīnā's 'Essay on the Secret of Destiny', pp. 30-32.

²⁸² Ibn Sīnā, *al-Shifā'*, *al-Ilāhiyyāt*, p. 416.

forms it possesses some degree of actuality, although on its own it only exists potentially.

Further to the relation between matter and evil, the discussion of chance blames matter for the fact that certain existents do not attain their ultimate perfections. In the supralunar world the celestial bodies are incorruptible, and by extension their matter is also incorruptible. This accounts for Ibn Sīnā's view that evil is only to be found in the sublunar world: 'All the causes of evil only exist under the sphere of the moon and everything that is under the sphere of the moon is deficient in relation to the rest of existence'.²⁸³ Evil is confined to the sublunary world owing to the existence of matter. It is a side effect of creation and not created on purpose.

Conclusion

In his theory of *qadar*, Ibn Sīnā combines the metaphysical theory that everything is necessary through the first absolute cause with the Islamic view that God determines all events. Ibn Sīnā explicitly affirms that nothing exists without having become necessary through God.

More generally, Ibn Sīnā has explained that everything has a necessary efficient cause both in nature and in the world above the moon. God is the ultimate efficient and final cause of the universe. So, in the same way that whatever comes to be does

²⁸³ Ibn Sīnā, *al-Shifā'*, *al-Ilāhiyyāt*, p. 417.

so through a cause, it is so through necessitation (*ījāb*).²⁸⁴ Part of the issue of chance involves the discussion of God's design for the world. The existence of evil is treated within the framework of the theory of providence, which presupposes the rejection of chance as an essential cause.

Nothing escapes divine determination according to Ibn Sīnā's philosophy. He combines deterministic trends of Aristotelian philosophy with strict predestinarian doctrines which are present in some Islamic theological and legal schools to create his own brand of systematic determinism.

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²⁸⁴ Ibn Sīnā, *al-Shifā'*, *al-Ilāhiyyāt*, p. 342. In another writing, Avicenna states that he wrote treatises to refute those who deny *qadar* and those who speak of coercion (*ijbār*). See Michot, 'Le riz trop cuit du Kirmānī', forthcoming, 2004.

Chapter 4

Ibn Rushd on chance

Introduction

After discussing the issue of chance and determinism in Ibn Sīnā, we now turn to Ibn Rushd's views. Ibn Rushd's views on chance, like Ibn Sīnā's, are based on Aristotle's discussion in *Physics II* (195b31-200b8) and expressed in his commentaries. Ibn Rushd's most detailed discussion of chance is to be found in his *Long Commentary on the Physics*. This commentary shall constitute the starting point for the analysis of Ibn Rushd's views on chance. Passages from other works by the Commentator, both commentaries and original works, will complement this study.

Following the order of Aristotle's text, Ibn Rushd first considers and refutes his predecessors' positions and then presents his own solution. In discussing the meaning of chance for Aristotle, Ibn Rushd, as is his wont, discusses the views not only of Aristotle's predecessors such as the Presocratics but also those of late Aristotelians and of Ibn Sīnā. Reversing the order of his argument, I shall start with his own position before presenting his criticism of his predecessors and drawing a comparison with Ibn Sīnā's position.

The issue of Aristotle's own views and whether Ibn Rushd's views truly reflect those of Aristotle cannot be here discussed at length. Ibn Rushd has traditionally been thought to be closer to Aristotle than were al-Fārābī or Ibn Sīnā, who did not write literal commentaries as did Ibn Rushd. This is noticeable in his commentaries, in particular the long ones, in which he discusses and elucidates Aristotle's text and views in great detail.²⁸⁵ Yet in addition to these literal commentaries, his closeness to Aristotle is also observable in his explicit praise of the 'Master of those who know'.²⁸⁶ For he places the Master above all other thinkers in the philosophical pantheon, as evinced by the proem to his *Long Commentary on the Physics*.²⁸⁷ Because his exegetical interest is based on the view that in his works Aristotle attained the truth, I shall take Ibn Rushd's commentaries on Aristotle, short, middle and long, to represent his own personal philosophy. Two main arguments can be adduced in support of this decision: on the one hand, there seems to be a clear consistency to which frequent cross references by Ibn Rushd testify - between the commentaries which represent his interpretation of Aristotle and his other, more

²⁸⁵ Within the Aristotelian exegetical tradition, short commentaries or paraphrases are to be distinguished from Ibn Rushd's long commentaries. According to Roccaro, this model of commentary has its roots in the Qur'anic commentary: 'L'antico modo di commentare Platone ed Aristotele, che, usato dai neoplatonici diventa il metodo scolastico della *lectio* sia tra i cristiani che tra gli ebrei e i musulmani, è indicato dal termine *talkhīṣ*, cioè parafrasi e rappresenta per Ibn Rushd una seconda lettura quasi completa del *corpus aristotelicum arabum* necessaria alla terza lettura, le *tafsīrāt*. Ibn Rushd sulla base dell'insegnamento dell'esegesi al Corano può a questo punto proporre originalmente un'esegesi testuale o commentario letterale all'opera aristotelica, il *tafsīr*.' Roccaro, *Conoscenza e Scienza nel Tafsīr Mā ba'd aṭ-Ṭabī'a di Ibn Rushd*, pp. 23-24. For a chronology of his works, see pp. 11-12.

²⁸⁶ Dante, *La Divina Commedia*, Inf. C. 4, v. 131.

²⁸⁷ There, Ibn Rushd says of Aristotle: 'none of those who came after him could add to the things he treated, or refute anything of any importance or consequence. To find this in a single individual is strange and most extraordinary (*maxime miraculum*). For these [qualities], when they are found in a man, must be ascribed to a divine, rather than human, status. Hence the ancients called him divine', *Long Commentary on the Physics*, 5D-E. This admiration for the Stagirite is also patent in the *Long Commentary on De anima*, p. 433: 'I believe that this man [Aristotle] was a model (*regula*) in nature, an example (*exemplar*) which nature found to demonstrate the ultimate human perfection in material [beings]'. French translation in *Averroès, L'intelligence et la pensée*, p. 101.

‘personal’ or original works such as the *Tahāfut al-Tahāfut*. For this reason, one can treat Ibn Rushd as a philosopher in his own right, rather than as a mere commentator. On the other hand, in his *Tahāfut al-tahāfut*, where Ibn Rushd takes upon himself the task of defending the philosophers’ positions against al-Ghazzālī’s scathing criticism, he often offers a brief refutation, referring the reader to the ‘scientific’, and comprehensive works where the issues in hand are discussed at length. These scientific treatises have to be Ibn Rushd’s commentaries on Aristotle’s works. Also his was not an antiquarian interest on Aristotle. Rather, as said before, he adheres closely to Aristotle because he believes his theory to be the one closest to the truth. Finally, in uncovering Ibn Rushd’s position, I shall make no distinction between the commentaries and other works deemed by some to be more ‘personal’ or ‘Islamic’, or privilege one genre at the expense of the other. Whether he is always closer to Aristotle than Ibn Sīnā is debatable and a question that I will not attempt to settle, except concerning certain specific points.

In the absence of manuscripts of the original Arabic text of the *Long Commentary on the Physics*, which is thought to be lost, it is customary to have recourse to the Latin translation.²⁸⁸ The edition that will serve as basis for this chapter is the 1562 Venetian edition entitled *Aristotelis de Physico Auditu libri octo cum Averrois Cordubensis variis in eosdem commentaries*, the fourth volume of

²⁸⁸ This translation has traditionally been ascribed to Michael Scot, who was astrologer to the emperor Frederick II. ‘The earliest reference to Averroes’ text is in Robert Grosseteste’s commentary on Aristotle’s *Physics*, written between 1228 and 1232 ... The ascription to Michael Scot is supported by most scholars but (apparently) by no manuscript ... The Arabic original of the Large Commentary has not been identified. A Hebrew translation of this Large Commentary is extant’, ‘Aristotle and Averroes on Method in the Middle Ages and Renaissance’, by Burnett and Mendelsohn, p. 54, n. 3. Schmieja mentions a Latin translation contained in another manuscript which he believes to be by Hermannus Alemannus, see ‘Secundum Aliam Translationem’, in *Averroes and the Aristotelian Tradition*, pp. 316-336.

Aristotelis Opera Omnia cum Averrois Commentariis. All quotations from the text used here therefore are drawn from the Latin translation. The short and middle commentaries on the *Physics* will also be mentioned. Ibn Rushd's main position on chance remains unaltered in all three commentaries unlike his views on creation and emanation, expressed in his commentaries on Aristotle's *Metaphysics*.

How does Ibn Rushd introduce the issue of chance? As in the case of Aristotle and Ibn Sīnā, the question is framed within the wider debate on causality in the physical world. Is chance a cause in its own right, in addition to the four causes? Is it associated with one or more causes? Does it exist at all? For the sake of the inquiry, Ibn Rushd claims that we must posit the existence of chance (*casus*) and the spontaneous (*ex se*):

Because this inquiry cannot take place unless one grants that chance and the spontaneous exist, which many ancients denied, Aristotle starts by stating their opinions and to contradict them. Equally, many ancients attributed everything to chance and to that which happens spontaneously.²⁸⁹

Clearly there are conflicting opinions regarding chance that must be settled. The method followed by Ibn Rushd consists in positing the existence of chance to ascertain if any contradiction ensues. Aristotle says all people acknowledge that some things happen by chance and others do not.²⁹⁰ In his commentary Ibn Rushd agrees with Aristotle in saying that while some things happen by chance, others do not. Thus

²⁸⁹ Ibn Rushd, *Long Commentary on the Physics*, 64A.

²⁹⁰ Aristotle, *Physics*, 196^a15-16, *Long Commentary on the Physics*, 64G-H. Ibn Rushd follows closely also the commentary of Themistius, whom he acknowledges in his text, *Long Commentary on the Physics*, 66G. In the absence of the Arabic translation, I refer to, and quote from the original Greek text. He follows Themistius in identifying that which always happens with eternal beings: 'of the things that come to be some thus happen always, such as eternal things, some for the most part, such as those that happen by nature, and those opposed to them rarely', *Themistii Commentaria*, p. 50, ll. 7-8.

his task is to look into the nature of chance and what kind of cause it is. The argument is divided in two parts. In the first part, Ibn Rushd explains how chance is related to the other causes. In the second part, he defends the supremacy of teleological causation in nature.

Chance and the frequency of events

As for Aristotle, for Ibn Rushd the issue of chance is tied up with the frequency of a given event. Thus he distinguishes things that happen always and for the most part, concluding that chance is absent from both these kinds.²⁹¹

However, in his own interpretation, he states that this is self-evident because it has been established that not everything is necessary, for some things are possible. Dividing existents into possible and necessary, he states that

That which is possible is divided into that which is possible for the most part, and into that which is not possible for the most part. ... Those things which come to be for the most part are not said to come to be (*fieri*) by chance (*casu*). Therefore, if chance and the spontaneous (*ex se*) are something, they must exist in things which are not possible for the most part.²⁹²

He rounds off this argument with a syllogism: ●

Chance is either in necessary things or in those that are possible for the most part, or in those which happen rarely. But it is not found in what is necessary or possible for the most part: therefore it is necessarily found in those that happen rarely.²⁹³

²⁹¹ Ibn Rushd, *Long Commentary on the Physics*, 66E.

²⁹² *Ibid.*, 66E.

²⁹³ *Ibid.*, 66F.

In these two passages, Ibn Rushd sets out to inquire into the nature of chance. The opposition between chance and that which happens always or for the most part is then established. Chance is opposed both to the necessary and permanent and to that which happens for the most part. Here we find a slight change in relation to Aristotle's terms. Aristotle speaks of that which *happens* for the most part, Ibn Rushd of what is *possible* for the most part. This inference from Aristotle's words derives from the theory that not everything is necessary. This theory, to which Ibn Rushd subscribes, is in turn based on Aristotle's definition of necessity in the *Metaphysics*. According to the Stagirite the principal meaning of 'necessary' is that which cannot be otherwise.²⁹⁴ On Ibn Rushd's interpretation that which cannot be otherwise cannot change with the corollary that only eternal beings fulfil this requisite, i.e., those which are part of the supralunary realm.²⁹⁵ His argument turns on the notion of necessity as permanence or changelessness found in Aristotle's *Metaphysics*. Hence all changeable beings are intrinsically possible, rather than necessary. With regard to possible beings or events, some happen for the most part, others rarely. To extrapolate from beings that 'happen' for the most part to those that 'are possible' for the most part is only a small step. This view is in sharp contrast with that of Ibn Sīnā, who states that everything that actually exists is necessary – in the sense that it has a necessary efficient cause. However, as we shall see in the next chapter, one of the fundamental differences between Ibn Sīnā and Ibn Rushd lay in their fundamentally

²⁹⁴ Aristotle, *Metaphysics*, 1015a33-35.

²⁹⁵ Ibn Rushd, *Long Commentary on the Metaphysics*, p. 519. 'Eternal action necessarily comes to be (*actio enim aeterna est necessario*)', *Long Commentary on De Coelo*, 17M. The nature of the necessary is not convertible with the nature of the possible, *Middle Commentary on De Coelo*, p. 175. According to the *Short Commentary on De Coelo*, if it were possible for the nature of the generated to remain forever, the nature of the possible would change into the necessary, and if the eternal became corrupted the nature of the necessary would chance into the possible, both of which are false, p. 35.

different conception of 'necessity'. The former takes necessary to be that which has a cause. The view that the cause is a certain necessity is set down by Aristotle in Book Delta of the *Metaphysics*. Ibn Rushd instead, as we have just seen, holds the view that necessary is that which always happens or is eternal, which according to Aristotle is the primary meaning of 'necessity'. Ibn Rushd criticizes Ibn Sīnā in this instance because he believes him to be using 'necessity' in that primary meaning. Thus for Ibn Rushd to say that not everything is necessary is not a rejection of determinism as we understand it. Ibn Rushd strongly opposes the view that everything is necessary, not because he thinks that certain events do not have causes, but because he conceives 'necessity' differently from Ibn Sīnā. This shall be expounded in greater detail in the next chapter. For now it should suffice to say that unlike Ibn Sīnā, who thinks of necessary as everything that has a cause and cannot be otherwise (with the exception of God who is uncaused), and hence thinks that everything is necessary, Ibn Rushd equates necessity with eternity or constancy. Consequently, only eternal beings such as God and the celestial spheres can be termed 'necessary' by definition. Hence his statement in a previously quoted passage that not all beings are necessary.

A chance event is thus a rare event. There are two further conditions for an event to qualify as a chance event: it must be goal-directed, and so involve cognition and will, and the chance cause must be accidental to the essential cause: 'when something comes to be from these [things which are for the sake of something] by accident one says that it happens by chance'.²⁹⁶

²⁹⁶ Ibn Rushd, *Long Commentary on the Physics*, 67M.

According to this view, in the same way that certain beings divide into substances and their accidents, so causes divide into essential and accidental causes, which inhere in essential causes. The example provided, drawn from Aristotle, is that of a builder, who incidentally is also a musician, building a house. The 'musician' who inheres in the builder only accidentally builds the house, because for the purpose of building a house this attribute is irrelevant. The accident thus inheres in the efficient cause on this interpretation.

The musician is indeed said to be the cause of the house by accident, because it is found in the cause which is by itself. The difference between that which acts by chance, and an accidental cause, as the commentators said, is that a cause which is by accident, like music, or medicine, does not have any effect on the house at all ... it is called a cause by accident because it inheres in the agent cause, and it is said to act by accident, because out of it something comes to be by accident (*per accidens*), which is not that for the sake of which it is (*illud propter quod est*) namely that which comes to be from it by itself ... The cause which is by accident, is not determinate (*terminata*), since it is possible that, by accident, infinite things happen to the cause which is by itself. ... That, which comes from it (*ex ipsa*), is indeed a non determinate cause.²⁹⁷

This passage contains in a nutshell Ibn Rushd's views on accidental causation. Because the accident 'musician' does not exist by itself but as inherent in a substance, the musician is an accident of the builder who is building a house. The builder's property of being a musician is accidental to the process. The accidental cause is a purely logical concept, having no translation into real terms. The builder could as well have been a physician, body-wrestler, painter, carpenter. These are mere logical accidents for the purpose of building a house. The accidental cause is a pure logical

²⁹⁷ Ibn Rushd, *Long Commentary on the Physics*, 68A-B. For the notions of being 'per se' and being by accident, see *Long Commentary on the Metaphysics*, p. 717. 'What is by accident is not always or necessary', *Long Commentary on the Physics*, 375K, also 387K.

concept because it produces no real effect and has no effective power, as Ibn Rushd says. It is a mere description of the agent cause, one of its many accidents.²⁹⁸ Infinite accidents inhere in the builder, hence the accidental cause is indeterminate. This is an example of accidental causation rather than of chance, because the purpose of the musician is not to build. Yet one could argue that the act of building is a goal-directed action from the point of view of the 'builder'. The purpose of a builder is to build. If we take as reference the 'musician', the outcome of building a house is accidental, because a musician does not essentially build houses, he only does this in this instance because the builder also happens to be a musician. From the viewpoint of the musician, the built house is an accidental result.

Ibn Rushd explains why this accidental cause is indeterminate:

Necessarily, causes that are by chance are not determinate in themselves (*in se*), i.e., outside the mind (*extra mentem*) ... The knowledge we have of them is not determinate ... Due to the latency of its nature chance is thought not to exist. The cause of its latency is that it is by accident. That which is by accident is in a minority of cases, and that which is in a minority of cases is thought not to exist.²⁹⁹

Here Ibn Rushd says that chance, as an accidental cause, is at bottom nothing actual because it has no expression outside the mind. Latency here stands for

²⁹⁸ For the opposition between accident and 'necessity' see also 375K. Later, Paul of Venice (d. 1428) also adopts the view of chance as an accidental efficient cause, see his exposition on Aristotle's *Physics*, 'it is proved that every agent cause from which something unintended issues is cause by accident of an unintended effect', fol 84. He further claims that chance is not a final cause, 'because if chance and fortune according to this are final causes, and only [among] their intended effects, then the unintended effect according to this has a final cause, which is false', fol. 88v. According to Spanish scholar Miguel Granada, in 'El averroísmo en Europa', p. 170, from Paul of Venice, Ibn Rushd's commentaries began to be standard part of all commentaries on Aristotle's works. Much later, in the late 16th century the 'Conimbricenses' adopt the same view of chance as an accidental efficient cause, see p. 254.

²⁹⁹ Ibn Rushd, *Long Commentary on the Physics*, 69D-E

potentiality in the sense that it does not actually exist.³⁰⁰ This conclusion is tied up with the logical analysis of the example, particularly the remaining attributes of the builder in relation to his building activity. Equally, if we take ‘musician’ as a person’s essential attribute, building is an accidental result. The focus on a logical analysis of chance events relativises chance.

In this example, where does the concept of the ‘infrequency’ of chance come into play? Certain beings have certain essential properties, and act in accordance with those properties. These essential properties are expressed by their definition. Thus a builder essentially builds, while other activities are accidental to his proper nature and activity. From the point of view of the ‘musician’, building is an accident that rarely happens.

In the *Long Commentary on the Metaphysics* too, Ibn Rushd states that when what happens for the most part fails to attain its goal it happens by accident. He adds that things which happen by accident do not have an active power, a nature from which something would proceed.³⁰¹ That which marks the distinction between what happens necessarily, and is always the case, and what is for the most part is the accidental, which rarely befalls that which is nearly always the case.³⁰² If nothing happened by accident everything would be necessary. That which is for the most part and that which happens rarely are two sides of the same coin and have the same cause, the cause of that which is for the most part. Thus whether something happens

³⁰⁰ In the *Long Commentary on the Metaphysics*, Ibn Rushd claims that there is no fifth cause other than form, end, matter and agent, p. 78-79.

³⁰¹ Ibn Rushd, *Long Commentary on the Metaphysics*, p. 725.

³⁰² *Ibid.*, p. 726. Here Ibn Rushd refers to the *Physics* for confirmation of this theory.

always or for the most part depends on the attribute or accident of an agent we chose to take as our reference.

Chance: between the efficient and the final cause

Ibn Rushd expatiates on the fact that a chance event is goal-directed, and what this implies. In addition to discussing the example of a builder/musician building a house, where clearly the musician is an accident of the efficient cause, he gives another example, also taken from Aristotle.

Amongst the things which are for an end, some rarely happen. However from them results something other than that end, such as encountering one's debtor in the marketplace. This happens rarely, but happens as a consequence of (*ex*) walking to the marketplace, which was for some other purpose ... Chance and the spontaneous exist in things/events, which are in a minority of cases, and come from things, which are for the sake of some cause, but they failed [to attain] that [final] cause, and another [final] cause [or end] came to be from them.³⁰³

Chance, then, is found in the things that occur rarely and have a final cause. The chance event, as Ibn Rushd states, comes about through the efficient cause, as in the example of the man who encounters his debtor. The efficient cause of finding one's debtor is going to the marketplace. Thus the unexpected outcome has an essential cause, which is the efficient cause, the act of going to the marketplace. The final cause would be to do business there. That final cause is thwarted on rare occasions, and a different outcome ensues, e.g., meeting one's debtor.

³⁰³ Ibn Rushd, *Long Commentary on the Physics*, 67G-H.

Whenever something other than the original purpose issues from an action, this is said to be by chance, and is a rare happening. Thus two of the three criteria for classifying an action as chance are met, the infrequency and the goal-directedness of that action. However, whilst acknowledging that a chance event is a goal-directed one, Ibn Rushd believes that the chance cause is an accident in relation to the efficient, not the final cause, as it becomes clear from another example.

That which occurs by accident can come to be from several different causes, for to find the debtor can be [a result of] going to the marketplace, or going to the schools and of many actions ... it is clear that, since from agent things, which are for the sake of some action, this mode of action comes to be, it comes to be from them by accident, and they are said, accordingly, to come about by chance and spontaneously (*fieri casu, et ex se*).³⁰⁴

If we compare this example with the previous one, of the builder, we notice a difference because it refers to an event rather than a substance. The substance, the builder, one of whose accidents is 'musician', is replaced by an event, i.e., the visit to the marketplace.

The final cause is in the first example the house which is built. This is an essential final cause, but it would be a thwarted goal in relation to the musician; for the musician, playing an instrument would be the essential cause. Hence a goal may be attained or missed according to the aspect or attribute one considers to be the defining characteristic of the efficient cause. In the second example the essential goal of going to the marketplace is to do business. This goal is missed or at least delayed when the agent finds his debtor. If, however, the encounter with the debtor is taken as

³⁰⁴ Ibn Rushd, *Long Commentary on the Physics*, 68B-C. For the accidental as happening rarely, see also *Long Commentary on the Metaphysics*, pp. 720-721.

the essential goal, i.e., as the primary intention of the person who sets out to find him, then various actions may lead to that end. For one can find one's debtor in different circumstances and places. However there is no immediate parallelism between this example and that of the builder, which is an example of accidental causation rather than of chance. Going to the marketplace or to the schools are different efficient causes, and one is not the accident of the other as 'musician' is an accident of the builder. The link between the builder and the musician is much narrower than the link between going to the marketplace and going to the schools. However, to obviate this possible objection, one could say that different efficient causes lead to the same essential goal. If 'going somewhere' is taken as the general efficient cause of finding one's debtor, then different, more specific, instances for 'going somewhere' would lead to the same effect, i.e., finding one's debtor. In order to have an exact parallelism between the two examples, going to the schools, for example, would have to be an accident of the essential efficient cause, going to the marketplace, but this interpretation may appear rather contorted, if not downright impossible.

Hence it is clearer how chance is an accident of the efficient cause on the basis of the first example than of the second. The first example makes it clear that infinite accidents can inhere in a substance or event. For example, a builder can simultaneously be a musician or white. But in the second example, the accidental element seems to be in the domain of the final causes. Ibn Rushd does not say that finding one's debtor in the second example is accidental to the initial, essential final cause (to do business), as Ibn Sīnā does. The second example can only be considered in the same light as the first if the end result (finding the debtor) is an accident of the

efficient cause. So in what sense is chance associated with the efficient cause for Ibn Rushd? It is associated with the efficient cause because it is an unexpected and rare outcome of the efficient cause. Because in the instances when a person, the agent, goes to the marketplace to do business, the result is accidental because it does not usually issue in those circumstances from the efficient cause.

Aristotle's text does not explicitly say or explain with which of the four causes the chance element is linked as an accident, leaving the debate open.³⁰⁵ Rather, he explains chance by means of examples, hence the difference between Ibn Rushd's and Ibn Sīnā's interpretations. It is nevertheless a minor difference, as they both agree on the three requisites laid down by Aristotle for an event to be classified as chance, namely that it should be goal-directed, that it should happen rarely, and the result should be accidental to the essential causes involved.

Judson uses a diagram to illustrate accidental causation: 'E1 can be an incidental cause of E3 in two different ways:

³⁰⁵ It is debateable which interpretation is closer to Aristotle, as he is not explicit. Lindsay claims that in Aristotle chance is associated with the efficient cause. 'It is sometimes held that Aristotle takes luck and chance to be incidental *final* causes, but this is not so. Aristotle himself raises the question at 195b33-4 and 196b8-9, and says that it is *efficient* causation which is involved: "of the modes of cause, each of these [luck and chance] is in the sources of change" (198a2-3). Since luck and chance are elsewhere described as incidental causes ... it is clear that the mode of incidental causation in question is incidental efficient causation. This is not to say that one cannot identify incidental causes of the other modes in cases of chance', Judson 'Chance and 'Always or For the most Part' in Aristotle', in Aristotle's *Physics*, pp. 79-80. In this case, Ibn Rushd's view would be closer to Aristotle's, but the Aristotelian passage in question lends itself to both interpretations, as Judson himself admits, see p. 80, n. 17.

Schema I

E1
+
E2 ⇒ E3

Schema II

E1 ⇒ E2
+
E3

Aristotle's illustrations at 196b26-7 and 197a14-15 are causes of type I; in *Met.* E.2 he gives examples of both types – a cook (aiming at giving pleasure) produces health in someone [type II], a house builder (who happens to be a doctor) cures someone (1026b37-1027a5) [type I].³⁰⁶ In the second case, which is an instance of final causation, as illustrated by the man digging to sow but finding a treasure, E1 leads accidentally to E3, meaning to lead to E2. In type I, which illustrates efficient causation, the accident E1 of agent E2 leads to E3, the result or effect.

Judson contends that Aristotle holds that chance is in the 'sources of change' but the examples he quotes support both views. Indeed he quotes the agora example of finding one's debtor as an instance on type II as illustrated above. Lennox, he argues, holds that Aristotle had final accidental causation in mind in connection with 'chance'.³⁰⁷

Themistius, for instance, believed that chance is both an efficient and a final cause.³⁰⁸

³⁰⁶ See his article 'Chance and "Always or For the Most Part"', p. 79.

³⁰⁷ Judson, *Aristotle on Necessity*, p. 240.

³⁰⁸ Themistius associates chance with both: 'this is to be said of chance too, the accidental happening is not said/found on account of the efficient cause, but also of the end. In the same way that going is the accidental cause of acquiring, so acquiring is the accidental end of going. One is called chance as efficient cause, the other as final cause/as an end which is by chance', p. 52, ll. 18-21.

In his *Middle Commentary on the Physics*, Ibn Rushd confirms the view that chance is an accidental efficient cause:

Chance (*miqreh*) is an efficient cause (*sabāh po'elet*) by accident of that which rarely happens ... amongst the things which are for the sake of some [other] cause ... Chance pertains to things which come to be by nature and intellect for the sake of/duo to (*mipné*) some cause; when the things fail to attain their end ... and unintended things arise from them, [this] is through efficient causes by accident.³⁰⁹

Ibn Rushd is more explicit than Ibn Sīnā and Aristotle about the cause to which he attaches chance. Nevertheless some problems arise from the ambiguity underlying Aristotle's position. The reason for Ibn Rushd's focus on the efficient cause is the view that certain substances normally produce certain effects. Whenever an efficient cause fails to produce its effect, which obviously only happens rarely, we consider it a chance event. Thus if a stone in its downward motion hits and breaks someone's head, this is a chance occurrence, because it is infrequent, and the function or habitual activity of the stone is not to break something but to fall to the ground.³¹⁰ Certain substances have it in their nature to produce certain effects habitually. In the

³⁰⁹ Ibn Rushd, *Middle Commentary on the Physics*, Bodleian Hebrew MS Huntington 79, fols. 19 and 19v. For the Latin translation see Ibn Rushd, *Middle Commentary on the Physics*, 446H-K. In his *Long Commentary on the Metaphysics*, too, Ibn Rushd states that chance always goes back to the main causes, essential causes, more specifically the efficient cause. *Long Commentary on the Metaphysics*, ed. Bouyges, p. 738. Themistius says in his paraphrase of the *Physics*: 'chance is a cause by accident in those things that are neither by necessity neither for the most part, but in those that happen rarely and those that have an end according to choice.' 182. l. 28-183.1

³¹⁰ Ibn Rushd, *Long Commentary on the Physics*, 72F. In the *Tahāfut al-Tahāfut*, Ibn Rushd says: 'things have essences and attributes which determine the special functions of each thing', p. 318. See also, Kogan, *Averroes and the Metaphysics of Causation*, pp. 107 and 124. According to Kogan, Ibn Rushd's account of miracles is not systematic, p. 79, 'Averroes did not regard miracles as heterogeneous and freely chosen incursions of the Divine will into the domain of natural causation, p. 84.

superlunary world, the causes always produce their effect without fail, so chance is excluded from the superlunary world.³¹¹

The major difference between Ibn Sīnā and Ibn Rushd in their interpretation of Aristotle's text is the cause to which they choose to associate chance, the final cause for the former, and the efficient cause for the latter. Their interpretation differs in other aspects, but I leave this to the subchapter which deals with Ibn Rushd's criticism of Ibn Sīnā's interpretation.

Yet fundamental points are held in common by Aristotle, Ibn Sīnā and Ibn Rushd. For the latter as for Ibn Sīnā chance is always an accidental cause and as such subordinated to the 'essential' causes. As Ibn Rushd puts it: 'Nothing that is by accident is prior to that which is by itself, it is clear that the cause which is by accident is not prior to the cause which is by itself'.³¹²

Hence chance, which is an accidental cause, never precedes nature or will. Chance and the spontaneous are also subordinate causes, in Ibn Rushd's view, because Aristotle did not mention a fifth cause over and above the four main

³¹¹ Ibn Rushd, *Long Commentary on the Physics*, 55D.

