

The significance of epistemic integration between philosophy and medicine among Medieval Islamic Philosophers: Ibn Rushd of Cordoba as a model (d. 595 AH/1198 CE)

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Abstract---Epistemic integration constitutes an intellectual characteristic and a methodological tool that distinguished many Muslim scholars in the medieval period, including philosophers, theologians, jurists, physicians, and linguists. The distinctive feature of epistemic integration among medieval Islamic philosophers is grounded in two principal factors. The first lies in their theory of knowledge, which is based on diverse yet complementary sources: revealed divine scripture, the observable cosmos, reason, and sense perception. The second factor is their profound conviction in the proximity and interpenetration of the sciences, coupled with their keen concern for classifying and systematising them and for elucidating their relationships. Abū al-Walīd Ibn Rushd of Cordoba stands as a pioneering figure and an eminent philosopher in embodying the theory of epistemic integration. He succeeded, with rigour and methodological clarity, in forging strong connections between diverse fields of knowledge such as jurisprudence, philosophy, medicine, and ethics, thereby rendering him a model from which contemporary thought may benefit. Linking scientific progress in medicine and biological research to ethics, religion, philosophy, and legislation ensures the attainment of individual well-being and the preservation of human dignity. In the present age, Islamic philosophy can contribute more than ever to guiding students in medical sciences and researchers in biology towards recognising the ethical and human dimensions of their research. It can also highlight Islamic bioethics as a form of practical moral reflection that guides the use of modern scientific technologies in medicine and biology and

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regulates their engagement with living beings in general and with human beings in particular.

Keywords---epistemic integration, philosophy, medicine, Ibn Rushd (Averroes).

Introduction

If both the philosopher and the physician are tasked with reflecting on the physical, mental, and psychological health of the human being, as well as on the means of preserving it from disorders and curing it of various diseases and pains, this practically indicates the existence of a close relationship and an integrative connection between philosophy and medicine in terms of subject matter, function, and ultimate purpose. This purpose is embodied in the objective of preserving human health, which constitutes the foremost requirement of life and its most essential foundation.

The medieval Islamic philosophers were fully aware of this relationship; consequently, the subject of the "human being" occupied a central position in their philosophical investigations. They studied human beings holistically, examining rational thought, psychological and physical faculties, values, moral philosophy, and the human relationship with the Creator and the surrounding cosmos. As a result, they produced a philosophical legacy that brought together philosophy, medicine, and wisdom within a coherent unity, through which they assimilated the knowledge of their age and employed it in the service of science, civilisation, and humanity.

This research aims to reveal the efforts of one of these eminent figures, namely, the philosopher, physician, and jurist Abū al-Walīd Muḥammad ibn Aḥmad ibn Rushd al-Qurṭubī, known as "Ibn Rushd the Grandson" (520–595 AH/1126–1198 CE). It highlights his integrative methodology in studying philosophy and medicine as an interconnected unity and addresses the following questions:

What is the significance of epistemic integration between philosophy and medicine among medieval Islamic philosophers, as exemplified by Ibn Rushd?

What is Ibn Rushd's philosophical and medical role? What is his conception of the science of medicine, its craft, its divisions, and its subjects? What is the scholarly value of his book *al-Kullīyyāt fī al-Ṭibb* (*The Generalities of Medicine*)?

How does Islamic philosophy contribute to guiding students in medical and biological sciences and enabling them to grasp the ethical and human dimensions of biological and medical research?

1. Epistemic Integration as a Cognitive Characteristic among Medieval Islamic Philosophers

In linguistic usage, integration signifies completeness and perfection; it is said that something is integrated when it is complete and that one has completed something when one has perfected and refined it.¹

Epistemic integration is a term that has come into common usage to denote that "a person is encyclopaedic in his knowledge and culture, insofar as he is acquainted with many sciences, even if such acquaintance falls within the scope of general culture rather than specialised expertise".²

On this basis, epistemic integration may be regarded as a cognitive characteristic and a methodological tool that distinguished many Muslim scholars in the medieval period, including philosophers, theologians, jurists, linguists, and historians. They were encyclopaedic in their knowledge, combining related sciences, drawing on the methodologies of specific disciplines, and applying them to others. Examples include Ibn Sīnā, who was a philosopher, physician, and linguist; Ibn Rushd, who was a jurist, legal theorist, philosopher, and physician; al-Fārābī, a philosopher; Abū Ḥāmid al-Ghazālī, a jurist, legal

¹ Ibn Manẓūr. *Lisān al-ʿArab*. Vol. 4. Beirut: Dār al-Fikr, 2008, 772.

