The Improvement of Human Reason Exhibited in the Life of Hai Ebn Yakdhan, London, 1708; Léon Gauthier, *Ibn Thofail Sa vie ses œuvres*, Paris, 1909; D. B. Macdonald, *Development of Muslim Theology, Jurisprudence and Constitutional Theory*, London, 1903; de Lacy O'Leary, *Arabic Thought and Its Place in History*, London, 1922; T. J. de Boer, *The History of Philosophy in Islam*, translated into English by E. R. Jones, London, 1903; P. K. Hitti, *History of the Arabs*, London, 1937; *Encyclopaedia of Islam*, Vol. II, Leiden, 1927, article: "Ibn Ṭufail"; G. Sarton, *Introduction to the History of Science*, Vol. II, Part I, 1931; R. Briffault, *The Making of Humanity*, London, 1930; A. S. Nadawi, *Ḥukamā'-i Islām*, Vol. II, Azamgarh, 1956; M. Na'īm al-Raḥmān, *Khilāfat-i Muwaḥḥidīn* (Urdu translation of al-Marrākushī's *al-Mu'jab*), Madras, 1922; M. M. Yūnus Farangi Maḥalli, *Ibn Rushd*, Azamgarh, 1342/1923; "Ibn Ṭufail," *Ma'ārif*, Azamgarh, January, 1922, pp. 18–28; Dr. M. Ghallāb, "ibn Ṭufail," *Majallah Azhar*, Egypt, 1361/1942; S. M. Afnān, *Avicenna*, London, 1958; T. Arnold and A. Gillaume (Eds.), *The Legacy of Islam*, London, 1931; C. Brockelmann, *Geschichte der arabischen Litteratur*, Vol. I, Weimar, 1898, and *Supplementbänden*, I, Leiden, 1937; S. A. Bilgrāmi, *Tamaddun-i 'Arab* (Urdu translation of Le Bon Gustave's French work), Agra, 1898; F. Thilly, *A History of Philosophy*, New York, 1951; A. J. Arberry, *Fitzgerald's Salāmān and Absāl*, Cambridge, 1956.

Chapter XXVIII

IBN RUSHD[1]

A

INTRODUCTION

Abu al-Walīd Muḥammad ibn Aḥmad ibn Muḥammad ibn Rushd was born in Cordova in 520/1126. His family was renowned for its deep knowledge in *Fiqh*, and his father and grandfather held the office of the Chief Justice of Andalus. This religious descent gave him the opportunity to reach a high standard in Islamic studies. The Qur'ān and its exegesis, the Tradition of the

[1] On the life and work of ibn Rushd see: Renan, *Averroës et l'averroisme*, Paris, first ed., 1852, ninth ed., 1932; Munk, *Mélanges de Philosophie Juive et Arabe*, Paris, 1859, reprint 1927; Horten, *Die Philosophie des Ibn Roschd*, Bonn, 1910; *Die Metaphysik des Averroës*, Halle, 1912; *Die Hauptlehren von Averroës nach seiner Schrift, Die Widerlegung des Gazali*, Bonn, 1913; Carra de Vaux, *Les Penseurs de'Islam*, Vol. IV, Paris, 1923; Gauthier, *Ibn Rochd*, Paris, 1948; *La théorie d'Ibn Rochd sur les rapports de la religion et de la philosophie*, Paris, 1909; Quadri, *La philosophie Arabe dans l'Europe Medievale des Origines a Averroës*, Paris, 1947 (translated from the Italian); Gilson, *History of Christian Philosophy in the Middle Ages*, New York, 1954; El-Ehwany, *Islamic Philosophy*, Cairo, 1957; Hourani, *The Life and Thought of Ibn Rushd* (a series of four lectures), American University, Cairo, 1947; 'Abbās Maḥmūd al-'Aqqād, *Ibn Rushd* (in Arabic), Cairo, 1953.

For the editions of his writings, and his manuscripts see: Brockelmann, *Geschichte der arabischen Litteratur*, Vol. I, Weimar, 1898; Bouyges, *Notes sur tes philosophes arabes commes des Latins au Moyen-Age; Inventaire des textes arabes d'Averroës*,

Prophet, the science of *Fiqh*, Arabic language and literature were all learnt by him by oral transmission from an authorized doctor (*'ālim*). He revised the Mālikite book *al-Muwaṭṭā'*, which he had studied with his father abu al-Qāsim, and learnt it by heart.[2] He also pursued such scientific studies as mathematics, physics, astronomy, logic, philosophy, and medicine. His teachers in these sciences were not renowned, but on the whole Cordova was famous for being a centre of philosophical studies, while Seville was renowned for its artistic activities. In a dialogue between him and ibn Zuhr the physician, while they were in the Court of al-Manṣūr ibn 'Abd al-Mū'min, ibn Rushd, proud of the scientific atmosphere in his native city, said: "If a learned man died in Seville his books are sent to Cordova to be sold there; and if a singer died in Cordova his musical instruments are sent to Seville."[3] In fact, Cordova at that time rivalled Damascus, Baghdād, Cairo, and the other great cities in eastern Islam.

He was the pupil of neither ibn Bājjah nor ibn Ṭufail, the two great Maghribian philosophers. In his story *Ḥayy Bin Yaqẓān*, ibn Ṭufail observed that most of the learned men in Maghrib were interested in mathematics, and that philosophy when introduced through the books of Aristotle, al-Fārābi, and ibn Sīna was found unsatisfactory. The first philosopher who could

Malanges de l'Université Saint Joseph, Beyrouth, 1922. Latin Translations: *Opera Omnia, apud Juntas*, 10 Vols, Venice, 1574. New editions of the *Averroës Latinus have been* recently published: (i) *Parva Naturalia*, Cambridge, Mass., 1949; (ii) *Commentarium magnunt in Aristotelis De Anima*, Cambridge, Mass., 1953.

Arabic Editions and Translations: Editions by Bouyges: *Tahāfut al-Tahāfut*, Beyrouth, 1930; *Talkhīṣ Kitāb al-Māqūlāt*, Beyrouth, 1932; *Tafsīr ma ba'd al-Ṭabī'ah*, 5 Vols., 1938–1951; *Tahāfut al-Tahāfut*, Cairo, 1319/1901 (this edition comprises the *Tahāfut* of al-Ghazāli, the *Tahāfut* of ibn Rushd and the *Tahāfut* of Khwājah Zādah), complete English translation by Simon van den Bergh, London, 1954, in 2 Vols., the first for the text and the second for the notes. (i) *Faṣl al-Maqāl*; (ii) *Al-Kashf 'an Manāhij al-Adillah*; (iii) "Discussion of the Opinions of ibn Rushd by ibn Taimīyyah." The first two treatises are edited in Arabic by Muller, Munich, 1859, and translated by him into German, 1875; reprinted in Arabic, Cairo, 1894–1895.

French translation by Gauthier, *Accord de la religion et de la Philosophie*, Algier, 1905.

English translation by Jamīlur Raḥmān, *The Philosophy and Theology of Averroës*, Baroda, 1921; a new English trans. is in preparation by George Hourani.

Rasā'il Ibn Rushd, Hyderabad, 1947. A compendium of six treatises *Talkhīs*; (i) *Physics*; (ii) *De Caelo et Mundo*; (iii) *De Generatione et Corruptione*; (iv) *Meteorologica*; (v) *De Anima*; (vi) *Metaphysica. De Anima, Talkhīṣ Kitāb al-Nafs*, Arabic edition by A. F. El-Ehwany, Cairo, 1950.

Metaphysics, Talkhīṣ ma ba'd al-Ṭabī'ah: (i) Arabic edition by Muṣṭafa Kabbāni, Cairo, n.d.; (ii) *Compendio de metafísica*, Arabic text with Spanish trans., introduction and glossary by Carlós Quirós Rodríguez, Madrid, 1919; (iii) *Die Epitome der Metaphysik des Averroës*, German translation by Simon van den Bergh, Leiden, 1924; (iv) new Arabic edition by Amin Osman, Cairo, 1958 (paraphrasis in *Libros Platonis de Republica*); new English translation by Rosenthal, Cambridge, 1956.

[2] The biography of ibn Rushd by al-Dhahabi, reproduced in Arabic by Renan, p. 456. (See also *Ṭabaqāt al-Aṭibbā'* by ibn abi Uṣaibi'ah: *Kitāb al-Mughrib* by ibn Sa'īd, etc.)