³¹² *Ibid.*, 73B. Commenting on Aristotle, 72M, 198^a8-9. Also, there is no knowledge of accidents as such, a theory constantly reiterated by Ibn Rushd. The knowledge or science of the accidents is subsumed under the knowledge of the substances in which they inhere, *Long Commentary on the Metaphysics*, p. 199, p. 203. Also, the substance is of the realm of the necessary, whilst the accident is not, *Long Commentary on the Metaphysics*, p. 375. According to Ibn Rushd nothing exists by accident unless in relation to something essential, *Long Commentary on the Metaphysics*, p. 377. The accident comes under what is essential, p. 493, and it is for the sake (*min aji*) of the substance, p. 747. Also, what is by accident goes back to the main causes, p. 738. The individual substance (*shakhṣ al-jawhar*) is more properly existent than the individual accidents (*ashkhāṣ al'aghrād*), p. 747. Substances are cause of the *anniya* of accidents, p. 752, they precede accidents in time, knowledge and definition, p. 754, and are better known than accidents, p. 755. Also, the natural comes before the accidental, *Long Commentary on De Coelo*, 11A. The essential precedes the accidental, *Short Commentary on De Coelo et Mundo*, p. 7. As chance, the accidental is that which soon perishes (*sari' al-zawāl*), *Short Commentary on the Metaphysics*, I, Arabic, p. 16, §27, Span. Transl. in p. 26. For the accidental as opposed to essential, see *Short Commentary on the Metaphysics*, I, p. 19 §32, Spanish transl. p. 31.

causes.³¹³ Logically, the implication is that since the genera of causes amount to four, chance necessarily has to be an accident of one of them, and cannot constitute a separate cause.

Inasmuch as chance inheres in goal-directed acts, it is tied up with the expectation of the performers. Good luck or fortune is when a desired end is reached, bad luck when an undesired end is reached. Ibn Rushd also dwells on the extremes of good and bad luck. Good luck is when one nearly comes to a great evil but avoids it, bad luck is when one nearly attains, but actually misses, a great good.³¹⁴ Expectation thus plays a decisive part in the perception of good or ill fortune. If the end exceeds the expectations, we have an instance of good fortune, if it falls short of the expectations it is termed ill fortune.³¹⁵

Within 'chance' in general Ibn Rushd, like Aristotle, distinguishes between chance and the spontaneous. The former applies only to actions performed by rational animals, that are endowed with the voluntary faculty, which presupposes knowledge. Other actions, both natural and performed by animals, belong in the realm of the spontaneous.

As we have seen, the discussion of chance is framed within the exposition of the four causes. Having expounded chance as an accident of the efficient cause, Ibn Rushd goes on to expound the relation of chance to the other causes.

³¹³ Ibn Rushd, *Long Commentary on the Physics*, 73E.

³¹⁴ *Ibid.*, 70F. For the relation between good and ill fortune, and infinite accidentality, see *Long Commentary on the Metaphysics*, p. 718.

³¹⁵ Ibn Rushd, *Long Commentary on the Physics*, 70E-1.

In the second part of his argument, Ibn Rushd argues for the primacy of the final cause in nature.³¹⁶ This must not be seen solely as an attempt to keep to Aristotle's doctrine to the detriment of other philosophical views/currents, such as Neoplatonism. Ibn Rushd found fault with the emanation system as described by Ibn Sīnā, which prefers efficient causation, because it laid itself to attacks by the likes of al-Ghazzālī, as we shall see below in chapter six. In order to ward off the criticism that for the philosophers God is a mere automaton from which things necessarily - as opposed to voluntarily - issue, Ibn Rushd has to deny emanation and concentrate on the primacy of the final cause over the efficient cause, in order to salvage the notion of God's voluntary eternal creation and providence – a theme developed in this argument. He explains why it is important to state the supremacy of this cause above all others.

If the natural [science] does not admit [the primacy of the final cause], it denies the final principle, and denies that matter is for the sake of form, and consequently [denies] the agent itself: the generating [agent] only generates for the sake of something, as the moving [agent] moves for the sake of something; and, since the agent follows a form, it follows necessarily the nature of matter: if [it does] not [follow a form], it is generated by chance, and so it will not be an agent, or if it comes to be, it will be in vain. Similarly, if the divine [science] (*Divinus*) did not admit it [i.e., the supremacy of this cause], it would not be able to prove that God cares for things in this world.³¹⁷

Here, Ibn Rushd sets the main theme for the remainder of the argument. All causes are subsumed under the final cause. Why is the supremacy of the final cause the fundamental principle of physics? In every action, natural or human, there has to

³¹⁶ The primacy of the final cause is constantly stated in Ibn Rushd's philosophy. As a consequence of this primacy, metaphysics, which studies the form and the final cause, is nobler than physics, which studies the efficient and the material cause, *Long Commentary on the Metaphysics*, p. 190. According to Ibn Rushd, nothing moves without an end, *Long Commentary on the Physics*, 352G.

³¹⁷ Ibn Rushd, *Long Commentary on the Physics*, 75L-M.

be a moving principle, which is the goal of the action. For an agent only acts with a view to reaching a goal. The end or goal is the efficient cause of the efficient cause, a commonplace in Aristotelian philosophy. Furthermore, the end is identified with the form, in the sense that what is sought is a form.³¹⁸ To complete this picture, it has to be said that matter, as Ibn Rushd stresses, is subordinated to form. In any compound, form is the active element and matter the passive element, hence the primacy of form. Without an end initially posited, there is no action, and if for whatever reason that end is not attained, the action is in vain. In addition to elucidating the relation between the causes, Ibn Rushd introduces a wider issue that is at stake in the defence of final causality – divine providence. Ibn Rushd is concerned chiefly with the issue of providence and the notion of God's benevolent ruling of the world. If the world does not follow a design and end, then there is no divine providence. If there is no final cause, or if the final cause is not attained at the universal scale, God does not have a design for the world and does not concern Himself with whatever is beneath Him.³¹⁹

The problem is whether matter can constitute an obstacle to the realization of the end; or whether it can replace the end, in which case the order of the world, the notion that the inferior bows down to the superior, would be wholly reversed.

At a more general scale, one would have to admit that there exists a principle that is outside God's control and power, whereby the notion of His omnipotence

³¹⁸ In the *Long Commentary on the Metaphysics*, Ibn Rushd says that the form of the compound is its end (*nihāya*), p. 629. He also says that form and end are not the same cause, rather the form is for the sake of the end, *Long Commentary on the Metaphysics*, p. 1080.

³¹⁹ In the *Long Commentary on the Metaphysics*, Ibn Rushd states that no act in nature or in the crafts (*ṣinā'a*) is without intention (*qaṣd*). All these actions presuppose deliberation (*rawīya*) and choice (*ikhtiyār*). 'Aristotle said this because many Ancients denied the final cause, he disputed (*takallama*) with them in the second book of the *Physics*', p. 33. See also p. 161, for the theory of chance as denial of the efficient cause.

would be undermined. That there can be no absolute principle other than God is what Ibn Rushd seeks to show further in his argument. This implies refuting the theory of the Ancients of the necessity of matter, the notion that in generation everything is reduced to the material cause and the view that form follows matter.³²⁰ To that end, he has to demonstrate that matter is not an obstacle to God's providence. He expounds a view – the Presocratics' materialism – that he subsequently refutes.

All the Ancients reduced ... and ascribed all generated things to this cause, from which necessity is found in things, i.e., matter. They said that all these generated things necessarily exist through the necessity of the heat, and the nature of the cold, the moist and the dry ... without any extrinsic subsidiary cause to give every being its own constitution. Similarly they said that, because it is wont for heat to ascend, and cold to descend, when heat goes up to the upper parts of the plants, flowers and leaves come to be. Equally, when cold descends, the roots come to be ... The same applies to all the things for whose actions they sought to give the causes ... One who ascribes generation to necessity, ascribes actions to the necessary, and one who ascribes generation to an intentional end, ascribes generation to an intentional end.³²¹

Ibn Rushd introduces here the dichotomy between a mechanistic and a finalistic view of the world in its particular natural processes as well as in its origin. He sets out to refute the mechanistic and prove the finalistic view of the origin of the universe. According to the mechanistic and materialistic view, matter is a sufficient cause and explanation for all natural phenomena. Those who uphold this theory do away with the end in explaining the unfolding of natural processes. The material properties of the elements account for all these processes. Finally Ibn Rushd opposes the theory

³²⁰ The people/ancient philosophers who hold this view are the proponents of necessity (*aṣḥāb al-idṭirār*), the people who champion the 'cause of necessity' (*sabab al-idṭirār*) i.e., matter, *Long Commentary on the Metaphysics*, p. 257.

³²¹ Ibn Rushd, *Long Commentary on the Physics*, 76A-C.

that everything happens solely according to material necessity, and defends the view that everything has a purpose.

Chance can be also understood as lack of purpose or final cause. The world would be ruled by chance if without a purpose. Hence chance is not only an action whose end or final cause is thwarted. It is also – and here Ibn Rushd introduces a further sense of chance – the absence of an end. The denial of the final cause is then associated by Ibn Rushd with an admission of chance, because of the lack of a guiding final principle: ‘[According to this view] animals would be healthy not because that harmony was intentional, rather due to chance’.³²²

An argument he adduces to refute this conception of the world order is the way members are assembled in humans and animals.

It is impossible to say that these advantages (*utilitates*), and final causes, which appear in generated beings, are produced by the necessity of matter, and by chance ... For the members, and the things, which are generated by nature, are generated in some disposition, either always or for the most part: monstrosities seldom occur.³²³

In this passage Ibn Rushd uses a form of the argument from design. The example given highlights the harmony displayed by generated beings, particularly animals. The harmonious way in which the parts of animals are assembled, so as to produce a perfect mechanism, shows that nature acts according to a plan. Such perfect organization of limbs and organs found in an animal could not have come about by chance. Chance is taken here to mean the opposite of the orderly realization of a plan or goal. Also, one speaks of chance when on rare occasions something fails to attain

³²² Ibn Rushd, *Long Commentary on the Physics*, 76L.

³²³ *Ibid.*, 77E-F.

its goal. This kind of deviation seldom happens. For the most part we see the preservation of the same species through reproduction. Since that which happens seldom is opposed to that which happens for the most part, nature acts not by chance and the realization of its purpose, since it happens for the most part, is not by chance. Since natural processes occur for the most part, there is a possibility that sometimes the end is not attained. We have already seen that Ibn Rushd insists on the fundamental difference between the sublunary realm of nature, where natural processes occur for the most part, but not without fail, and a certain regularity is at work, and the supralunary realm. In the supralunary realm the same processes, say the movements of the stars are repeated permanently without any scope for deviation. Hence necessity or permanence is the prerogative of the celestial realm.

Since in nature some ends may not come to fruition, not all natural events have a final cause. 'For not all that is by nature (*a natura*) is for the sake of something'.³²⁴ On rare occasions natural processes may deviate from the established norm. This deviation, which can lead to the production of anomalous living beings, is called chance. Ibn Rushd also stresses the notion that certain things are wont to perform their habitual acts; monstrosities are down to chance, not primarily due to nature.³²⁵ This is in line with the previous exposition of chance. Chance is what rarely happens.

In support of his argument in favour of a teleological view of natural phenomena, Ibn Rushd, as we have seen, stresses the primacy of the end over all

³²⁴ Ibn Rushd, *Long Commentary on the Physics*, 77H. The Latin preposition *propter*, as the Greek 'ἐνεκα' used by Aristotle, are ambiguous because they mean both 'because of' and for the 'sake of', i.e., they can indicate either the efficient or the final cause. In my translation I have been guided by the context.

³²⁵ Ibn Rushd, *Long Commentary on the Physics*, 79K.

other causes, and the primacy of form over matter, further expanding on the identification of end and form.

Nature is said according to matter and form. ... The form is the end in generation, and everything that is before the end is for an end/purpose. Therefore it is necessary that everything that is before the form should be for the sake of the form. ... Also, it is necessary that the form should be the end in generation, because form follows from the agent, either always or for the most part, and consequently matter is for the sake of form.³²⁶

In the process of generation and corruption form and matter play a crucial part, for they are the immanent causes of generation and corruption. Form stands for the perfection of the corruptible thing, which is the goal of nature and change. Hence form and goal become identical. Since everything that precedes a goal pursues that goal, everything is subordinated to the end, and by extension, to form. The agent acts with a view to the end and matter must be subordinated to form.

Another reason adduced to counter the view that chance rules natural phenomena is that in nature the species are preserved. The generation of individual substances occurs from an end to a definite end:

The generation of animals is not by chance. For, if we accept that every animal is generated from semen, it is generated only from semen. It necessarily follows that its generation from semen is essential (*per se*), and ... not by chance ... It is necessary that semen should precede the generation of the animal in time, and that the animal should be generated from semen at a determinate time (*in tempore terminato*): ... its first stage (*ordo*) in generation is the semen, and the last is the animal ... The animal is essentially produced by nature ... Similarly, if we grant that the animal does not suddenly

³²⁶ Ibn Rushd, *Long Commentary on the Physics*, 79E-F. In the *Long Commentary on the Metaphysics*, Ibn Rushd says that all causes are for the sake of the end, p. 190.

come to be from semen, but at a definite time it will become indeed apparent that its generation follows necessary changes in the generation of the animal, and that the beginning of this motion is from a determinate substance (*a re terminata*), the semen, and to a determinate substance (*ad rem terminatam*), namely an animal, and goes through determinate media (*media terminata*). All this goes to show that its generation from semen is essential ... This is found not only in animals, i.e., that which is for the sake of a final cause (*propter causam finalem*) ... something is not generated from something by chance (*casu*) ... This holds for [the generation of] vegetables as well as for [the generation of] animals.³²⁷

Ibn Rushd states that the generation of animals unfolds according to a determinate order, necessarily rather than by chance. In the same way that certain natural substances usually produce the same, specific effects or substances for the most part so certain effects tend to come from the same, specific causes. Thus an animal can only be generated from semen. Also the implicit point is made that an instance of a species is generated by the same species. The semen contains in potentiality the species of an animal. One species, man, is only generated by the same species, man. This generation within a species is obviously essential rather than accidental, for cause and effect are directly and inextricably bound together. In consequence, the outcome of this kind of generation is fairly predictable. The form of animal/human is the goal of the generation process. Ibn Rushd makes it very clear that the transformation process occurs from a definite form to a definite form, which

³²⁷ Ibn Rushd, *Long Commentary on the Physics*, 80D-G. According to Ibn Rushd things that exist essentially have species, while what is by accident does not have a species, and no species exists by accident, see *Long Commentary on the Metaphysics*, p. 721, and p. 841. 'Every species produces a species like itself', p. 868. Also, 'that which happens by chance (*bi-l-bakht*) is not cause of any kind/species of existing thing as that which happens by nature is cause of what happens by nature ... but what happens by chance is only from a definite principle and a definite cause, and that is because what is by accident only happens to that which is essentially (*bi-l-dhāt*) and therefore that which happens essentially is prior (*mutaqaddim*) to what is by accident', *ibidem*, p. 736. In this sense, an accident does not produce an accident, rather a primary substance produces another primary substance, p. 888.

implies a definite order in the change process. Moreover, Ibn Rushd stresses that the times and different stages of the animal's development are determined and follow a necessary order. Not only the substance in question goes through definite stages, as the time in which this happens is determinate. This statement is in stark contrast with, for instance, Empedocles' view, mentioned earlier in Ibn Rushd's commentary, that the space of time in which these processes occur is haphazard rather than determinate.³²⁸

This passage strongly denies chance any prominent role – as we have seen, it is relegated to the realm of accidental causes and also indeterminacy in general. For the most part natural processes unfold in a regular, determined manner.

The theory Ibn Rushd seeks to refute gives matter a greater weight than all other causes to account for natural phenomena. To counter this view, Ibn Rushd asserts that the material cause is subordinated to the final cause. The notion that matter is subordinate to form and end is discussed in the context of the theory of the necessity of matter as propounded by the Ancients, on which more later. Ibn Rushd uses Aristotle's example of a saw to expound his views. In order to fulfill its purpose, a saw must be made of iron. Thus the material cause is only the means to the end.

Each composite substance has a specific purpose. So in all natural substances, one has to inquire into the end and then into the matter necessary to perform that end.³²⁹ The phrase 'necessity of matter' means that matter is responsible for the corruption of material beings. That which matter produces is not for an end, such as

³²⁸ Ibn Rushd, *Long Commentary on the Physics*, 65A.

³²⁹ *Ibid.*, 83B-C. The example of the saw is also mentioned by Ibn Rushd in the *Tahāfut al-Tahāfut*, p. 92 (Bouyges), transl. by Van den Bergh, p. 54.

death. Form, not matter, is the end: 'The ancients erred because they ascribed everything to the necessity of matter'.³³⁰

The role of matter shall be further analysed in the next chapter. In the course of his argument Ibn Rushd presses the point further that form and end are the leading 'efficient causes'.

If, indeed, the final cause were to follow necessarily the material cause, then to the question 'why?' one would reply with the material cause ... The absolutely necessary being exists not for the sake of its action, but its action is for its own sake. This mode of necessity is found in eternal things. And this is absolute necessity, which the Ancients thought to exist in natural generable and corruptible things. If, then, forms were to follow from matter necessarily, all things would be necessary.³³¹

In all things that have a purpose, form is prior to matter, and matter only exists for the sake of the form. The notion of 'necessity' makes a fresh appearance. Ibn Rushd distinguishes between two quite different kinds of necessity. One goes hand in hand with matter and as such exists in the sublunary world. This is the 'necessity of matter', and serves to explain the process of corruption in the natural world, and phenomena such as death. Necessity in this sense denotes the limitations and constraints posed by matter. Matter leads to the corruption of natural substances in the natural world due to its association with potentiality. Another, quite different meaning of necessity, the most fundamental sense, is that which cannot be otherwise and does not change, as mentioned before. Necessity in the sense of actual permanence, however, is the prerogative of celestial beings.

³³⁰ Ibn Rushd, *Long Commentary on the Physics*, 83D.

³³¹ *Ibid.*, 83E-F. In the *Short Commentary on the Metaphysics*, Ibn Rushd specifies the necessity of matter and the necessity of what is eternal as coming both under different senses of necessity, I, §65, p. 34, Arabic, p. 55, Spanish transl.

To recapitulate, in natural events/substances that have a purpose matter is subordinated to the form and the end. In actions that do not have a purpose, like death, matter represents necessity, the inescapable end. Thus the term 'necessity' is convertible to matter in the natural world, and equivalent to eternal existence in the celestial realm. To say that everything is necessary would imply either that everything is for the sake of matter, or that everything is like the celestial beings, which never perish, both of which are clearly false assertions. Chance is found between these two domains, and is opposed to the constancy of matter and that of the celestial realm. Because chance is that which happens not always or for the most part but is rarely the case, it is opposed to necessity. It is found in actions that have a purpose, in which case it represents the failure of that purpose, and at the universal level it represents a lack of goal-directedness. Hence chance is a relative or accidental cause at the particular level and as a by-product at the cosmological level.

Ibn Rushd's criticism of the ancient schools and of Ibn Sīnā concerning chance

In his criticism of his predecessors, from the Presocratics to Ibn Sīnā, Ibn Rushd follows the order of Aristotle's *Physics*' passage and begins by expounding commonly held views and those held by the Presocratic schools.

Some denied that chance and the spontaneous exist, and said that these are mere words. Whatever is said to happen by chance, or spontaneously, has a known cause, to which it can be ascribed. For example, one who goes out to the marketplace, and finds there a man, whom one had wished to find - albeit one had not gone in order to find

that person - the cause of finding his debtor is but his going out to the marketplace, or ... the will to go. So is the case regarding everything else which is said to happen (*fieri*) by chance (*casu*) ... because it has a determinate cause (*causa terminata*).³³²

According to this view, there is no such thing as chance because whatever happens has a determinate cause, in Aristotelian terms an efficient cause as it immediately precedes its effect in time. We have seen that according to Ibn Rushd, certain events happen by chance, namely those whose end remains, on rare occasions, unfulfilled, although he grants that chance is only an accidental cause, since for him everything goes back to the causes of generation.

He goes on to expound the theories of such Presocratics as Empedocles and Anaxagoras, upholders of a second view on chance. Following his exposition, the rebuttal that chance is the ultimate cause of things takes centre stage. In particular Ibn Rushd seeks to refute the view that: 'the causes of heaven and of all beings are chance and the spontaneous' and that 'the revolution of the celestial body and the movement that bestows order on the remaining beings occur by chance and spontaneously'.³³³

Ibn Rushd, as Ibn Sīnā before him, states that the first principles of the world (the heavens) and the very origin of the world involve no chance element. As we have seen, according to Ibn Rushd everything in the heavenly world happens according to an eternal regularity that admits of no exceptions, hence the absence of chance in the supralunar realm. This view is in consonance with his care to maintain an essential difference between supralunary and sublunary realms.

³³² Ibn Rushd, *Long Commentary on the Physics*, 64D.

³³³ *Ibid.*, 65D-E.

These Presocratics have reversed this order by saying that chance is at the root of the world's origin while necessity, as opposed to chance, rules the generation of particular beings in the sublunar world. Aristotle, and Ibn Rushd after him, defend precisely the opposite, following the general principle that the superior is never for the sake of the inferior.

It is most extraordinary ... to think that animals and plants, and other beings, which are inferior to the celestial bodies, are not generated or corrupted according to chance, but by determinate causes, such as nature, intelligence or other causes ... and to think [at the same time] ... that the celestial bodies – which are principles of those, and which bestow order on them - come to be spontaneously (*ex se*) and do not have the [determinate] cause that animals and plants have.³³⁴

Events in the celestial world follow an unchanging regularity, a theory alluded to in this passage by the use of the term 'order'. Moreover whatever order found in the sublunary realm originates in the supralunary realm; hence too the notion of a hierarchy and causality that starts in the supralunary realm and extends to the sublunary realm, defended by Ibn Rushd. In consequence the generation and corruption of particular beings according to a set pattern must come from the supralunary realm. Chance, which constitutes a deviation from this pattern is only to be found in the sublunary realm and more specifically in sensible things that are composed of matter and form. This is something empirically observable, an important point for Ibn Rushd: 'they have never perceived or will perceive anything in the heavens occurring by chance. Moreover they ascribe to order, not to chance ... all that happens under the heavens even though many of these [events] happen by

³³⁴ Ibn Rushd, *Long Commentary on the Physics*, 65G-H.

chance'.³³⁵ In the *Tahāfut al-Tahāfut*, Ibn Rushd takes a stronger stance against indeterminism: 'this is absurd, unless one believes that there are things which happen at haphazard and by themselves, a theory of the old philosophers who denied the agent, the falsehood of which is self-evident'.³³⁶ Nothing occurs spontaneously or without an efficient cause, hence nothing really happens by chance.

Chance is confined to the sublunar realm as an accidental cause. Because eternal beings produce eternal effects that follow a strict regularity, there can be no chance element in the supralunar realm. Ibn Rushd says that the existence of that which happens by accident is impossible among eternal beings.³³⁷ In nature, though, corruptible beings produce transient effects: 'Among the genera of beings is the agent from which an action follows necessarily - in eternal things and the agent from which an action follows for the most part - and this happens in generated and corruptible things'.³³⁸

This distinction between terrestrial and celestial agents goes hand in hand with the separation between the sublunar and the supralunar. In short, the distinction between celestial and terrestrial beings consists in that the former are pure actuality and their effect always follows from them, whereas the latter are material and their effect does not always follow from them.

Ibn Rushd then introduces a third group, which extols chance above any other cause: 'Aristotle introduces a third group of those who admit that chance exists, and say that no one knows its quiddity, and that it is something divine. He passes them

³³⁵ Ibn Rushd, *Long Commentary on the Physics*, 65L.

³³⁶ Ibn Rushd, *Tahāfut al-Tahāfut*, p. 9 (Bouyges), translated by Van den Bergh, p. 4.

³³⁷ Ibn Rushd, *Middle Commentary on De Coelo*, p. 174.

³³⁸ Ibn Rushd, *Long Commentary on the Physics*, 75D.

over in silence because this theory is irrational (*irrationabilis*), i.e., that there should be a cause naturally ignored'.³³⁹

Ibn Rushd's explanation for Aristotle's scarce words on this third group lay in what he terms irrationalism, which he defines as the view that things do not have a known cause. The terms in which he couches his rejection of this third view point to his own rationalism, the view that everything has, at least in principle, a rational explanation. The theory that chance is something inexplicable and divine is in his view unreasonable, obviously because there are no ignored causes in nature. That is, in principle everything is knowable. But if we can in principle know all the causes, does it not mean that everything has a cause, and is determined by its cause? His appraisal of this view evinces a deterministic tendency.

While expounding the views of the ancient schools, Ibn Rushd is most critical of the last two positions, that chance is a cause at work in heaven but absent from the sublunary realm and the last one that everything is due to chance, and that is it a mysterious cause. He does not truly criticize the strong deterministic stance, perhaps because his own analysis, as indeed that of Ibn Sīnā, is closest to that view, with a qualification. We have seen that he admits that chance exists, but is to be found only in the sublunary realm as an accidental cause.

In discussing different opinions put forward by commentators and philosophers who wrote about Aristotle's theory of chance, Ibn Rushd mentions also Ibn Sīnā's position. More specifically, Ibn Rushd discusses a controversy surrounding one particular issue in Aristotle's text. That debate turns on the issue of that which is

³³⁹ Ibn Rushd, *Long Commentary on the Physics*, 66A-B.

equally possible, and its relation to chance: 'of those things which are not necessary or possible for the most part, some are equally possible (*possibilia aequaliter*), and some rare. Hence one should investigate whether chance is found in either of them'.³⁴⁰

In addition to the three Aristotelian categories of necessary, possible for the most part and rare, Ibn Rushd recalls a fourth category, introduced by late Peripatetics, of that which is equally possible. The question arises whether chance is found among events or substances that are equally possible. Ibn Rushd takes issue with Ibn Sīnā on account of his interpretation of the position taken by late Peripatetics, which seeks the correct interpretation of Aristotle's position. From his account of Ibn Sīnā's argument one is led to believe that Ibn Rushd was in some way familiar with the passage of the *Physics* of the *Shifā'* that paraphrases the Aristotelian passage in question (*Physics* 195b31-200b8): 'The late Peripatetics, as Avicenna reported, say that chance is found [only] in those things which are rarely possible, not in those which are equally [possible], which is the opinion of Themistius. Avicenna, though, says that chance is in both'.³⁴¹

If we turn to Ibn Sīnā's paraphrase of the Aristotelian passage in question, we see that Ibn Sīnā does not say that chance lay in the equally possible. On his account one must ascertain whether that which has equal chances of happening (*al-kā'in bi-l-*

³⁴⁰ Ibn Rushd, *Long Commentary on the Physics*, 66G.

³⁴¹ *Ibid.*, 66G-H. Themistius does not explicitly mention the category of the equally possible. The Arabic version may have been a mistranslation, see Themistius' paraphrase of Aristotle's *Physics*, p. 50.

tasāwī) happens by chance or not.³⁴² In that passage, Ibn Sīnā seeks to keep to the First Teacher's position, and since Aristotle himself did not mention the equally possible, so one should not mention it in this context. Ibn Sīnā claims that these late Peripatetics, whom he does not refer to by name, linked chance with that which rarely comes to be to the exclusion of that which *equally* comes to be. Ibn Sīnā takes issue with the late Peripatetics because unlike them he holds that voluntary matters are not equally possible. For him, whatever comes to be needs a determining principle and so ceases to be equally possible, including voluntary actions. Moreover, Ibn Sīnā says that it is possible for that which happens for the most part to happen by chance.

[According to Avicenna] it is not impossible to find something said to be necessary with respect to something and casual (*casuale*) with respect to something else: and similarly it will be possible for the most part with respect to something and rare with respect to something else. And he ... claims (*intendit*) that walking, if it is ascribed to the faculty of locomotion (*potentiae motivae*), is by chance, because it is not in the nature of this faculty to move more than to rest. But if it is ascribed to the desire (*appetitus*), which effects the motion, it will not be casual.³⁴³

The frequency of any one event is indeed relative according to Ibn Sīnā, even though he does not give examples in this instance. He does state that when the conditions are expressed, everything is known to be necessary.³⁴⁴ The view here ascribed to him by Ibn Rushd, namely that a voluntary action occurs by chance if it is linked to the moving faculty and not by chance if it is connected to the will is not

³⁴² Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 63. (Āl Yāsīn, p. 119).

³⁴³ Ibn Rushd, *Long Commentary on the Physics*, 66H-I.

³⁴⁴ Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 63. (Āl Yāsīn, p. 119).

explicitly stated by Ibn Sīnā. Rather, it seems that Ibn Sīnā attributes this view to the late Peripatetics.

These late [Peripatetics] say that to eat and not to eat and to walk and not to walk and the like belong to the [kind of] events (*amr*) which equally issue from their principles [as not]; hence if someone walks or eats by his will this is not said to have happened by chance. But we ... will show the invalidity (*buṭlān*) of their theory (*qawl*).³⁴⁵

Then Ibn Sīnā goes on to say that everything is determined by its principles, be they voluntary or natural events. For him, voluntary matters too are determined actions *qua* voluntary actions.