² Malikāwī, Fathī Ḥasan. "Concepts of Epistemic Integration." In *Epistemic Integration in University Education and Its Civilisational Necessity*, edited by Rāʿid Jamīl ʿAkkāsha. Virginia, VA: International Institute of Islamic Thought, (2012), 19

theorist, and mystic; Abū Ya‘qūb al-Warjalānī, a jurist, legal theorist, and philosopher; and Ibn Khaldūn, a historian, educational thinker, and sociologist.

This epistemic integration and the capacity for creativity across multiple sciences demonstrated by many early Islamic thinkers may, in my view, be attributed to two fundamental factors, namely:

First, their theory of knowledge is based on diverse and complementary sources, namely, revealed divine scripture, the observable cosmos, reason, and sense perception. This theory is grounded in Qur’ānic verses that urge the integration of the sciences of revelation, as understood by the human being, with those acquired through reflection on the signs of God in the horizons and within the self, as well as across various cosmic, natural, social, and psychological domains.

Ibn Rushd affirmed the principle of epistemic integration in his statement: “If the activity of philosophy is nothing more than reflection upon existing things and considering them insofar as they indicate the Maker that is, insofar as they are artefacts then existing things indicate the Maker only through knowledge of their craftsmanship; and the more complete the knowledge of their craftsmanship, the more complete the knowledge of the Maker is. Since the law has encouraged reflection upon existing things and urged it, it is evident that what this term denotes is either obligatory by the law or recommended by it.”³

Ibn Rushd further states that the Law has called for the consideration of existing things through reason and has sought their knowledge by means of it in numerous verses of the Book of God Most High, such as His saying: ﴿فَاعْتَبِرُوا يَا أُولِيَ الْأَبْصَارِ﴾ [Sūrat al-Ḥashr: 2]. This constitutes an explicit text indicating the obligation of rational syllogism, or of both rational and legal syllogism together, since consideration is nothing other than deriving the unknown from the known and extracting it from it, and this is syllogism.⁴ Likewise, Most High: ﴿أَوَلَمْ يَنْظُرُوا فِي مَلَكُوتِ السَّمَاوَاتِ وَالْأَرْضِ وَمَا خَلَقَ اللَّهُ مِنْ شَيْءٍ﴾ [Sūrat al-A‘rāf: 185]. Ibn Rushd holds that this constitutes an exhortation to reflect upon all existing things. He concludes that it is obligatory for the inquirer to learn and acquire the various types of rational and legal syllogisms and to know which forms of syllogism are productive and which are not, considering them tools without which action cannot be accomplished appropriately. He states, "It is therefore incumbent upon the believer in the law, who complies with its command to reflect upon existing things, to proceed, prior to reflection, by acquiring knowledge of those matters which, with respect to reflection, occupy the position of tools with respect to action."⁵

This is consistent with the view previously advanced by Abū Ḥāmid al-Ghazālī, who held that “These sciences that we have enumerated, and those that we have not enumerated, do not have their principles outside the Qur’ān, for all of them are drawn from a single sea among the seas of God Most High, namely, the sea of actions... Among the actions of God Most High, which constitute the sea of actions, for example, are healing and illness... This single action cannot be known except by one who has fully mastered medicine... Among His actions is also the precise knowledge of the sun and the moon and their stations according to calculation... The true nature of the sun and the moon according to calculation, their eclipses, the entering of night into day, and the manner in which each of them is enfolded over the other cannot be known except by one who knows the configurations of the structure of the heavens and the earth, which is a science in its own right.”⁶

Second: Their Profound Conviction in the Proximity and Interpenetration of the Sciences, and Their Concern for Classifying, Ordering, and Elucidating the Relationships among Them

With respect to the interpenetration of the sciences and the interconnection of some with others, in addition to what has already been mentioned by Ibn Rushd and al-Ghazālī, we find Abū Ḥāmid al-Ghazālī, in *Bayan Waza‘if al-Muta‘allim (Clarifying the Duties of the Student)*, advising and guiding as follows:

³ Ibn Rushd. *Faṣl al-Maqāl wa-Taqrīr mā bayna al-Sharī‘a wa-l-Ḥikma min al-Ittiṣāl*. Edited, introduced, and annotated by Abū ‘Imrān al-Shaykh and Aḥmad Jalūl al-Badawī. Algiers: National Company for Publishing and Distribution, (1982), 24.