[3] Al-Maqqari, *Nafḥ al-Ṭīb*, Vol. II.

have produced something valuable on this subject was ibn Bājjah, but he was occupied in worldly affairs and died before completing his works. Al-Ghazāli criticized the doctrines of the Muslim philosophers in his book *Tahāfut*, and his way to attain to truth was a mystic one. Ibn Sīna expounded the doctrine of Aristotle in *al-Shifā'*, but he mixed his own opinions with those of Aristotle. This short account given by ibn Ṭufail concerning the state of philosophical studies in eastern Islam explains why he asked ibn Rushd to comment on Aristotle.

Ibn Rushd lived in the midst of disturbed political conditions. He was born in the reign of the Almoravides who were overthrown in Marrākush in 542/1147 by the Almohades, who conquered Cordova in 543/1148. The Almohade movement was started by ibn Tūmart who called himself al-Mahdi. He tried to imitate the Fāṭimids, who had appeared a century before and founded an empire in Egypt, in their encouragement of philosophy, their secret interpretations, and their excellence in astronomy and astrology.[4] His three Almohade successors 'Abd al-Mū'min, abu Ya'qūb, and abu Yūsuf, whom ibn Rushd served, were known for their encouragement of science and philosophy.

When abu Ya'qūb became Amīr, he ordered ibn Rushd to write commentaries on Aristotle. This is the account given by al-Marrākushi. Ibn Rushd said: "When I entered into the presence of the Prince of the Believers abu Ya'qūb, I found him with abu Bakr ibn Ṭufail alone. Abu Ya'qūb began praising me, mentioning my family and ancestors. The first thing the Prince of the Believers said to me . . . was, 'What is their opinion about the heavens?' referring to the philosophers. 'Are they eternal or created?' Confusion and fear took hold of me. . . . But the Prince of the Believers understood my fear and confusion, and turned to ibn Ṭufail and began talking about the question he had asked me, mentioning what Aristotle, Plato, and all the philosophers had said. . . ."[5] In another account given by the same biographer, ibn Rushd relates that ibn Ṭufail summoned him one day and told him that the Prince of the Believers complained of the difficulty of the expression of Aristotle and his translators, and mentioned the obscurity of his aims saying: "If someone would tackle these books, summarize them, and expound their aims after understanding them thoroughly, it would be easier for people to grasp them." And ibn Ṭufail got himself excused on the plea of old age and his occupation in government service and asked ibn Rushd to take up this work.

Thus, ibn Rushd started his commentaries on the books of Aristotle. He deserved for this undertaking the title of the "Commentator"[6] for which he

[4] Ibn Khallikān, biography number 660. On the connection between Almohades and the Ismāilites, see al-'Aqqād, *Ibn Rushd*, Cairo 1953, pp. 9–15.

[5] *'Abd al-Wāḥid al-Marrākushi*, ed. Pozy, pp. 174–75.

[6] This is also the opinion of Bouyges. In his preface to *Talkhīṣ Kitāb al-Māqūlāt* (Beyrouth, 1932, p. v.), he says: "C'est an qualité de 'Commentateur' d'Aristote que le philosophe arabe andalous Averroes (1126–1198) est devenu célèbre."

was renowned in medieval Europe. Dante in his *Divine Comedy* mentions him together with Euclid, Ptolemy, Hippocrates, Avicenna, and Galen, designating him as the great Commentator.

> "Euclide geometra e Tolemeo,
> Ipocrate, Avicenna e Galieno,
> Averois, che'l gran comento feo."
>
> (Dante, "Inferno," IV, 142–44)

It is related that he wrote three kinds of commentaries: the great, the middle, and the lesser. The great commentaries are called *tafsīr*, following the model of the exegesis of the Qur'ān. He quotes a paragraph from Aristotle and then gives its interpretation and commentary. We have now in Arabic his great commentary of the *Metaphysica*, edited by Bouyges (1357–1371/1938–1951). The lesser ones are called the *talkhīṣ*. In the Arabic language *talkhīṣ* means summary, *resumé* or *précis*. One may say that these commentaries although Aristotelian in the main, reveal also the true Rushdian philosophy. A compendium called the *Majmū'ah* or *Jawāmi'* comprising six books *(Physics, De Caelo et Mundo, De Generatione et Corruptione, Meteorologica, De Anima* and *Metaphysica)* has now been published in Arabic. In these commentaries, ibn Rushd did not follow the original text of Aristotle and the order of his thought. An example of the middle commentaries is to be found in the "Categories," edited by Bouyges in 1357/1932. At the beginning of the paragraph, ibn Rushd says: *"qāla" ("dixit")* referring to Aristotle, and sometimes (not always) gives an excerpt of the original text.[7] This method was current in eastern Islam, and ibn Sīna followed it in his *al-Shifā'*, reproducing in many places the very phrases of the Arabic translation of Aristotle. In fact, ibn Sīna declared that in his *al-Shifā'* he was following the "First Master."

It is true that most of the commentaries are found in their Latin or Hebrew translations, or conserved in Hebrew transliteration, but the original Arabic texts are more sure and accurate. On the whole, the value of ibn Rushd's commentaries is historical, except for the lesser ones which reveal to a certain extent his own thought. His own philosophical opinions are to be found in three important books, the *Faṣl*, the *Kashf* and the *Tahāfut*, and in a short treatise called *al-Ittiṣāl*. His *Colliget (Kulliyāt)* in medicine is as important as the *Canon* of ibn Sīna, and was also translated into Latin, but it was less famous than that of ibn Sīnā's. In jurisprudence *(Fiqh)* his book *Bidāyat al-Mujtahid* is used as an Arabic reference book.

[7] The only Arabic middle commentary we have is the "Categories." The text of ibn Rushd compared with the ancient Arabic translation shows that there is nothing additional. It is neither a summary nor a commentary. It is simply a new edition of the translation put in a new phraseology. Are all the so-called middle commentaries of this type? We leave the question open.

He was better known and appreciated in medieval Europe than in the East for many reasons. First, his numerous writings were translated into Latin and were circulated and conserved, while his original Arabic texts were either burnt or proscribed due to the antagonistic spirit against philosophy and philosophers. Secondly, Europe during the Renaissance was willing to accept the scientific method as viewed by ibn Rushd, while science and philosophy began in the East to be sacrificed for the sake of mystical and religious movements. In fact, he himself was affected by this conflict between science (and philosophy) and religion. Religion won the battle in the East, and science triumphed in the West.

His disgrace, persecution, and exile in 593/1196 were the result of that conflict. The dispute for political power between the representatives of religion and philosophers never ceased from the third/ninth century onward. Al-Kindi described this dispute and defended the philosophers in his books.[8] The men of religious learning *(fuqahā'* and *'ulamā')* were nearer to the masses who were influenced by them. The Muslim rulers, in need of their support, left the philosophers to the rage of the masses. Several accounts have been given concerning the exile of ibn Rushd to Lucena, near Cordova. The charge was that he had written in some of his books of having seen the giraffe in the garden of the king of the Berbers. Ibn Rushd said in his defence that he had written "the king of the two *lands*." (*Berber* written in free hand without diacritical marks can be read as *Barrain*.) A second story holds that he had written down that Venus is divine. A third story is that he denied the historical truth of the People of 'Ād mentioned in the Qur'ān.

The intrigues of the religious party succeeded to the point that not only was ibn Rushd exiled but his writings too were publicly burned. A manifesto[9] against philosophy and philosophers was issued and distributed everywhere in Andalus and Marrākush, prohibiting the so-called dangerous studies and ordering to burn all the books dealing with such sciences. However, his disgrace did not last long and al-Manṣūr after his return from Marrākush pardoned and recalled him. Ibn Rushd went to Marrākush where he died in 595/1198.

B

PHILOSOPHY AND RELIGION

The accord between philosophy and religion is rightly regarded as the most important feature of Islamic philosophy. Ibn Rushd's solution to this problem was really an ingenious one. As a philosopher, he found that it was his duty to defend the philosophers against the fierce attacks of the *faqīhs* and theo-

[8] El-Ehwany, *Islamic Philosophy*, Cairo, 1957, pp. 40–42, in which excerpts from al-Kindī's treatise on "First Philosophy" are translated. Compare what al-Kindi says in favour of philosophy with what ibn Rushd sets forth.

[9] Mentioned by al-Anṣāri in Renan's *Averroes et l'averroisme*, pp. 439–43.

logians, especially after their condemnation by al-Ghazāli in his "Incoherence of the Philosophers." Ibn Rushd's treatise called: *Faṣl al-Maqāl fi ma bain al-Ḥikmah w-al-Sharī'ah min al-Ittiṣāl* is a defence of philosophy in so far as it is shown to be in harmony with religion.