By claiming that Ibn Sīnā supports the view that some actions are equally possible, Ibn Rushd seems to ascribe to Ibn Sīnā some sort of indeterminism. As we have seen, he appears to be saying that according to Ibn Sīnā some things proceed from the equally possible, i.e., from that which has equal chances of happening. Ibn Sīnā does not say this – on the contrary he stresses that whatever comes to be has a determining cause that renders it inevitable. This criticism may be a misrepresentation of Ibn Sīnā's views, but it sheds light on Ibn Rushd's own view on this particular debate, which he expounds in the following:

It is impossible that from the equally contingent (*contingens aequale*) one of two actions should happen, unless another cause is conjoined with it: for a neutral action is more likely to be relinquished. Consequently, an action does not come from that which is equally contingent, except with the assistance of some extrinsic cause (*causa extrinseca*). If this cause exists for the most part that action is not said to come about by chance ... From the equally contingent no action

³⁴⁵ Ibn Sīnā, *al-Samā' al-Ṭabī'ī*, p. 63. (Āl Yāsīn, p. 119).

proceeds, inasmuch as it is equally contingent, for its nature is the nature of matter, not of form.³⁴⁶

Ibn Rushd rejects the view that anything might originate from the equally possible. This category of events is relegated to the realm of the potential. Clearly the equally possible does not correspond to any actual event, in consonance with Ibn Sīnā's position; hence it cannot be included in the group of events that happen by chance, let alone by nature or will. This can be inferred from Ibn Rushd's assertion that the nature of the equally possible is matter, which amounts to saying that it is equivalent to potentiality, and hence relative non-existence. For something to pass from potentiality into actuality it needs an active principle, an external cause. Nothing in pure potentiality actually exists unless drawn into actuality by something actual. The equally possible is the potential, and does not exist in actuality.³⁴⁷ Ibn Rushd's view appears to be much closer to Ibn Sīnā's than he has us believe. Both say that there has to be an external cause which gives prevalence to one contrary over the other, which tips the balance towards the existence of one of the contraries.

A passage from the *Tahāfut al-tahāfut* expresses the same view:

The term 'possible' is used in an equivocal way of the possible that happens more often than not, of the possible that happens less often than not, and of the possible with equal chances of happening, and these three types of the possible do not seem to have the same need for a new determining principle. For the possible that happens more often than not is frequently believed to have its determining principle in

³⁴⁶ Ibn Rushd, *Long Commentary on the Physics*, 661-L. The view that a determining factor is needed for the choice between two contraries and the determination of human action had been developed in *kalām*, see Gimaret, *Théories de l'acte humain*, pp. 140-141.

³⁴⁷ '[The] assertion that possibility and actuality exist together is a falsehood, for possibility and actuality are contradictory, and do not exist together in one and the same moment', Ibn Rushd, *Tahāfut al-tahāfut*, trans. Van den Bergh, p. 55.

itself, not outside, as is the case with the possible which has equal chances of happening and not happening. Further, the possible resides sometimes in the agent, i. e. the possibility of acting, and sometimes in the patient, i. e. the possibility of receiving, and it does not seem that the necessity for a determining principle is the same in both cases. For it is well known that the possible in the patient needs a new determinant from the outside.³⁴⁸

Here, Ibn Rushd states that the equally possible needs a determining principle from outside, unlike that which is possible for the most part. The determining principle may come from within. Although Ibn Rushd does not say here exactly what he has in mind, we have seen that according to him certain beings have certain properties and powers which they usually perform, for instance an animal can move of itself. Returning to the passage on chance in this commentary, Ibn Rushd goes on to say:

Therefore, actions which are not necessary, nor contingent for the most part, necessarily come to be rarely. According to this, chance is not in the equally contingent ... You ought to know that the difference between the contingent for the most part and the necessary is not that the contingent for the most part has an impediment on rare occasions, and the necessary does not have an impediment, as Avicenna says. For that implies the view that everything is naturally (*naturaliter*) necessary. Rather the contingent which is for the most part is that which has in its nature the possibility that its action may fail (*deficiat*) on rare occasions: and therefore an external impediment is found therein. The necessary, however, because it does not have that in its nature, does not encounter an external impediment.³⁴⁹

³⁴⁸ Ibn Rushd, *Tahāfut al-tahāfut*, p. 5 (Bouyges) trans. Van den Bergh, pp.1-2.

³⁴⁹ Ibn Rushd, *Long Commentary on the Physics*, 66L-67A. For the opposition between events happening necessarily and those happening by chance, see Ibn Rushd's *Commentary on De interpretatione*, pp. 79-84, §32-39, pp.144-148 of the English translation. Interestingly, Aquinas holds, like Ibn Rushd, that the sole difference between the contingent (*contingens*) and the necessary lay not in the latter's lack of an obstacle, for the necessary cannot fail to exist (*esse*), whilst the contingent may not exist. See Aquinas's commentary on Aristotle's *Physics*, in *S. Thomae Aquinatis opera omnia*, vol. 4, p. 72 (3rd column). According to Walter Burley, in his exposition on Aristotle's *Physics*, 'the Commentator states ... a difference between the contingent and the necessary, i.e., the contingent for the most part is that in whose nature the possibility [exists] that it may fail on rare occasions and because there is a possibility of failing in its nature it differs from the necessary, and it is not as Avicenna said,

In this instance, Ibn Rushd interprets Ibn Sīnā's view correctly and makes an important point against him, showing a divergent view on chance. On Ibn Sīnā's interpretation, an event happens always unless hindered by an external obstacle. Ibn Rushd, in turn, places the emphasis on the subject and its intrinsic nature.³⁵⁰ When the subject of an action fails to produce its effects, the reason lies in the agent's nature rather than in external factors. An impediment only happens as a consequence of an intrinsic failure within the agent. This is obviously only true of corruptible substances, composed of matter and form. By their definition and nature they cannot produce their effect always and without fail. Hence they are not necessary or permanent. The necessary is that which is simple, and eternal. As such no possibility/potentiality affects it. If a subject were hampered because of an obstacle rather than its own imperfect nature, all beings would be on a par with eternal, celestial beings, and Ibn Rushd opposes this view. That which is possible for the most part sometimes fails to be the case, and in this consists its possibility/potentiality. No impediment could possibly arise against the necessary, and in face of it the impediment would be idle. Thus the necessary does not have an impediment/obstacle. It cannot perish or change, as it is not composed of matter and form. On this interpretation the stress lies on the internal constitution and nature of the agent, rather

that it does not differ in nature from the necessary except in external [aspects]', *Exposition on the Physics*, fol. 49r.

³⁵⁰ 'That which is by chance happens rarely ... that which always, is only like that through a nature innate to some [purpose] (*natura innata ad hoc*)' *Long Commentary on De Coelo*, 93K. This view goes hand in hand with the Aristotelian theory that certain things act according to their attributes and functions. 'What is central to this conception of causation is the notion of production. Causes do not merely precede or accompany their effects; they generate them, bring them about, or otherwise make them happen. They do so, moreover, through their inherent power or capacity to produce these effects', Kogan, *Averroes and the Metaphysics of Causation*, p. 2.

than on external causes. This could point to a view where the agent has more autonomy, even freedom, since the emphasis is not on external, coercive factors. An impediment only happens if the subject failed to perform its due action. For Ibn Sīnā, by contrast, the external impediment would be the primary cause of failure of the event taking place, as his mechanistic theory of clashes illustrates. In addition, the disparity between the two views highlights to some extent the formalism of Ibn Sīnā against a greater weight given to the material element in corruptible substances by Ibn Rushd such that the material becomes almost part of the intrinsic nature of natural substances.

In Ibn Rushd a greater identification of corruptible beings with their corruptible matter is at work. Moreover, the close connection between chance and matter is highlighted:

Since contingency (*contingentia*) is said of the agent and of the receiving cause, it is necessary to study them to perfection. Let us thus say that prime matter is prepared to receive equally two contraries, so that the reception of either contrary is natural to it ... Therefore, this [kind of] contingent [being], i.e., that which is natural, does not have [two] equal contrary agent causes at a time. Otherwise nature would act in vain. Hence it is necessary that those actions be ascribed to an agent ... which makes one of the contraries ... occur for the most part, not by chance. If there were something which equally acts and does not act, then nature would act in vain: for the potentiality to be and not to be would be essentially equal in it. And, when we say that the potentiality (*potentia*) to be in prime matter is equal to the potentiality not to be, we mean that two contraries are found in it at equal, opposite times. For example rain may equally fall and not fall, but that happens in the winter and this in the summer ... The celestial bodies ... are the causes of those things which equally are/occur and do not. It thus appears from this that the equally contingent is not found in the agent potentialities by themselves (*per se*), but in the passive potencies, and in those equally receptive to two contraries ... The equally contingent is found only in passion, not in action. Indeed, no actions are found

which are equally [possible]. The passive does not go into act unless through an active potentiality. And this is what causes Aristotle in this chapter to dismiss the equally contingent. But the doctrine (*sermo*) that everything is necessary is false (*nullus*), and is refuted in the *Metaphysics*.³⁵¹

With this passage the criticism of Ibn Sīnā's analysis of chance is brought to a close. In this passage active and passive potencies are mentioned in connection with the frequency of an action. The equally possible, as we have seen, pertains to the realm of possibility and is excluded from actually existing substances/events. It is ascribed to prime matter, which does not move of itself. Hence the equally possible exists only in matter, a passive potentiality, not in the active potentiality. Since matter is not an active principle, its activity requires an actualising principle, which decides at what precise time which of the contraries comes into existence. This active potentiality can never actualise the two opposites at the same time, but renders one preponderant over the other. The active principle of the active potentiality lies ultimately in the celestial bodies. They are the determining causes of what happens in the sublunar world. Moreover, by claiming that the celestial bodies are the cause of that which can equally be and not be, Ibn Rushd is implicitly stating that they are the cause of matter, for only in the passive potentiality, i.e., matter, can the equally possible be found. The celestial bodies, then, are responsible for both passive and active potentiality. He explicitly states that they are indirectly responsible for whatever actually comes into being. At the close of this passage, Ibn Rushd reiterates, against Ibn Sīnā, that not everything is necessary, as stated in the *Metaphysics*, which means either Aristotle's work or Ibn Rushd's own commentaries on it. In the next

³⁵¹ Ibn Rushd, *Long Commentary on the Physics*, 67B-D.

chapter we shall see how this divergence of views is articulated by looking into the metaphysics of the possible and the necessary.

What can be inferred from Ibn Rushd's criticism to Ibn Sīnā on chance? By saying that there is always a determining principle for something to come into being, Ibn Rushd himself is certainly not inclining towards indeterminism. His own reading of Ibn Sīnā is underpinned by deterministic assumptions. In misinterpreting Ibn Sīnā as saying that something can come from that which has equal chances of happening, and that chance resides in this, Ibn Rushd shows himself a determinist. Ibn Sīnā would be rightly characterized as an indeterminist if he truly held the views imputed to him by Ibn Rushd. Yet Ibn Sīnā's view could not be further removed from this. The Averroist view of Ibn Sīnā as an indeterminist is corroborated by two other passages, which are very similar in content, to be found in the *Long Commentary on the Physics* and in the *Long Commentary on the Metaphysics*:

What is by chance is always opposed to that which is by nature ... [Otherwise] the agreement and relation of the causes to their effects would not exist, and so the nature of the necessary would be abolished. Also, it has been said that what happens by chance comes to be from causes derived from some natural cause and for the most part, when these are prevented from producing their effect. Thus, if man is generated by chance it is necessary that he should be generated by causes that are part of some species, and were prevented from generating that species. Hence the causes of that which is by chance are not determinate (*terminatae*), and [according to this] it would be possible for man to be generated from the she-ass, or from the mare, and in general (*universaliter*) from infinite matters. Consequently no species is found by chance. Rather those things which are found by chance are unnatural and monstrous. All this is self-evident. However, we say this against those who deny that this is self-evident, like Avicenna who says that it is possible for man to be generated from earth, but more likely in the uterus. And this theory, [coming] from a

man who devotes himself to science/knowledge (*scientia*), is completely absurd.³⁵²

Clearly, for Ibn Rushd, the preservation and perpetuation of natural species is proof that nature does not act in vain or by chance. The generation within a species is, as we have seen, essential rather than accidental, and so cannot occur by chance. This, too, is supported by Ibn Sīnā, and his view on natural causation affords no reason to think that he would hold man to be generated from earth. Ibn Rushd does not say where Ibn Sīnā defends these views.³⁵³ On the contrary, Ibn Sīnā says that even monstrosities are necessary. The crucial aspect to glean from this passage is that Ibn Rushd opposes chance to nature. That which follows the natural course happens for the most part, as opposed to that which happens according to chance, which rarely happens. Theoretically for Ibn Rushd, a chance cause is always subordinated to an

³⁵² Ibn Rushd, *Long Commentary on the Physics*, 387F-H. A similar accusation of disregarding the perpetuation of the species in nature is levelled at Ibn Sīnā by Ibn Rushd in his *Long Commentary on the Metaphysics*, pp. 46-47. For chance as opposed to generation within a species, see pp. 66-7, and 127-8. For chance as opposed by nature, see *Middle Commentary on De Coelo*, p. 174. For Kogan's analysis of this passage and the notion of obstacle in Ibn Rushd, see his *Averroes and the Metaphysics of Causation*, pp. 129-132, 261. Ibn Rushd explains that generation from putrescent matter does not occur by chance but naturally, see *Long Commentary on the Metaphysics*, pp. 1463-1464, p. 93, and also, pp. 94 of English translation.

³⁵³ The same issue is raised in the *Tahāfut al-Tahāfut*, p. 416; p. 328. It may be that Ibn Rushd gleaned this view from al-Ghazzālī and attributed it to Ibn Sīnā. See Ozcoidi, *La concepción de la filosofía en Averroes*, 268-269. Ibn Sīnā does admit that lobsters and plants could be generated spontaneously due to matter and the agency of the celestial bodies. See Kruk, 'A Frothy Bubble', pp. 266, 273-274. The issue of spontaneous generation is discussed by Aristotle in his biological works. See Judson, 'Chance and 'Always or For the Most Part' in Aristotle', pp. 73,74, n.2. Ibn Rushd's own position concerning generation from matter is as follows: 'substances which are generated from putrescent matter belong to the class of that which is generated from its synonym, not of that which is generated by chance, for that which is generated by chance has no regularity in its being, nor species intended by nature, and these (substances) evidently have species according to a natural design and lack only the species transmitted by procreation; most of them occur only for a limited time. So it is meaningless to say that they occur by chance ... the putrescent matter from which it is generated is the equivalent of the seeds in procreation ... The potentiality which is in the putrescent matter proper to each animal is similar to the craft which is in the seed. ... There is no difference between the power which is in putrescent matter, similar to a craft, and that in the seed, except that that in the seed comes from a being possessing seed and from the sun, whereas that in putrescent matter comes from the sun only'. Ibn Rushd, *Long Commentary on the Metaphysics*, transl. Genequand, pp. 93-94, Arabic edition pp. 1463-1465.

essential cause. On the other hand, he does not explain exactly why deviations from the norm occur, only saying that they happen rarely. He claims that these are due to an obstacle. Is this in contradiction with what went before? The only solution to the problem, in my view, is to think that that obstacle is not external – as it is on Ibn Sīnā's interpretation – but internal, namely the matter of which a particular sublunar substance is composed. There must be an explanation of chance other than the mere observation that it is what happens rarely in nature. According to Ibn Rushd's rationalism, there is nothing in principle inexplicable in nature, and chance cannot constitute an exception to this rule. Chance, as an accidental cause, cannot exist on its own, but as a 'parasite' of essential causes. 'That which happens by chance, happens either by a natural cause, or by a voluntary cause, since there is not a third agent cause other than these two causes'.³⁵⁴

In the previous passage, Ibn Rushd opposed chance to nature, in the sense that what happens by chance is what happens rarely whereas what happens according to nature happens for the most part.

In this passage chance is subsumed under a natural or a voluntary cause. There is no contradiction between this and the foregoing, for chance is an accident and not a substance. Natural and voluntary causes are essential/substantial causes, while chance is an accidental cause.

³⁵⁴ Ibn Rushd, *Long Commentary on the Physics*, 72L.

Conclusion

This chapter has discussed Ibn Rushd's views on chance, and his position vis-à-vis other philosophers and commentators who have discussed the issue, from the Presocratics to Ibn Sīnā.

In his commentary of Aristotle's discussion of what chance is, Ibn Rushd dwells on the main topics that were also discussed by Ibn Sīnā, namely what kind of cause chance is. Two leading issues are debated in connection with chance, the relation to the efficient cause – with the implication that chance is not an essential efficient cause – and the affirmation that nature in general follows a purpose or final cause and is not ruled by chance. Moreover, Ibn Rushd has the added advantage of coming after a long tradition of commentaries on the subject, including that of Ibn Sīnā, which he takes into account and criticises.

From the foregoing it emerges that Ibn Rushd restricts the role of chance in nature. For him as for Aristotle and for Ibn Sīnā, chance is an accidental cause, which means that it is never found in isolation but only as inherent in an essential cause. He presents us with a model of causality that, strictly speaking, does not admit of true deviation. Chance is seen as an accidental efficient cause. Deviations such as monstrosities are attributable to the shortcomings of nature. This second point could be adduced to claim that he is not as deterministic as is Ibn Sīnā. For Ibn Sīnā constantly stresses that everything has a necessary cause and could not have been otherwise. By ascribing the monstrosities to nature's or the agent's failure, rather than to an external agent, Ibn Rushd could be seen to give the agent more autonomy, in

contrast to Ibn Sīnā's strict determinism. For Ibn Rushd, the failure of nature resides in the fact that it contains material elements and consequently, unlike eternal beings, is not constant. Natural deformities are attributed to something defective in nature itself rather than a concatenation of causes. He does not develop the typically deterministic conception of a systematic net of causes, as does Ibn Sīnā, that stresses that nothing could have possibly been otherwise. Notwithstanding this, Ibn Rushd clearly states that every natural process unfolds according to strict and determinate principle, from beginning to end.³⁵⁵ At certain points he is more explicit and says that no effect is produced by chance (*bakht*), rather by an agent which has the potency to produce something.³⁵⁶

From these passages on chance we also become acquainted with his understanding of Ibn Sīnā's philosophy. It has to be said that his criticism of Ibn Sīnā is sometimes misdirected because he ascribes to Ibn Sīnā views that the latter does not hold in the passages in question. This misrepresentation of Ibn Sīnā's philosophy could have two reasons; perhaps Ibn Rushd did not have first hand access to Ibn Sīnā's works but rather a second hand report, such as al-Ghazzālī's philosophical works; perhaps his misconstruction of Ibn Sīnā's views derives from his total immersion in his own interpretation of Aristotle's philosophy, and his attempt at reforming philosophy, patent in the *Tahāfut al-Tahāfut*. Because of this we must be wary of taking Ibn Rushd's criticism as showing a true divergence from Ibn Sīnā's position. Often the difference between Ibn Sīnā's and Ibn Rushd's views of a

³⁵⁵ This point is also made in the *Middle Commentary on the De Caelo*, p. 172.

³⁵⁶ Ibn Rushd, *Long Commentary on the Metaphysics*, 1167.

particular issue discussed by Aristotle lies on a different emphasis rather than a real divergence. Sometimes, however, Ibn Rushd's criticism does show real divergences between them.

In addition, we must not underestimate the impact of al-Ghazzālī's criticism of the philosophers, in particular of Ibn Sīnā, in the shaping of Ibn Rushd's own philosophy. At the same time that he endeavours to be true to Aristotle, Ibn Rushd's philosophical project consists in showing the harmony between philosophy and religion as is shown by his *Faṣl al-maqāl*. We must bear in mind that his criticism of Ibn Sīnā, apparently on purely philosophical grounds, constitutes an attempt at redressing al-Ghazzālī's charge of impiety levelled at the philosophers. This is particularly evident in the *Tahāfut al-Tahāfut*.³⁵⁷

This chapter has shown that Ibn Rushd associates chance with the material, sublunar world. For a more thorough understanding of his views of chance one must turn to his conception of matter. In particular, this is required in order to ascertain whether in his view matter in itself does not originate haphazard events. Aristotle's views on matter, and especially his acceptance or otherwise of the existence of prime matter, have divided scholars. Does Ibn Rushd accept that prime matter exists? Is it an independent cause that produces chance events? What is its exact role in the natural realm? And how do his views compare with those of Ibn Sīnā?

³⁵⁷ Ibn Rushd's criticism of Ibn Sīnā has been noted since the Middle Ages. 'Las leyendas medievales han convertido las críticas de Ibn Rushd al 'maravilloso orden del ser' del cosmos neoplatonizado de Ibn Sīnā, en manía persecutoria contra el gran pensador oriental. Para unos, Ibn Rushd desconocería, menospreciaría y ni siquiera citaría a Ibn Sīnā; para otros, sólo utilizaría sus textos para refutarlos con extrema dureza', in Cruz Hernandez, *Ibn Rushd*, pp. 69-70. See also page 70 for a list of stances for which Ibn Rushd faulted Ibn Sīnā.

Chapter 5

Ibn Rushd on matter and necessity

Matter and potentiality, privation and desire

In his commentary on the Aristotelian passage that discusses chance, the subject of the last chapter, beside affirming that chance is an accidental, not an essential cause, Ibn Rushd also seeks to prove that all causes are subordinated to the foremost cause, which is end. In particular, he like Ibn Sīnā rejects the view, propounded by some Presocratics, that matter is the sole cause behind all natural phenomena and that it is alone the agent of change in the natural world. Ibn Rushd claims that the final cause, not the material cause, ultimately accounts for natural processes. The only cause of chance, leading to the eventuality that a natural agent may fail to produce its usual effect, is matter, more specifically the failure of matter to support form.

In the same way that it was necessary to analyse Ibn Sīnā's theory of matter to ascertain that it does not contradict his deterministic views, it is now necessary to ascertain whether Ibn Rushd's theory of matter is consistent with his analysis of chance. Does matter have a purely passive role, or is it in any way active?

Like Ibn Sīnā, Ibn Rushd holds that matter qua matter is essentially in potentiality and does not exist without form. As such, it is not a body or a substance which subsists independently.

There is a being which is in potentiality all substantial and accidental dispositions. And this is called prime matter ... It is clear that this matter does not shed corporeality, because then it would have a substantial disposition, and it would have a name and a definition ... one who thinks that this nature is a body errs.³⁵⁸

Matter does not actually exist except in combination with a form. If prime matter existed on its own, it would have a name, definition, and as such would not be able to receive all dispositions. Prime matter, then, is not a particular physical body.

Ibn Rushd further states that prime matter is not generable. Generation only occurs when matter and form are combined in one single particular substance.³⁵⁹

In another passage, Ibn Rushd expands on the nature of prime matter.

This nature, which is prime matter, is a principle (*principium*) common to all perishable beings ... but it is not one in itself such that it would be a simple substance existing in actuality, or such that it would be something composed of matter and form. For if it had its own form it would never receive another one while that [form] remained; instead it would immediately pass away as soon as another form was generated. Whatever receives something does not receive it inasmuch as it [itself] is in actuality but inasmuch as it [itself] is in potentiality. If then [the function] of prime matter is to receive all forms, it is necessary that it should be in potentiality all forms, and that it should not have in its substance its own form ... Indeed if it were

³⁵⁸ Ibn Rushd, *Long Commentary on the Physics*, 38C-D. For the view that matter is not a body, see also, Ibn Rushd, *Long Commentary on the Metaphysics*, p. 80. According to Ibn Rushd, from matter alone nothing comes to be in actuality, *Long Commentary on the Metaphysics*, p. 96. It does not produce anything actual.

³⁵⁹ Ibn Rushd, *Long Commentary on the Physics*, 46K.

something existing in actuality, that is having a form, then ... the forms would be accidents.³⁶⁰

In spite of being indeed a principle for beings, matter is not an active principle. For Ibn Rushd as for Ibn Sīnā before him, matter is a principle of change in corruptible beings, but not a principle of existence. Prime matter, then, is the substratum that underlies the four elements of which all mutable beings are composed.³⁶¹ As receptacle of all forms in principle, prime matter cannot have its own constitutive form. If it had a form of its own, it would be unable to receive other forms. Also, it cannot be conceived of as substrate, of which the forms would be accidents. Rather the forms are the essential, actualising element within the material compound. In consequence, the characteristic of prime matter is pure receptivity and potentiality, not existing in actuality.³⁶² Matter is for the sake of form, because it only exists through form.³⁶³ Moreover, that which is in actuality in every element (*'unṣur*)

³⁶⁰ Ibn Rushd, *Long Commentary on the Physics*, 40L-M. For the notion of form as active power and matter as passive power see Kogan, *Averroes and the Metaphysics of Causation*, pp. 119-120, and Ibn Rushd, *Long Commentary on the Metaphysics*, pp. 1110-1111.

³⁶¹ There is one common matter existing for all four elements, *Short Commentary on De Caelo*, p. 73. The true 'element' (i.e., matter) is shared by all composite existents. All are composed of prime matter and dissolve into it, and prime matter is the cause in the remaining elements, i.e., the four elements, *Long Commentary on the Metaphysics*, p. 505. For the view that there is a matter common to things that change into one another see *Long Commentary on the Metaphysics*, 1299.

³⁶² 'Those who deny potentiality (*quwwa*) deny prime matter', Ibn Rushd, *Long Commentary on the Metaphysics*, p. 1132. While prime matter is infinite and potential, the four elements are finite, see *Middle Commentary on De Caelo*, p. 105.

The celestial bodies are also finite, *ibidem*, p. 96 and p. 181. There are no infinite simple bodies according to Ibn Rushd, *ibidem*, p. 110. The matter that exists in the world (i.e., secondary matter) is also limited, p. 139.

³⁶³ Ibn Rushd, *Long Commentary on the Metaphysics*, p. 709. Also, one must bear in mind that something which is not already in actuality needs an agent in order to be actualised; *Long Commentary on De Caelo*, 85A.

is the form, not the matter of it.³⁶⁴ As a corollary, ‘prime matter does not exist in actuality (*in actu*).’³⁶⁵

Conversely, according to Ibn Rushd, every actually existing being is in actuality.³⁶⁶ Thus actuality or real existence and prime matter are mutually exclusive. On the other hand, matter is only in potentiality when it is separated from form.³⁶⁷ When a composite being is generated, matter has the task of receiving the form and contributing in a passive way to the generation of such substance. However, it does not contribute actively, as form does, otherwise the compound would be an aggregate of two actual parts, instead of an individual substance. Therefore it is more correct to say that form actualises the individual which was in potentiality than to say that it actualises matter, which does not exist in actuality.³⁶⁸

In addition to saying that matter only exists potentially, Ibn Rushd claims that matter is subject: ‘The subject is in truth matter, whose existence is in potentiality (*in potentia*).’³⁶⁹

The subject of change is matter. As in Ibn Sīnā, three elements are required in the process of change: matter, form, and privation. Matter is the subject in as much as form inheres in it. Before having such form, that subject contains no contraries: ‘This

³⁶⁴ Ibn Rushd, *Long Commentary on the Metaphysics*, p. 1050.

³⁶⁵ Ibn Rushd, *Long Commentary on the Physics*, 367G.

³⁶⁶ *Ibid.*, 360E.

³⁶⁷ Ibn Rushd, *Long Commentary on De Caelo*, 15D.

³⁶⁸ Pérez Estévez, ‘Sustancialidad de la materia en Averroes’, pp. 221 and 226. ‘Como esencialmente distinta de la forma, la materia es en potencia, lo que significa que, en algún momento del futuro será en acto, en razón de la forma o formas que ha de recibir. Pero, como ser esencialmente distinto del ser de la forma, el ser propio de la materia no puede provenir del ser de la forma; por eso, la materia de Averroes no tiene causa eficiente o formal alguna que la produzca sino que es eterna, existe en su ser potencial desde siempre y para siempre’, p. 226.

³⁶⁹ Ibn Rushd, *Long Commentary on the Physics*, 33A.

subject must not have any contrariety in its substance, since the contrary does not receive its contrary, and water, fire, air and earth have each contraries'.³⁷⁰

Matter does not possess form or any contrary in actuality, it only possesses them in potentiality. Also, in saying that this subject does not have a contrary in contrast to the four elements, water, fire, air and earth, Ibn Rushd distinguishes uninformed matter, or prime matter, from the informed matter of the four elements, which actually exist and are perceptible to the senses.³⁷¹

Even though, unlike Ibn Sīnā, Ibn Rushd holds that matter is a subject, he explains that it is a particular kind of subject.³⁷²

I say that matter ... is the first subject, which is in potentiality, not the subject from which things are generated, which is in actuality ... For this second subject and the first ... differ in that the first is in potentiality, and the second in actuality, or in an intermediate stage between potentiality and actuality.³⁷³

Prime matter is a subject in potentiality, not an already formed substance. The actual subject, in contrast with the potential subject, would be - as we gather from this passage - the material component of an actually existing substance. Hence the second subject is informed matter. The first subject is prime matter, which can only be conceived as an abstraction, namely matter before any form inheres in it, which is not actually found in nature. However, both are called 'subject' because from the material substratum corruptible things come to be. The theory that corruptible beings are in an

³⁷⁰ Ibn Rushd, *Long Commentary on the Physics*, 32L.

³⁷¹ For Ibn Rushd, matter receives each of the contraries; remaining while it changes from one contrary to the other, *Long Commentary on the Metaphysics*, p. 1438, Genequand, p. 81.

³⁷² Ibn Sīnā stresses the fact that matter is not a subject in order to make the point that matter does not exist in actuality. See above, Chapter 2, *Ibn Sīnā on matter*, pp. 65-66.

³⁷³ Ibn Rushd, *Long Commentary on the Physics*, 47B.

intermediate state between potentiality and actuality, or between non-existence and existence, is a theme that recurs in Ibn Rushd's analysis of generation and corruption. It follows from the analysis of natural substances in the sublunar world as composed of form and matter, which have a potential as well as an actual component. It is not matter that is in an intermediate state between actuality and potentiality; rather matter as actualised in the material compound is an intermediate between existence and non-existence. The first subject then is matter, prime matter, which upon receiving form(s) becomes a second subject from which things come to be in actuality due to a form, for matter is only ever actualised through the agent power of form.³⁷⁴

Ibn Rushd states that prime matter is not generated, but eternal.³⁷⁵ 'It is necessary that [this subject] be eternal. It does not have change by itself, because it does not have a subject ... prime matter [is] a subject to all forms. For first [matter] is not composed of form and matter'.³⁷⁶ If it were generated, it would need a subject of inherence, and so *ad infinitum*.

Matter is also said to be substance, inasmuch as it is subject of the form (*mawḍū' a li-l-ṣūra*) and the form is substance inasmuch as it constitutes the subject and the compound (*murakkab*) of both matter and form.³⁷⁷ Thus matter is only subject and substance in relation to the form in becoming a primary substance in conjunction

³⁷⁴ Ibn Rushd, *Long Commentary on the Metaphysics*, p. 1028. He also says that matter becomes in actuality through form and that without form it resembles non-existence/privation ('*adam*'), *Long Commentary on the Metaphysics*, p. 1032.