⁴ Ibn Rushd, previously cited work, 24.

⁵ *Ibid.*, 24.

⁶ al-Ghazālī, Abū Ḥāmid. *Jawābir al-Qur’ān wa-Durarub*. Beirut: Dār al-Jil, 1988, 26.

"The seeker of knowledge should not neglect any of the praiseworthy sciences, nor any of their branches, without examining it and acquainting himself with its purpose and aim. If his lifespan permits, he should then seek to delve deeply into it; otherwise, he should devote himself to what is more important and complete it, while approaching the remainder in due measure, for the sciences are mutually supportive, and some are connected to others".⁷

Ibn Ḥazm, for his part, maintains that "all sciences are related to one another, and each is in need of the other".⁸

Abū Bakr Ibn al-ʿArabī (d. 543 AH/1148 CE) was not an advocate of specialisation in a single discipline. Instead, he held that the student of knowledge must be acquainted with the foundations of all the sciences, which is the objective, and that the aim is not for the student to reach their ultimate limits. He states, "He should not devote himself exclusively to some of these sciences, thereby becoming human in what he knows and bestial in what he does not know".⁹ He expresses strong disapproval of those who specialise in instrumental sciences while neglecting the sciences of ultimate purposes, saying, "Especially one who has spent his lifetime as a calculator or grammarian and the like has perished; for him is like one who desired to practise a craft, spent his lifetime sharpening the tool, and then died before carrying out the craft".¹⁰ He also responds to those who claim that a student who specialises in a single science will encompass it fully, arguing that this claim is erroneous, since comprehensive mastery is not possible even in a single science except for a few rare individuals, such as Sībawayh, who reached the utmost degree in the science of grammar. Ibn al-ʿArabī states, "I inform you that I have not seen with my own eyes anyone who encompassed these sciences that I have mentioned to you, nor anyone who participated in them all, except one; thus, it has become clear that comprehensive mastery is impossible, whereas participation is possible".¹¹

Epistemic integration is therefore a principle agreed upon by early Islamic thinkers, who guided students of knowledge towards it during their studies while taking into account gradual progression and sufficiency in the most important foundations of the sciences, distinguishing between instrumental sciences and sciences of ultimate purpose, and emphasising the integration of knowledge with action, the law with wisdom, medicine with philosophy, and jurisprudence with mysticism and ethics.

With respect to the classification and ordering of the sciences and the elucidation of the connections among them, Islamic philosophers and scholars have exerted valuable efforts in organising the sciences known to Islamic culture, leaving behind numerous works, including *Iḥṣāʾ al-ʿUlūm* by al-Fārābī, the *Rasāʾil Jamīʾa* of the Brethren of Purity, *Aqsām al-ʿUlūm al-ʿAqliyya* by Ibn Sīnā, *Maḥāṭib al-ʿUlūm* by al-Khwārizmī, *al-Fihrist* by Ibn al-Nadīm, *Marātib al-ʿUlūm* by Ibn Ḥazm, *al-Muqaddima* by Ibn Khaldūn, *Jamīʾ Bayān al-ʿIlm wa-Faḍlīhi* by Ibn ʿAbd al-Barr, *Miḥṭab al-Saʿāda* by □ Although these authors differed in their criteria for ordering and classifying the sciences, their efforts in this field demonstrate the integrative tendency in knowledge that characterises the theory of knowledge among medieval Islamic philosophers.