It may be doubted nowadays whether this question should receive so much attention, but in the sixth/twelfth century it was really vital. Philosophers were accused of heresy *(kufr)* or irreligion. In fact al-Ghazāli condemned the philosophers as irreligious in his *Tahāfut*. If this accusation were true, the philosophers according to Islamic Law would be put to death, unless they gave up philosophizing or proclaimed publicly that they did not believe in their philosophical doctrines. Consequently, it was necessary for philosophers to defend themselves and their opinions.

Ibn Rushd begins his treatise by asking whether philosophy is permitted, prohibited, recommended, or ordained by the *Sharī'ah* (Islamic Law). His answer is, from the very outset, that philosophy is ordained or at least recommended by religion (religion is used in this context as synonymous with *Sharī'ah* and specifically Islam). Because the function of philosophy is nothing more than speculating on the beings and considering them in so far as they lead to the knowledge of the Creator.[10] The Qur'ān exhorts man to this kind of rational consideration *(i'tibār)* in many a verse such as: "Consider, you who have vision." *Al-i'tibār* is a Qur'ānic term which means something more than pure speculation or reflection *(naẓar)*.

To translate this Qur'ānic consideration in logical terms is nothing more than getting the unknown from the known by way of inference. This type of reasoning is called deduction of which demonstration *(burhān)* is the best form. And since God exhorts man to know Him through demonstration, one must begin to learn how to distinguish between the demonstrative and the dialectical, rhetorical, and sophistical deductions. Demonstration is the instrument by which one can attain to the knowledge of God. It is the logical method of thinking, which leads to certainty.

It follows that the Qur'ān exhorts man to study philosophy since he must speculate on the universe and consider the different kinds of beings. We have now passed from the legal plane of *Fiqh* to the philosophical one, in spite of their distinction. The objective of religion is defined in philosophical terms: it is to obtain the true theory and the true practice *(al-'ilm al-ḥaqq w-al-'amal al-ḥaqq)*.[11] This reminds us of the definition of philosophy given by al-Kindi and his followers, which remained current all through Islamic philosophy. True knowledge is the knowledge of God, of all the other beings as such, and of the happiness and unhappiness in the hereafter.[12] The way of acquiring knowledge is of two kinds, apprehension and assent. Assent is either demonstrative, dialectical, or rhetorical.

[10] *Faṣl*, Cairo ed., p. 2.
[11] *Ibid.*, p. 18.
[12] *Ibid.*, p. 19.

These three kinds of assent are all used in the Qur'ān. Men are of three classes, the philosophers, the theologians, and the common people *(al-jumhūr)*. The philosophers are the people of demonstration. The theologians—the Ash'arites whose doctrine was the official one at the time of ibn Rushd—are of a lower degree, since they start from dialectical reasoning and not from scientific truth. The masses are the "people of rhetoric" who understand only through examples and poetic thinking.

So far, religion is compatible with philosophy. The act and aim of philosophy are the same as those of religion. Now about the compatibility of their methods and subject-matter. If the traditional *(al-manqūl)* is found to be contrary to the rational *(al-ma'qūl)*, it is to be interpreted in such a way as to be in harmony with the rational.[13] Allegorical interpretation *(tā'wīl)* is based on the fact that there are certain Qur'ānic verses which have an apparent *(ẓāhir)* meaning and an inner *(bāṭin)* meaning. Early Muslim scholars in the face of such verses avoided interpreting them, because they were afraid to confuse the minds of the common people. The Ash'arites interpreted some such verses as that of "sitting on the Throne" *(al-istiwā')*, while the Hanbalites believed in its apparent meaning. The position of ibn Rushd, as a philosopher, is different from that of the early Muslims, the Ash'arites and the Ḥanbalites. *Tā'wīl* is to be practised only by the philosophers who are the people of demonstration. Even then, this *tā'wīl* should be kept back as esoteric knowledge, far from being declared to the masses.

Ibn Rushd returns to the plane of *Fiqh* and compares the logical method of philosophy with the traditional one of *Fiqh*. This latter, called the principles of *Fiqh*, depends on four sources: the Qur'ān, Tradition, *ijmā'* (consensus) and *qiyās* (legal syllogism). We have seen that the Qur'ān has to be rationally interpreted. *Iǰmā'* comes from the unanimous accord of the opinions of all the qualified scholars at a certain time. But there was no consensus at any time about doctrinal matters, simply because some scholars believed, as mentioned in the Qur'ān, that there were certain matters which should be concealed. Only "those who are well grounded in learning"[14] *(al-rāsikhūn fi al-'ilm)* had the right to know. And, since there is no consensus in doctrinal matters, al-Ghazāli had no right to condemn the philosophers as irreligious on the basis of *ijmā'*. They deserved, in al-Ghazāli's opinion, the charge of heresy *(takfīr)* for three things: their doctrine concerning the eternity of the world, their denial of God's knowledge of particulars, and their denial of bodily resurrection.

According to ibn Rushd, religion is based on three principles in which every Muslim of the above-mentioned three classes should believe. These are the existence of God, the prophecy, and resurrection.[15] These three principles constitute the subject-matter of religion. As prophecy depends on revelation,

[13] *Ibid.*, p. 8.
[14] *Ibid.*, p. 10.
[15] *Ibid.*, p. 15.

philosophy remains distinct from religion, unless it is shown that reason and revelation are in accord with each other. This problem is discussed in other books of his in detail. But he who denies any one of the above principles is irreligious *(kāfir)*. He can believe what he likes through any of the demonstrative, dialectical, or rhetorical ways.

Philosophers should not declare their esoteric interpretations to the masses lest they should be led to heresy. The theologians who did so were responsible for the origin of the various Islamic sects which accused one another of heresy.

All in all, philosophy is the twin sister of religion; they are the two friends who, by their very nature, love each other.

C

THE WAY TO GOD

Having established that religion has apparent and inner meanings, symbolic for the common people and hidden for the learned, ibn Rushd endeavours in his book: *al-Kashf 'an Manāhij al-Adillah* to find out the way to God, i.e., the methods given in the Qur'ān to attain to the belief in the existence of God and to the knowledge of His attributes, according to the apparent meaning, for the first knowledge that every reasonable man is entitled to obtain is of the way which leads to the belief in the existence of the Creator.

Since this book was written in a theological form, ibn Rushd began to review the methods of the various Islamic sects, which he classified into five principal kinds: the Ash'arites, the Mu'tazilites, the Bāṭinites, Ḥashawites, and the Sufis.[16] It was but natural that he should have reserved for his contemporaries, the Ash'arites, the greatest part of his discussion, but strangely enough he never referred to the Bāṭinites mentioned in the above classification. The Mu'tazilites were briefly discussed along with the Ash'arites, but not separately through their original writings which had not, as he later stated, reached the Maghrib.

The Ḥashawites maintain that the way to God is listening through oral transmission *(al-samā')*[17] and not through reason. They mean that faith in God is received from the Prophet and that reason has nothing to do with it. But this contradicts what is mentioned in the Sacred Book which calls men in general to believe through rational proofs.

The Ash'arites hold that the way to God is through reason, but their method is different from the religious way which the Qur'ān has called man to follow. They lay down certain dialectical premises from which they start, such as: the world is temporal; bodies are composed of atoms; atoms are created; the agent of the world is neither temporal nor eternal. Their arguments, however,

[16] *Al-Kashf 'an Manāhij al-Adillah*, Cairo ed., p. 31. Ibn Rushd mentions in the beginning only four sects; the Sufis have been excluded, although he discusses their method later.
[17] *Ibid.*, p. 31. *Al-sam'* is also called the traditional.

are far from being understood by the common people, and are inconsistent and unconvincing.[18] Another Ash'arite way is that of abu al-Ma'āli.[19] It is based on two premises, that the world is probable *(jā'iz)*, and that what is probable is temporal. But this way abolishes the wisdom of creating the creatures as such. The way of ibn Sīna[20] is in some respects similar to that of abu al-Ma'āli; only he substitutes the probable by the possible.

The Sufis[21] follow the mystic way. They say that the knowledge of God is thrown into the soul from high above, after we have got rid of our earthly desires. But, this way is not accessible to all mankind, and it abolishes speculation for which people are exhorted all through the Qur'ān.

What, then, is the true way to God which is suitable for all mankind? Two ways are mentioned in the Qur'ān, called by ibn Rushd the proof of providence and the proof of creation. The first is teleological and the second cosmological, both starting from man and other beings, not from the universe as a whole.

The proof of providence depends on two principles: the first is that all beings are suitable for the existence of man; and the second is that this suitability is by necessity due to an agent intending to do so by will, since this suitability cannot be achieved by chance. All beings are created for the service of man: stars shine at night for his guidance, his bodily organs are fit for his life and existence. A whole theory of value can be developed from this view.