³⁷⁵ For the view that matter is eternal, and that it cannot exist without form, see also, *Short Commentary on De Caelo*. Matter could only exist without form if it were itself in actuality, pp. 29-30. See also, *Long Commentary on the Metaphysics*, for the view that matter does not come to be or pass away, p. 56. Matter, in so far as it is matter, does not become; for if it did it would need other matter and so *ad infinitum*. Matter only becomes in so far as it is combined with form, *Tahāfut al-Tahāfut*, Bouyges 101; translated by Van den Bergh, p. 60-61.

³⁷⁶ Ibn Rushd, *Long Commentary on the Physics*, 51K-L.

³⁷⁷ Ibn Rushd, *Long Commentary on the Metaphysics*, p. 770. See also, *Long Commentary on the Metaphysics*, p. 959.

with the form. Yet, in other passages, Ibn Rushd speaks of prime matter as substance, with the proviso that it remains in potentiality within the active compound.³⁷⁸

In a passage from the *Long Commentary on the Metaphysics*, Ibn Rushd lists three factors as necessarily involved in the generation process, as Ibn Sīnā before him, on the basis of Aristotle's exposition in *Physics*. One of these is form, indicated by the definition of the substance. The second is the privation of the form, and thirdly there is the substrate, matter, which is potentiality.³⁷⁹

Like Ibn Sīnā, following Aristotle's stance on the subject, Ibn Rushd states in the *Long Commentary on the Physics* that matter is not privation.

Prime matter is different from privation ... And although matter is not something in actuality in as much as it is matter, it is worthier than privation of being something pointed out (*demonstratum*), i.e., it is more properly said to be in act than privation ... privation differs from matter because the generated [thing] is from matter by itself (*per se*), as it is part of it, but it is something by accident from privation, since privation does not remain in such a way as to become part of the generated thing ... whenever matter is mixed with a certain form only, it is mixed with the privation of the form opposite to that [form which it currently has].³⁸⁰

Ibn Rushd accords matter a greater place than privation within the material compound. This is because actualised matter plays a role in the compound. Privation, which is the opposite of the form actually inhering in the form of an existing substance, stands for something absent in material substances. In ranking matter above privation in the hierarchy of existing beings, he does not accord matter qua matter a privileged position in relation to privation, but to informed matter. Only

³⁷⁸ Pérez Estévez, 'Sustancialidad de la materia en Averroes', pp. 220-221.

³⁷⁹ Ibn Rushd, *Long Commentary on the Metaphysics*, p. 1454, Genequand, p. 89.

³⁸⁰ Ibn Rushd, *Long Commentary on the Physics*, 39G-1.

matter which is already united with form to constitute a primary substance is more real than privation. Privation is the absent form(s) of any primary substance. Thus, for example, the privation of a white horse is not-white. In the primary substance, matter, the form horse, and (the accident) white are combined to form an actually existing primary substance. The accident black or the form 'cat' are non-existent with regard to the white horse.³⁸¹ Only in this sense is informed matter more real and existent than privation, which does not belong in the realm of existing things in the example of the white horse. In Ibn Rushd we find the notion that matter forms part of the primary substance. Ibn Rushd distinguishes between matter as associated with form and prime matter. Only informed matter can be considered to be closer to actuality.³⁸² Because matter can be actualised by form it can be in actuality through form, whereas privation by definition always stands for an absent form or accident. His view on the relationship between form, matter and privation is similar to that of Ibn Sīnā.

In the *Long Commentary on the Metaphysics* Ibn Rushd distinguishes between different meanings of privation ('*adam*'). One is privation as absolute non-existence. The other is privation as the opposite of the form actually inhering in a subject, e.g., white/horse is the privation in a black cat. Thus Ibn Rushd distinguishes matter from

³⁸¹ A tenet of Aristotelian philosophy says that two contraries are not found together in the same matter at the same time, see *Long Commentary on De Caelo*, 81A. The principle that two contraries cannot be found together at the same time is common to several disciplines, see Ibn Rushd, *Long Commentary on the Physics*, 414H.

³⁸² Averroes' *De substantia orbis*, ed. by Hyman, p. 51, n. 31, According to Hyman, an important distinction within prime matter must be made: 'Averroes shows that a distinction must be made between the nature of prime matter, potentiality, and prime matter considered as a subject in the category of substance. In the *Long Commentary on Physics* Averroes presents two arguments in support of the latter proposition: if prime matter were identical with potentiality, its nature, then (1) prime matter would be destroyed when a given potentiality is actualized; and (2) prime matter would only be in the category of relation, while, in truth, it must also be in the category of substance'. Prime matter as substance remains with the actualization of form, whilst its potentiality vanishes upon its actualization.

privation as the opposite of an actually existing form. Within the hierarchy of being, matter is more real than privation, and privation more real than absolute non-existence. While matter can be united with form, privation as such cannot. Although matter has the potentiality of existing through form, this does not detract from the theory that prime matter does not exist in actuality.

For Ibn Rushd informed matter and prime matter are distinguishable in another way. They are studied by different disciplines. Prime matter is dealt with in metaphysics and informed matter is dealt with in physics: 'the study of matter with regard to form is a natural inquiry, and the inquiry into matter inasmuch as it is one of the [existing] beings (*unum entium*), is an inquiry for the First Philosopher'.³⁸³ Prime matter, an abstraction, must be presupposed theoretically, it is not perceived by the senses or present in the natural world. Ibn Rushd further states that in physics matter is studied as subject of change, as making part of the compound, while in metaphysics it is studied as a substance in potentiality.³⁸⁴

In his *Long Commentary on the Metaphysics*, Ibn Rushd affirms that matter desires form. This view is discussed in connection with the role of privation in generation.

After declaring ... that privation does not have the same dignity in generation as matter, Aristotle goes on to say that [privation] has a role in generation. By being mixed with matter it leads to a natural desire in matter towards form, and this is the cause that material things are generable and corruptible ... This is something divine ... for privation happens to matter by necessity, and it is the supreme divine perfection, to which all beings desire to be assimilated ... matter, inasmuch it is deprived [of form] desires to assimilate itself to the first principle as

³⁸³ Ibn Rushd, *Long Commentary on the Physics*, 56C.

³⁸⁴ Ibn Rushd, *Long Commentary on the Metaphysics*, p. 780. Matter also contributes for the particularisation of the individual substance, p. 933.

much as possible; this is the desire to receive form. Aristotle means here by appetite the motion of matter to receive form ... In matter, then, there is a natural desire to receive all forms. It receives them alternately, when an agent form is present.³⁸⁵

Through privation, matter yearns for the form it does not possess. Hence matter desires the form of which it is deprived, and so privation has a role in the generation process. Actually existing matter desires to preserve its form or to acquire another form. In terming matter's desire 'divine' Ibn Rushd seems to establish a parallel between matter and the divine bodies and celestial spheres that strive for the unmoved mover, as their desire generates motion. This desire of assimilation to the First exists not only in the celestial bodies but also in the sublunar, corruptible bodies. In this way Ibn Rushd includes matter in the set of beings that are drawn to God and thus moved to Him. The final cause rules over matter as it does over the other beings, earthly or celestial. Taking this desire as a sign of matter's independence would however be an erroneous interpretation of Ibn Rushd's theory. Only informed matter possesses this desire because it only desires through a vanishing form. There is no mention of prime matter desiring form by itself. Desire is a motion towards that which is coveted. If prime matter did indeed possess this desire to assimilate itself to form or to the divine, it would consequently possess some kind of motion, which animates corruptible and incorruptible beings alike. However, as previously seen, prime matter is pure potentiality, and by its very definition cannot move itself or others. Thus only informed matter can, through form, yearn for the divine. Furthermore, this desire ensures that the only actually existing matter, informed matter, is subject to the final

³⁸⁵ Ibn Rushd, *Long Commentary on the Physics*, 46C-E.

cause as the other beings are – which confirms the point made in the passage about chance, that matter is subordinated to the end, and not vice versa.

Even though Ibn Rushd's approach to prime matter is more explicit than that of Ibn Sīnā, he does not suggest that it acts independently, or is an independent efficient principle. Also, it is no obstacle to the end or the final cause in nature, rather it possesses that very desire that animates nature towards its goal. Matter, then, serves the end, rather than being the end, as some Presocratics claimed.

The striking difference between Ibn Sīnā and Ibn Rushd in their treatment of matter lies in the succinctness of the former as opposed to the latter's detailed discussion. This is partly to be explained by the fact that Ibn Rushd writes a literal commentary and follows Aristotle in mentioning prime matter explicitly, whilst Ibn Sīnā does not follow Aristotle's text so closely, instead paraphrasing the Stagirite and mentioning those of his views he endorses. However, the two Muslim philosophers present a fundamentally similar view. Matter is identified with potentiality, does not actually exist, and consequently must be subsumed under the other causes. For matter is indeed potentiality only one consequence can be drawn in the light of the chance debate, namely that it cannot act of its own accord. Like Ibn Sīnā, Ibn Rushd does not ascribe matter an active power. In a lapidary passage on matter, Ibn Rushd goes as far as to state that it does not exist outside the soul:

This commonness (*ishtirāk*) perceived by the intellect in matter is pure non-existence since the intellect perceives it only by abstracting individual forms from matter. Thus matter does not exist outside the soul, because of this intellectual conception of it, I mean its being common to all things subject to generation and corruption, since it is conceived in a purely negative way. If one accepts this, what

distinguishes matter from non-being and makes it one of the existents outside the soul is its being substrate of the sensible individual object which is visible ... [matter] exists only from the point of view of the thing through which it is seen and perceived [i.e., form].³⁸⁶

The commonness of matter alluded to is prime matter, the most general and formless kind of matter. Again, Ibn Rushd distinguishes matter as potentiality and matter as substrate of forms, the former existing as an abstraction and the latter as some kind of ‘actuality’. The implication is that matter only exists in association with form, and is only visible and perceptible in the natural world as such.³⁸⁷

Necessity and possibility

In discussing chance, Ibn Rushd, as we have seen, broaches the concept of the ‘necessity of matter’. Does this imply a determinative power on the part of matter? In the same discussion, he speaks of the necessity of the celestial spheres. In what way are the two instances of necessity related? These are some of the questions this section seeks to address whilst analysing the concept of necessity according to Ibn Rushd. I shall also compare his understanding of ‘necessity’ and ‘possibility’ with Ibn Sīnā’s and discuss the relevance of any divergence vis-à-vis the debate on their determinism or otherwise.

³⁸⁶ Ibn Rushd, *Long Commentary on the Metaphysics*, pp. 1473-1475, translated by Genequand, pp. 97-98.

³⁸⁷ ‘Moreover, natural forms and prime matter ... appear to be caused by animated substances because they are prior to them in existence’, *Long Commentary on the Metaphysics*, p. 1535, translated by Genequand (slightly modified), p. 125.

Necessity in Ibn Rushd's writings has a variety of meanings that deserve a detailed study. First I shall deal with the general metaphysical concept of necessity in Ibn Rushd and then expand on its connections with his debate on chance.

Frequently discussed in his commentaries and in such works as the *Tahāfut al-Tahāfut*, the concept of necessity is thoroughly expounded by Ibn Rushd in his *Long Commentary on the Metaphysics*, in the passages where the definition and various meanings of necessity are put forth. Book *Delta* of Aristotle's *Metaphysics* can aptly be described as a dictionary of philosophical terms, in which the term 'necessary' features. Ibn Rushd follows Aristotle's listing of the several meanings of necessary.

From the Aristotelian passages on necessity, Ibn Rushd singles out four principal meanings of necessity. The most important, as Aristotle had already stressed, and 'most widely known'³⁸⁸ of the meanings of 'necessity' is 'that which cannot be otherwise' (*bi-naw' ākhar*).³⁸⁹ The necessary is equally and consequently that which 'cannot possibly change'.³⁹⁰ All subsequent meanings of necessary derive from this one. This fundamental meaning of necessary as that which does not change and hence, in Ibn Rushd's view, is eternal, cannot be overemphasised. When speaking of necessary, Ibn Rushd is almost invariably invoking this primary and most fundamental meaning.³⁹¹

Using this primary meaning of necessary to refer to beings or substances, Ibn Rushd claims that necessary beings are simple, non-composite, and more specifically

³⁸⁸ Ibn Rushd, *Long Commentary on the Metaphysics*, p. 519.

³⁸⁹ *Ibid.*, p. 519.

³⁹⁰ *Ibid.*, p. 519.

³⁹¹ See also Aristotle, *De generatione et corruptione*, II.11 338a2: 'If something is of necessity, it is eternal, and if it is eternal, it is of necessity', quoted in Van Rijen, *Aristotle's Logic of Necessity*, p. 79. In the first book of *de Caelo*, 'what is always the case is necessary', Van Rijen, p. 69.

not composed of matter and form. It does not admit of more than one state. The 'necessary' in this sense, as that which does not change and is not subject to generation or corruption, is the true necessary. In consequence truly necessary beings are not composed of matter and form. The term 'necessary' is strictly speaking only applicable to beings which are immaterial, eternal and unmoved. In the Aristotelian tradition only one being fits this description and that is the unmoved mover, or the First, God.³⁹² He is the necessary existent (*mawjūd*), or as the philosophers dub it the absolute necessary (*al-ḍarūrī al-muṭlaq*), 'called in our time the necessary existent (*wājib al-wujūd*)'.³⁹³ This immediately recalls Ibn Sīnā's terminology. Within the rubric of the necessary as that which cannot be otherwise, we find in Ibn Rushd the absolute necessary which is necessary by itself and necessarily existent, again a clear reference to Ibn Sīnā. Also this identification of the absolutely necessary existent with God is in agreement with Ibn Sīnā's view to the effect that to God alone is reserved the designation of absolutely necessary in itself. There is a sense in which celestial beings are said to be 'necessary' because they are eternal and never fail to produce their effect. Celestial beings are not composed of matter and form. That which distinguishes them from the First being, God, is the fact that they move, and due to their motion are potential to a certain degree. •

This analysis of necessity in the metaphysics helps to clarify the passage of the *Physics* on chance. Necessary events are those which always happen or repeat

³⁹² For Ibn Rushd, necessary is also that which does not have a cause: 'a principle does not have a cause, because it is necessary', *Long Commentary on the Physics*, 349F. 'One should not look for the cause except in that, whose being is not necessary', *Long Commentary on the Physics*, 351L, however, in certain cases, what is necessary has a cause: 'it is necessary for a triangle to have angles equivalent to two straight angles, although it has a cause', 352A.

³⁹³ Ibn Rushd, *Long Commentary on the Metaphysics*, p. 521.

themselves regularly. Moreover, as far as efficient causality is concerned, from a necessary being there issues a necessary act, and from a non-necessary being issues an act that is not necessary or constant. This view goes hand in hand with the well-known distinction between sublunar and supralunar realms. In the sublunar world of corruptible beings, their material nature implies that sometimes their effect may not follow. In the supralunar world this can never be the case, for there is no matter, in effect no potentiality (only that of motion in space for the celestial bodies).

The metaphysical concept of ‘necessity’ for Ibn Rushd is not at variance with the logical usage of ‘necessary’.³⁹⁴ In logic, necessary is that which is always the case. As stated in the *Middle Commentary on the Posterior Analytics*, the terms necessary and essential are equivalent, that is to say: ‘all that is essential is necessary, and all that is necessary is essential’.³⁹⁵ Chance, as we have seen, is an accidental cause.

The second meaning of the necessary in the *Long Commentary on the Metaphysics* is cause, and moreover cause of existence. Ibn Rushd further states that the cause is a certain necessity,³⁹⁶ that things are necessary by virtue of their causes, and that something is necessary *per se* when it is without a cause. Necessity and causation are bound together in this sense. However, even though Ibn Rushd acknowledges this term for the purpose of discussing causation in general, and the

³⁹⁴ For Ibn Rushd, logic has a propaedeutic role, in the sense that it is used in all disciplines: ‘it is customary (*mos*) for that which is common to all arts to be said in logic, and for that which is proper to each art to be said in that art’, *Long Commentary on the Physics*, 54A. See also Cruz Hernandez, *Ibn Rushd*, p. 69.

³⁹⁵ Ibn Rushd, *Talkhīṣ kitāb al-burhān*, p. 58, §24, ‘*kull dhātiyya ḍarūriyya wa kull ḍarūriyya dhātiyya*’

³⁹⁶ Ibn Rushd, *Long Commentary on the Metaphysics*, p. 516.

relation that exists between cause and effect, this is not the primary meaning of necessity, and Ibn Rushd does not hold it as true necessity.

The meaning of necessity as cause is identical to that used by Ibn Sīnā who, at the opening of his *Metaphysics of al-Shifā'*, identifies necessity with existence and, with reference to all beings other than God, to the state of being caused. For him, all actually existing beings are necessary because they have a cause. But only God is necessary *per se*, by virtue of being uncaused.

In the *Long Commentary on the Metaphysics*, Ibn Rushd refers generally to the notion of cause as necessity, but in other works he explains in greater detail how necessity, in the second sense of necessity, as cause, is associated with each of the four causes in nature. The necessity of form and the necessity of matter are to be distinguished. This is developed in the *Middle Commentary on the Posterior Analytics*. Here, Ibn Rushd holds that there are two kinds of necessity. First, 'Natural necessity with regard to the form of the existent, such as the motion of the stone downwards and the ascent of fire upwards'.³⁹⁷ By their characteristic natures, or natural forms, a stone must fall, and fire must travel upwards. In this case, the form of a natural substance conditions and determines its motion. Secondly comes necessity as the material cause, as 'the necessity of matter', such as for instance, 'that a being [*kā'in* – a created being] necessarily has to be corruptible (*fāsid*)'.³⁹⁸ The expression 'the necessity of matter' is expounded by Ibn Rushd in the *Long Commentary on the Physics* in connection with the discussion of chance.³⁹⁹ For Ibn Rushd, matter, as we

³⁹⁷ Ibn Rushd, *Talkhīṣ kitāb al-burhān*, p. 159, §127.

³⁹⁸ *Ibid.*, p. 159, §127.

³⁹⁹ See above, pp. 153-154.

have seen in the previous section on matter, does not account for or produce all the phenomena as it is in itself purely negative. It only acts in nature when it is conjoined with form. In the natural context, matter signifies certain limitations and shortcomings of corruptible beings, leading ultimately to death.⁴⁰⁰ With respect to the relation between matter and form, Ibn Rushd states that a natural form necessarily requires matter, for it cannot exist but in matter (*hayūlā*). The two concepts of necessity refer thus respectively to the necessity attached to the form and to that attached to matter. The necessity of matter accounts for the corruption of material beings and for the necessary, almost definitional non-eternity of sublunar beings with all their deficiencies.

The third of the four meanings of necessity explained in the *Long Commentary on the Metaphysics* is necessary condition, ‘that through which alone something can be [or exist]’.⁴⁰¹ Two examples are given: first, a medicine is necessary for someone not to fall ill and, secondly, crossing the sea to Athens is necessary in order for someone to receive full payment from his debtor. In what way does this meaning differ from the previous? This meaning of necessary is a condition rather than merely a cause. In particular, these are examples of necessary conditions rather than sufficient conditions. In this sense, the necessary is that without which something does not come to be or is not achieved.

⁴⁰⁰ ‘Experience shows that everything that has a beginning also comes to an end’ Aristotle, 279b18ff, quoted by Van Rijen, *Aristotle’s Logic of Necessity*, p. 95

⁴⁰¹ Ibn Rushd, *Long Commentary on the Metaphysics*, p. 515.

The fourth meaning of necessity is coercion or duress.⁴⁰² In particular it means an external coercion, not internal necessity. This particular sense of necessity has ethical overtones that appear in the following statement: ‘Necessity is said of an act [that an agent] has been compelled [to perform] because the compelling thing, which has forced one to [perform] that action’.⁴⁰³

We find coercion, for example, says Ibn Rushd, when ‘the king forces one to beat or insult someone’⁴⁰⁴ if it is clear that the person in question would not have acted in that manner had the king not forced them. Again necessity is meant in this instance as a limitation of the possibilities available to a given subject, in this case a human subject. This meaning denotes absence of freedom in humans. In general, this is a secondary meaning of the term, and not commonly used by Ibn Rushd. The long standing issue of whether men’s acts are compelled by God through His *qadar* is debated in detail by Ibn Rushd in chapter seven of his book *Kashf ‘an manāhij al-adilla fi ‘aqā'id al-milla*, (*Uncovering the Ways of [finding] proofs concerning the beliefs of the religious community*), entitled *mas'alat al-qadā' wa-l-qadar*, and shall be discussed in the context of divine causation.

The four meanings of necessity, in Ibn Rushd’s interpretation, can be thus summarised: that of necessary as (1) that which cannot be otherwise, (2) cause, (3)

⁴⁰² The different senses of the ‘necessary’ are here presented in the order that in my view reflects their relative significance, the first meaning featuring first. In fact, Ibn Rushd places the most fundamental meaning last, following Aristotle’s order of exposition. In the *Long Commentary on the Metaphysics*, Ibn Rushd also says that ‘necessity is said of two classes of things: first of what is by force, of the thing which is out of its disposition and of its nature; secondly it is also said of that which can never be in a state different from that in which it is. This is the meaning which we intend when we say that there is a principle existing by necessity and principle by virtue of its character (*sifa*)’, transl. Genequand (modified), p. 156, Bouyges, p. 1611.

⁴⁰³ Ibn Rushd, *Long Commentary on the Metaphysics*, p. 518.

⁴⁰⁴ *Ibid.*, p. 518.

necessary condition and (4) coercion.⁴⁰⁵ *Grosso modo*, necessary substances are simple, not composed and incorruptible, and necessary events happen always. We have seen in Ibn Rushd's treatment how the two are inextricably bound together. Only celestial beings, that are eternal, produce something that always happens. That is to say only in their case does the effect follow from the cause in any circumstance, unhindered. Constancy is a prerogative of the celestial bodies, and of the unmoved mover by whom they are conditioned. In the sublunar world, where nothing is eternal, the effects do not always issue from their causes. There is always a possibility that a sublunar cause might fail to bring about its effect, due to its corruptible nature. Further to these four meanings of necessary, Ibn Rushd highlights in several passages the difference between the absolutely necessary and the relatively necessary.

Yet in most cases, especially in discussing metaphysics, Ibn Rushd is reluctant to use the term necessity except in the sense of absolute necessity. That which always exists is absolutely necessary.

In order better to understand Ibn Rushd's position, it is useful again to contrast his concept of the 'necessary' with Ibn Sīnā's concept. In Ibn Sīnā's first definition of necessity in the *Metaphysics* of the *Shifā'*, necessity is convertible with actual existence. In fact this seemingly tautologous assertion reveals itself more complex. We have in Ibn Sīnā two meanings of necessity: necessity as existence, and necessity as that which is caused. This involves no contradiction, if we bear in mind that for Ibn Sīnā everything is simultaneously made to exist and rendered necessary by its cause.

⁴⁰⁵ In the *Middle Commentary on the Metaphysics*, Ibn Rushd lists three meanings of the 'necessary', in the following order: coercion, necessary condition, and that which cannot be otherwise, ed. Zonta, p. 274.

Ibn Sīnā further distinguishes relative necessity from absolute necessity through the expressions ‘necessary by itself’ and ‘necessary by another’; everything that exists is necessary through its cause, possible in itself. Hence all beings except one (God) are relatively necessary, because they are not necessary in themselves but through a cause. Only when speaking of God does Ibn Sīnā use the term necessity without reference to a cause. However, for all remaining beings, necessity means both to have a cause and to exist through that cause. In contrast, Ibn Rushd equates necessity with eternal existence, and possibility with ephemeral existence.

Necessity can also be understood in contrast to its opposite, ‘possibility’. In *al-Qiyās (Middle Commentary on the Prior Analytics)*, Ibn Rushd puts forth two definitions of possibility. First the possible is that which is not necessary, and, when it is considered as existing, no impossibility (*muhāl*) is found.⁴⁰⁶ Secondly, the possible includes things existing in actuality and not existing in actuality. In short, as regards possible things, it is not impossible that they should exist and equally it is not necessary that they should not exist. The possible is that which does not necessarily exist or not exist.⁴⁰⁷

In his metaphysics, these two terms are often broadly used by Ibn Rushd. ‘Possible’ can apply to that which does not yet exist, but whose existence does not involve a contradiction, and it can apply to actually existing beings which are composed of matter and form. Necessity applies to eternal beings, more properly God, but also, in a looser sense, to possible beings because they have a cause, as one of the meanings of necessity is cause. More specifically, however, the terms

⁴⁰⁶ Ibn Rushd, *Al-Qiyās*, p. 130, §100.

⁴⁰⁷ *Ibid.*, pp. 130-132, §101.

'possible' and 'necessary' are mutually exclusive. This much can be gleaned from Ibn Rushd's comments on chance, as we have seen. In his analysis of chance, Ibn Rushd classifies events into necessary, possible for the most part and possible in rare cases; of all actually existing beings, corruptible beings are said to be possible and eternal beings are said to be necessary.

Ibn Rushd's views on metaphysical necessity and possibility are in stark contrast to Ibn Sīnā's position. Ibn Rushd equates necessity with eternity and possibility with ephemeral existence, while Ibn Sīnā equates necessity with existence, relative necessity with being caused, and possibility with non-existence. Both philosophers do consider 'necessity' to be properly said of God alone, but for different reasons. For Ibn Rushd, God is necessary because He is eternal and possesses no potentiality. For Ibn Sīnā, God is necessarily existent because He has no cause.

According to Ibn Rushd's interpretation, possibility is not equated with non-existence, and when he refers to possible beings he understands actually existing corruptible beings. In Ibn Sīnā no possible being actually exists as such, for whatever actually exists is necessary, due to its causes. The possible in Ibn Sīnā is that which does not exist but can eventually come to exist. Ibn Sīnā's well-known distinction between two kinds of beings, the necessary in itself and the necessary through another, possible in itself, implies that nothing possible actually exists as such. Their being branded as possible simply means that these beings would not exist without a cause. Hence possible beings do not exist as such. Possible beings that are necessary by virtue of another do exist, but their possibility is then merely theoretical and refers

to their essences rather than to their actual existence. For Ibn Rushd, on the contrary, all existing beings in the subnatural world are possible because they are not eternal, by virtue of their association with matter. Matter and potentiality are the reason for their being possible and not necessary.

In turn, Ibn Rushd states in several places that corruptible beings that actually exist preserve an element of possibility, and criticises Ibn Sīnā for, in his view, claiming that all actually existing beings are necessary. Everything that exists under the sphere of the moon retains its possibility because it is material. In his *Short Commentary on De Coelo*, Ibn Rushd states that the opposite of the always existent is the always non-existent, and that there is a middle term, namely that which sometimes exists and sometimes not.⁴⁰⁸ In the *Middle Commentary on De coelo*, he states that corruptible beings are that middle term between what always exists and that which never exists.⁴⁰⁹ However, in the *Long Commentary on the Metaphysics*, what is not in actuality does not exist, and potentiality is proper of that which does not exist.⁴¹⁰ Also in the *Long Commentary on the Metaphysics*, Ibn Rushd states that truly potential beings may pass into actuality in such a way that no potentiality in them remains.⁴¹¹ Possible and actually existing would be at odds. Ibn Rushd says that ‘there is no intermediary between being and non-being’.⁴¹²

Is there a contradiction between these views, that material beings are never purely actual, and that once a natural being is fully actualised it relinquishes all potentiality? In fact, Ibn Rushd distinguishes between possibility as potentiality and

⁴⁰⁸ Ibn Rushd, *Short Commentary on De Caelo*, p. 36.

⁴⁰⁹ Ibn Rushd, *Middle Commentary on the De Caelo*, p. 167.

⁴¹⁰ Ibn Rushd, *Long Commentary on the Metaphysics*, p. 384.

⁴¹¹ *Ibid.*, p. 1163.

⁴¹² Ibn Rushd, *Long Commentary on the Physics*, 272H.

possibility as 'actualised' potentiality. Possibility as potentiality is the opposite of actuality, and is relinquished once the substance is actualised; but possibility understood as the opposite of necessary, as ephemeral existence, defined in Ibn Rushd's treatment of chance is not contradictory with actualised existence, indeed it constitutes the nature of the corruptible being. Moreover, while the possible understood as potential loses its potentiality, the possible as temporal/ephemeral existence does not lose its possibility in coming into existence, having an actualised contingent existence.

If possibility is identified with potential existence, it does not cease to be when the substance is actualised. But if it is associated with non-existence *tout court* it ceases to exist when the substance actually is generated. And while in logical terms there is no middle ground between opposites, there is one at the metaphysical/ontological level, i.e., between existence and nonexistence, and this is called change or becoming, and affects sublunar substances. Another way of stating this distinction would be simply to say that what comes to be loses its potentiality but not its possibility.⁴¹³

Ibn Rushd goes on to say:

Non-existence is the opposite of existence, and each of the two is succeeded by the other, and when the non-existence of a thing disappears it is followed by its existence, and when its existence disappears it is succeeded by its non-existence. As non-existence by

⁴¹³ According to García Marqués Averroes claims to be the first to distinguish potentiality and possibility, *Necesidad y Substancia*, p. 33. He further states that: 'Según esta ... distinción, la posibilidad es anterior, por naturaleza, a la potencia, pues es posible todo aquello que **no contradice** la naturaleza de algo, todo lo que es compatible con ella ... Frente a la posibilidad, la potencia es la **capacidad** de recibir o ejercer un acto, del cual se distingue realmente. Por esto puede decirse que el acto o forma está en potencia en un sujeto, o que el sujeto es potencia de la forma. En suma, la potencia es menos general que la posibilidad, pues sobre la pura no contradicción añade una disposición real a recibir o ejercer un acto', p. 34.

itself cannot change into existence, and existence by itself cannot change into non-existence, there must be a third entity which is the recipient (*al-qābil*) for both of them, and that is what is described by 'possibility' (*imkān*) and 'becoming' (*takawwun*) and 'change' (*intiqāl*) from the quality of non-existence to the quality of existence'. For non-existence itself is not described by 'becoming' or 'change'; nor is the thing that has become actual described in this way, for what becomes loses the quality of becoming, change, and possibility when it has become actual. Therefore there must necessarily be something that can be described by 'becoming' and 'change' and 'transition from non-existence to existence', as happens in the passage of opposites into opposites; that is to say, there must be a substratum for them in which they can interchange with this one difference, however, that this substratum exists in the interchange of all the accidents in actuality, whereas in the substance it exists in potentiality.⁴¹⁴

The argument that there is a middle term between existence and non-existence is stressed by Ibn Rushd at several passages, and according to him had been defended by the Mu'tazilites. Because existence and non-existence are contraries inhering in a subject there can be, strictly speaking, no intermediary between the two. However, they succeed each other in the substrate. This is matter. But it is not prime matter which does not change, rather informed matter. This matter, united with form, is the cause of change, it embodies change and becoming. Secondary matter is this kind of possibility which is an intermediate state between existence and non-existence. By possessing this kind of matter, material beings are considered both possible and existing. In this sense 'possibility' equals pure potentiality, or prime matter, and as secondary matter acts as an intermediate between existence and non-existence, and is thus compatible with actualised existence in material beings.