Dr Ṭāhā ʿAbd al-Raḥmān devoted important chapters in his valuable book *Tajdid al-Manhaj fi Taqvim al-Turāth* (*Renewing the Method in the Evaluation of Heritage*) to substantiating the claim of internal epistemic interpenetration, external epistemic interpenetration, and the integrative nature of Islamic intellectual heritage, as well as to refute the atomistic approach to its evaluation and study. He affirms this in his statement: "Know that interpenetration is of two kinds: one internal, which occurs among the foundational heritage sciences themselves, and the other external, which occurs between these sciences and the transmitted sciences"¹² that is, the sciences transmitted from other cultures, whether Greek, Persian, or Indian.

⁷ al-Ghazālī, Abū Ḥamid. *Iḥyāʾ ʿUlūm al-Dīn*. Edited by Sayyid ʿImrān. Vol. 1. Cairo: Dār al-Ḥadīth, 2004, 73.

⁸ Ibn Ḥazm. *Rasāʾil Ibn Ḥazm al-Andalusī (Risālat Marātib al-ʿUlūm)*. Edited by Iḥsān ʿAbbās. Vol. 4. Beirut: Arab Institution for Study and Publishing, (1983), 89.

⁹ Ṭālibī, ʿAmmār. *The Theological Views of Abū Bakr Ibn al-ʿArabī. al-ʿAwaṣim min al-Qawaṣim*. Vol. 1. Algiers: Ministry of Culture, 2013, 236.

¹⁰ Ibid., 236.

¹¹ Ibid., 236.

¹² ʿAbd al-Raḥmān, Ṭāhā. *Tajdid al-Manhaj fi Taqvim al-Turāth*. 3rd ed. Casablanca: World Cultural Centre, 2007, 75.

This mode of education and formation produced scholars characterised by the quality of “encyclopaedism,” who acquired a substantial share of the sciences and knowledge of their time. This quality was also manifested in their classifications and writings, through which they employed such knowledge in the service of Islamic civilisation and of humanity as a whole.

2. An Introduction to Ibn Rushd and His Philosophical and Medical Role

2.1. Ibn Rushd: His life, education, and intellectual output

He is Abū al-Walīd Muḥammad ibn Aḥmad ibn Muḥammad ibn Aḥmad ibn Rushd (520–594 AH/1126–1198 CE), known as Ibn Rushd the Grandson of Cordoba. He was raised in a distinguished family in al-Andalus, renowned for learning and for holding prominent positions within the state. He received an advanced education in numerous sciences and disciplines,¹³ studying jurisprudence according to the Mālikī school; theology according to the Ash‘arī school; and the sciences of language and grammar, philosophy, medicine, music, mathematics, and the judiciary. He excelled in the sciences of his age and left behind valuable works that attest to both deep specialisation and wide-ranging erudition, encompassing diverse scientific disciplines. Among these works, which are arranged according to fields of knowledge,¹⁴ the following are as follows:

In the field of jurisprudence, he authored his well-known book *Bidāyat al-Mujtahid wa-Nihāyat al-Muqtaṣid* (*The Beginning of the Jurist and the End of the Moderate*) on comparative jurisprudence and the causes of disagreement, as well as a collection of juridical treatises.

In theology, he authored *al-Kashf ‘an Manābij al-Adilla fi ‘Aqā’id al-Milla* (*The Exposition of the Methods of Proof in the Doctrines of the Community*).

In the field of philosophy, he authored *Faṣl al-Maqāl fīmā bayna al-Ḥikma wa-l-Sharī‘a min al-Ittiṣāl* (*The Decisive Treatise on the Connection between Philosophy and the Law*) and *Tabāfut al-Tabāfut* (*The Incoherence of the Incoherence*), a response to *Abū Ḥamid al-Ghazālī’s Incoherence of the Philosophers*. He also composed multiple commentaries on most of Aristotle’s works, such as *Metaphysics*, *On the Soul*, and *On Generation and Corruption*, thereby surpassing many Muslim philosophers in his exposition and abridgement of Aristotle’s writings at the request of the Almohad caliph Abū Ya‘qūb Yūsuf. He also made substantial contributions that facilitated the understanding of Aristotle’s works. Philosophy thus became the field in which his creativity and intellectual productivity were most fully realised and in which his commentaries and treatises number more than ninety works.

In the field of medicine, he has authored more than twenty works, the most renowned of which is *al-Kullīyyat*. The emir Abū Ya‘qūb Yūsuf ibn ‘Abd al-Mu‘min appointed Ibn Rushd as his personal physician.