The proof called creation takes into consideration the animals, plants, and heavens. It is also based on two principles: that all beings are created, and that everything created is in need of a Creator. The examples given refer to animated beings. When we see that bodies devoid of life are endowed with life, we know by necessity that there is a Creator of life, i.e., God. Heavens, also, are commanded to move and take care of the sublunary world. God says in the Holy Book: "Verily, those on whom ye call beside God could never create a fly if they all united to do so."[22] He who wants to know God should know the essence and uses of things to attain to the knowledge of true creation.

These two ways are common both to the learned *élite* and the masses. The difference between their knowledge lies in the degree of details.[23] Common people are content with the sensuous knowledge, which is the first step to science. The *élite* are convinced only by demonstration.

The significance of God's unicity is expressed in the Qur'ānic principle "No God but He."[24] Negation of other deities is considered here to be an addi-

[18] *Ibid.*, p. 32, and *ad passim*.
[19] *Ibid.*, p. 40.
[20] *Ibid.*, p. 41.
[21] *Ibid.*, p. 44.
[22] *Ibid.*, p. 46.
[23] *Ibid.*, p. 48.
[24] *Ibid.*, p. 49. *(La ilāha illa hu.)*

tional meaning to the affirmation of God's unicity.[25] What would happen if there were more than one God? The world would be subject to corruption: one god would be superior to the others, or the rest of the gods would find some device to dethrone the one in power.[26]

God is qualified by seven main attributes:[27] knowledge, life, power, will, audition, sight, and speech. They are human qualifications considered in their absolute perfection. Three positions can be taken as regards the relation between God's essence and His attributes. The first is the negation of the attributes. This is the position of the Mu'tazilites. The second is to affirm them in a state of complete perfection. The third is to conceive them as trancendent and beyond human knowledge. They are in the sphere of the unknowable. As a matter of fact, the Qur'ān asserts the attributes and yet states that "Nothing is similar to Him,"[28] which means that He is unknowable. The common people may believe according to the apparent meaning of the text that He sees, hears, speaks, etc. The people of demonstration should not expound their interpretation before the masses. The doctrines of both the Mu'tazilites and the Ash'arites are unsound. Ibn Rushd criticizes their solutions in his book *al-Manāhij* and at length in the *Tahāfut*. He holds that in the case of the attributes, without affirming or negating them, one must follow the apparent meaning mentioned in the Qur'ān. As to philosophical interpretation, this must be kept esoteric.

The acts of God are reduced to five principal ones: creation, sending the prophets, predestination, justice, and resurrection.[29] They constitute the relationship between God and the world and man.

Creation is an act of God. He created the world providentially, not by chance. The world is well ordered and is in a state of the most perfect regularity, which proves the existence of a wise Creator. Causality is presupposed. All the Rushdian proofs depend on the belief that nothing comes to be without a cause, and that there is a definite series of causes emanating from a Prime Cause. He says: "He who, in the artificial things, denies or cannot understand the caused resulting from causes would have no knowledge of the art or the

[25] *Waḥdānīyyah*; sometimes translated as "unity" which gives a different meaning, unity being *waḥdah*.
[26] Ibn Rushd refers to three verses; (i) xxi, 22—"If there were therein Gods besides Allah, then verily both (the heavens and the earth) had been disordered." (ii) xxiii, 91—"Nor is there any God along with Him; else would each God have assuredly championed that which he created, and some of them would assuredly have overcome others. . . ." (iii) xvii, 42—"If there were other gods along with Him, as they say, then had they sought a way against the Lord of the Throne" (Pickthall's trans.).
[27] *Al-Kashshāf*, p. 53.
[28] *Ibid.*, p. 60; Sūrah xlii, 11—"Naught is as His likeness; and He is the Hearer, the Seer" (Pickthall's trans.).
[29] *Ibid.*, p. 80.

artisan; similarly, he who denies the existence in this world of the dependence of effects on causes would deny the wise Maker."[30]

The proof for sending prophets is based on two principles mentioned in the Qur'ān. The first is that men of this type are those who prescribe the laws through God's revelation, not through human learning. The act of a prophet is to prescribe laws which if followed by men would bring them everlasting happiness. The second principle is that he who is found to be qualified to perform this act of lawgiving is a prophet. Just as the act of the physician is to cure the body, and he who effects this cure is a physician, so the act of the prophet is to prescribe laws and he who is found to do this act is a prophet. Theologians assume that our belief in the truth of the prophets lies in the belief in their miraculous acts, which are supernatural. But the Qur'ān refuses to follow this way which was common to previous religions. When the Arabs told Muhammad that they would not believe in him unless he made a spring flow from dry earth, he answered through God's revelation: "I am only a human being, a messenger."[31] The only miracle of Islam is its Holy Book, the Qur'ān, which comprises the laws necessary for the well-being of man. Thus, there is nothing supernatural,[32] since everything goes on according to natural laws resulting from the close association of causes and effects.

Predestination is a very difficult problem about which the opinions of the Muslim thinkers oscillate from absolute fatalism to absolute free-will. Fatalism abolishes man's freedom, and, consequently, his responsibility. The Mu'tazilites are in favour of free-will which is the ground of man's responsibility for his good and bad doings. If this view is assumed, God has nothing to do with man's acts, man being creator of his own acts. And, consequently, there would be other creators besides the Creator. The Ash'arites maintain a midway position saying that man is predestined and yet he acquires the power to act. This is their famous doctrine concerning the acquisition *(al-kasb)*. But this solution is, in ibn Rushd's view, self-contradictory. Their doctrine leads to fatalism.

Man is predisposed neither to fatalism nor to free-will. He is determined. Determinism is the production of acts according to their appropriate causes. Causes are external or internal. Our acts are accomplished both through our will and the compatibility of external happenings. Human will is determined by outer stimuli which are subject to definite regularity and harmonic order according to the universal will of God. Not only are our acts determined by causes from without, they are also related to causes from within ourselves. The determined regularity in external and internal causes is what we call predestination.[33] God's knowledge of these causes and of what results from them is the reason for their being.

[30] *Ibid.*, p. 86.

[31] *Ibid.*, p. 97; Sūrah xvii, 93—"Am I aught save a mortal messenger?"

[32] Supernatural in the sense of interuppting the course of nature *(khāriq)*.

God is just and never does injustice to man, as declared in the Qur'ān. The nature of man is not absolutely good, although good is dominant. The majority of mankind are good. God has created good essentially, and bad accidentally for the good. Good and bad are similar to fire which has many uses for the well-being of things, yet in some cases it may be harmful. This Rushdian theory supports the optimism that prevails in the world.

All religions are in accord as to the reality of resurrection. They differ only as to whether it is spiritual or bodily. Spiritual resurrection is the survival of the soul after its separation from the body. Belief in bodily resurrection is more suitable for the minds of the masses who are short of understanding the spiritual immortality of the soul.

D

THE WAY TO KNOWLEDGE

We pass now from ibn Rushd, the Muslim philosopher garbed in a cloak of *Fiqh*, to the commentator of Aristotle, who was more faithful to the "First Master" than Alexander of Aphrodisias and Themistius. Medieval philosophy in Europe was influenced by Aristotle through the commentaries of ibn Rushd. As Gilson rightly puts it, "Strangely enough, very few men have been more influential than Averroës in shaping the popular notion of medieval philosophy which is now currently received as historical truth."[34] It is true that his main system is Aristotelian, but under the influences of ideas received from different sources, he gave the system a new form.

The way to knowledge is one of the major problems discussed all through Muslim philosophy because of its relationship to higher existents, namely, the "agent intellect" with which man gets in communion. The soul and intellect are carefully distinguished by ibn Rushd in his consideration of the process of knowledge. A full account about the hierarchical order of beings is necessary to understand the place of these two entities. This is why ibn Rushd began his treatise *Talkhīṣ Kitāb al-Nafs* by giving a short review concerning the composition of beings and their source of behaviour and knowledge. From the very start he says: "The aim of this treatise is to set forth in psychology the commentators' opinions which are more related to natural science and more appropriate to Aristotle's purpose. It would be relevant before that to give a brief introduction about the necessary principles presupposed for understanding the substance of the soul." These are: (i) All perishable beings are composed of matter and form, each of which is not by itself a body,

[33] *Al-Kashshāf*, p. 107.

[34] Gilson, *History of Christian Philosophy in the Middle Ages*, New York, 1954, p. 219.

although through their combination the bodyexists. (ii) Prime matter has no existence in actuality, but is only the potency to receive forms. (iii) The first simple bodies in which prime matter is actualized are the four elements: fire, air, water, and earth. (iv) The elements enter in the composition of all other bodies through mixture. The remote cause of this mixture is the heavenly bodies. (v) Natural heat is the proximate cause of the real combination. (vi) Organic beings are generated from animate individuals of their kind through natural heat. Soul is the proximate cause of their generation and their remote cause is the intelligence that moves the spheres.