Ibn Rushd goes on to distinguish this nature of becoming from actual existence.

⁴¹⁴ Ibn Rushd, *Tahāfut al-tahāfut*, p. 105, translation by Van den Bergh (slightly modified), pp. 61-62.

We cannot think of regarding what is described by 'possibility' and 'change' as identical with the actual ... Therefore there must necessarily be a substratum which is the recipient for the possibility and which is the vehicle of the change and the becoming, and it is this of which it is said that it becomes, and alters, and changes from non-existence into existence ... Both philosophers and Mu'tazilites agree about the existence of this entity; only the philosophers are of the opinion that it cannot be exempt from a form actually existent ... [which] if it had an existence of its own, becoming could not come from it. This entity is called by the philosophers 'hyle', and it is the cause of generation and corruption. And according to the philosophers an existent which is free from *hyle* is neither generable nor corruptible.⁴¹⁵

Although actually existing beings are not identifiable with this becoming, they participate in it and are by analogy called possible rather than necessary because they are composed of matter and form. Since matter bears the form as much as it bears privation, part of it remains potential.

Possible beings are those that change. The possible in this sense is closely linked with matter, the source of potentiality. Hence in Ibn Rushd possibility is not incompatible with actual existence.

Consequently there are three categories of beings, the non-existent, the existent and that which is in between. And even though nothing remains of potentiality in that which is fully actualised, such as an actualised form, material beings retain their deficient nature, hence are called possible rather than necessary.

Particularly significant is the implication that only an unmoved being is necessary whilst a moved being is possible.⁴¹⁶ Because motion is one of four kinds of change, the implication is that the necessary being does not change. There is only one Necessary Being, since there is only one Unmoved Being. In addition, motion occurs

⁴¹⁵ Ibn Rushd, *Tahāfut al-tahāfut*, p. 106-107, translated by Van den Bergh, p. 62.

⁴¹⁶ *Ibid.*, p. 74, p. 42 of Van den Bergh's translation.

in time and ‘that which does not exist in the nature of motion and which is eternal ... cannot be described in terms of time’.⁴¹⁷ In consequence other than God, all beings are intrinsically possible. As we shall see, Ibn Rushd is going to introduce a further distinction, between the incorruptible heavenly bodies, which do not pass away, and the sublunary bodies which do come to be and pass away, criticizing Ibn Sīnā for not introducing this division. This is why Ibn Rushd says, referring to Aristotle as his source, that corruptible beings are possible because they are not eternal.

Ibn Rushd versus Ibn Sīnā on necessary and possible beings

Now that we have considered all the chief senses of necessary and possible in Ibn Rushd as applied to things and events, we must see how this translates into his theory of necessary and possible beings at the cosmological level. Again, in order to understand Ibn Rushd’s position, it is fitting to mention first the main divergences between him and Ibn Sīnā on this point. Ibn Rushd takes necessity to mean primarily that which cannot be otherwise, or that which always is the case. All other meanings are derivative of this primary meaning. The possible can be divided into two main meanings: one is potentiality and the other, perchance more essential, is possibility as that which can either be or not be, but does not exist permanently and is not permanently non-existent. For his part, Ibn Sīnā equates necessary with existence; necessary in itself is that which has no cause and necessary through another is that which has a cause, but everything that exists is by definition necessary. The possible

⁴¹⁷ Ibn Rushd, *Tahāfut al-tahāfut*, p. 66. trans. Van den Bergh (modified), p. 38.

is that which does not exist or would not exist were it not for an external cause. All beings other than God retain that proviso; they only exist, i.e., they are only necessary, through another.

Ibn Sīnā's theory leads to a bipartite classification of all beings in existence: God, the Necessary in itself, and the remaining beings, all necessary through another. Ibn Rushd's interpretation entails a tripartite division of beings: God as the absolutely necessary, that which always exists by itself; the celestial bodies, eternal by virtue of the motion bestowed by God; the possible beings, under the moon, those that do not exist permanently but come to be and pass away.

We should also not confuse the necessary and the possible on Ibn Rushd's understanding of the terms. This is spelled out in the following passage:

[Ibn Sīnā] affirms that the existent necessary through another is in itself a possible existent and what is possible needs something necessary – this addition, is to me superfluous and erroneous, for in the necessary, in whatever way you suppose it, there is no possibility whatsoever and there exists nothing of a single nature of which it can be said that it is in one way possible and in another way necessary in its existence. For the philosophers have proved that there is no possible whatsoever in the necessary; for the possible is the opposite of the necessary, and the only thing that can happen is that a thing should be in one way necessary, in another way possible, as they believed for instance to be the case with the heavenly body or what is above the body of heavens, namely that it was necessary through its substance and possible in its movement and in space. What led Avicenna to this division was that he believed that the body of the heavens was essentially necessary through another, possible by itself, and we have shown in another place that this is not true.⁴¹⁸

⁴¹⁸ Ibn Rushd, *Tahāfut al-tahāfut*, p. 395, trans. By Van den Bergh, p. 238. According to Goldstein, in her introduction to *Questions in Physics*, 'Averroes, like Aristotle, identifies the necessary and the eternal. Therefore, any notion of acquiring necessity or acquiring eternity is repugnant to him. He contests Avicenna's view that there are beings which acquire necessity from necessary causes but which are in themselves possible, and he contests the view, which he attributes to Alexander of Aphrodisias, that the heavens acquire eternity from the Prime Mover. What is possible in its own nature remains possible, and what is necessary has not possibility of being otherwise', *Op. cit.*, p. xix.

Here, Ibn Rushd misconstrues Ibn Sīnā's view of the bipartite division of beings into necessary in itself and necessary through another, possible in itself. Ibn Sīnā 'adds' nothing to the possibility of actually existing beings. Their possibility is merely theoretical, their necessity is actual. There is no contradiction in combining both modal aspects in the same substance, for they indicate two sides of the same coin. Whatever exists is always necessary by virtue of its cause. In itself, considered without cause, it is merely possible, and could not come into existence. For Ibn Rushd, though, the possibility or necessity of a certain being says something about its essential nature and hence the two categories cannot really be combined in any being. In the *Long Commentary on the Metaphysics*, Ibn Rushd, criticises and qualifies Ibn Sīnā's position on the possible and the necessary:

It is not correct to say that there is something possible by itself and eternal and necessary by something else, as Ibn Sīnā says that the necessary is partly necessary by itself and partly necessary by something else, except for the motion of the heaven only. It is not possible that here should be something possible by its substance and necessary on account of something else, because the same thing cannot have a possible existence on account of its substance and receive a necessary existence from something else, unless it were possible for its nature to be [completely] reversed.⁴¹⁹

This position of Ibn Rushd seem to be closer to that of Al-Fārābī: 'Alfarabi applied the designation *possibly existent* to those objects that actually exist, yet have the possibility of not existing and are hence unable to exist forever. In other words, he designated all actual transient objects in the sublunar world as *possibly existent* with no further qualification; and he restricted the designation *necessarily existent* to beings that cannot cease to exist, that is, to eternal beings. Avicenna, by contrast, insists that all objects that actually exist, even transient beings, are to be characterized as *necessarily existent*, and all objects that exist by reason of something else, even eternal beings, are *possibly existent*. Both sets belong to the single category of the *necessarily existent by virtue of another, possibly existent by virtue of itself*. Alfarabi's usage is unquestionably more genuinely Aristotelian than Avicenna's'. Davidson, *Proofs for Eternity, Creation and the Existence of God in Medieval and Jewish Philosophy*, p. 292.

⁴¹⁹ Ibn Rushd, *Long Commentary on the Metaphysics*, p. 165, transl. by Genequand (modified), Bouyges, p. 1632. In the *Long Commentary on the Physics*, Ibn Rushd says that there is an

Elsewhere, he ascribes his own theory to Ibn Sīnā:

Avicenna was of the opinion that beings are to be divided into three classes: first, beings which are merely possible, that is, the beings which are generated and corrupted; second, beings which are possible in virtue of themselves, necessary in virtue of something other than themselves, and in his opinion, these are those beings other than the First Principle, which are ungenerated and incorruptible, for in his opinion these latter things only acquire existence, that is to say, necessary existence, from the First Principle; third, a being which is necessary in virtue of itself, and, in his opinion, this is the First Principle alone, and it is this which he calls 'necessary of existence'.

This characterization of beings is true; that is it is true that some beings are generated and corrupted, and that some are eternal on account of causes through which they are eternal, and that some are eternal in virtue of themselves.⁴²⁰

This misunderstanding, says Davidson, lay in the fact that '*necessarily* existent in Avicenna's usage was equivalent to *actually* existent, not to *eternally* existent'.⁴²¹

Ibn Rushd's wrong attribution of his own theory to Ibn Sīnā, however, does boil down to a misunderstanding of the basic principle of Ibn Sīnā's metaphysics, the distinction between one being necessary in itself and all other beings, possible in themselves and necessary through another. His fundamental objection is based on Ibn Sīnā's mixing up of the necessary and the possible. Aware of what he deems to be the major shortcoming of Ibn Sīnā theory, he goes on to say in the same work in which he ascribes his own tripartite division to Ibn Sīnā:

intermediary between the prime mover, which does not move, and the moved corruptible things, and these are the celestial bodies, 394B.

⁴²⁰ *Questions in Physics*, p. 33, translation by Goldstein.

⁴²¹ Davidson, *Proofs for Eternity, Creation and the Existence of God in Medieval and Jewish Philosophy*, p. 319.

But the assertion concerning things which are eternal because of eternal causes: that they are necessary in virtue of something other than themselves, possible in virtue of themselves, is not a true characterization: for that which, with reference to its own nature, is possible is not susceptible of eternity, i.e., unless some of the possible things can be susceptible of eternity, i.e., unless the nature of the possible can be converted into the eternal. But it had already been demonstrated at the end of the first book of *De Coelo* that the eternal contains no potentiality or possibility at all, and that if it had, that potentiality or possibility would be vain.⁴²²

In the *Tahāfut al-Tahāfut*, the Andalusian philosopher explains what in his view are the flaws of Ibn Sīnā's bipartite division of beings into necessary by itself and necessary through another. In this work, he is constantly engaged in the critique of certain fundamental metaphysical stances taken by Ibn Sīnā. The criticism of Ibn Sīnā's usage of metaphysical modalities is based on a fundamental disagreement with regard to existence.

For Ibn Rushd, existence can be understood only in two ways: either as truth, as the agreement between what is in the soul and that which is outside the soul, or as the ten categories, and in particular substance, the first category mentioned in Aristotle's exposition. This is in line with his theory stating that the existent or being can be said in many different ways, i.e., the ten categories. Ibn Rushd appears to attribute to Ibn Sīnā a theory of existence as something over and above the ten categories. According to this criticism, Ibn Sīnā's view is a reification of existence; and the reason behind this criticism is Ibn Sīnā's view of existence as an accident, understood as something

⁴²² *Questions in Physics*, p. 33, transl. Goldstein. In his *Middle Commentary on De Caelo*, Ibn Rushd states that the eternal and the incorruptible are convertible and that the corruptible is not eternal. *Talkhīṣ al-samā' wa-l-'ālam*, p. 149. Ibn Rushd refers the theory of possible in itself and necessary through another as distinguished from the necessary in itself to Alexander of Aphrodisias, referring to the Heaven, as opposed to the mover/s of the Heaven. *Long Commentary on the Physics*, 426L-M. Arguing misinterpreting Ibn Sīnā, he rejects Ibn Sīnā's view that the Heaven is necessary by itself.

separate from the essence.⁴²³ For Ibn Rushd, this is utterly untrue because if it were the case existence could have another accident predicated of it, and so on *ad infinitum*.⁴²⁴ Therefore, existence must be taken as identical with essence, and in particular it has to be stressed that in a simple substance it is identical with its quiddity.⁴²⁵ Moreover, existence is said primarily of the First and analogically of other beings, but it cannot be taken as an accident subsisting separately. Ibn Rushd says that Ibn Sīnā's mistakes lay in his ignorance of an intermediate way of predication, analogical predication, which stands midway between synonymy and homonymy.

A striking parallelism is to be found between Ibn Rushd's criticism of Ibn Sīnā on his conception of modalities and of existence. In the same way that existence cannot be said to be an accident, so the terms necessary and possible cannot be concurrently predicated of beings as accidents. These terms, as we have seen in Ibn Rushd, refer to the essence of these beings, necessary beings existing eternally and possible beings existing ephemerally. In his *Tahāfut* Ibn Rushd explicitly draws the similarity between thinking of necessity as 'an attribute added to the essence' and existence as an attribute added to the essence – and rejects both views.⁴²⁶ The two terms, possible and necessary, are not convertible, and do not merely refer to a denial

⁴²³ The theory asserting that the quiddity of a thing precedes its existence had already been put forth by the Mu'tazilites on Gimaret's analysis: 'selon eux [the Mu'tazilites], l'acte divin créateur est à concevoir strictement comme le fait de conférer l'existence à des essences déjà constituées; l'inexistence, pensent-ils, n'est pas un pur néant, il y a une "réalité" (*thubūt*) des "genres" antérieure à leur existence (*wujūd*) effective, et qui, elle, est créée; ce n'est pas Dieu qui, par exemple, a fait que la substance soit substance, et qu'en tant que telle elle ait telles propriétés', *La Doctrine d'al-Ash'arī*, p. 369.

⁴²⁴ Ibn Rushd, *Tahāfut al-tahāfut*, p. 303, p. 180 of Van den Bergh's translation.

⁴²⁵ *Ibid.*, p. 400, p. 241 of Van den Bergh's translation.

⁴²⁶ *Ibid.*, pp. 399-400, translated by Van den Bergh, p. 241.

or affirmation of a cause in the thing of which they are predicated. In a being possible by itself, 'its essence (*dhātu-hu*) determines (*taqṭaḍī*) that its existence can become necessary only through a cause'.⁴²⁷ While for Ibn Sīnā, necessity is tied up with causality, for Ibn Rushd it relates to time/eternity. From this perspective, by designating all being necessary, and some possible in themselves, Ibn Sīnā is committing a grave error. Ibn Rushd unequivocally denies that necessary and possible are anything like species and genus when he says that 'the division of existence (*qism al-wujūd*) into possible (*mumkin*) and necessary (*wājib*) is not like the division of animal into rational and irrational'.⁴²⁸ Furthermore, since necessary and possible are not convertible, the necessary can never be attained by traversing a causal series of possible beings. This series would have an infinite regress, and the philosophers deny that there is such a thing as an essential infinite causal series, although an accidental infinite causal series can be admitted.⁴²⁹ In Ibn Rushd's contention, there has to be some kind of mediation between possible beings and the necessarily existent. This mediation is furnished by the celestial bodies, through which alone one may ascend to the necessary starting from the possible. The celestial bodies are necessary in their substances and possible in their motion in space, and so the link between God and the world:

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The connection between temporal existence and eternal can only take place without a change affecting the First through that movement which is partly eternal, partly temporal and the thing moved by this

⁴²⁷ Ibn Rushd, *Tahāfut al-tahāfut*, p. 197, trans. Van den Bergh, p. 118.

⁴²⁸ *Ibid.*, p. 199, trans. Van den Bergh, p. 119. However, according to Hyman, because for Ibn Sīnā being is not a genus, so possible and necessary existence cannot be species. See 'Aristotle, Algazali and Avicenna', p. 85.

⁴²⁹ Sorabji, *Time, Creation and the Continuum*, p. 230.

movement is what Avicenna calls the 'existence necessary through another, and this necessary through another' must be a body everlastingly moved, and in this way it is possible that the essentially temporal and corruptible should exist in dependence on the eternal.⁴³⁰

The difference between the two philosophers' understanding of metaphysical modalities, as we have seen, go back to a radically different outlook on existence. For Ibn Rushd, necessity or possibility and existence attach more essentially to beings than for Ibn Sīnā. For Ibn Rushd, existence is not accidental to existing substances, and neither is their possible or necessary existence. Neither necessity and possibility nor existence are accidents, they are identical with existing beings.

Conclusion

On the issue of matter, Ibn Sīnā and Ibn Rushd concur in stating that prime matter is a negative entity. Although Ibn Rushd seems to view matter with a more positive outlook, identifying it with change rather than pure non-existence, this applies only to informed matter, rather than prime matter. From their views it appears that neither of them would consider that matter by itself could give rise to spontaneous events. With regard to modalities, their view is radically different. Necessity for Ibn Sīnā is related to causation; for Ibn Rushd it is tied up with eternity. This leads Ibn Rushd to the position that not everything is necessary. One might think that if he truly holds that not everything is necessary then he cannot be termed a determinist. If not every event or substance is necessary, then they could have

⁴³⁰ Ibn Rushd, *Tahāfut al-tahāfut*, p. 394, trans. Van den Bergh (modified), p. 237.

occurred otherwise or without a cause. Yet his protestations against Ibn Sīnā's usage of metaphysical modalities are not underpinned by a view of an indetermined universe or natural processes – for Ibn Rushd does not believe that there are causeless events in nature, or in the celestial world. While Ibn Sīnā's conception of necessity and possibility provide an insight into his determinism, in Ibn Rushd that is not the case because his fundamental theory of these modalities is simpler than Ibn Sīnā's and does not involve causality.

Chapter 6

Ibn Rushd on celestial causation and providence

Introduction

Ibn Rushd's treatment of chance and matter shows that for him there are no genuinely spontaneous events in the sublunar realm. It is therefore appropriate to investigate the determining source of events on Earth, the causal relations obtaining in the celestial world. This must be tackled without losing sight of a remarkable aspect of Ibn Rushd's theory of causation in the celestial realm: the evolution of his philosophy in the sense of rejecting the Avicennian system of emanation. His views on emanation and also the role of the active intellect became gradually at odds with those of Ibn Sīnā and, according to modern scholarship, closer to those of Aristotle.⁴³¹ In the previous chapters I have taken the long commentaries, written in the later part of his career, as the basis for the study of his views because of the absence of a significant shift in opinion. Now it is important to follow the chronological order of

⁴³¹ Davidson, *Alfarabi, Avicenna, and Averroes, on Intellect*, p. 257.

Ibn Rushd's writings dwelling on the evolution of his thought, while taking his mature views as his definite opinion. Ibn Rushd himself often states in his commentaries that his conclusion on a particular topic is the fruit of a long reflection.⁴³² After discussing the difference between his early and mature writings I shall discuss his views in connection with the issue at hand – determinism. Ibn Rushd's cosmology has been the subject of numerous and comprehensive studies, hence the aim of my chapter is not to describe it in detail but, after describing it succinctly, to ascertain whether it is deterministic or not. The analysis of Ibn Rushd's cosmology with reference to the issue of determinism will be followed by an analysis of his views on the issue of providence and evil as well as an analysis of his position on a much discussed topic in Islamic *kalām*: God's decree and determination.

Emanation, final causation and creation

In his short commentaries, written in his early career, Ibn Rushd accepted the emanation scheme. This initial acceptance of emanation has been studied by several Ibn Rushd scholars, and treated in detail by Davidson:

The original version of Averroes' Epitome of the *Metaphysics* outlines a cosmic system similar to the systems of Alfarabi and Avicenna ... the core of the emanation theory that went back at least to Alfarabi remains. Averroes still understands that the First Cause of the universe eternally emanates from itself an incorporeal being consisting in pure thought; the emanated being, the first intelligence, contains multiple aspects and through them eternally emanates two things, the form, or soul, of the first sphere and a further incorporeal being consisting in pure thought; the second incorporeal intelligence

⁴³² See, for instance, *Long Commentary on De Caelo*, 22K-L.

emanates two similar effects; and so on. As for the place of the First Cause of the universe within the scheme, Averroes agrees with his predecessors that the First Cause must transcend the incorporeal intelligences associated with celestial spheres. Because of the rule that 'from one only one can proceed,' the wholly unitary being at the head of the causal chain can have no more than a single effect.⁴³³

Two main characteristics of the theory of emanation as described in the early works are (1) the procession of intellects one by one until the total number of intellects is reached and (2) the view that from one only one proceeds, which applies to the First. In the *Short Commentary on the Metaphysics*, Ibn Rushd also says that the view that from the one only one proceeds applies only to the efficient cause as efficient, not as final and formal cause, and that the final and formal causes are only said to be efficient by comparison (*tashbīh*).⁴³⁴ In an article dedicated to the evolution of Ibn Rushd's position regarding the theory of emanation, Kogan lists five different aspects of Ibn Sīnā's theory of emanation, the first four of which are accepted in Ibn Rushd's early emanation theory 'without qualification'. These are: (1) the principle that from one, one proceeds; (2) the 'distinction between the First Principle and the First Intelligence', whereby God does not move the spheres directly; (3) the downward direction of God's causation, from God to the celestial and then terrestrial world; (4) the necessary and continuous relation between the cause and its effect; and (5) the theory of the *dator formarum*, more specifically, 'the identification of the tenth or Active Intelligence as the source of the specific forms of things "beneath" the sphere of the moon, as opposed to its presiding over the sphere of the moon as its

⁴³³ Davidson, *Alfarabi, Avicenna, and Averroes, on Intellect*, p. 254-255. For Ibn Rushd's position in his mature works, such as the *Tahāfut al-tahāfut* and the *Long Commentary on the Metaphysics*, see below pp. 223-224.

⁴³⁴ Ibn Rushd, *Short Commentary on the Metaphysics*, in *Compendio de Metafisica*, 158, §60, pp. 253-4 of the Spanish translation.

mover'.⁴³⁵ According to Kogan, these points were accepted by Ibn Rushd in the *Short Commentary on the Metaphysics*, an early work which predates both the *Tahāfut al-Tahāfut* and the *Long Commentary on the Metaphysics*. However, as Kogan himself admits, quoting a passage from the *Short Commentary on the Metaphysics*, Ibn Rushd was already then reluctant to accept that divine causation is efficient rather than formal and final.

Averroes indicates here his awareness that divine causality for the Stagirite is really formal and final causality in which many effects proceed from the self-thinking Deity ... Strictly speaking, the 'many' are dependent on the First Unmoved Mover as the prime analogate of all substance and the object of desire. No plenitude, however, really issues from such a Deity. This effectively reverses the direction of the causal relation so that the individual effects are the *termini a quibus* imitating Deity as *terminus ad quem*. Averroes grants too that if this is the proper description of divine causality, the emanative theory is essentially false. Still, at this point in his career, he merely notes the gap between the two theories and spells out its implications.⁴³⁶

Below I shall assess Davidson's and Kogan's assertion that in his mature period, and having rejected the theory of emanation, Ibn Rushd holds that divine causality is final rather than efficient, and the exact differences between the two models. As Davidson incisively puts it, in abandoning the emanation theory, Ibn Rushd 'contends that, in general, beings do not proceed or emanate from one another'.⁴³⁷ The emanation system states that each intellect in the celestial realm other than God has as its cause the previously generated intellect in the causal chain, until all ten intellects are formed, with their respective souls and bodies. According to this model, the

⁴³⁵ Kogan, 'Averroes and the Theory of Emanation', p. 387, see his note 10 for the chronology of the *Short Commentary on the Metaphysics*.

⁴³⁶ Kogan, 'Averroes and the Theory of Emanation', p. 390.

⁴³⁷ Davidson, *Alfarabi, Avicenna, and Averroes, on Intellect*, p. 256.

previous intellect in the chain genuinely produces its effect, which is partly tied up with the view that the efficient cause, as conceived by Ibn Sīnā, is cause of existence. For the mature Ibn Rushd, the efficient cause is merely cause of motion, in the sense that it draws whatever is potential into actuality. Hence Davidson's assertion that on the mature account beings do not emanate from each other. This is particularly true of the celestial realm but partly applies also to the world of generation and corruption.

What is the reason behind the rejection of emanation? Why does Ibn Rushd accept the theory of emanation in the early works to reject it later on, first in the *Tahāfut al-Tahāfut*, a refutation of al-Ghazzālī's attacks on the philosophers, and then in his long commentaries? At the end of his analysis, Kogan suggests that this shift might have originated at a later stage after Ibn Rushd read al-Ghazzālī's *Tahāfut*, and reflected on the weaknesses of the Islamic philosophers' theories.⁴³⁸ Undoubtedly al-Ghazzālī's criticism had a crucial part to play in Ibn Rushd's change of model, but we can be fairly certain that Ibn Rushd read al-Ghazzālī's *Tahāfut* at an early stage, for he mentions this work in the first book of the *Short Commentary on the Metaphysics*.⁴³⁹ This shift is more likely to have been prompted by Ibn Rushd's own reflections over time, and his realisation that he could effectively use Aristotle's philosophy to refute al-Ghazzālī's criticism of philosophy and to 'correct' some of the

⁴³⁸ Kogan, 'Averroes and the Theory of Emanation', p. 403.

⁴³⁹ In this passage, Ibn Rushd criticizes Ibn Sīnā for seeking to prove the existence of a first principle (i.e., God) in metaphysics. It is proved in fact in *Physics* – this accords with the view that a science cannot prove its own subject matter. 'The arguments (*bayān*) which Ibn Sīnā uses to show in this science the existence of the first principle are dialectical ... as you will see from the objections posed by Abū Ḥāmid (al-Ghazzālī) in his *Tahāfut*', *Short Commentary on the Metaphysics, Compendio de Metafisica*, §8, p. 8 of the Arabic text, p. 10 of the Spanish translation. *Rasā'il Ibn Rushd, Kitāb mā ba'd al-ṭabī'a*, p. 5. For the influence of al-Ghazzālī's on the young Ibn Rushd, see Griffel, *Apostasia und Toleranz in Islam*, p. 425. See also, for Ibn Rushd relying on al-Ghazzālī for Ibn Sīnā's views, Davidson, *Proofs*, p. 331.

views held by al-Fārābī, and in particular by Ibn Sīnā. According to Kogan, ‘in response to these criticisms [of al-Ghazzālī], Averroës generally conceded the specific point at issue and then attempted to show how the ancients, as opposed to the modern Islamic philosophers, never committed the errors which al-Ghazzālī uncovers’.⁴⁴⁰

One of the problems that the rejection of emanation seeks to resolve is the contradiction involved in establishing that a multiplicity arises out of the one. The other is the problem of necessary emanation/creation, which went hand in hand with the emanation theory. When God emanates the first intellect, this happens automatically, and thus, on al-Ghazzālī’s interpretation, He cannot be properly called an agent on this account, let alone a voluntary agent. By emphasizing the final cause, and rejecting the view that from God issue all intellects and spheres in a necessary succession, Ibn Rushd is also thereby defending against al-Ghazzālī that God creates the world voluntarily, not automatically and involuntarily.⁴⁴¹ An overview of Ibn Rushd’s mature views can help to shed light on the differences between the later model and the emanation model.

According to Ibn Rushd’s mature conception, the heavens are eternally moved by the prime mover, i.e., God.⁴⁴² This mover is wholly detached from matter or

⁴⁴⁰ Kogan, ‘Averroës and the Theory of Emanation’, p. 393-394.

⁴⁴¹ This dichotomy of necessary versus voluntary creation had also been expressed in Christian versus Neoplatonic theories. ‘Many Christians distinguish their view of creation from the Platonist one by reference to the role of *will*. Thus the Platonist analogy with body and shadow, or sun and light, is taken to exclude God’s will and choice, by Basil, Ambrose, Aeneas of Gaza and Zacharias. Thomas Aquinas distinguishes the Christian idea of creation as involving will, not mere necessity, and the early fathers said the same.’ Sorabji, *Time, Creation, and the Continuum*, p. 317. For the Platonists’ view on the issue of will and creation, see pp. 317-318.

⁴⁴² Ibn Rushd identifies the prime mover with God. Jolivet mentions a criticism levelled at the modern, i.e., Islamic philosophers, by Ibn Rushd. ‘Selon eux – on pense, bien que Ibn Rushd ne les nomme pas,

potentiality.⁴⁴³ As such, this being is not passive or changeable. It is not a body and does not inhere in a body. As it is not mixed with matter or potentiality it is the ultimate/final mover.⁴⁴⁴ One is compelled to admit the necessity of such a being, according to Ibn Rushd, on the basis of two Aristotelian principles: (a) that which is in potentiality, in effect all corruptible things, composed of matter and form, are rendered actual by something which is already in actuality, and (b) there are no infinite series of causes – any series of causes must have an ultimate cause or principle.⁴⁴⁵ Hence it is necessary to admit a being which is pure actuality, the prime mover. These two aspects calling for establishing the existence of the prime mover, are conflated in this passage:

All these substances must necessarily lead up to a substance in act which is devoid of matter, and this substance must necessarily be active and cannot have any passivity and cannot be subject to exhaustion, weariness and decay; for such things occur to the substance in act only because it is the perfection of the substance in potency, not because it is pure act. Since the substance in potency only goes into act through a substance in act, the series of substances which are at the same time both active and passive must terminate in a substance which is pure act, and the series must terminate in that substance. And proof of the existence of this substance, in so far as it is a mover and agent, through essential and particular premises, can be found in the eighth book of Aristotle's *Physics*.⁴⁴⁶

à al-Farabi et à Ibn Sina – le moteur de la sphère la plus éloignée n'est pas le Premier Principe, mais le Premier Causé. Ibn Rushd réfute cette thèse', Jolivet, 'Divergences entre les métaphysiques d'Ibn Rushd et d'Aristote', p. 232.

⁴⁴³ Ibn Rushd, *Long Commentary on the Metaphysics*, p. 1565 and p. 1685, Genequand, pp. 137 and 187.

⁴⁴⁴ Ibn Rushd, *Long Commentary on the Physics*, 377C-D.