In the fields of language, literature, and grammar, he left works such as *Talkhīṣ Kitāb al-Shi‘r* (*Summary of the Book of Poetry*), *al-Ḍarūrī fi al-Naḥw* (*The Essential in Grammar*), and discussions on the word and the derived noun.

Ibn Rushd held the office of judges in Cordoba and Seville. In the latter part of his life, he was subjected to an ordeal, having been accused of unbelief and heresy by the scholars of al-Andalus and his opponents. Consequently, Abū Yūsuf Ya‘qūb exiled him to Marrakesh, where he died in 1198 CE.

The Philosophical Role of Ibn Rushd

Despite Ibn Rushd’s encyclopaedic scope and his contributions to diverse fields of knowledge, philosophy and the faculty of philosophising predominated in every discipline and science in which he

¹³ Ibn Rushd. *Tabāfut al-Tabāfut*. Edited and critically examined by ‘Adil ‘Abd al-Mun‘im Abū al-‘Abbās. Cairo: al-Sā‘ī Library for Publishing and Distribution, (2011), 15.

¹⁴ al-Difā‘, ‘Alī ‘Abd Allāh. “The Life of Ibn Rushd.” In *Proceedings of the Ibn Rushd Conference on the Eighth Centennial of His Death*, vol. 1, 49–53. Algiers: National Foundation for Graphic Arts, 1985; and Badrān, Mas‘ūd ibn Laḥsan. “Revelation and Reason through a Study of *Faṣl al-Maqāl* and *Manābij al-Adilla*.” In *Encyclopaedia of Islamic Philosophy (The Debate of Authenticity and Modernity)*, vol. 1, 618. Algiers: Ibn al-Nadīm for Publishing and Distribution, 2016.

wrote. He is regarded as one of the most prominent Islamic philosophers who defended philosophy and corrected the views of earlier scholars and philosophers such as Ibn Sīnā, al-Fārābī, and al-Ghazālī. Ibn al-Abbār described him as follows: "Mastery was more predominant in him than transmission, and al-Andalus did not produce his equal in perfection, knowledge, and merit".¹⁵

The campaign waged by jurists and theologians against philosophy during Ibn Rushd's era, together with the strong presence of Abū Ḥāmid al-Ghazālī's philosophical and theological discourse and the widespread circulation of his works in al-Andalus, such as *Iḥyā' 'Ulūm al-Dīn*, *Tabaḥḥut al-Falāsifa*, and *Maqāṣid al-Falāsifa*, were factors that impelled Ibn Rushd to re-establish his philosophical discourse anew. He grounded it in a mode of thinking on the basis of wisdom and demonstration, regarding it as a discourse addressed to a specific group of people, namely, those capable of particular interpretation, or "those who are demonstrative by nature and by craft, that is, by the craft of wisdom; and this interpretation should not be disclosed to the practitioners of dialectic, let alone to the general public".¹⁶ Their discourse is founded upon rational demonstration on the basis of a particular rational syllogism, undertaken by those capable of interpretation, namely, those firmly grounded in knowledge.

Ibn Rushd also emphasises the need for scholars to consider people's levels of understanding, cognition, and assent to discourse. Among them are those who are convinced by demonstration and logical proofs, those for whom only dialectical arguments are compelling, and those who are persuaded by rhetorical arguments alone, without going beyond them.¹⁷

In his view, knowledge is of three types:

a. **Demonstrative knowledge**, which is appropriate for the people of demonstration. It is based on logical proofs and rests upon clear primary principles affirmed by reason, from which multiple precise and well-ordered syllogisms are derived.

b. **Dialectical knowledge**, which relies on premises that are not self-evident but merely accepted assumptions received by the dialectician without critical examination. This type is directed to the general body of theologians.

c. **Rhetorical knowledge**, which consists of proofs that appeal to emotions and rely more on affect than on reason. This type is addressed to the general public.