Before further discussion of psychology ibn Rushd asks the crucial question: "Can there be forms separate from matter?"[35] The answer to this question constitutes the true way of knowledge.

Material forms can never be separate from matter, since physical forms[36]—which is another expression of material forms—subsist only in matter. Hence they are temporal and subject to change. They are not eternal since they have no subsistence except in matter. It follows that separate forms are something other than the material forms. Consequently, the separateness of the rational soul, namely, the intellect, can only be demonstrated if it is shown that it is pure form. The soul is not separate because it is "the form of an organic natural body."[37] The soul is divided according to its acts into five kinds: the nutritive, the sensitive, the imaginative, the cognitive, and the appetitive, and this last seems to be subsequent to the imaginative and sensitive.[38]

The hierarchical order of the faculties is dependent on the order of the material forms, mentioned above. The way of animal knowledge is by sensation and imagination, and that of man, besides these two, by intellect. Thus, the way to knowledge is either through the senses or through the intellect, leading either to the knowledge of the particular or of the universal. True knowledge is that of the universal, otherwise animals can be said to have knowledge. The term "knowledge" is applied equivocally to animals, man, and God. Animal knowledge is limited by the sensuous and imaginative, whereas human knowledge is universal. Sensation and imagination exist in animals for their conservation. To assure their security, protect themselves, and obtain food, animals have to move towards or away from the sensibles. In case the sensibles are present, they are perceived by the senses; and in their absence, representations take their place. Sensations are, then, the condition of representation, and "every being which has representations necessarily has sensations."[39] But, since man has a higher faculty, namely,

[35] Ibn Rushd, *Kitāb al-Nafs*, p. 8.
[36] "Material forms" is called in Arabic *hayūlāniyyah* or *ṭabī'iah*. The first term comes from the Greek term *hyle*, the second means physical or natural.
[37] *Kitāb al-Nafs*, p. 12.
[38] *Ibid.*, p. 13.
[39] Ibn Rushd, *Tahāfut*, tr van den Bergh, p. 301.

intellect, he gets representations through thought and reasoning, whereas in animals representations exist by nature.[40] Further, forms perceived by animals are finite, and sometimes, when perceived by man, they become universal images. Those who assume that animals have reason confuse universal images with universal concepts. Forms perceived by man are infinite, in the sense that the particulars they denote are infinite. Representations, in so far as they are the motor cause for movement, effect their action in man through their collaboration with concepts.

Human knowledge must not be confused with divine knowledge, since "man perceives the individual through the senses and universal existents through his intellect. The cause of man's perception changes through the change in the things perceived, and the plurality of perceptions implies the plurality of objects."[41] It is impossible that God's knowledge should be analogous to ours, because "our knowledge is the effect of the existents, whereas God's knowledge is their cause."[42] The two kinds of knowledge, far from being similar to one another, stand in opposition. God's knowledge is eternal, while man's knowledge is temporal. "It is God's knowledge which produced the existents, and it is not the existents which produce His knowledge."[43]

So far, we have seen that there is individual as well as universal knowledge. The first is the outcome of sensation and imagination, and the second is the result of the intellect. The act of the intellect is to perceive the notion, the universal concept, and the essence. The intellect has three basic operations: abstraction, combination, and judgment. When we perceive a universal notion, we abstract it from matter. This is more evident in a thing denuded of and far from matter, such as the point and line.[44] Not only does intellect abstract simple apprehensions from matter, it combines them together and judges that some of them when predicated of some others are true or false. The first of these operations is called apprehension (*intelligere* in the Latin terminology) and the second is called assent (*credulitas*). We have, then, three successive operations. First, we get in the intellect single notions (intentions) totally abstracted from matter, and this operation is what has been called abstraction. Secondly, by way of combining two or more notions together we have the concept, such as the concept of man which is composed of animality and rationality, the genus and differentia. And this constitutes the *esse* of a thing. Hence, a complete essence constitutes also its definition. Thirdly, since concepts are neither true nor false, when affirmed or negated in a proposition, we have a judgment.[45]

The intellect is theoretical and practical. Practical intellect is common to

[40] *Kitāb al-Nafs*, p. 69.
[41] *Tahāfut*, p. 279.
[42] *Ibid.*, p. 285.
[43] *Ibid.*
[44] *Kitāb al-Nafs*, p. 67.
[45] *Ibid.*, p. 68.

all people. This faculty is the origin of arts of man necessary and useful for his existence. Practical intellectibles are produced through experience which is based on sensation and imagination. Consequently, practical intellect is corruptible since its intellectibles depend for their existence on sensation and imagination. Hence they are generated when perceptions and representations are generated, and corrupted when these are corrupted.

Through practical intellect man loves and hates, lives in society, and has friends. Virtues are the product of practical intellect. The existence of virtues is nothing more than the existence of representations from which we move towards virtuous acts in the most right manner; such as to be brave in the proper place and time and according to the right measure.[46]

Two main questions must be settled concerning the theoretical intellect, the first its eternity and the second, its communion with the agent intellect. The first question can be put in other terms: Are the theoretical intellectibles always in actuality, or do they first exist in potency and then in actuality, thus being in some way material?[47] This brings ibn Rushd once more to the consideration of the material forms, grading from the elementary forms (i.e. forms of the four elements) to the representations produced by the imaginative soul. They all have four things in common. (1) Their existence is subsequent to change. (2) They are diverse and multiple according to the diversity and plurality of their objects. (It follows from these two qualities that they are temporal.) (3) They are composed of something material and something formal. (4) The perceived is different from the existent, since the form perceived is one in so far as it is intelligible and multiple as regards its individuality.[48]

Intelligible forms in man are different from all the other material forms. (1) Their intellectual existence is one and the same as their objective existence which can be pointed out. (2) Their perception is infinite since the forms when abstracted have no individual plurality. (3) The intellect is the intellectible and perception is the perceived. (4) Intellect grows with old age, whereas all other faculties weaken, because the intellect operates without an organ.[49]

The operation of intellection runs like this: there is the intellect or the person who perceives, and there are the intellectibles which are the object of intellection and perceived by the intellect. Intellectibles must be existent, otherwise the intellect would have nothing to apprehend, because it can only be attached to what exists, not to what does not exist.[50] And, our knowledge is the effect of the existents. Now, these intellectibles, namely, the universals, either exist in the soul as held by Plato, or exist in the reality outside the soul. Ibn Rushd, following Aristotle, rejects the doctrine of idealism. Consequently, universals exist in reality and their existence is attached to the

[46] *Ibid.*, p. 71.
[47] *Ibid.*, p. 72.
[48] *Ibid.*, p. 74.
[49] *Ibid.*, p. 76.
[50] *Tahāfut*, p. 281

particulars composed of matter and form. Through the operation of abstraction, the intellect denudes the forms of matter.

It follows that intellectibles are partly material and partly immaterial.[51] They are material in so far as they depend on representations which in their turn depend on the particulars. The material intellect must not be understood as corporeal, but as mere possibility, the disposition to receive the intellectibles. What brings out the possible intellect from potency to actuality is the agent intellect. It is higher and nobler than the possible. It is itself existing, always in actuality, whether perceived by us or not. This agent intellect is from all points of view one and the same with the intellectibles.

Man can attain to the agent intellect in his life-time as he grows up. Since it has been shown that the intellect is nothing other than the intellectibles, the act of the intellect in acquiring the intellectibles is called the "union" *(al-ittiḥād)* or the "communion" *(al-ittiṣāl)*.

Union is not something analogous to the way of the Sufis, since the agent intellect is not divine and does not illuminate our souls as some Neo-Platonists hold. Union is a rational operation explained on epistemological grounds, and is based on the acquirement of the universal forms by the possible intellect. These universal forms have no existence in actuality apart from the sensible individuals.

When ibn Rushd was translated into Latin, some of his doctrines were accepted and some refuted. The movement which was influenced by him is called Latin Averroism. It means Aristotelian philosophy as interpreted by ibn Rushd, his distinction between philosophy and theology, his empirical rationalism, and more especially his theory concerning the intellect. On the whole, Latin Averroism considered ibn Rushd a faithful exponent of Aristotle and of truth. Meanwhile, there arose many theologians who opposed his doctrines. An example of this opposition is to be found in the treatise of Albert the Great, "On the Oneness of the Intellect against Averroes." Siger of Brabant followed ibn Rushd in his psychology in particular; a summary of Siger's treatise: "On the Intellect,"[52] proves that he borrowed his ideas from a translation of the *Kitāb al-Nafs*. The Averroist movement lasted till the ninth/fifteenth century and had many reactions, which proves the great influence of the philosopher of Cordova.