⁴⁴⁵ According to Sorabji, Aristotle is against infinite causal chains, and 'only the first in the [causal] chain is fully entitled to be called cause', *Time, Creation, and the Continuum*, p. 226.

⁴⁴⁶ Ibn Rushd, *Tahāfut al-tahāfut*, p. 433-434, translated by Van den Bergh (slightly modified), p. 261, quoted by Kogan in his *Averroes and the Metaphysics of Causation*, p. 190.

Because the prime mover possesses no potentiality – unlike the corruptible beings, which possess matter and the celestial beings which are subject to motion – the prime mover ‘dominates things that are passive, generable and corruptible. For, if it were in matter, it would be affected by the things which it moves, and hence it would change, and would not be an eternal mover’.⁴⁴⁷

The two aspects of pure activity and immateriality are correlated.⁴⁴⁸ Moreover, because the first mover does not have a body, since it does not have a form in matter, it does not have dimensions and is not finite, for the action of a finite body is finite. Hence, the first mover moves with an eternal motion and eternally, and its power is infinite.⁴⁴⁹

By virtue of His infinite power and absence of all potentiality, God is the principle of all substances by turning them into actuality. Ibn Rushd says that this being is an agent. Thus God is seen to bestow existence on His creatures by making them pass from potentiality into actuality, and in this resides His creative power.⁴⁵⁰ What distinguishes Ibn Rushd’s mature model, as presented in this passage and already present in his ‘original’ works, from Ibn Sīnā’s model is that God does not produce only one effect, the first emanated intellect, which in turn produces another intellect until the whole series of spheres and intellects is reached. Rather, God

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⁴⁴⁷ Ibn Rushd, *Long Commentary on the Physics*, 377D.

⁴⁴⁸ ‘[The First’s] immateriality turns out to be merely the other side of its pure activity, since passive powers ... constitute what we know of a thing’s material nature, its capacity to be acted upon, influenced and shaped. Active powers, on the other hand, are associated with the form. A particular that is purely active in the sense required, therefore, will have no passive dispositions whatever and thus no matter. Again, because it is form alone, it would be in Averroes’ words “necessary of existence through its own substance,” for as he had insisted repeatedly ... form is the entity through which an existent exists. A pure form therefore must be completely actualised, fully active and, of course, existent’. Kogan, *Averroes and the Metaphysics of Causation*, pp. 190-191.

⁴⁴⁹ Ibn Rushd, *Long Commentary on the Physics*, 433K-M.

⁴⁵⁰ Ibn Rushd, *Long Commentary on the Metaphysics*, p. 340.

produces motion in the celestial world as a whole by being the object of desire of the intellects that govern the celestial spheres. Thus God produces all effects at once, rather than a first effect which is responsible for the successive chain of effects. 'Nowadays the contrary of this theory [emanation], namely, that out of the one all things proceed by the one first emanation, is generally accepted'.⁴⁵¹ He might also have agreed with al-Ghazzālī that from the one no multiplicity can arise. The emanation theory as presented by Ibn Sīnā is based on the principle that from one only one proceeds, yet it leads de facto to a multiplicity indirectly arising from God. In his *Tahāfut*, al-Ghazzālī states that multiplicity cannot possibly originate from God, who is simple. This in al-Ghazzālī's contention is a serious flaw in the theory of emanation. In his rejection of emanation, Ibn Rushd proposes a model that allows for several effects to be produced by God at once, by drawing them into actuality through the production of motion. He might have found further fault with the emanation theory because if indeed multiple beings did arise from God then because they proceed directly from God they might be conceived as participating in God's existence, even though Ibn Sīnā stresses His transcendence. By stating that God originates and preserves the existence of the world by being its foremost final cause, Ibn Rushd seeks to highlight His transcendence. God is completely transcendent in the way that He, not being corporeal, does not Himself set the universe in motion. Equally, nothing comes to be from God directly. Instead God moves indirectly by being the final cause of the universe. For Ibn Sīnā too the process of creation/emanation is not mechanical - because God does not create from matter as a

⁴⁵¹ Ibn Rushd, *Tahāfut al-tahāfut*, p. 178, translated by Van den Bergh, p. 107.

carpenter would when making a table but ontological as a result God's reflexive thought.⁴⁵²

A passage from the *Tahāfut al-Tahāfut* encapsulates Ibn Rushd's criticism of emanation.

When the philosophers of our religion, like Farābī and Avicenna, had once conceded to their opponents that the agent in the divine world is like the agent in the empirical, and that from the one agent there can arise but one object (and according to all the First was an absolutely simple unity), it became difficult for them to explain how plurality could arise from it. ... They declared that from the First, who is a simple existent, the mover of the highest sphere proceeds, and from this mover, since it is of a composite nature, as it thinks both itself and the First, the highest sphere, and the mover of the second sphere, the sphere under the highest, can arise. This, however, is a mistake, according to philosophical teaching, for thinker and thought are one identical thing ... This does not affect Aristotle's theory, for the individual agent in the empirical world, from which there can only proceed one single act, can only in an equivocal way be compared to the first agent. For the first agent in the divine world is an absolute agent, while the agent in the empirical world is a relative agent, and

⁴⁵² Because Ibn Rushd seeks to prove the existence of God through physical proofs, rather than the metaphysical proof offered by Ibn Sīnā, Gilson judges that his is not a transcendent God. 'Averroès représente ici une tradition beaucoup plus voisine de la tradition grecque, car dans des univers comme ceux de Platon et d'Aristote, où Dieu et le monde s'affrontent éternellement, Dieu n'est que la clef de voûte du cosmos et son animateur; il ne se pose donc pas comme le premier terme d'une série qui serait en même temps transcendant à la série. Avicenne, au contraire, représente la tradition juive la plus consciente d'elle-même, car son Dieu, qu'il nomme strictement et absolument le Premier, n'est plus le premier de l'univers, il est premier par rapport à l'être de l'univers, antérieur à cet être et, par conséquent aussi, hors de lui', *L'Esprit de la Philosophie médiévale*, pp. 80-81. Yet Ibn Rushd's rejection of emanation, in particular his assertion that no being comes to be or emanates from God directly, but only through His command, seeks to stress God's transcendence, and separation from the empirical world as well as the supralunar world. As for the possible objection that God does not create because He is only the final cause of the universe, and thus a mover rather than a creator, one must bear in mind that the efficient cause for Ibn Rushd is subsumed under the final cause. This means that God is an efficient cause, but not in the same way that an empirical substance is an agent. '[God] moves the world as its object of understanding and desire. It is in this sense of His being the cause of the unity and order and motion of the world that He may also be called that cause of the existence of the world, that is, its efficient cause, inasmuch as the real existence of the world consists in its unity and order and motion', Wolfson, 'Averroes' Lost Treatise on the Prime Mover', p. 704. For the conflict between the metaphysical and the physical proofs of God's existence within the Islamic tradition, see Gutas, *Avicenna and the Aristotelian Tradition*, pp. 261-265.

from the absolute agent only an absolute act which has no special individual object can proceed.⁴⁵³

Thus God is an agent, and so efficient causation is at work in the celestial world, but it differs from efficient causation in the terrestrial world. In what sense is an empirical agent different from God? Because God is not limited by material constraints He produces all effects at once.

Before delving into the specific differences between Ibn Rushd's and the emanation model, and how divine agency differs from the agency proper to composite substances, it is necessary to understand how according to Ibn Rushd this desire on the part of the spheres sets them in motion, giving rise to generation and corruption on earth. As said before, the prime mover only moves through the desire of the celestial intellects: 'the mover does not move the heavens (*movens non movet coelum*) except by virtue of a desire which exists in the heaven through its intellect (*propter intellectum eius*)'.⁴⁵⁴ This motion, originating in the intellect's desire, is thus rational. The intellectual and the soul-like aspects in the celestial beings are merged in this model – 'like al-Fārābī before him, but in sharp contrast to Avicenna, he [Ibn Rushd] uses the terms *nafs (anima)* and '*aql (intellectus)* interchangeably in their relation to the spheres'.⁴⁵⁵ In fact, this movement is rational, for heaven is moved

⁴⁵³ Ibn Rushd, *Tahāfut al-tahāfut*, 179-180, translated by Van den Bergh, pp. 107-108.

⁴⁵⁴ Ibn Rushd, *Long Commentary on De Caelo*, 59D.

⁴⁵⁵ Kogan, *Averroes and the Metaphysics of Causation*, p. 193. 'Averroes affirmed that the appetitive and rational faculties of the celestial element are only different aspects of the same celestial form: considered as an appetitive principle, this form is said to be a soul; considered as a rational principle, it is said to be an intelligence', Hyman (ed.) *Averroes' de Substantia Orbis*, p. 33. Moreover, Ibn Rushd rejected the idea that 'the celestial soul inheres in the celestial body', p. 33. According to Hyman, 'however, there are passages in which he seems to differentiate between the celestial soul and its intelligence ... Averroes' complete view emerges from a passage in the *Long Commentary on the Metaphysics* in which he distinguished between two objects of the celestial soul's desire: each celestial soul possesses its own intelligence, which as final cause imparts to its body its proper motion; each

‘through reason (*per rationem*)’.⁴⁵⁶ Ibn Rushd says in the *Tahāfut al-Tahāfut*, and in stark contrast to Ibn Sīnā, that ‘the heavenly bodies have no imagination whatever ... the intellectual representation of the heavenly bodies, since it is not transitory, cannot be accompanied by imagination’.⁴⁵⁷

Moreover Ibn Rushd takes great pains to stress the fundamental difference between terrestrial and celestial beings, and draw a line between the two domains. This differentiation is displayed not only at the level of metaphysical modalities, whereby three categories are distinguishable: the necessary being (God), beings possible in themselves, necessary through another (celestial beings) and possible beings (terrestrial substances), discussed in the last chapter. This tripartition of beings finds its corroboration also in the cosmology propounded by Ibn Rushd. The most important characteristic of the celestial bodies according to this description is their incorruptibility. Unlike corruptible, sublunar beings, they are not composed of the four elements:

It is clear from the previous demonstrations that this celestial body is neither one of the four elements nor made or composed of them, rather it is a nature different from these natures, and is a divine body, for it does not come to be or pass away, as stated in the *Physics*.⁴⁵⁸

celestial soul has the prime mover as a second object of desire, and this, as final cause, imparts to all celestial bodies their circular diurnal motion. It seems then that, even in those passages in which Averroes differentiates between the soul and the intelligence of each celestial sphere, he has in mind that they are two aspects of the same celestial form’, p. 35.

⁴⁵⁶ Ibn Rushd, *Long Commentary on De Caelo*, 26E.

⁴⁵⁷ Ibn Rushd, *Tahāfut al-tahāfut*, p. 501, translated by Van den Bergh, pp. 305-306.

⁴⁵⁸ Ibn Rushd, *Long Commentary on De Caelo*, 10F-G.

Celestial bodies are not made of matter and form, and corporeity is said of corruptible and eternal beings in an equivocal way.⁴⁵⁹ The most distinctive characteristic of the celestial realm is that its 'inhabitants' are eternal, in contrast with those of the terrestrial world, which are corruptible. Ibn Rushd takes issue with Ibn Sīnā for holding that the celestial bodies are composed of matter and form.

The statement that each body is composed of matter and form does not accord with the theory of the philosophers (with the exception of Avicenna) about the heavenly body, unless one uses matter here equivocally. For according to the philosophers everything composed of matter and form has a beginning, like the coming into existence of a house and a cupboard; and the heavens, according to them, have not come into existence in this sense, and so they called them eternal, because their existence is [coeternal] with the first Principle. For since according to them the cause of corruption is matter, that which is incorruptible could not possess matter, but must be a simple entity. If generation and corruption were not found in sublunary bodies, we should not draw the conclusion that they were composed of matter and form ... According to the philosophers there is no change in the heavenly bodies, for they do not possess a potency in their substance. They therefore need not have matter in the way the generable bodies need this.⁴⁶⁰

Because the heavens are eternal and necessary, they cannot be composed of matter and form. Although the world as a whole is eternal, there is a fundamental distinction between supralunar beings and sublunary beings. As we have seen in Ibn Rushd's conception of necessity, necessity is identical with eternity; hence only God and the heavens are eternal. Possible beings, on the contrary, are those that come to be and pass away. There is yet a fundamental distinction between the celestial beings

⁴⁵⁹ 'Since the celestial substances are bodies, they must both possess the form "corporeity". But if matter and form in the celestial and terrestrial bodies differ in species, then the term "corporeity" must be predicated either "according to equivocation" ... or according to a kind of priority and posterity', Hyman (ed.) *Averroes' de Substantia Orbis*, p. 42, n. 8.

⁴⁶⁰ Ibn Rushd, *Tahāfut al-tahāfut*, pp. 270-271, translated by Van den Bergh (slightly modified), pp. 160-161.

and God. There is one aspect of potentiality in celestial beings, namely their circular motion. The celestial spheres have potentiality with regard to place, since they displace themselves in their circular motion, but possess no other kind of potentiality such as matter. The only ‘matter’ the celestial bodies have is motion.⁴⁶¹ It is in this sense that the celestial body is possible in itself, necessary through another.⁴⁶² Having no potentiality for corruption, it is possible not in respect to its substance, but in respect to its position.

In spite of Ibn Rushd’s criticism of Ibn Sīnā, there is at least one point in common between their theories, namely, that the element of the celestial spheres is ether. Because the spheres are not made of the same material as the corruptible bodies, their matter is unlike terrestrial matter. ‘The circular body is a fifth nature ... neither heavy nor light, neither generable nor corruptible’.⁴⁶³ This ‘fifth body’ is the noblest of all.⁴⁶⁴ In this passage Ibn Rushd does not expand on this type of substance, and one may wonder whether this contradicts his assertions to the effect that the celestial bodies are not composed of matter and form. This fifth nature is the celestial counterpart of the four elements to be found on earth. Perhaps in this particular instance Ibn Rushd is merely following Aristotle, but at any rate, he calls it a ‘nature’ rather than an ‘element’, so there is not a strict parallelism between this fifth element and the four terrestrial elements.

⁴⁶¹ Ibn Rushd, *Long Commentary on the Metaphysics*, p. 1032. The distinction between perishable matter and local/topical matter was made by Aristotle. ‘At several places in Aristotle’s works, the ὕλη φθαρτή, which is a component of perishable things, is contrasted with the matter that is τοπικὴ but not φθαρτή of eternal objects such as the heavenly bodies’, Van Rijen, *Aristotle’s Logic of Necessity*, p. 103.

⁴⁶² Ibn Rushd, *Middle Commentary on De Caelo*, p. 184.

⁴⁶³ Ibn Rushd *Long Commentary on De Caelo*, 23F.

⁴⁶⁴ *Ibid.*, 251.

For the purpose of our inquiry, the crucial issue is whether the general emanation system, supported by Ibn Sīnā and by the young Ibn Rushd is more deterministic than the more purely Aristotelian scheme presented by the later Ibn Rushd which privileges final causation in the celestial realm. By terming God the ultimate efficient cause of every single effect, Ibn Sīnā reduces all effects to God's determination. Even if not everything is directly created by God, everything is ultimately the product of God's efficiency. The direction of the causation movement is not merely downwards, from God to the sublunary through the supralunary world, for Ibn Sīnā too accepts that celestial motion follows the final cause as shown by the desire of the spheres for the First. There is also no denying that Ibn Sīnā, in a truly Aristotelian vein, asserts that the final cause is the most important cause, the cause of the efficient cause's efficacy.⁴⁶⁵

Nevertheless, the emanation system, developed by Ibn Sīnā as a model of creation, favours the efficient cause. The emanation system goes hand in hand with the opposite movement prompted by the desire for God, which sets the spheres in motion. Nevertheless it is the emanation from God which stands for the true process of creation. The way causation unfolds is from God, the higher substance being the efficient cause of the lower. This model does not admit of indeterminism because Ibn Sīnā makes full use of two Aristotelian principles, namely that there is nothing in the effect that is not contained in the cause and also, that nothing comes out of nothing.⁴⁶⁶

⁴⁶⁵ Ibn Sīnā, *al-Mubāḥathāt*, §834, pp. 297-298.

⁴⁶⁶ 'The proposition (*propositio*) admitted (*concessa*) among natural philosophers is true in any case/for all cases (*omnibus modis*) namely that it is impossible that something should come to be from absolute non-being', Ibn Rushd, *Long Commentary on the Physics*, 22A, a claim repeated at 341B.

So Ibn Sīnā's system is deterministic and mechanistic in the sense that all parts are connected, ultimately going back to the same efficient cause or causes. As far as the stress on the efficient cause goes, moreover, it is also noticeable how, for instance, in his paraphrase on Aristotle's analysis of chance, Ibn Sīnā does not associate the casual and accidental cause with the efficient cause, but only with the final cause, thus eliminating any association of the efficient cause with chance.

In turn, the later Ibn Rushd, departing from his own earlier and Avicennian position, does away with the emanation scheme and de facto privileges final causation, particularly with reference to the celestial realm. The preponderance of the final cause is stated by Ibn Rushd in his view that every being pursues its own perfection, which is its purpose: 'every generated being is imperfect (*diminutum*) and every imperfect being always moves towards a principle, which is a complement/perfection (*complementum*) and an end/aim (*finis*) and which precedes other principles'.⁴⁶⁷

There is no doubt that Ibn Sīnā's system is strictly deterministic. Does this mean that Ibn Rushd's later, revised, position is less deterministic than the previous model? One could argue that this is not the case. On the one hand, Ibn Sīnā's predilection for efficient causation ensures that everything is strictly determined from above. Yet there is a sense in which the criticism levelled by Ibn Rushd at Ibn Sīnā's emanation model in general is an attempt at extending the reach of divine causation against the criticism of al-Ghazzālī. On Ibn Rushd's interpretation of the Aristotelian theory, the First does not create only one effect, but rather directly all the effects in the celestial

⁴⁶⁷ Ibn Rushd, *Long Commentary on the Physics*, 399D.

realm, by setting the spheres in motion. Although both processes are outside time, for the world is eternal, in Ibn Rushd's system there is not mediation through emanation, but only one immediate creative 'moment'. Drawing on the Qur'ān and on Aristotle, Ibn Rushd speaks of the first commandment of God's creation (sura 6:73, 'He says "Be" and it is'), and of God ruling the world and giving orders as an army leader. The reason this is not strictly speaking an instance of efficient causality is that God does not directly move or produce the spheres. According to this model, nothing proceeds from God directly. Rather God moves without Himself being moved. The motion of the spheres, the result according to secondary intention of their desire to draw nearer to the First, is the cause of generation and corruption in the sublunary world. Although no first existent proceeds directly from God, by the mediation which emanation entails, this is not to say that God creates each being and event directly, as the Ash'arites would have it. The movements of the spheres, for Ibn Rushd as for Ibn Sīnā, are responsible for what goes on in the terrestrial world. Yet there is a sense in which each being is drawn to God and so to existence. While remaining transcendent by virtue of His immutability, He draws all existents to Himself, and thus into existence, by being their final cause. One could arguably say that God is more powerful in this model than in Ibn Sīnā's model because He produces more than one effect. By extending the power of God, Ibn Rushd is certainly not advocating any form of indeterminism, but the very opposite. The deterministic streak permeating his proposed model is also apparent in a passage of the *Tahāfut al-Tahāfut*:

None of the philosophers doubts that there is a final cause according to secondary intention, which is necessary for the existence

of what is in the sublunary world. And although this cause has not yet been ascertained in detail, nobody doubts that every movement, every progression or regression of the stars, has an influence on sublunary existence, so that, if these movements differed, the sublunary world would become disorganized. But many of these particular causes are either still completely unknown or become known after a long time and a long experience, as it is said that Aristotle asserted in his book *On Astrological Theorems*. As for universal matters, it is easier to discover them, and the astrologers have indeed come to know many of them and in our time many of these things have been apprehended which ancient nations, like the Chaldeans and others, had already discovered. And for this reason one cannot doubt that there is a wisdom in the existing things, since it has become clear through induction (*istigrā'*) that everything which appears in heaven is there through provident wisdom and through a final cause. And if this is true of final causes in animals, it is still truer of the heavenly bodies. For in the case of man and animal about ten thousand [signs] of providence have become known in a period of a thousand years, and it seems not impossible that in the infinite course of years much of the purpose of the heavenly bodies will come to light. And we find that about these things the ancients give some mysterious indications which the initiated, that is the most highly reputed of the philosophers, know how to interpret.⁴⁶⁸

This passage stresses that all causation is ultimately reducible to final causation. That the motions of the spheres effectively determine everything that happens in the sublunary world is also clear. The final cause according to second intention alluded to is the motion of the spheres. The motion of the spheres is not intended in itself but is a result of the desire of the spheres to attain the divine, which is their main goal. Moreover, Ibn Rushd also affirms that everything that happens in the supralunary world, i.e., every motion of the spheres has a determining effect on the world of generation and corruption. According to Ibn Rushd we know this to be the case, even if we do not know all the details of causal interaction between celestial and terrestrial worlds. The fact that we ignore in certain cases the details of the impact of the

⁴⁶⁸ Ibn Rushd, *Tahāfut al-tahāfut*, pp. 491-492, translated by Van den Bergh (slightly modified), p. 299-300.

spheres on generation and corruption does not mean this latter process is not determined by the spheres. The view that substances and events are determined even if we do not know exactly how is a deterministic stance; it had been expressed by Galen and was considered a Stoic view.⁴⁶⁹ This knowledge is bound to increase with time according to Ibn Rushd's optimist rationalism.

As the unmoved mover, God draws the world into existence and is its agent.

The principal idea is that according to the Aristotelians the celestial bodies subsist through their movement, and that He who bestows this movement is in reality the agent of this movement and, since the existence of the celestial bodies only attains its perfection through their being in motion, the giver of this motion is in fact the agent of the celestial bodies.⁴⁷⁰

In Aristotle, according to Ibn Rushd's interpretation, something comes into existence when the agent draws its effect into existence through motion, i.e., by drawing what is potential into actuality. Because existence is not an accident it cannot be imparted from cause to effect directly, or emanate from cause to effect, as held by Ibn Sīnā.

What Avicenna says of the emanation (*sudūr*) of these principles from one another is a theory not known amongst the ancients (*al-qawm*), who merely state that these [principles] hold certain positions in relation to the First Principle, and that their existence is only made real through this relation to the First Principle. As is said in the Koran: 'There is none amongst us but has their appointed place' [37, 164] It is the connexion which exists between them which brings it about that

⁴⁶⁹ '[According to Galen] for us to call an event contingent was but to state our ignorance of the factors involved in bringing it about, while in themselves these factors, and hence the event, were perfectly knowable. This well-known Stoic view was described and expressly attributed to the Stoics by Boethius ... [Galen] – who generally found much to criticize in Aristotle, yet more in the Stoics, embraced their physical determinism', Zimmermann, *Al-Farabi's Commentary and Short Treatise on Aristotle's De Interpretatione*, p. lxxxii.

⁴⁷⁰ Ibn Rushd, *Tahāfut al-tahāfut*, p. 172, translated by Van den Bergh, p. 103.

some are the effect of others and that they all [are the effect] of the First Principle. By 'agent', and 'effect', 'creator' and 'creature', in so far as it concerns this existence nothing more can be understood [than just this idea of connexion]. But what we said of this connection (*irtibāṭ*) of every existent with the One is something different from what is meant by 'agent' and 'object' and 'maker' and 'product' [in this sublunary world]. If you imagine a ruler who has many men under his command who again have others under their command, and if you imagine that those commanded receive their existence only through receiving this command and through their obedience to this command, and those who are under those commanded can only exist through those commanded, of necessity the first ruler will be the one who bestows on all existents the characteristic (*ma'nā*) through which they become existent, and that which exists through its being commanded will only exist because of the first ruler. And the philosophers understood that this is what is meant by the divine laws when they speak of creation (*khalq*), of calling into existence out of nothing (*ikhtirā'*), and of command (*taklīf*). ... [The learned person] will not understand Aristotle's theory or Plato's in any other sense than that here indicated. And their philosophy is the highest point human intelligences have reached.⁴⁷¹

Although God is essentially the final cause of the universe, He is efficient and formal cause of the universe by virtue of being a final cause.

It is evident to the philosophers that he who bestows on the immaterial existents their end is identical with him who bestows on them their existence, for according to them form and end are identical in this kind of existent and he who bestows on these existents both form and end is their agent. And therefore it is clear that the First Principle is the principle of all these principles, and that he is an agent, a form and an end.⁴⁷²

⁴⁷¹ Ibn Rushd, *Tahāfut al-tahāfut*, pp. 186-187, translated by Van den Bergh (slightly modified) p. 112. It is interesting that at this stage, between writing the short and the long commentaries, Ibn Rushd should place both Plato and Aristotle on the same pedestal. In his long commentaries, though, the honour of having reached the pinnacle of human intellectual achievement goes to Aristotle alone. For a further critique of emanation see also *Long Commentary on the Metaphysics*, pp. 1648-1649, translated by Genequand, pp. 172-173. For the Aristotelian analogy of the prime mover as army leader, see *Long Commentary on the Metaphysics*, p. 1709, Genequand, p. 198, Aristotle, *Metaphysics*, 1075a 11-15.

⁴⁷² Ibn Rushd, *Tahāfut al-tahāfut*, p. 232, translated by Van den Bergh, p. 138 (see also note 3). In the *Middle Commentary on the Metaphysics*, Ibn Rushd has reached his mature position. He speaks of God as king and states that he is 'cause of the sensible substance not just as its mover, but also by way of being end and form and object of desire', ed. Zonta, p. 273. He also rejects the view that from God

Thus God is the foremost agent, form and end. Is there a contradiction with the foregoing view, propounded by Ibn Rushd and highlighted by Davidson, that God is not an efficient cause? Ibn Rushd claims that we look for the efficient cause mainly in generable and corruptible things.⁴⁷³ As Ibn Rushd mentions at the end of book 2 of the *Long Commentary on the Physics*, there is a sense in which all three causes, form, agent and end are one.⁴⁷⁴ The form is what is desired, the aim of a process. In consequence there is an overlap between the form and the end. There is also an overlap between the final and the efficient cause. By being the desired object of the spheres, God sets them in motion. Now, setting in motion is among the characteristics of the efficient cause, for the efficient cause is also called by Ibn Rushd the moving cause.⁴⁷⁵ Hence in a certain way God is efficient cause, but not efficient cause, as we have seen, in the sense of an empirical agent which produces only one effect. Ibn Rushd privileges the final cause in the celestial realm and indeed in nature, saying that it is nobler than the agent.⁴⁷⁶ 'For the agent and matter are only for the sake of the end, and equally the forms are only for the sake of the ultimate end (*ultimum finem*)'.⁴⁷⁷ This view is tied up with a perceived deficiency of the efficient cause with regard to the formal and final causes, for according to Ibn Rushd, the effect always follows from the cause in the case of the formal and final cause, but 'does not

only one effect proceeds, pp. 278-279, and that there are efficient causes in the celestial world except by way of motion and order', p. 279.

⁴⁷³ Ibn Rushd, *Long Commentary on the Metaphysics*, p. 1012.

⁴⁷⁴ Ibn Rushd, *Long Commentary on the Physics*, 73L-M.

⁴⁷⁵ Ibn Rushd, *Long Commentary on the Metaphysics*, p. 189. For the notion of God as efficient cause and the unity of the three causes, form agent and end, pp. 1435-1436, see also Genequand, p. 80. See also, p. 1278 – God is not only a principle as mover, but also as form and end.

⁴⁷⁶ Ibn Rushd, *Short Commentary on the Metaphysics*, §74, p. 123, p. 195 of the Spanish translation.

⁴⁷⁷ Ibn Rushd, *Long Commentary on the Physics*, 61G-H.

necessarily follow from its efficient cause, for the efficient cause frequently exists without the effect's existing'.⁴⁷⁸ In addition, the efficient cause is dispensed with when its effect comes into being, which is not true of the final cause; for this reason the efficient cause is finite, something which cannot be said of the First. Another reason for Ibn Rushd's reluctance to accept the view of God as an efficient cause, as we have seen, is that from the efficient cause only one effect proceeds.⁴⁷⁹ And at any rate the efficient cause for him is subsumed under the final cause, which is considered the efficient cause of the efficient cause. Also, in his view, the efficient cause is determined by the final cause.⁴⁸⁰ Because he rejects Ibn Sīnā's contention that from the one, one proceeds with regard to the First, the First is not an efficient cause.

God can be said to be an efficient cause inasmuch as the formal and final causes are said to be efficient. Obviously God, as an incorporeal being who has no potentiality whatsoever, cannot be a material cause. According to Ibn Rushd, that which distinguishes the First from the remaining beings is its pure spirituality. Since change only happens through corporeity and this being is not corporeal, this being is wholly unchangeable, unlike even the celestial bodies, subject to motion. God is the cause of all being and beyond Him there is no other cause. He is the cause of all the causes (*causa omnium causarum*).⁴⁸¹ According to Ibn Rushd, 'the immovable substance is the principle and the cause of natural things';⁴⁸² and 'the mover who is the condition of man's existence from the beginning of his production till its end, is

⁴⁷⁸ Ibn Rushd, *Tahāfut al-tahāfut*, p. 171, translated by Van den Bergh p. 103 (see also note 2).

⁴⁷⁹ Wolfson, 'Averroes' Lost-Treatise on the Prime Mover', p. 703.

⁴⁸⁰ Cruz Hernandez, *Ibn Rushd*, p. 135.

⁴⁸¹ Ibn Rushd, *Long Commentary on De Caelo*, 68D-E. See also the *Tahāfut al-tahāfut* for the theory of God as cause of all causes, p. 380, p. 228-229 (Van den Bergh).

⁴⁸² Ibn Rushd, *Long Commentary on the Metaphysics*, p. 1420, Genequand, p. 72.

the prime mover. Likewise His existence is the condition for the existence of all beings and the preservation of heaven and earth and all that is between them'.⁴⁸³ From the emphasis on the final cause one might infer the theory that beings are more autonomous, because the final cause moves beings from within, whereas the efficient cause as it were is external to the effect. Yet Ibn Rushd's criticism of al-Ghazzālī and his reform of philosophy in order expressly to harmonise it with Islam means that his criticism of Ibn Sīnā was meant to reinforce the notion of God's omnipotence and determination. Al-Ghazzālī's critique was based on the claim that the God of the philosophers is not an agent or a creator, and consequently is incompatible with Islamic doctrine – a view Ibn Rushd seeks to refute.