The law has recognised this diversity in levels of knowledge; it is therefore necessary to acknowledge it to remove what is imagined to be a conflict between revelation and various kinds of knowledge. In reality, there is no conflict, for truth can never contradict truth in any respect.¹⁸

The Medical Role of Ibn Rushd

Ibn Rushd devoted considerable attention to the science and practice of medicine during his period of intellectual maturity. He applied himself to studying the works of those who preceded him in this vital field, including the writings of Hippocrates, Galen, Aristotle, al-Rāzī, Ibn Sīnā, and Abū Marwān Ibn Zuhr. He relied upon these sources in composing his book *al-Kullīyat fī al-Ṭibb* (*The Generalities of Medicine*), which is regarded as one of his most important works. The book was translated into several languages and was widely known and taught at many European universities during the Middle Ages.

Ibn Rushd indicated in this book that he had not practised medicine as a clinical physician and had not acquired experience in applied medicine; instead, he confined himself to the "generalities," that is, theoretical medicine, or to medicine insofar as it is a science. Science is knowledge formulated in laws; that is, it is knowledge of universals rather than particulars. Aristotle affirmed that "there is no science except of the universal".¹⁹ However, Ibn Rushd later turned his attention to particular medical issues

¹⁵ 'Imāra, Muḥammad. "The Intellectual Position of Ibn Rushd between the West and Islam." *Islamiyyat al-Ma'rifa* 1, no. 2 (September 1995): 80.

¹⁶ Ibn Rushd. *Faṣl al-Maqāl*, 56.

¹⁷ *Ibid.*, 47.

¹⁸ Ibn Rushd. *Faṣl al-Maqāl*, 46.

¹⁹ al-Jābirī, Muḥammad 'Ābid. *Ibn Rushd: Life and Thought—Study and Texts*. Beirut: Arab Unity Studies Centre, (1998), 227.

when he served as the personal physician to the emir Abū Ya‘qūb Yūsuf, and he resolved to write on the applications of this science. However, various preoccupations prevented him from doing so.²⁰

The motive behind his interest in this science and his authorship may be traced to two factors. The first was what he observed in reality of the decline and deterioration of the medical profession, to the extent that he described the physicians of his time as "the farthest of God's creation from this craft," except the physician Abū Marwān Ibn Zuhr, the author of *Kitāb al-Taysir fī al-Ṭibb al-Taṭbiqī* (*the Book of Facilitation in Applied Medicine*). The second was the suffering he himself endured as a young man due to poor treatment of his digestive system at a time when he did not know medicine.²¹ This experience stirred his resolve and intellectual capacity to rescue the medical profession.

Ibn Rushd contributed to the scientific foundation of medicine and regarded it as an independent science since it derives its principles from natural science. In Aristotle's system, natural science serves as the model for all sciences.²²

Ibn Rushd defined medicine as follows: "The craft of medicine is an operative craft proceeding from true principles, by which one seeks to preserve the health of the human body and to eliminate disease, to the utmost extent possible in each individual body. The aim of this craft is not necessarily to effect a cure, but rather to do what ought to be done, in the proper measure and at the proper time, and then to await the attainment of its aim, as is the case in the craft of navigation and the leading of armies".²³

In the introduction to *al-Kullīyyat*, he emphasises that the reader "will not be able to exhaust it, nor to understand most of its meanings, unless he first undertakes at least a minimal study of the art of logic, to know the three kinds of demonstration. Likewise, he should possess minimal knowledge of natural science. Whoever has not undertaken at least some training in the rational examination of these matters will neither understand the statements contained in this book nor benefit from them; indeed, harm may result from that".²⁴

Accordingly, the student of medicine, in Ibn Rushd's view, must be equipped with other sciences, such as logic and methods of inference and demonstration, ethics, and knowledge of natural science and its properties, to be able to comprehend the medical science he studies and to realise its aims, namely, the eradication of diseases and the preservation of human health.

Ibn Rushd divided the extensive *Book of the Generalities*, which comprises 672 pages, into seven books encompassing the fundamentals of the science of medicine, namely:

The first book concerns the anatomy of the organs; the second, health; the third, disease; the fourth, the signs of health and disease; the fifth, medicines and foods; the sixth, the preservation of health; and the seventh, the treatment of symptoms and the removal of disease.

This book possesses significant scholarly value within the broader history of Arabic medicine and the history of scientific thought (in the philosophy of science), as it is characterised by the absence of superstition and a magical outlook on specific ailments, and it attests to the cumulative nature of human knowledge in this field.