E

THE WAY TO SCIENCE

Science, religion, and philosophy constitute three different realms. Man is by necessity forced to find some way of harmonizing these different aspects of culture which co-exist in the society in which he lives; otherwise his personality

[51] *Kitāb al-Nafs*, p. 88.
[52] For this summary, see Gilson, *op. cit.*, p. 396.

would disintegrate. Science is necessary for the welfare of all the people living in a civilized community. Their material existence is dependent on and correlated with the degree of scientific knowledge. Religion is even more fundamental in human societies. As Bergson puts it, "We find in the past, we could find today, human societies with neither science nor art nor philosophy. But there has never been a society without religion."[53] Philosophy is the search for truth. It has rightly been said that man is a metaphysical animal. The greatness of famous philosophers—Plato, Aristotle, ibn Sīna, ibn Rushd, Descartes, Kant, etc.—lies in placing each of these three disciplines in its proper place, both in the sphere of knowledge and of action. The first philosophers in Islam gave to science its due consideration, without devaluing religion. Al-Kindi, al-Fārābi, and ibn Sīna were all scientists and philosophers. And with that, they were all sincere Muslims, except that they interpreted religion in the light of their scientific and philosophical knowledge.

Al-Ghazāli was dissatisfied with the doctrines of the philosophers. He attacked them in his book "The Incoherence of the Philosophers" and accused them of *kufr* on twenty points. The eloquence of al-Ghazāli, his deep knowledge of the art of controversy and argumentation, and his vast erudition in every study gave him a wide popularity to the point that he was considered an eminent authority on Islam *(hujjat al-Islām)*.

Ibn Rushd answered the accusations point by point. The discussion between the two great figures is really an interesting debate, which mirrors a genuine conflict in Muslim society, between religion, on the one hand, and science and philosophy, on the other. Ibn Rushd, in his capacity as a philosopher aiming at truth, integrated the three apparently diverse realms. Through rational interpretation of the Qur'ān, he effected the harmony of religion with philosophy. He unveiled the true way to religion as stated in the Qur'ān.

He, now, turns to pave the way to science. In his enthusiastic defence of religion, al-Ghazāli unintentionally shut the door to it. The mystic way of the Sufis prescribed by him is incompatible with the rational methods of science. The Muslims, unfortunately, followed al-Ghazāli, the "Authority of Islam," and neglected little by little the study of the sciences. Their once great civilization faded. On the other hand, ibn Rushd defended science, and medieval Europe followed the way prescribed by him to attain to it. This is the true spirit of Latin Averroism which led to the rise of European science. Science is the body of systematized and formulated knowledge based on observation and classification of facts. But the way to science is more basic than the scientific truths so obtained, since through the scientific method we can attain to the scientific realities and progress more and more in our study.

The two *Tahāfuts*, of al-Ghazāli and that of ibn Rushd, picture the ideas which were in play on the stage of Islamic civilization during the fifth and sixth/eleventh and twelfth centuries. Some of those ideas, though now con-

[53] Bergson, *The Two Sources of Morality and Religion*, New York, 1954. p. 102.

sidered to be of mere historical value, were of major importance at the time. The length at which the problem of the eternity of the world is discussed and its prime place at the head of the twenty discussions indicate the importance that al-Ghazāli gave to it. Ibn Rushd considers that the main questions for which al-Ghazāli charged the philosophers of being irreligious amount to three: eternity of the world, denial of God's knowledge of particulars, and bodily resurrection. In our view, the problem which still remains of vital importance is that of causality. Scientific thought can only be established on the basis of the causal principle. While Hume criticized causality, Kant tried to find out some rational grounds on which causality can stand. Through transcendental *a priori* forms of pure reason, Kant believed that science is safeguarded. The induction of Stuart Mill presupposes universal causation. Russell says: "Whether from pure prejudice, or from the influence of tradition, or for some other reason, it is easier to believe that there is a law of nature to the effect that causes are *always* followed by their effects than to the effect that this *usually* happens."[54] Only contemporary science has replaced the conception of "cause" by "causal laws," causal lines, statistics, etc.

Ibn Rushd found himself entitled to safeguard science and show the way to attain to scientific realities, since al-Ghazāli undermined the necessary relation of cause and effect. As Quadri puts it: "La science perdait ainsi toute raison d'etre. La subsistance n'avait plus de fondement. . . . La pensée scientifique devait etre revendiquee et sauvée."[55]

Al-Ghazāli begins the dialogue about the natural sciences by enumerating the different sciences "to make it known that the Holy Law does not ask one to contest and refute them." In this enumeration he mentions such sciences as the art of incantation, alchemy, astrology, etc. Ibn Rushd rejects such pseudo-sciences. The talismanic art is vain. Whether alchemy really exists is very dubious. Astrology does not belong to the physical sciences.[56]

The real reason why al-Ghazāli denied the necessary causal relation is that "on its negation depends the possibility of affirming the existence of miracles which interrupt the usual course of nature, like changing of the rod into a serpent. . . ."[57] According to ibn Rushd, miracles must not be questioned or examined by the philosophers. "He who doubts them merits punishment." However, the miracle of Islam lies not in such miracles as changing the rod into a serpent, but in the Qur'ān, "the existence of which is not an interruption of the course of nature assumed by tradition . . . but its miraculous nature is established by way of perception and consideration for every man. . . . And this miracle is far superior to all others."[58] In fact, ibn Rushd repeats here what he has stated before in his twin books the *Faṣl* and the

[54] Bertrand Russell, *Human Knowledge*, London, 1948, p. 472.
[55] Quadri, *La Philosophie Arabe*, Paris, 1947, p. 204.
[56] *Tahāfut al-Tahāfut*, tr. van den Bergh, Vol. I, p. 312.
[57] *Ibid.*, p. 313.
[58] *Ibid.*, p. 315.

Kashf. Recent Muslim theologians, Muḥammad 'Abduh, Ameer Ali, and others, have adopted this Rushdian view which is now current in all Muslim societies. A return to ibn Rushd is one of the incentives to recent renaissance in the East. Muḥammad 'Abduh says: "It is impossible for the people of Islam to deny the relation existing in this world between causes and effects."[59]

We pass from this prelude to the heart of the discussion. Al-Ghazāli posits the theme like this: "According to us the connection between what is usually believed to be a cause and what is believed to be an effect is not a necessary connection, each of the two things has its own individuality and is not the other... the satisfaction of thirst does not imply drinking, nor burning contact with fire.... For the connection in these things is based on a prior power in God to create them in a successive order, though not because this connection is necessary in itself."

Ibn Rushd starts his answer from common sense, which in his view is the basis of certitude. "To deny the existence of efficient causes which are observed in sensible things is sophistry, and he who denies them either denies with his tongue what is present in his mind or is carried away by a sophistical doubt...."[60]

But philosophy cannot be based on common sense. Empiricism is useful for practical ends, not for exact sciences. Both practical empiricism based on common sense and scientific knowledge believe in causality, except that the first is less sure and the latter more precise. To be scientific is to be able to predict what will happen in the future when a cause is given. Belief in science and its power results from our ability to predict on the basis of causal necessity. Modern science still believes in causality, not in its older form of cause-effect relationship, but in causal lines and structures. To sum up, belief in causality is a matter of faith, originating from the animal faith in expectation. Ibn Rushd had complete faith in nature, and maintained that everything in the world happens according to a perfect regularity which can be understood in terms of cause and effect.

This brings us to the picture of the physical world as conceived by ibn Rushd, and the way it can be scientifically known. The world is a continuum of things and persons interrelated through necessary causality. Two principles are presupposed, though not enunciated: the one is the permanence of things and the other is the law of causation. These two postulates are the result of metaphysical assumptions derived from Aristotelianism, namely, the idea of substance and the idea of the four causes. Al-Ghazāli denies the two principles. As to the permanence of things, he reproduces the counter-argument of some

[59] *Ibn Rushd wa Falsafatuhu*, by Antun Farah, Alexandria, 1903, p. 91. The author began an Arabian Averroism analogous to the Latin Averroism, and wrote articles on ibn Rushd in his journal *al-Jāmi'ah*. When he published this book, he added the discussions of Muḥammad 'Abduh and Qāsim Amīn, the two leaders of recent renaissance in Egypt.