Providence, evil and God's decree and determination

Ibn Rushd's analysis of chance in his commentaries on Aristotle's *Physics* highlights the connection between chance and providence. As we have seen in chapter four, the two main points pressed are on the one hand that chance is not an essential but an accidental cause, and on the other hand that the world did not come about by chance, but through the design of an intelligent being. The notion of providence is stressed through the denial of chance as the main agent at the universal scale. The notion of providence appears in the long commentaries on the *Physics* and the *Metaphysics*, and features prominently in the *Kashf*, a work in which Ibn Rushd

⁴⁸³ Ibn Rushd, *Tahāfut al-tahāfut*, pp. 59-60, p. 34 (translated by Van den Bergh). For the view that God is the essential cause of man, while the father is the accidental cause, and the possibility of infinite accidental causal chains, see *Time, Creation and the Continuum*, p. 230.

seeks to settle the main theological issues within Islam and where he states that the world was created by God and did not come to be by chance or spontaneously.⁴⁸⁴

The counterposition of chance and providence are constant when the latter is discussed by Ibn Rushd. Proof of this providential order is the fact that the combined motions of the planets and the way they produce and mix the elements are suitable for human life. This order also shows that God has a concern regarding the creatures of the celestial world. This order is so strictly arranged that any change in it would lead to a disturbance in the terrestrial world, as Ibn Rushd affirms in the *Kashf*.

If any part of this creation and structure were disturbed, the existence of creatures in the sublunar world would be disturbed ... it is impossible that this suitability which exists in all the parts of the universe to mankind, animals, and plants is a matter of chance. Rather it was intended and willed by an agent, God Almighty. One would also conclude categorically that the world is created ... it would have been impossible for this suitability to exist, had the world not been the work of a Maker, but rather of chance.⁴⁸⁵

In this passage, Ibn Rushd implicitly introduces the argument from design, whereby the harmonious order of the universe is seen to attest to the fact that it was created by an intelligent being to a good purpose. He also alludes to the principle, which he expounds in his commentaries on Aristotle, that the spheres in fact control what happens in the world of generation and corruption, namely the seasons, and the elements. The order of the world is to be seen not only in the arrangement of the motions of the planets and elements to allow for the existence of life on earth, but also in the hierarchy of all the different elements that compose the cosmos. While God directly controls the celestial realm, the celestial spheres in turn rule the world of

⁴⁸⁴ Ibn Rushd, *Kashf*, p. 161, *Faith and Reason in Islam*, translated by Najjar, p. 78.

⁴⁸⁵ *Ibid.*, pp. 162-163, translated by Najjar (modified), p. 80.

generation and corruption. This view is present in Aristotle, that the spheres are moved by the prime mover, and that the changes taking place in the world of generation and corruption are the result of the movements of the planets. It is also supported by Alexander of Aphrodisias in his *On Providence*.⁴⁸⁶ Ibn Rushd takes issues with the Ash'arite stance inasmuch as it denies this hierarchy of causes in the world, and the notion that God created certain substances with specific properties by which they act – 'one who denies that the effects derive from the causes in this world denies [the existence of] the Wise Maker'.⁴⁸⁷

Ibn Rushd goes on in the *Kashf* to draw the links between chance and causation, in an analysis which is loosely based on the Aristotelian passage in book two of the *Physics*. He affirms that the effect can relate to the cause in three ways. Either the effect cannot exist without the cause, as nourishment is necessary in order for man to live,⁴⁸⁸ or the cause is for the sake of a better effect, or none of this is the case. This is clearly a threefold division between the material or the efficient cause, the final cause and the chance cause. In fact, although Ibn Rushd distinguishes these three causes, he thinks of chance here not so much as opposed to the material cause but to the affirmation of the final cause, as evinced by another passage. On this interpretation, to deny causes, in particular efficient and final, is to go back to the view that everything happens according to the necessity of matter, and without a purpose, a view which Ibn Rushd rejects in his analysis of chance in the *Long Commentary on the Physics*.⁴⁸⁹

⁴⁸⁶ Alexander of Aphrodisias, *La Provvidenza*, pp. 124-132.

⁴⁸⁷ Ibn Rushd, *Kashf*, p. 167, translated by Najjar, p. 84.

⁴⁸⁸ See also, Ibn Rushd, *Long Commentary on the Metaphysics*, p. 518.

⁴⁸⁹ Ibn Rushd, *Kashf*, p. 167, translated by Najjar, p. 85.

However, for Ibn Rushd chance is the negation not only of the final cause but more generally of causation: 'what exists for no reason or cause is due to chance'.⁴⁹⁰

Hence he goes on to present a view of causation which is undeniably deterministic:

As for us, since we hold that it is necessary that there should exist in this world an order and organization, more perfect and better than which cannot exist, that the combinations (*imtizāj*) are definite and are determinate, that the existents which come to be from them are necessary and this is always [the case] and never fails; it follows that it is not possible for all this to arise by chance because what arises by chance is less necessary; in the words of the Almighty: 'the making of Allah who perfected everything' (Qur'ān 27: 88). Indeed what perfection could there possibly be in existing things if they were possible ('*alā al-jawāz*)? For what is possible is not more likely to exist than its opposite; in the words of the Almighty: 'You do not see any disharmony in the Creation of the Compassionate. So fix your gaze, do you see any fissures?' (Qur'ān 67:3).⁴⁹¹

It is precisely this absence of interstices in the world order and the connectedness of all parts that leads to the elimination of all contingency from the world. It is in consonance with the Stoic and Avicennian notions that nothing happens without a necessary cause and hence could not have been otherwise.

Thus the providence issue is two-pronged, namely consisting in world order and God's benevolence towards its creation. This second part presents a problem as it did for Ibn Sīnā and other philosophers who were confronted with it: how to account for the existence of evil in the world, seeing that God is good? This is expressed in another passage of the *Long Commentary on the Metaphysics*:

There are people who say that there is nothing for which God does not care, because they claim that the Sage must not leave anything

⁴⁹⁰ Ibn Rushd, *Kashf*, p. 168, translated by Najjar, p. 85.

⁴⁹¹ *Ibid.*, p. 168, translated by Najjar (modified), p. 86.

without providence and must not do evil, and that all his actions are just. Other people refuted this theory through the fact that many things happen that are evil, and the Sage should not produce them; so these people went to the opposite extreme and said that therefore there is no providence at all.⁴⁹²

Ibn Rushd's response to this problem is remarkably similar to that of Ibn Sīnā and previous authors who wrote on the subject, in that it plays down the reach of evil in Creation. Evil is not substantial but accidental, as stated in a passage in the *Tahāfut*.

They believed therefore, because of the good which is present in everything, that evil occurs only in an accidental way, like the punishments which good governors of cities ordain; for they are evils instituted for the sake of the good, not by primary intention. For there exist amongst good things some that can only exist with an admixture of evil, for instance, in the being of a man who is composed of a rational and an animal soul. Divine Wisdom has ordained, according to these philosophers, that a great quantity of the good should exist, although it had to be mixed with a small quantity of evil, for the existence of much good with a little evil is preferable to the non-existence of much good because of a little evil.⁴⁹³

The things that are created with an admixture of evil are the material substances. Hence matter is to blame for the deficiencies that afflict material beings alone, as pointed out in a study by G. F. Hourani.⁴⁹⁴ Ibn Rushd's views on evil do not differ significantly from those of Ibn Sīnā. Ibn Rushd thinks of evil as something negative rather than positive, and also that this evil is unavoidable and an accidental side effect of creation. Moreover, like Ibn Sīnā, he states that evil is created by God, or is a result of God's creation, and does not arise spontaneously.

⁴⁹² Ibn Rushd, *Long Commentary on the Metaphysics*, p. 1715, Genequand, p. 201.

⁴⁹³ Ibn Rushd, *Tahāfut al-tahāfut*, p. 106, translated by Van den Bergh, Bouyges p. 177.

⁴⁹⁴ Hourani, 'Averroes on Good and Evil', p. 21.

Ibn Rushd's views on divine causation and the issue of chance and divine determination are also patent in his treatment of and proposed solution to the issue of God's *qadar*, to be found in his *Kashf*.

While the topic of *qadar* is specifically Islamic, Ibn Rushd's argument and proposed solution are based on philosophical assumptions, and show his underlying philosophical project of harmonising philosophy and religion. For while the framework of the question is entirely religious, and the issue prompted by a reflection on the Qur'ān and the *Sunna*, the solution proposed by Ibn Rushd has unmistakable Aristotelian overtones. Unlike Ibn Sīnā, whose treatment is concise and disregards other opinions, Ibn Rushd's treatment lists the different opinions and tries to find a middle term between two extremes.

The discussion of the debate on God's determination, *al-qadā' wa-l-qadar*, constitutes within the *Kashf* the third question of the chapter on God's actions.⁴⁹⁵

Ibn Rushd opens the section by claiming that this is one of the most difficult issues within the Law. In stating the problem as it is prompted by seeming contradictions in the tradition, i.e., the Qur'ān and Sunna, Ibn Rushd proceeds by order of importance, quoting first from the Qur'ān and then from the *Sunna*, before proceeding to the *kalām* schools and finally rational arguments. He presents both sides of the argument, for and against *qadar*, citing several *sūras* and *ḥadīths* that either stress God's power or human freedom of action.

⁴⁹⁵ For the specific/traditional Islamic meaning of *qadar*, and the difference between *qadar* and *qadā'*, see above (p. 126) n. 266.

For Ibn Rushd *qadar*, and the notion that everything happens according to *qadar*, stands for the theory that everything happens by God's determination and that people are constrained in their actions. The contrary would be to assert that people acquire their acts.⁴⁹⁶ Hence an all-embracing *qadar* and human acquisition are the two poles of the contradiction. In order to illustrate this contradiction Ibn Rushd distinguishes between verses that say that 'everything is necessary' (*al-umūr kullu-hā ḍarūriya*) and those which state that people acquire their actions (*iktisāb*), and that things themselves are possible, not necessary (*mumkina lā wājiba*). Hence, beside the issues of God's omnipotence and human action, Ibn Rushd raises the broader question whether events are all necessary or possible.⁴⁹⁷ In stating the issue in these terms, he is already introducing philosophical themes into the debate. The debate whether events/substances are necessary or possible is based on Aristotle's discussion of the different meanings of 'necessity' in the *Metaphysics*, as we have seen in the previous chapter. Two important meanings in this context are, on the one hand, cause as necessity.⁴⁹⁸ According to this sense, all things are necessary if they have a cause,

⁴⁹⁶ The verb *kasaba* features in the Qur'ānic verses quoted by Ibn Rushd (42:34; 42:30; 10:28; 2: 286), but his use of the term '*iktisāb*' evokes the Ash'arite doctrine of acquisition. 'L'acquisition' (*kasb ou iktisāb*) est le maître mot de la doctrine ash'arite de la prédestination. Dieu est le seul créateur des actes humains volontaires, mais il les crée comme les actes d'un autre que lui, de même qu'il en crée la volonté. C'est pourquoi les humains acquièrent ces actes et en sont responsables', Averroès, *L'Islam et la raison*, p. 131, n. 101 (by Geoffroy).

⁴⁹⁷ The terms *ḍarūri* and *wājib* used by Ibn Rushd do not feature in the Qur'ānic verses quoted by him, rather they have Aristotelian overtones. See, for instance, Ibn Rushd's *Long Commentary on the Metaphysics*, pp. 515-523, where he comments on the various meanings of 'necessity' and 'necessary' as expounded by Aristotle.

⁴⁹⁸ Aristotle, *Metaphysics*, 1015b6.

possible if not. In addition, Aristotle identifies necessity with constraint in non-voluntary actions, thus highlighting the ethical implications of the concept.⁴⁹⁹

Ibn Rushd next discusses what *ḥadīth* literature has to say about *qadar*. One *ḥadīth* from al-Bukhārī's collection, the famous *ḥadīth al-fiṭra*, states that everyone is born in the right faith and only becomes a Jew or a Christian through their parents. This *ḥadīth*, according to Ibn Rushd, indicates that the sole cause of *kufur* is one's place of origin, and that Islam is one's natural disposition. Ibn Rushd cites this *ḥadīth* to illustrate the view that someone's action, unbelief in this case, is not predetermined by God but by external circumstances.⁵⁰⁰ The other *ḥadīth* he quotes, in support of *qadar*, is a predestinarian one, to be found in Ibn Ḥanbal's collection, to the effect that 'I created some for heaven (*janna*), who act like the people of heaven (*bi-a'māl ahl al-janna ya'malūna*), and I created some for hellfire (*li-l-nār*), and they act like the people of hellfire'.⁵⁰¹ This *ḥadīth*, which epitomises the predestinarian doctrine, is also quoted by Ibn Sīnā in a small treatise on *qadar*, translated in chapter three of the

⁴⁹⁹ For the Arabic translation of Aristotle's text and Ibn Rushd's commentary, see *Long Commentary on the Metaphysics*, pp. 515-518.

⁵⁰⁰ The notion of *fiṭra* appears early in Islam: 'Parmi les plus anciennes attestations textuelles des domaines dans lesquels est intervenue la notion de *fiṭra*, figurent les traités juridiques de Mālik (179/795) et de Abū Ḥanīfa (150/767). Ces textes, ou du moins l'essentiel de leur contenu, peuvent remonter jusqu'à la première moitié du IIe siècle de l'Hégire', Gobillot, *La Conception Originelle (fiṭra)*, p. 14. In her book, Gobillot explains the origin and interpretations of this term. She also explains how this notion was used by Muslims in favour or against the notion of *qadar*, namely whether belief is predetermined by God. Most Muslim jurists and theologians interpreted *fiṭra* as meaning Islam, for instance al-Bukhārī, p. 14, and Ibn Ḥanbal, p. 27, for whom the notion of *fiṭra* does not contradict God's *qadar*, pp. 18-19. However, Mu'tazilites used this *ḥadīth* to argue in favour of the view that humans choose their religion/belief, see pp. 34-35. Ibn Rushd uses the *ḥadīth* according to this latter interpretation. The different usages of the term go back to the earliest theological debates, and this notion features in association both with a traditionist (and determinist) like Zuhri and the 'qadarite' theologian Ḥasan al-Baṣrī; see Van Ess, *Zwischen Ḥadīth und Theologie*, pp. 104-106, and also pp. 101-114 for early debates on this *ḥadīth*.

⁵⁰¹ Ibn Rushd, *Kashf*, p. 187.

present dissertation, in support of a philosophical theory of determinism and God's *qadar*.⁵⁰²

Ibn Rushd's following step is to seek an intermediate position that complies with the religious precepts while taking on board rational arguments. The problem, for Ibn Rushd, is obviously that there can be no imposition of duties (*taklīf*) for human beings if they are powerless to act.

After having expounded the problem as it is to be found in the Scripture and the *Sunna*, Ibn Rushd goes on to expound the three major schools of theology. He quotes arguments from theological schools. The Mu'tazilites he mentions as holding the position that people acquire their own acts, and are judged accordingly.⁵⁰³ For in their view a person is the cause of disobedience (*ma'ṣiya*) and good deed(s) (*ḥasana*), punishment and reward being a direct result of these.⁵⁰⁴ The opposite position is held by the Jabariyya, who hold that 'people are compelled and constrained in their

⁵⁰² Quoted by Ibn Sīnā in his *Risālat al-Qadā'*, original Arabic text in Michot, *Ibn Sīnā. Lettre au Vizir Abū Sa'd*, pp. 105-108.

⁵⁰³ According to Geoffroy, Ibn Rushd wrongly ascribes the theory of *iktisāb* to the Mu'tazilites, who in fact are much more radical in their defence of the freedom of human action. 'Comme on l'a noté, Ibn Rushd a tort d'attribuer l'"acquisition" aux mu'tazilites. En fait, ceux-ci vont plus loin. Selon eux, il est une catégorie d'actes dont la création échappe véritablement à Dieu, les actes humains volontaires. C'est à cette condition que Dieu peut être dit juste lorsqu'il applique les châtements et les récompenses de l'Au-delà. On ne doit pas trop s'étonner de la confusion d'Ibn Rushd à propos de la formulation de la thèse mu'tazilite. Lui-même note ailleurs dans le texte que les ouvrages de ces derniers 'ne sont pas parvenus' jusque dans la lointaine péninsule Ibérique. Il doit donc reconstituer, à partir de sources secondaires qui peuvent donner lieu à des malentendus. Mais s'il y a erreur sur la formulation, sur le fond, cela revient au même: les mu'tazilites sont bien partisans du libre arbitre', *Averroès, L'Islam et la raison*, p. 132, n.108. As Geoffroy rightly points out, this misattribution makes no difference in the context of Ibn Rushd's argument, for he rightly places the Mu'tazilites at one extreme of the argument as defending human freedom of action. The Mu'tazilites defend that humans produce their own actions, according to al-Ash'arī's *Maqālāt*; 'Pour eux [Mu'tazilites], l'homme est agent au sens propre (*fā'il fi l-ḥaqīqa*), c'est à dire, selon eux, 'adventeur' (*muḥdith*) producteur ex nihilo (*mukhtari*), inventeur (*munshi*)' (*Maqālāt* 539, 12-13)", Gimaret, *Théories de l'acte humain*, p. 12. Al-Ash'arī, for his part, 'refusait à l'homme la qualification de *fā'il*', *ibidem*, p. 180.

⁵⁰⁴ Ibn Rushd, *Kashf*, p. 187.

actions'.⁵⁰⁵ Finally, Ibn Rushd sees in the Ash'ariyya an attempt to steer a middle course between God's power and human power to act, by saying that both the acquired thing and the acquirer are created by God. Nevertheless according to Ibn Rushd, this means nothing, as it amounts to affirming that people are constrained in their actions.⁵⁰⁶

Beside the disagreement (*ikhtilāf*) to be found in the religious tradition (*sam'*), Ibn Rushd states that there is a conflict in the rational arguments. A contradiction arises in asserting both that people create their acts and that God is the sole creator. Ibn Rushd's starting point is the principle that God is the sole creator, because Muslims agreed on this by *ijmā'* (consensus). If there is only one creator, humans cannot create their acts, in which case they are not responsible for their acts, and so cannot be justly rewarded or punished for their actions.

Ibn Rushd seeks to steer a middle course between the two poles, a solution to the problem which is in accordance with religion.

⁵⁰⁵ Ibn Rushd, *Kashf*, p. 187. According to Geoffroy, Jabarites are named after the term *jabr* – 'de l'arabe *jabr* ("contrainte", "coercition"). École se réclamant de Jahm ibn Ṣafwān (m. 128/h. 745). Pour les jabarites, il n'y a absolument aucune distinction à faire entre les actes humains volontaires, qui impliquent la puissance de l'homme à les accomplir, et les actes involontaires. L'homme est simplement le réceptacle d'actes créés en lui par Dieu', Averroès, *L'Islam et la raison*, pp. 132-3, n. 109.

⁵⁰⁶ Ibn Rushd, *Kashf*, p. 187. The theory of *iktisāb* is developed by al-Ash'arī to refer to an action that is created by God but performed by men, for which they are therefore accountable. In the Qur'ān, the verb *kasaba* can generally mean to perform an action. 'As a theological term *kasb* means "acquisition", "appropriation" The term *kasaba*, usually in the 1st form and sometimes in the 8th (*iktasaba*) is frequently found in Qur'ānic vocabulary, mainly with the sense of "acquiring" those rewards or punishments which are the fruits of moral acts, and so a loose translation could render *kasaba* here as 'carrying out an action ... *Kasaba* alludes to the acquisition (of the fruit) of each act, good or evil; *iktasaba*, which is very close in meaning, is used in the Qur'ān only for human actions in general (IV, 36), which merit punishment (II, 286, XXIV, 11, XXXIII, 58) ... The Ash'arī *kasb* is a narrow margin in which is inscribed the relationship between the act created by God and human responsibility', *Encyclopaedia of Islam*, New Edition, vol. IV, p. 692 (L. Gardet). For some schools, *kasb* is equivalent to *fi'l*, 'Tout ce que l'on peut noter ici, c'est l'équivalence établie *kasb* et *fi'l*. Cela ... est typique de Māturīdī et des Māturīdites', Gimaret, *Théories de l'acte humain*, p. 185.

It appears that the goal of the Law (*sharʿ*) is ... to reconcile these two beliefs [through] a middle term (*tawassuṭ*), which is the truth of the matter. For it appears that God, may He be praised and extolled, created in us faculties/powers (*quwā*) through which we are able (*naqdiru*) to acquire things which are contraries. However, since the acquisition of those things is only perfected by us with the agreement (*muwāṭāt*) of the external causes which God makes subject (*sakhkhara*) to us, and [with] the removal of their obstacles, the actions that are ascribed to us are perfected through both things.⁵⁰⁷

Ibn Rushd seeks a middle term between the two conflicting opinions, for clearly he does not think that Muʿtazilites or Ashʿarites (for their position is tantamount to jabarism) have the solution to the problem. Towards that end, he preserves human efficient causality without losing sight of God's omnipotence. In his exposition of human action, Ibn Rushd mentions the issue of powers/faculties residing in humans. In human agency there are two factors, internal faculties that give us the power to act, and external causes that contribute to this process. We are given the possibility/capability to choose between two contraries. From this one could infer that humans are free to choose between contraries, that choice being our autonomous decision. However, this is clearly not what Ibn Rushd intends. There are conditions for choosing one contrary to the exclusion of the other, namely the external causes furnished by God and the absence of obstacles.⁵⁰⁸ Only when these two conditions are in place is one of two contraries chosen.

⁵⁰⁷ Ibn Rushd, *Kashf*, p. 188. '[Les muʿtazilites] entendent par 'puissance' la puissance à un acte donné et à son contraire, tandis qu'al-Ashʿari et ses successeurs considèrent que la puissance à un acte donné exclut, à ce moment donné, la puissance à l'acte contraire', *L'Islam et la raison*, p. 134, n. 114 (by Geoffroy).

⁵⁰⁸ This alludes to an Aristotelian principle expounded by Ibn Rushd in his *Long Commentary on the Metaphysics*, namely that an efficient natural cause always produces its effect under the same circumstances and in the absence of obstacles. '[In irrational beings/forces] if the agent approaches the patient and there is no external obstacle, the agent must necessarily act and the patient be acted upon;

By bringing up the issue of external causes, Ibn Rushd goes into the issue of secondary causality, i.e., the notion that God delegates His power to other causes, as implied in another passage. 'The performance of actions attributed to us is accomplished by our will with the agreement of the actions which are external to our will. This is what is meant (*al-mua'bbar*) by God's *qadar*'.⁵⁰⁹

How does Ibn Rushd go from asserting that humans are capable of action, having for that purpose faculties which concur with external causes, to asserting God's power? What is the relationship between these causes and God's omnipotence? There is a twofold cause of our actions: our will and external causes. These are not dissociated, rather they concur. At no point in this chapter does Ibn Rushd state that there is in us an autonomous principle of action which would enable us not to be conditioned by external causes.⁵¹⁰ In fact, the external causes determine our will. God's *qadar* consists in the process whereby God determines the causes that in turn determine our actions. 'These [external] causes which God makes subject to us not only perfect the actions which we want to perform or prevent, rather they are the cause that we want one of the opposites (*mutaqābilayn*)'.⁵¹¹ Each actual occurrence, be it in natural or voluntary agency, depends on the prevalence of one of two opposites, so if God determines our desire for one of two opposites he also determines the coming to be of any human action.

for example when fire approaches something combustible, and there is no obstacle preventing the [object from] burning, the combustible object necessarily burns', p. 1152.

⁵⁰⁹ Ibn Rushd, *Kashf*, p. 189.

⁵¹⁰ See *Introduction*, pp. 4-5.

⁵¹¹ Ibn Rushd, *Kashf*, p. 189. See Hourani, 'Averroes on Good and Evil', for an interpretation of this passage and Ibn Rushd's position, pp. 25-26.

On this view external causes determine our volitions, and there is no suggestion of an autonomous human will. This becomes evident in what follows, where a psychological theory of human action and motivation is put forward. Ibn Rushd describes the sequence of events that lead to a particular voluntary action.

Will is but desire (*shawq*) which originates in us through imagining (*takhayyul*) something, or assenting to something (*taṣḍīq bi-shayʿ*). This assent is not due to our choice (*ikhtiyār*), rather it is something that happens (*yaʿridu*) to us through external events. For example if something externally desirable presents itself to us we desire it necessarily (*bi-l-ḍarūra*) without choice (*min ghayr ikhtiyār*), and are drawn to it. Equally if something repugnant (*mahrūb*) externally presents itself to us we abhor and avoid it necessarily. Thus, our will is preserved and bound by external matters (*mahfūza bi-l-umūr allatī min khārij wa-marbūta bi-hā*).⁵¹²

This passage clearly indicates a definite inevitability about our actions, as they wholly depend on external factors. Our action follows upon a certain desire and decision, which in turn is taken on the basis of an assent to something we think or imagine. Any decision is a necessary and immediate response to some external factor. Hence whatever we think and decide is necessarily conditioned by external causes. Ibn Rushd explicitly states that this process happens involuntarily, which means that it is not contingent but necessary. Ibn Rushd too seems to side with the Jabarite stance, which he accuses the Ashʿarites of doing. The difference - with regard to the Ashʿarite account - is that according to this model, God does not determine our actions directly but through secondary causes. According to this passage it would still be possible to think that we desire something but do not act on it, in which case the

⁵¹² Ibn Rushd, *Kashf*, p. 189.

fact that our desires are determined does not imply that our actions are. Yet from other passages it appears that our actions too are determined, on Ibn Rushd's account, as we shall see.

The view that external causes concur to produce our desires presupposes the principle of secondary causality that al-Ghazzālī had so vehemently opposed in his *Tahāfut*. Ibn Rushd defends a philosophical stance against the Ash'arite criticism that it detracts from God's omnipotence. In the *Tahāfut al-Tahāfut* Ibn Rushd rejects al-Ghazzālī's criticism and states that 'to deny the existence of efficient causes which are observed in sensible things is sophistry ... for he who denies this can no longer acknowledge that every act must have an agent'.⁵¹³ Ibn Rushd adduces two arguments in favour of secondary causality. One is simply sensory experience. We see, for instance, that fire burns once in contact with certain objects. The other argument, that every action has an agent or cause is more abstract and is based on the view, which goes back to the Pre-Socratics and Aristotle, that from nothing, nothing originates. Ibn Rushd presses the philosophical argument that causes have the power to produce their effects – whilst for al-Ghazzālī God is the only real cause. In addition, in Ibn Rushd's *Tahāfut al-Tahāfut*, the theory of secondary causation is tied up with the view that each thing has its proper function and name:

For it is self-evident that things have essences (*dhāt*) and attributes (*ṣifa*) which determine their special functions and through which the essences and names of things are differentiated ... Further, it is self-

⁵¹³ Ibn Rushd, *Tahāfut al-Tahāfut*, p. 519, translated by Van den Bergh, p. 318.

evident that all events have four causes, agent, form, matter, and end, and that they are necessary for the existence of the effects.⁵¹⁴

This passage furthermore links this theory of secondary causes to Aristotle's fourfold division of causes, as well as his theory of substance and accident.

The agency of primary substances ensues from their respective properties and functions. Without this hierarchy of causes and effects divine wisdom would be meaningless. This criticism on the part of Ibn Rushd and his defence of secondary causality underlies his whole exposition of God's *qadar*. Yet to counter al-Ghazzali's criticism, and in order further to stress God's omnipotence, Ibn Rushd states that although primary substances like humans have certain powers only God is truly agent. Secondary causes are only metaphorically called 'agents'. We have seen how the term 'agent' applies differently to God and His creatures. 'The causes that God makes subject [to us] are only agent/efficient in a metaphorical way: they only exist through God, only He made them exist as causes, preserves their existence as efficient, and preserves their effects after their action and creates their substances by linking the causes with those [substances]'.⁵¹⁵

In addition to defending the philosophical view of causality, Ibn Rushd accuses al-Ghazzālī of not emphasising God's omnipotence strongly enough, thus returning the criticism that al-Ghazzālī had levelled at the philosophers for, in his view, propounding views that detracted from God's omnipotence. The example given by al-Ghazzālī and criticised by Ibn Rushd, is that of a writer using a pen. As the pen is

⁵¹⁴ Ibn Rushd, *Tahāfut al-Tahāfut*, pp. 520-521, translated by Van den Bergh (slightly modified), pp. 318, 319.

⁵¹⁵ Ibn Rushd, *Kashf*, p. 190.

only the instrument of writing, it cannot properly be said to write, as al-Ghazzālī would have it. Other than God all creatures are agents by sheer homonymy (*ishtirāk al-ism*), which means that they share the same name but do not have the same meaning. As an illustration of divine causation, this is a flawed example. The writer would have to preserve the very substance of the pen, for as long as it remains a pen, if it were a true simile of God's acts, for God is the creator (*mukhtari*) of all substances.

This analysis evokes the Aristotelian theory of the prime mover. In Aristotelian philosophy God, in His capacity of the object of desire of all beings, continually moves the celestial bodies. If this motion imparted by the prime mover were to cease, everything in the world would perish. Thus the Aristotelian model ensures that all causation is 'borrowed' from, and ultimately depends on, divine causation. According to Ibn Rushd, 'If one were to imagine ... one [of the planets] removed or [existing] in a different place or with different dimensions, or at a different speed than that which God has established, the beings which are on the face of the earth would perish'.⁵¹⁶ Nothing deviates from the exact manner in which God created it.

How does human action fit in this model? Beside the total dependence of our desires upon external causes, a precision is made concerning this kind of causation, namely that it follows a definite and strictly arranged order, and also that our actions are determined by external factors.