3. Contribution of Islamic Philosophy to Guiding Students in Medical and Biological Sciences

Islamic philosophy can today contribute more than ever to guiding students of medical sciences and researchers in biology towards recognising the ethical and human dimensions of the research they conduct in this field, particularly in an era in which the sciences of medicine and biology have undergone a tremendous revolution. This revolution has overcome many of the ailments, diseases, and health afflictions from which humanity previously suffered; however, it has also generated serious ethical problems and deviations that threaten human dignity and freedom, expose human beings to degradation and unlawful exploitation, and lead to the loss of their humanity as a result of the

²⁰ Ibn Rushd. *Kitāb al-Kullīyyat fī al-Ṭibb*. Beirut: Arab Unity Studies Centre, (1999), 132.

²¹ al-Jābirī, Muḥammad ‘Ābid. *Ibn Rushd: Life and Thought*, 228.

²² Ibn Rushd. *Kitāb al-Kullīyyat fī al-Ṭibb*, 136.

²³ Ibid., 136.

²⁴ Ibid., 124.

separation of ethical, human, religious, and philosophical values from medical and biological research, which has become marked by secularism and positivist materialist tendencies.

Among these ethical problems, to mention but a few, are the issues of genetic engineering and eugenics, cloning, abortion, euthanasia or so-called mercy killing, in vitro fertilisation, sperm and ovum banks, frozen embryos, and surrogate motherhood.

Whereas medical thinking in the medieval period was linked to philosophy and religious and ethical teachings, sometimes to the point of domination, as a result of a distorted understanding of the Christian religion and the control of churchmen and superstitious thought, modern medical thinking and biological research, by contrast, suffer from a lack of ethical boundaries and guiding standards to regulate their course. This is what is known as applied ethics, life ethics, or bioethics, which seeks to regulate practice within the fields of science, technology, medicine, and biology and to discipline developments therein, in accordance with a just Islamic and human value system that regards religion as a fundamental source of ethics. This stands in contrast to other patterns and approaches to bioethics, such as the secular approach, which aims instead at abandoning ethics with religious foundations and a conservative metaphysical outlook and at separating the religious from the worldly, an approach described by Gilbert Hottois as post-modern (*postmoderne*).

It is therefore necessary for Islamic philosophy to focus on the study of values and ethics (axiology), which constitute one of the three principal branches of philosophy, alongside ontology and epistemology. The study of values and ethics is the domain in which philosophy in the present age can be linked with medicine, biology, and the sound Islamic religion, thereby forming an integrated unity among these sciences, grounded in their shared concern with the study of the human being, what brings about happiness and rectitude, and what averts affliction.

Thus, linking life to ethics is a means of regulating human action and preventing it from being left, amid the arenas of this technological revolution (such as the field of genetic engineering, for example), to flounder without ethical, religious, philosophical, and legal boundaries that delineate for it the path of correctness.

Conclusion

In conclusion, the following conclusions may be drawn from this study:

1. Epistemic integration is a cognitive characteristic and a methodological tool that distinguished many Muslim scholars, including philosophers, theologians, jurists, linguists, and historians, in the medieval period.
2. The distinctive feature of epistemic integration among medieval Islamic philosophers may be attributed to two fundamental factors:
 - their theory of knowledge, which is based on diverse and complementary sources, namely, revealed divine scripture, the observable cosmos, reason, and sense perception;
 - their profound conviction in the proximity and interpenetration of the sciences, and their concern for classifying, ordering, and elucidating the relationships among them.
3. Abū al-Walīd Ibn Rushd of Cordoba represents a pioneering and distinguished model of epistemic integration, having succeeded, with rigour and methodological clarity, in forging strong connections between diverse fields of knowledge, such as jurisprudence, philosophy, medicine, language, and theology.
4. It is necessary to link scientific development in medicine and biological research with ethics, religion, philosophy, and legislation to achieve individual well-being and preserve human dignity.
5. In the present age, Islamic philosophy must attend to, revitalise, and foreground the study of values and ethics and articulate Islamic bioethics as a form of practical moral reflection that guides the use of modern scientific technologies in medicine and biology and regulates their engagement with living beings in general and with human beings in particular.

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