[60] *Tahāfut al-Tahāfut*, p. 318.

philosophers in a comical manner that "if a man who had left a book at home might find it on his return changed into a youth ... a stone changed into gold, and gold changed into stone; and if he were asked about any of these things he would answer, 'I do not know what there is at present in my house.'"[61] Al-Ghazāli accepts the challenge saying: "There is no objection to admitting that anything may be possible for God." An example of this possibility is the miracle of Ibrāhīm when he was thrown into fire and was not burnt. Fire by the will of God lost its quality of burning. Fire in itself is not an efficient cause. The true cause is God who through His will and power gives the things their qualities. There is no reason, then, why they might not be contrary to what they are.

To meet this argument, ibn Rushd looks at the problem from the philosophical point of view already mentioned. The permanence of things permits us to attain to the essence of a thing, its definition, and giving it a name. "For it is self-evident that things have essences and attributes which determine the special functions of each one of them and through which the definitions and names are differentiated. If a thing had not its specific nature, it would not have a special name nor a definition, and all things would be one."[62]

As to the second postulate concerning causality, "all events have four causes, agent, form, matter, and end." Human mind perceives the things and conceives their causes. And, "intelligence is nothing but the perception of things with their causes, and in this it distinguishes itself from all the other faculties of apprehension; and he who denies causes denies the intellect. Logic implies the existence of causes and effects, and knowledge of the effects can only be rendered perfect through knowledge of their causes. Denial of causes implies the denial of knowledge."[63] If they call the relation of cause-effect a habit, habit is an ambiguous term. Do they mean by habit (1) the habit of the agent, or (2) the habit of the existing things, or (3) our habit to form a habit about such things? Ibn Rushd rejects the first two meanings and accepts the last which is in harmony with his conceptualism. Because it is impossible that God should have a habit. The habit of existing things is really their nature, since habit can only exist in the animated.

On the whole, the way to science starts with faith which is the basis of certitude. Sceptics and agnostics have no place in science. Armed with this faith in the existence of the world as such, the intellect discovers the causes of things. Scientific knowledge is the knowledge of thing swith their causes which produce them.

[61] *Ibid.*, p. 324.

[62] *Ibid.*, p. 318.

[63] *Ibid.*, p. 319.

F

THE WAY TO BEING

Two distinct types of metaphysics came down to the Arabs, a metaphysics of Being and a metaphysics of the One. The first is that of Aristotle, and the second that of Plotinus. Since the *Enneads* of Plotinus was mistakenly ascribed to Aristotle, al-Kindi was confused between the two systems and could not bring them into accord. Al-Fārābi was more inclined to the philosophy of the One. He fused the two systems in the Necessary Being, God, the One of the Qur'ān and the One of Plotinus. The way to the One is rather a mystic way, and that to Being is purely logical. The philosophy of al-Fārābi was mixed with the wine of mysticism. Ibn Sīna, following the way opened by al-Fārābi, looked at the problem from a new standpoint, i.e., from the distinction between the necessary and the contingent, yet in his old age he dwelt upon the fusion of the One and the Being with a kind of divergence towards a gnostic mysticism. Ibn Rushd returned to the original doctrine of Aristotle and freed himself from the burden of Neo-Platonism. Being, and the way to attain to it, is the object of his short *Talkhīṣ* on *Metaphysics*. At the beginning of this treatise he says: "Our aim is to pick up from the *Metaphysics* of Aristotle his theoretical doctrines."[64]

As a faithful follower of Aristotle he defines metaphysics as the knowledge of Being as such. Metaphysics is part of the theoretical sciences. It studies Being absolutely *(ʾi-iṭlāq)*; the immaterial principles of physical sensibles such as unity, plurality, potency, actuality, etc., the causes of the existents on the side of God and divine entities. Physical science is concerned with the causes of individual beings. It remains for metaphysics to study the highest causes of the particulars.

The subject-matter of metaphysics is three-fold: the study of (1) sensible things and their genera, namely, the ten categories; (2) the principles of substance, the separate entities and how they are related to the First Principle, which is the Supreme Perfection and the Prime Cause; and (3) the particular sciences in view of correcting their sophistries. It is evident that the second part of this division is the most fundamental, and the two others are related to it. Hence, ibn Rushd gives a more elaborate definition of metaphysics. "It is the science which studies the relationship of the different existents as regards their hierarchical order of causes up to the Supreme Cause."[65]

Hence, knowledge of Being consists in an exploration into Its causes and principles. True knowledge is conformity with the existent. Ibn Rushd confronts the mental with the external existence to the point that if what exists in our minds is in conformity with what is outside, it is true of Being. Two distinct meanings are thus applied to Being, the one epistemological and the

[64] *Talkhīṣ ma ba'd al-Ṭabī'ah*, Cairo edition by Osman Amin, 1958

[65] *Ibid.*, p. 34.

other ontological. Which of the two is the origin of the other, essence or existence? There is no ambiguity in the system of ibn Rushd about this question. The external existents are the basis of our knowledge. If an entity exists in our minds without having any real existence outside, it would not be a being, but simply an entity such as chimera, for example.[66] Being and existence are, then, one and the same. To exist is to be real. The criterion of Being is its real existence, whether in potency or in act. Prime matter has being, although it never exists without form. When the intellect is attached to external existents, the being which was outside becomes inside the mind in the form of a concept or an essence. Existence, then, is presupposed in Being.

External existents are called substances. Substance is the first of the ten categories; the rest are the secondary substances. Prime substance has more substantiality than the secondary. When we say, "Socrates is a man," this denotes that Socrates is more substantial than human, humanity, or manness. Meanwhile, manness is as real as Socrates. Both the universal and the particular are substances. The particular has a sensuous existence, and the universal an intellectual one. But the individual substances are the starting point in the entire metaphysics of ibn Rushd.

Physical bodies are commonly said to be composed of two principles, matter and form. This is not quite true, because a body is not only matter or only form; it is a whole composed of the two. It is a composite. This whole is additional to the two principles of Being.[67] Hence the principles of the sensible substances amount to three. The body is one unity which has many parts. By substance, we mean the whole composed of matter and form.

Some philosophers, for example ibn Sīna, assumed that every physical body has two forms, a specific form and a corporeal form. The latter, *forma corporeitatis*, consists in the three dimensions which give the body extension in space. According to ibn Sīna, the form of corporeity is substance and is the cause of plurality in physical beings. Ibn Rushd rejects this view and says that ibn Sīna was totally wrong.[68] Individual substances are composed of matter and only one form. They have two kinds of existence, the one sensuous and the other intellectual. Matter is the cause of their corporeity and form the cause of their intelligibility.

A thing is known by its definition which gives its essence; and definition is composed of parts, the genus and the differentia. Genera, species, and differen-

[66] *Ibid.*, p. 17.

[67] *Ibid.*, pp. 37, 65. On p. 65 ibn Rushd says: "It is evident that the sensible substances are three: matter, form, and the whole composed of them." Now one would ask, "If sensible substances are composed of matter and form, what do their names denote, the matter, the form, or the composite?" It is clear that the name most probably denotes the whole.

[68] *Ibid.*, pp. 40–41. He says: "Some assumed that corporeity means divisibility in dimensions, they thought that dimensions are more liable to have the name of substance. . . ." For the doctrine of ibn Sīna, see Ahmed Fouad El-Ehwany's book, *Ibn Sīna*, Cairo, 1958, pp. 49–50.

tiae are universals. Now, are the essences or the universals the same as the individual things, or are they different? Universals are identical with individuals, since they define their essences. Those who assume that the universals have a separate existence and subsist by themselves fall in contradictions very difficult to resolve. In their view human knowledge can be possible only if the universals have separate real existence. But, "it is evident that for the intellection of essences we have no need to assume the separateness of the universals."[69] They exist only in our minds as concepts denuded of matter. Hence, this doctrine is conceptualism, as opposed to realism and nominalism. Human mind occupies a dignified place in nature and plays an active role in acquiring knowledge.

Moreover, universals are not eternal and immutable as Platonic idealism assumes. It is true that, as regards essence, universals are eternal since essence as such is not corruptible. But as regards the individual which is essentially corruptible, the universal is corruptible and changeable in so far as it is a part of the composite of form and matter. The first substance is the "this" which is pointed at.

How can the universals be eternal and at the same time corruptible? Or, as ibn Rushd puts it: "How can eternal entities be the principles of corruptible things?"[70] This difficulty is solved by reference to potency and actuality. The scale of beings is graded from pure potency to pure actuality. Prime matter is pure potency; it can only exist in a being combined with form. The lowest existents are the four elements of which sensible bodies are composed. Potency (dynamic in Greek) can be understood as possibility or disposition. Potency is so called as opposed to actuality. Now, the first substance can exist in actuality or in potency. Matter inherent in the substance is its potentiality. This potentiality is of different degrees according to proximity and remoteness. Man, for example, exists potentially in the sperm and in the four elements; the first potency is the near one, the latter is the remote one.