Since the external causes follow a definite order (*nizām maḥdūd*), a hierarchical arrangement (*tartīb maḥdūd*) and [this order] is not reversed, owing to the determination of their creator; and [since] our

⁵¹⁶ Ibn Rushd, *Kashf*, p 191.

will and actions are not performed and do not exist at all except through an agreement with the causes [that originate] externally, [so] our actions follow a definite order. [By this] I mean that they exist (*tūjadu*) at definite times (*awqāt maḥdūda*) and according to a definite measure (*miqdār maḥdūd*). This is only necessary because our actions are caused by those causes which are external. So every caused thing comes to be from causes definite and determined (*muqaddara*), therefore it is necessarily (*darūratan*) definite and determined. Therefore one does not find this connection (*irtibāt*) only between our actions and the causes external [to our bodies], but [also] between them and the causes which God most high created outside our bodies.⁵¹⁷

Several crucial points are made in this passage, which propounds a theory of strict efficient causality. According to this model of causation, there are no gaps in the causal chain, which means that there is no effect without a cause. It portrays a hierarchy of causes originating in God and reaching us through intermediate causes. The proposed continuity between external/natural causality and internal/voluntary causality means that our actions are conditioned by external causes such as natural causes, including the motions of the spheres and ultimately God. Moreover this order is not reversed and humans are at the receiving end of the causal chain in the sense that they do not initiate a process spontaneously.

This chain of causality follows a strict pattern, and the link between cause and effect is necessary and determined, rather than contingent. Thus whatever comes to be does so through a necessary cause. On the whole the passage states that nothing comes to be of itself, spontaneously, without a preceding cause, or autonomously; rather it depends upon something external. Also, the precision is made that this causation follows a set pattern and happens at specific times and according to a

⁵¹⁷ Ibn Rushd, *Kashf*, p. 189. See also, concerning the necessary chain of causality, al-Jābirī's introduction to the Arabic edition, p. 80.

definite measure. This means that all events, and more specifically our actions, are necessarily determined. The mention of definite times is also important.⁵¹⁸ It means that the time at which a certain thing happens and the exact mode/way in which it happens is predetermined by God as part of His *qadar*. One might argue that this 'agreement' between internal and external causes could be interpreted as a loose connection between the two kinds of causes, in which case external causes would condition but not fully determine internal causes. However, Ibn Rushd's insistence of the determinacy of the effects considerably weakens this possible interpretation.

Hence Ibn Rushd states that our actions follow from that definite order and are part of it. The result of this agreement between external causes and our actions is that our actions are necessary and fully determined by external factors. Thus causes and effects follow upon each other necessarily, subordinated to God's causation and arrangement.

Ibn Rushd expands on the relation between 'internal' and 'external' causes, and God's causative knowledge.

The definite order underlying the internal and external causes, which is not reversed, is the decree and determination (*al-qadā' wa-l-qadar*) which God foreordained to his servants. And this is the preserved tablet (*al-lawḥ al-mahfūz*).

Moreover, God's knowledge ... of these causes, and of what issues from them is the cause ('*illa*) of the existence of these causes (*sabab*). Therefore only God has the knowledge of these causes. Thus He alone and only He truly knows the hidden [things] (*al-ghayb*), for the knowledge of the hidden [things] consists in knowing the causes. Because the hidden is the knowledge of the existence of what exists and does not exist in the future.⁵¹⁹

⁵¹⁸ This is evocative of the process of growth described by Ibn Rushd in his *Long Commentary on the Physics*, 80E, see above, pp. 173-174.

⁵¹⁹ Ibn Rushd, *Kashf*, p. 189. However, in the *Middle Commentary on De interpretatione* Ibn Rushd, following Aristotle, is more cautious to express a 'predestinarian' view in his discussion of the

This passage combines Qur'ānic and theological themes with philosophical doctrines. The term *al-ghayb* is Qur'ānic and indicates that which escapes human knowledge, but not God's knowledge. Another point pressed in this passage is that God's knowledge is causative, one of the most important tenets in medieval Aristotelian philosophy. On this interpretation knowledge precedes causality. Hence God's reflexive knowledge embraces all events, past, present, and future. Ibn Rushd fuses together the philosophical theory of causality whereby all causes are connected in an unbroken chain and the Islamic notion of predestination, of the 'preserved tablet', where everything that is to happen is written down in all eternity.⁵²⁰ Again, an objection might be levelled at this predestinarian reading of Ibn Rushd, if one considers that God's eternal knowledge of future events does not mean that they are predetermined by Him. Yet this objection must be excluded, because of an essential difference, according to Ibn Rushd, between human and divine knowledge. While our

problem of future contingents, for he sees that our opinions and the provisions we make determine our decisions and future events. However, this is not incompatible with the view expressed by him in the *Kashf*. It is possible to conceive that our actions change the course of events and equally hold that they are determined by external factors. However, a detailed discussion of Ibn Rushd's interpretation of the problem of future contingents posed by Aristotle is beyond the scope of this dissertation. See *Averroes' Middle Commentary on Aristotle's De interpretatione*, pp. 77-84.

⁵²⁰ The theme of the preserved tablet is well known in the Islamic tradition, and is mentioned by Ibn Rushd in several places, including his *Long Commentary on the Metaphysics*. It is mentioned by him there in reference to things which come to be (*al-ashyā' al-kā'ina*) and have a constitutive being (*anniya*), by reason of which they must needs pass from potentiality to actuality. Ibn Rushd makes the link between Aristotle's theory that whatever is in potentiality must at some point become actual (*Physics*, 203b30, *Metaphysics* 1050b9-24) with the Islamic doctrine of the preserved tablet, according to which what is eternally written in the tablet comes to pass. The context is that of the nature of future contingents, and although the commentary passage is not without ambiguity, the *Kashf* allusion to the 'preserved tablet' clearly means that events are already written in all eternity before taking place. *Long Commentary on the Metaphysics*, p. 734. In that passage Ibn Rushd brings into his discussion of Aristotle's ideas an Islamic topic, in the same way that in the *Kashf* he brings philosophical theories to bear on issues of Islamic theology. The mention of theological and religious issues is not unusual in his commentaries. The theme of the preserved tablet is also discussed in the *Tahāfut al-Tahāfut*, pp. 494-495, pp. 503-504.

knowledge derives from the objects that present themselves to us, empirical or not, and so is a result of external causes, God's knowledge is causative and, unlike ours, not passive in any way.⁵²¹ This means that God's knowledge of events is tantamount to His causation and determination of those events – 'For our knowledge is the effect of the existents, whereas God's knowledge is their cause'.⁵²² Another objection could be that God knows everything as an eternal 'now' so that future events would not necessarily be known by God. The refutation of this argument would be to state that God's eternal 'now' encompasses our past, present and future.

The former passages put forth a deterministic theory of causation. Ibn Rushd goes further by saying that the time when something comes to pass is determined by the cause. As the causal process is known by God in all eternity, he knows and determines the future.

Since the arrangement (*tartīb*) of the causes and their order (*nizām*) is that which determines the existence of the effect at a certain time or its non-existence (*'adam*) at that time, it is necessary that the knowledge of the causes of a certain thing should be the knowledge of the existence of that thing and its non-existence (*'adam*) at a certain time. Also the absolute knowledge (*'alā al-iṭlāq*) of the causes is the knowledge of what proceeds from them (*bi-mā yūjadu min-hā*) and of what exists at no point in time. Praise be to Him who encompasses all the causes of all the existents with [His] creation (*ikhtirā'*) and knowledge (*'ilm*).⁵²³

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Ibn Rushd does not only state that causes produce their effects in a necessary fashion, but also that the time of the event is predetermined, making a very strong case for God's foreknowledge. If we bear in mind that God's knowledge is causative,

⁵²¹ Ibn Rushd, *Tahāfut al-Tahāfut*, p. 460, translated by Van den Bergh, p. 279.

⁵²² *Ibid.*, p. 468, translated by Van den Bergh, p. 285.

⁵²³ Ibn Rushd, *Kashf*, p. 190.

and that He knows the future, we have in Ibn Rushd an analysis of *qadar* that is both deterministic and predestinarian.

Having expounded the way in which our actions fit into the wider causal chain originated by God, Ibn Rushd believes himself to have solved the problem. All our actions are preceded by God's decree and determination. This solution is in his view in consonance with religion – the Qur'ān and the *Sunna* – and also with reason. He uses the philosophical theory of secondary causation, namely human causation, to justify human accountability in the face of God's omnipotence.

All the points made by Ibn Rushd go towards affirming divine omnipotence, including the distinction he introduces, at the end of his exposition, between substance and accident. Amongst existents that come to be (*al-mawjūdāt al-ḥāditha*), we must distinguish substances (*jawhar*) and essences (*'ayn*), from accidents (*'araḍ*) such as heat and coldness, and motions. The first are created by God alone. Ibn Rushd points out that agents other than God affect only accidental features of a substance, while only God creates and determines the substance. That is not to say that accidents are outside the scope of divine causation. In his *Long Commentary on the Metaphysics*, Ibn Rushd says that 'substances are cause of the being (*anniya*) of the accidents and the accidents only exist as a consequence of the substance (*li-makān al-jawhar*)'.⁵²⁴ On this interpretation, we must assume that God also creates, albeit indirectly, the accidents. Thus all existents are created by God.

To conclude he says that the noun of creator (*ism al-khāliq*) is more specific (*akhaṣṣ*) of God than the noun of agent (*ism al-fā'il*), for none but God is a creator.

⁵²⁴ Ibn Rushd, *Long Commentary on the Metaphysics*, p. 752.

Ibn Rushd closes the chapter with a Quranic quotation: 'For God created you and what you do' (37:96).⁵²⁵

Conclusion

As we have seen, Ibn Rushd's theory of celestial causation undergoes a radical evolution. The young Ibn Rushd embraces the Neoplatonic theory of emanation which states that from one only one effect proceeds. Later, partly as a result of a reflection on al-Ghazzālī's scathing criticism of the Muslim philosophers, in particular Ibn Sīnā, he seeks to revert to a more genuinely Aristotelian position and states that God creates all effects at once, thereby buttressing God's agency, and indeed omnipotence.

In his analysis of the dispute surrounding *qadar*, Ibn Rushd seeks to strike a moderate position between the two extremes of the Mu'tazila and the Jabariyya. Although his position is based on Scripture, the argumentation and key themes reveal obvious philosophical underpinnings. This becomes particularly clear in the way that the thesis of God's omnipotence and the Qur'ānic claim that He is the sole creator are

⁵²⁵ According to Gimaret, in *La doctrine d'al-Ash'ari*, this is an interpretation of the Quranic verse put forth by al-Ash'arī. The Mu'tazilites suggested a different interpretation by emphasizing its context. In this Qur'ānic passage, Abraham turns against his idol-worshipping people and smashes their idols. It is he who pronounces the aforementioned verses, *wa-llahu khalaqa-kum wa-mā ta'malūna*. According to the Mu'tazilites, the *mā* refers to the idols specifically, and is not to be generalized. 'Rappelant d'abord le contexte du verset en question, ils [les mu'tazilites] font observer que ces paroles concernent les idoles qu'Abraham a entrepris de briser, et qu'il reproche aux siens d'adorer. Il a dit à ceux-ci, les deux versets venant immédiatement à la suite l'un de l'autre: *a ta'budūna mā tanḥitūna*, "adorez vous ce que vous sculpez?" (95), *wa-llahu khalaqa-kum wa mā ta'malūna*, "c'est Dieu qui vous a créés, ainsi que ce que vous faites" (96). "Ce que vous sculpez", ce sont les idoles qu'ils ont sculptées. Par conséquent, "ce que vous faites" (ou plutôt: "ce que vous fabriquez") désigne pareillement les idoles fabriquées par eux', p. 377.

combined with a specific view of causality, which echoes the philosophical theories expressed in Aristotle's works. The philosophical basis of his solution would be apparent to anyone familiar with Aristotle's works, albeit Ibn Rushd does not cite Aristotle. Instead he interprets the Scripture in a philosophical way, thus showing in practice that Greek philosophy and Islam are not incompatible but express the same truth.⁵²⁶

As for Ibn Rushd's proposed solution, it should so be noted that while he reaffirms his rejection of the Ash'arite atomistic position on causation, he seems to adopt the view of *iktisāb*, which states that all actions are created by God. Moreover, he never expresses the view that human beings act in any way autonomously or spontaneously, i.e., independently of external factors. The sole difference with regard to the Ash'arite position is the acceptance of secondary causes. By applying the notion of secondary causality to human causality, Ibn Rushd thinks to have escaped the problems besetting the Ash'arite and the Jabarite position. Some could argue that this view has the same flaw as the Ash'arite one in the sense that God is ultimately the only real cause of our actions and hence punishment or reward are unjustly meted out. Ibn Rushd obviously thinks that secondary causality on our part ensures that we can be made responsible for our actions. However, the critic might object that the acceptance of secondary causes is irrelevant if our actions are wholly determined by

⁵²⁶ 'Il s'agit [...] de montrer que, sur des questions fondamentales, existe un accord entre le sens littéral du Texte révélé et les thèses du péripatétisme, accord qui rend *inutiles* les stratégies interprétatives des théologiens dialectiques traditionnels (principalement ash'arites)', *Averroès, L'islam et la raison*, introduction by De Libera, p. 31. In the *Kashf*, Ibn Rushd puts into practice the hermeneutical principle introduced in the *Faṣl*, namely that passages whose apparent meaning conflicts with philosophical principles must be interpreted metaphorically. See also introduction to the Arabic edition of the *Kashf* by al-Jābirī, pp. 65, 68. According to al-Jābirī, the combination of the Qur'ānic doctrine that only God is a true agent on the one hand and Greek philosophical conceptions of generation in the natural world on the other were an obstacle to the view that humans have free will, p. 85.

external causes and ultimately by God. Between the extremes of human freedom and divine omnipotence, Ibn Rushd tips the balance in favour of the latter. His theory of *qadar* is both deterministic and predestinarian. In his proposed solution to the issue of *qadar*, Ibn Rushd differs from Ibn Sīnā only in the presentation of the topic, the conclusion reached being similar to Ibn Sīnā's views. Ibn Sīnā expounds the issue of *qadar* without mentioning human action and so his view is all in favour of divine omnipotence, hence it is important to note that although Ibn Rushd's presentation of the topic leads one to expect a less deterministic approach, in reality it is identical with Ibn Sīnā's approach, who also combines the most deterministic elements in Islamic theology with the determinism implied in the philosophical defence of necessary efficient causality.

Ibn Rushd's treatment of *qadar* is in consonance with his analysis of chance, but is more explicit in revealing his determinism. Chance for Ibn Rushd is not an essential cause, and everything that exists has an essential cause, to the exclusion of God. In his analysis of *qadar*, it becomes clear not only that every particular event is determined by its cause/s but also that those causes all have a common origin in God.

Conclusion

After having discussed Ibn Sīnā's and Ibn Rushd's major physical and metaphysical works vis-à-vis the issue of determinism, the picture which emerges is that of two deterministic philosophies. However, there are significant differences with regard to the treatment of the concept of chance and in particular modal metaphysics, which produce two different kinds, or even shades, of determinism.

The subject of chapter one, chance is for Ibn Sīnā an accident of the final cause, with the result that chance is a subjective cause tied up with the intentions of the agent. The roots of a chance event are thus to be found in the subject's intentions rather than in the objective facts. In natural philosophy Ibn Sīnā is strongly supportive of the view that every natural process has one or more definite efficient causes. There is no exception to this strict law of natural efficient causation, and hence a position which is completely adverse to the possibility of there being truly spontaneous events. The study of Ibn Sīnā's conception of matter in chapter two yields a similar result. It was necessary to scrutinise Ibn Sīnā's (and Ibn Rushd's) position concerning matter because the material cause, unlike the other three causes form, agent and purpose/end is the one whose relation with God is less obvious. In the Aristotelian tradition, God Himself is form, matter and end, as clearly stated by Themistius. However, for Ibn Sīnā and Ibn Rushd, God is obviously neither matter nor directly creating matter. One could hence conceive this as a power which constitutes an

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exception to God's omnipotent rule, and gives rise to spontaneous, haphazard events in the terrestrial realm. Yet as matter does not actually exist by itself, it has no efficient power. Ibn Sīnā's cosmology as discussed in chapter three is also supportive of a strictly determined universe. The source of that determination is God. The procession of the spheres from the First is strictly necessary in the sense that it follows a strict order and is inevitable.

The most important aspect to bear in mind with regard to Ibn Sīnā's modalities as expressed in his metaphysics is the express differentiation from logical necessity, which is tautological. Necessity here is understood in terms of causation, as opposed to logical necessity, and Ibn Sīnā explicitly makes this point. The modalities of the possible and necessary have a marked ontological dimension in that they are at the root of the emanation process. Yet understood in itself the application of the concept of 'necessity' to the principle that every existing being other than God is possible in itself and necessary by virtue of another, i.e., by virtue of an efficient cause, lays the foundation for a philosophical system which is strictly deterministic. In other words, Ibn Sīnā's repeated assertion that whatever comes to be is necessary through its cause must be taken in itself as a defence of strong determinism. Although Ibn Sīnā does not stress the primary Aristotelian meaning of necessity as that which cannot be otherwise, it is undoubtedly subsumed under his usage of the term. Therefore, when he says that everything has a definite efficient cause, it is to be assumed that the event in question could not have been otherwise. Everything that happens must be as it is. This strong determinism is confirmed in his views of chance, matter and divine causation. Moreover, this determinism spreads itself in domains other than physics

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and metaphysics. When treating a theological issue such as *qadar*, Ibn Sīnā expresses a position that is most clearly supportive of determinism. It is a Ḥanbalite type of position not only because it bases itself on a Ḥanbalite *ḥadīth*, but also because it does not give scope to speculation or seeks a middle term between God's omnipotence and human responsibility. Ibn Sīnā's uncompromising determinism is thus consistently developed at various levels, not only physical and metaphysical, and the consistency throughout his different writings is noteworthy. Hence Ibn Sīnā stands in the line of strong determinism arguably best represented by, for instance, the Stoics and Spinoza. His systematic determinism closely resembles that of the Stoics and that of Spinoza in the way that it does not admit of any deviation or break in natural efficient causation. Obviously I am not here concerned with the question of whether Ibn Sīnā was directly influenced by the Stoics, or Spinoza by Ibn Sīnā, but rather of a similar outlook on efficient causation and its pervasiveness. Thus a strictly determined universe is the hallmark of Ibn Sīnā's philosophy. This determinism applies not only to the particulars of the sublunar world but is implied in the very process of emanation. The consequences of this determinism were seen by Thomas Aquinas, who saw in this necessary creation the negation of human free will.⁵²⁷

As we have seen in the introduction, Goodman holds that one cannot infer from God's necessitation of the world, as understood by Ibn Sīnā, that it is determined and all events are determined. But in the light of the texts we have discussed, this

⁵²⁷ Avicenne, *Métaphysique du Shifā'*, introduction by Anawati, 'S. Thomas reproche à la théorie avicennienne de l'émanation nécessaire d'aboutir à la négation du libre-arbitre chez l'homme. En effet, pour Avicenne, de même que les mouvements des corps sont déterminés par les mouvements des corps célestes, de même les mouvements de leur âme sont déterminés par les âmes célestes de sorte que notre volonté se trouve causée par la volonté de l'âme celeste', pp. 75-76.

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interpretation is untenable. Goodman bases his view on the identification of logical and causal necessity, which Ibn Sīnā explicitly distinguishes and separates. Moreover, his views on chance and on God's determination are consistent with the view that the world, both as a whole and in its parts, is wholly determined and necessitated by God. This applies to both natural and voluntary/human causation. There is thus no voluntarism, as Goodman would have it. Goodman holds that Ibn Sīnā's claim that beings (other than God) are possible in themselves, contingent through another - according to Goodman a theory of relative necessity - is compatible with the notion of freedom.⁵²⁸ This view fails to draw the full implications of Ibn Sīnā's principle. Whatever actually exists, although possible in itself, is necessary through another, and 'necessary through another' means that it is fully necessitated and determined by its cause/s. The two aspects are not complementary, expressing on the one hand God's determination and human freedom, but are two sides of the same coin, expressing the same reality, namely that whatever exists, excepting God, is necessitated by its causes. Pure possibility is convertible with non-existence. In addition, the view that human freedom is compatible with God's omnipotence presupposes that voluntary and natural causation, or human and divine causation are separate, albeit parallel chains of causation, that are independent of each other. This is not the case for either Ibn Sīnā or Ibn Rushd, for whom natural and voluntary causation originate in God. Goodman draws his interpretation of Ibn Sīnā by comparing his position with the Ash'arite view that God does not delegate power to his creatures. Even though for Ibn Sīnā, and even more so for Ibn Rushd, individuals have powers, and God does not

⁵²⁸ Goodman, *Avicenna*, p. 88

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determine events directly as in the Ash'arite case, He does ultimately determine everything. The sole difference between the philosophical and the theological views is one of delegation and primarily secondary causality, not of God's relinquishing His power. Goodman speaks of Ibn Sīnā's union of contingency and necessity.⁵²⁹ In fact there is only necessity. The term 'contingent' is not even part of his or, for that matter, Ibn Rushd's vocabulary, who spoke standardly of possible and necessary, 'possible' being for Ibn Sīnā the non-existent. There is nothing tautologous about Ibn Sīnā's identification of existence and necessity, since both are inextricably connected with the notion of causality. Goodman refers the reader to Ivry's article on Ibn Sīnā's determinism, based on the view that matter can be a positive power, and we have seen this not to be the case.

Yet Ibn Sīnā's determinism is an optimistic one, because in his view God always chooses and realizes the best option available. By giving God absolute power over creation, Ibn Sīnā is at once defending divine theodicy, according to which this is the best of all possible worlds, and paradoxically defending His absolute justice.

And at an individual level, there is a sense in which humans determine their actions, as Ibn Sīnā states with reference to prayer. Albeit his theory is deterministic he does not defend that we can absolutely predict the future, as his treatise against astrology shows.⁵³⁰ The implication one can draw is that in practical terms, one should think of future events as contingent rather than determined.

⁵²⁹ Goodman, *Avicenna*, p. 91.

⁵³⁰ Mehren, 'Vues d'Avicenne sur l'astrologie', p. 400.

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Ibn Rushd's position with regard to determinism differs from Ibn Sīnā's. Like Aristotle and Ibn Sīnā, Ibn Rushd holds that chance is an accidental cause, as seen in chapter four. His analysis of chance as an accident of the efficient cause, in contrast to Ibn Sīnā's analysis of it as an accident of the final cause, does not necessarily mean a weaker form of determinism. In fact the view that chance is an accidental cause means that every chance event has a necessitating efficient cause. As such chance cannot be an efficient power. Just as for Ibn Sīnā, it is an accident in the logical sense and as such does not subsist by itself and consequently cannot produce truly spontaneous events. Ibn Rushd explores the necessity underlying the production of natural processes, with the corollary that everything is seen to develop according to strict natural laws. The difference between these philosophers' theories of matter is arguably negligible for the issue of determinism. Ibn Sīnā goes to great lengths to deny matter any efficiency, while Ibn Rushd denies it any positive aspect in an Aristotelian way. At bottom, Ibn Sīnā's and Ibn Rushd's views converge. The major difference concerning their views on natural causality lies in Ibn Rushd's stress of the ability of the subject of the action to produce an action. When the agent is able to bring about its effect the event in question takes place, otherwise it does not. Ibn Sīnā remarkably lays the emphasis on external causes as the condition for a certain occurrence. Thus the existence of an external cause leads to a certain event and its absence leads to its failure. Ibn Rushd places the emphasis on the agent itself, but in general for him the efficient cause is subservient to the final cause. By denying emanation, he stresses the primacy of the final cause over the efficient cause. Thus all motion, generation and corruption in the universe follows a final cause. The process

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of generation and corruption follows a purpose. At the wider level of the spheres, all motion is the product of final causation and of the desire for God which is inherent to every being. Obviously, Ibn Rushd does not deny that every event has an efficient cause, but in his view all causes are subsumed under the final cause, which is the true mover. This emphasis on the final cause partly means that the focus is on the subject to be drawn to its goal. Thus the action arises within the agent, even though it is prompted by external causes. An illustration of this difference between the two philosophers lies in their views on the role of obstacles. The notion of 'obstacle' is present in Aristotle, but plays different roles in Ibn Rushd and in Ibn Sīnā. The Andalusian philosopher does not stress the notion of impediment or obstacle in the way that does Ibn Sīnā, whose theory of clashes (*muṣādamāt*) is another expression of his causally mechanistic system where the clashes actually do not constitute a deviation from normality but have a definite efficient cause and are all indirectly produced by God. For his part Ibn Rushd stresses the notion that certain beings are wont to perform certain natural acts, these being innate to them.⁵³¹ A mechanistic system as opposed to a teleological system would be an appropriate way to contrast Ibn Sīnā's and Ibn Rushd's systems and views on causation. One could speak of a mechanistic and a teleological determinism, which, according to some, are just different forms of determinism.⁵³² According to others, finalism gives agent more freedom.⁵³³

⁵³¹ Ibn Rushd, *Long Commentary on the Physics*, 78A-B.

⁵³² Shūzo, *Le problème de la contingence*, p. 6.

⁵³³ '[Aristotle] put this emphasis on final causes precisely in order to avoid giving a primacy to efficient causes, which would have reduced the freedom of choice available to things in the world', 'Avicenna and the Christian Philosophers in Baghdad', by Brown, p. 36.

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On the more traditionally Islamic issue of God's omnipotence and determination of events, there are also remarkable differences between the two philosophers. Ibn Sīnā takes a Ḥanbalite-like stance by stating that God's power overrides human agency. In his discussion he does not tackle the issue of human responsibility as a possible stumbling block to the affirmation of God's omnipotence, and overlooks the dispute of theologians surrounding those two poles. By this he implies that he is not concerned with the issue of human freedom and responsibility. In other texts, such as *al-Ta'īqāt*, he explicitly affirms that human actions are determined by external factors.

In turn Ibn Rushd discusses the issue while taking into account previous contradictory positions, but in the end he too stresses God's omnipotence over human freedom of action. The similarity between the two positions is the affirmation of secondary causality. On their account, God determines all events, but, unlike the occasionalist view put forth by al-Ash'arī, not directly and immediately, but through secondary causes. Their positions concur in introducing a philosophical thesis into an Islamic debate. Both in their view of chance and in their view on universal causality Ibn Sīnā's determinism seems stricter and more explicit than Ibn Rushd's, even though Ibn Rushd would more properly be dubbed a determinist than an indeterminist. Although he does not say in so many words that events are determined, his position on causation leads to that view. Notwithstanding his determinism, Ibn Rushd's conception of providence shows that he held this to be the best possible world according to God's wisdom.

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Finally, what to make of the distinction between Ibn Sīnā's and Ibn Rushd's metaphysical modalities? The former holds that everything is necessary, while the latter holds, against him, that not everything is necessary. This difference stems from their different conception of 'necessity', as the state of being caused for the former, and as eternal existence for the latter. They agree that only God is necessary by Himself, but differ in the application of the term to other beings. For Ibn Sīnā, to say that everything is necessary means that everything, except God, has a cause. From his views on natural and divine causation it seems that Ibn Rushd too accepts the view that everything has a definite cause. Like Aristotle, he does not accept that chance has any place in the celestial world, and in natural causation he holds that all processes follow definite laws. It is only because he equates necessity with eternity that he excludes perishable beings from the set of necessary beings. Thus his claim that everything is not necessary does not mean that it is not determined.

I would say that both Ibn Sīnā and Ibn Rushd are determinists with the qualification that Ibn Sīnā is more blatant and unequivocal in his defence of determinism. In Ibn Rushd's case it is necessary to infer his determinism from his views on causation and the production of natural processes, in Ibn Sīnā it appears as part of his philosophical system.

Their determinism draws on deterministic elements to be found both in Greek philosophy and Islamic theology. Aristotle himself propounds the view that chance is not an essential cause, and that whatever happens by chance has an essential cause. He too did not believe in truly spontaneous events. However, his view of chance as that which happens rarely is not as strictly deterministic as Ibn Sīnā's exclusion of a

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statistical model. The Neoplatonic model of emanation is also consistent with a deterministic outlook, and certainly Ibn Sīnā's version of emanation as necessarily proceeding from God points to his deterministic proclivities.

As for the issue of *qadar*, the true partisans of human agency, the Mu'tazilites, were very influential in the early 9th century. Although both Muslim philosophers share certain views with the Mu'tazilites, for instance on God's attributes, they favour the view of God's omnipotence when it comes to the issue of *qadar*.⁵³⁴ Obviously their views are not the mere product of previous philosophers and theologians, but certainly the combination of the deterministic elements to be found in Aristotle's philosophy and the deterministic and predestinarian tendencies in Islamic theology contributed to their positions.

For Ibn Sīnā, the statement of determinism is unambiguous. As for Ibn Rushd, this aspect of his philosophy does not feature as prominently as in Ibn Sīnā's philosophy. It must be inferred from certain principles that are already to be found in Aristotle's philosophy, such as the principle that nothing comes from nothing, and so is not as obvious as Ibn Sīnā's explicit and systematically argued position. One might conclude that determinism, as it is to be found in both philosophers, renders any

⁵³⁴ According to Gimaret some Mu'tazilites, like the philosophers, also supported a deterministic view of natural processes: 'ces théologiens sont des naturalistes, ce qui veut dire, pour les deux que nous connaissons le mieux, Nazzām et son disciple Jāhīz, ... le principe d'une nature déterminant dans les êtres des processus nécessaires', Gimaret, *Théories de l'acte humain*, p. 36. With respect to their analysis of human action, Gimaret goes as far as to say that they are determinists: 'Il n'est pas véritablement adéquat de définir les Mu'tazilites, comme on le fait souvent, comme des tenants du "libre arbitre". Cela voudrait dire que, pour eux, aucune nécessité ne régit l'acte humain, et qu'en toutes circonstances l'homme a le pouvoir de choisir. Or il y a là, pour les Mu'tazilites, un point fort délicat: l'analyse qu'ils font du mécanisme de l'acte, comme on le verra, les conduit plutôt, et paradoxalement, vers une conception déterministe', *ibid.*, p. 3. However, Gimaret's conclusions are disputed by Frank in 'The Autonomy of the Human Agent', p. 324, n. 2, and pp. 348-349, 354, and by Madelung, *The late Mu'tazila and Determinism: the Philosophers' Trap*, see pp. 245, 246 and 248, where Madelung states that according to 'Abd al-Jabbār human acts are produced by man rather than God.

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ethical theory problematic, not to mention religious law and injunctions, and contributes to a certain fatalism in Muslim thought and society. Yet such causal determinism, in particular as applied to the domain of natural science, which especially interested Ibn Rushd, might also be seen to facilitate scientific explanation and development, because it states that every event has a causal explanation.

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