Four conditions are necessary for a thing to exist: (1) the proximate subject, (2) its disposition, (3) the motor causes, (4) the absence of preventing causes. Take, as an example, a sick man. Not all sick men have the possibility to be cured, and he who has the possibility should also have the disposition. In addition to these two conditions, he must have the efficient cause which brings him from sickness to health, provided there are no external preventions.[71] The case of the natural objects is similar to that of the artificial ones.

Consequently, there is always a motor cause which brings a thing to exist in actuality. Sometimes, there are more than one motor causes. For example, bread has the potency to change into flesh and blood, and has as motor causes the mouth, the stomach, the liver, etc. The remote cause is the potency

[69] *Ibid.*, p. 45.
[70] *Ibid.*, p. 94.
[71] *Ibid.*, p. 86.

n the elements to change into flesh. Along with these causes, bread is in need of a very remote cause, namely, the heavenly bodies.

Since physical things are composed of matter and form, potency is always subsequent to matter, and actuality subsequent to form. Form, which is the act, is prior to matter at every point, because form is also the efficient and final cause. The final cause is the cause of all other causes, since these are there for the sake of it. Furthermore, potency is not prior in time to act, because potency can never be denuded of act. Matter and form exist simultaneously in a being. The motor cause of a physical thing is apparently prior to the existence of the thing. A distinction must be made between a motor cause and an efficient cause. Motor cause applies only to change in place, namely, the movement of translation. All other changes, especially generation and corruption, are caused by efficient causes. Celestial bodies are moved by a motor, not an efficient, cause, because their movement is translation in space and they do not change. They are intermediate existents between the pure act and the existents which exist sometimes in potency and sometimes in act. Their similarity to existents in act lies in their eternity and incorruptibility. Their similarity to the things which exist in potency and come to actuality is in their change of place, their circular movement in space. Ibn Rushd terminates the discussion of this point by saying: "Consider how divine providence has managed to combine the two kinds of existence. In between pure act and pure potency, it has posited this kind of potency, namely, the potency in space through which the eternal and corruptible existences are connected."[72]

Furthermore, act is prior to potency in point of dignity and perfection, because evil is privation or one of the two opposites, such as sickness which, although existent, is bad as regards privation of health; and since potency is the possibility to become either of the two opposites, it is not an absolute good. Pure act is an absolute good.[73] Hence, the nearer the things are to the First Principle which is pure act, the better they are. Celestial bodies have obtained their principles from the First Principle, God. And, likewise, everything on this earth which is good is the product of His will and design. As to evil, it exists because of matter. This world, as it is, is the best possible one. Either the world would not have existed at all, or it would have existed having some evil for the sake of a greater good.

We have seen that sensible substances are composed of matter and form. Now, are these two principles sufficient for the existence of sensible substances? Or, is there a separate substance which is the cause of their perpetual existence?[74] It is evident that the sensible is in need of a motor cause, and this cause needs another, up to the First Mover whose movement is eternal. This brings us to the consideration of time.

[72] *Ibid.*, p. 94.
[73] *Ibid.*, p. 95.
[74] *Ibid.*, p. 124.

Time is an eternal continuum subordinate to an eternal movement, which is continuous and one, because the true one is continuous. It is clear that ibn Rushd asserts the eternity of the world, on the assumption that both movement and time are eternal. Eternity of the world is the first and longest discussion in the *Tahāfut* of al-Ghazāli. The whole discussion is, as mentioned above, only of historical value, and, therefore, we need not dwell on it.

The First Mover moves the *primum mobile* by desire, not by representation. The world is animated, i.e., it has a soul. It also has intelligence. Celestial bodies are moved not through sensations and representations, as is the case with animals, but through the conception of intelligence. (Intelligence is so called with regard to celestial bodies; with regard to man it is called intellect.) Heavenly bodies have no senses, because these are found in animals for their conservation. Representations exist in animals for the same end. Celestial bodies are in no need of conservation since they are eternal. Their movements are the product of desire *(shauq)* through intellection. The first mover of the firmament is moved by a most dignified desire—desire for the Supreme Good. The movers of the celestial bodies are, then, intelligences which are themselves immobile. There are thirty-eight movers and nine spheres.

The tenth intelligence, or the *Intelligentsia Agens*, is the last of these movers. It moves the sphere of the moon. It is the cause of the movement of the sublunary beings. It is this intelligence which gives forms to the elements and other existents.

Man is the nearest being to the celestial bodies, and this is because of his intellect. He is intermediate between the eternal and the corruptible.[75] Through the agent intelligence, he acquires the forms which are its products. Thus, communion with the agent intelligence can be realized. And in this communion lies man's felicity and happiness.

[75] *Ibid.*, p. 159.

Chapter XXIX

NAṢIR AL-DIN ṬŪSI

A

LIFE

Khwājah Naṣīr al-Dīn abu Ja'far Muḥammad b. Muḥammad b. Ḥasan, an accomplished scholar, mathematician, astronomer, and Shī'ite politician of the period of the Mongol invasion on the Assassins and the Caliphate, was born at Ṭūs in 597/1201. After receiving early education from his father and Muḥammad b. Ḥasan, he studied *Fiqh*, *Usūl*, *Ḥikmah* and *Kalām* especially

the *Ishārāt* of ibn Sīna, from Maḥḍar Farīd al-Dīn Dāmād, and mathematics from Muḥammad Ḥasīb, at Nīshāpūr. He then went to Baghdād, where he studied medicine and philosophy from Quṭb al-Dīn, mathematics from Kamāl al-Dīn b. Yūnus, and *Fiqh* and *Uṣūl* from Sālim b. Badrān.[1]

Ṭūsi began his career as an astrologer to Naṣīr al-Dīn 'Abd al-Raḥīm, the Governor of the Ismā'īlite mountain fortress of Quhistān during the reign of 'Ala al-Dīn Muḥammad (618–652/1221–1255), the seventh Grand Master *(Khudāwand)* of Alamūt. His "correspondence"[2] with the *wazīr* of the last 'Abbāsid Caliph, al-Musta'ṣim (640–656/1242–1258) of Baghdād, was, however, intercepted by his employers, and he was removed to Alamūt under close supervision, although he enjoyed there every facility to continue his studies. In 654/1256, he "played"[3] the last Assassin ruler Rukn al-Dīn Khūrshāh into the hands of Hulāgu and then accompanied the latter as his trusted adviser to the conquest of Baghdād in 657/1258.[4]

B

THE MARĀGHAH OBSERVATORY

Ṭūsi's chief claim to fame rests on his persuading Hulāgu to found the celebrated observatory *(raṣad khānah)* at Marāghah, Ādharbāijān, in 657/1259, which was equipped with the best instruments, "some of them constructed for the first time."[5] Here he compiled the astronomical tables, called *Zīj al-Ilkhāni*, which "became popular throughout Asia, even in China."[6] Besides being dedicated to the advancement of astronomy and mathematics in the late seventh/thirteenth century, this observatory was important in three other ways. It was the first observatory the recurring and non-recurring expenditure of which was met out of endowments, thus opening the door for the financing of future observatories.[7] Secondly, just as ibn Ṭufail (d. 581/1185) turned the Court of Caliph 'Abd al-Mū'min into an enviable intellectual galaxy that promoted the cause of knowledge and wisdom in the West, Ṭūsi made the Marāghah observatory a "splendid assembly"[8] of the men of knowledge and learning by making "special arrangements"[9] for the teaching of philo-

[1] Zand's article on Ṭūsi in *Hilāl*, November 1956, Karachi.
[2] Ivanow, *Taṣawwurāt*, p. xxv.
[3] *Encyclopaedia of Islam*, Vol. IV, p. 980.
[4] After passing into the service of Hulāgu, Ṭūsi, in the preface to *Zīj al-Ilkhāni*, referred to his connection with the Ismā'īlites as "casual" (Ivanow, *op. cit.*, p. xxv) and also "rescinded" the dedication of *Akhlāq-i Nāṣiri* to Naṣīr al-Dīn 'Abd al-Raḥīm, his Ismā'īlite patron at Quhistān (Browne, *Literary History of Persia*, Vol. II, p. 456).
[5] *Encyclopaedia of Islam*, Vol. IV, 981.
[6] P. K. Hitti, *History of the Arabs*, p. 378.
[7] Aidin Sayili's article in *Yādnāmeh-i Ṭūsi*, Teheran University, Teheran, 1957, p. 61.
[8] *Ḥukamā'-i Islām*, Vol. II, p. 256.
[9] *Yādnāmeh-i Ṭūsi*, p. 66.