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The Unison of Heavenly Knowledge and Science

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The Unison of Heavenly Knowledge and Science

Abstract:

A fundamental component of a Muslim's knowledge of God is the knowledge of the universe as an effect of the divine creative act. Knowledge of the relationship between God and the world, between Creator and creation, or between the Divine Principle and cosmic manifestation constitutes the most fundamental basis of the unity of science and spiritual knowledge. In Islam, the most important sources of this type of knowledge are the Qur'an and prophetic hadiths. To understand the Islamic conception and experience of the unity of science and spiritual knowledge, it is necessary to refer to some of the key concept's ideas embodied in this knowledge. Nature is a source of many types of knowledge: mathematical physical and metaphysical, scientific and spiritual, qualitative and quantitative, practical and aesthetical. This is because, as a world and viewed in its totality, the reality of nature is comprised of many aspects. Each type of knowledge corresponds to a particular aspect of nature that is singled out for study. This paper focuses on the liaison between the heavenly knowledge and modern knowledge of sciences.

Keywords: Muslim Theology, Divine knowledge, Science, Divine Laws, Cosmological study.

Introduction

Science, understood in the restricted sense of an organized, orderly and objective knowledge of the natural order, is not the product of the modern mind alone. Such forms of knowledge had also been extensively cultivated in pre-modern civilizations such as in the Chinese, Indian, and Islamic civilizations. These pre-modern sciences, however, differ from modern science with respect to goals, methodology, sources of inspiration, and their philosophical assumptions concerning man, knowledge, and the reality of the natural world.

Another major difference between pre-modern and modern sciences pertains to the place of science in relation to other kinds of knowledge. In pre-modern civilizations, science was never divorced from spiritual knowledge. On the contrary, one finds an organic unity of science and spiritual knowledge. The main aim of this chapter is to explain how this unity was achieved in pre-modern times. My specific reference is to the Islamic scientific tradition. However, many of the features of Islamic science mentioned here equally apply to the other pre-modern sciences. By *spiritual knowledge*, it means knowledge pertaining to the spiritual order. The essence of spiritual knowledge is knowledge of the world of the spirit. In Islam, this knowledge refers to the knowledge of the One, of God and His Unity. It is worth repeating that the principle of Divine Unity (*al-tawhid*) constitutes the central message of Islam. In Muslim Classification of knowledge composed over the centuries, the knowledge of *tawhid* was an always held to the highest form of knowledge as well as the ultimate goal of all intellectual pursuits. Spiritual knowledge is not confined solely to the world of the pure spirit. It is also concerned with the manifestation of the Spirit in the different orders of reality that make up the whole universe. A fundamental component of a Muslim's knowledge of God is the knowledge of the universe as an effect of the divine creative act. Knowledge of the relationship between God and the world, between Creator and creation, or between the Divine Principle and cosmic manifestation constitutes the most fundamental basis of the unity of science and spiritual knowledge. In Islam, the most important sources of this type of knowledge are the Qur'an and prophetic *hadiths*. To understand the Islamic conception and experience of the unity of science and spiritual knowledge, it is necessary to refer to some of the key concept's ideas embodied in this knowledge.

The Divine Knowledge as Source of Both Science and Spirituality

The Qur'an is the fountainhead of Islamic intellectuality and spirituality. It is the basis not only of religion and spiritual knowledge but of all kinds of knowledge. It is the main source of inspiration of the Muslim vision of the unity of science and spiritual knowledge. The idea of this unity is a consequence of the idea of the unity of all knowledge. The latter is in turn derived from the principle of Divine Unity applied to the domain of human knowledge. Man gains knowledge from different kinds of sources and through various ways and means. But all knowledge ultimately comes from God who is the All-knowing. In the Qur'anic view, man's knowledge of things corporeal as well as spiritual is possible because God had given him the necessary faculties of knowing. Many Muslim philosophers and science assert that in the act of thinking and knowing the human intellect is illuminated by the divine intellect. The Qur'an is not a book of science. But it does provide knowledge of the principles of science, which it always relates to metaphysical and spiritual knowledge. The Qur'anic injunction to "read in the Name of Thy Lord" has been faithfully observed by every generation of Muslims. It has been understood to mean that the acquisition of knowledge, including scientific knowledge should be based on the foundation of our knowledge of God's Reality. Islam, in fact, gives legitimacy to a science only if it is organically related to the knowledge of God and of the world of the Spirit. Consequently, Islamic science possesses a religious and spiritual character. According to the famous Muslim scientist, Ibn Sina (Avicenna), that science is true science which relates knowledge of the world to the knowledge of the Divine Principle¹.

Nature as Source of Scientific and Spiritual Knowledge

Nature is a source of many types of knowledge: mathematical physical and metaphysical, scientific and spiritual, qualitative and quantitative, practical and aesthetical. This is because, as a world and viewed in its totality, the reality of nature is comprised of many aspects. Each type of knowledge corresponds to a particular aspect of nature that is singled out for study. Modern science has chosen to study only some of these aspects. In conformity with its scientific conception of nature and its reductionist and materialistic worldview, modern science ignores, belittles or denies altogether the metaphysical, spiritual, qualitative, and aesthetical aspects of nature. Eddington and Whitehead have rightly asserted that modern science is a kind of subjectively-selected knowledge since it deals only with those aspects of the reality of nature which the so-called scientific method is competent to study². In Islam, the unity of nature is regarded as an image of the unity of the Divine Principle. The goal of Islamic science is to demonstrate the unity of nature that is the interrelatedness of all its parts and aspects. Consequently, Islamic science seeks to study all the different aspects of nature from a unified and integrated standpoint. For example, the fundamentality of the mathematical aspect of the universe is well recognized in Islamic science. According to Ikhwan al-safa' (the brethren of Purity), an eleventh-century brotherhood of Muslim scientists and philosophers, "the whole world is composed in conformity with arithmetical, geometrical and musical relations,"³ But this mathematical content of the universe was never studied in Islam from a quantitative point of view alone. Muslim mathematics was both a qualitative and a quantitative science. Following the Pythagoreans, whose mathematical conception of the universe found easy acceptance into the Islamic worldview, many Muslim mathematicians speak of the "virtues" and "personalities" of various geometrical figures. One

¹ F. Brunner, *Science ET realite*, p. 13.

² S.H. Nasr, *Man and Nature*, p.28.

³ See S.H. Nasr, *Islamic Cosmological Doctrines*, p. 45.

of their declared aims in studying geometry is to help prepare the human soul in its journey to the world of the spirits and eternal life⁴. Similarly, the science of numbers is seen to be related to spiritual knowledge. Numbers are not merely quantitative entities on which may be performed the arithmetical operations of addition, subtraction, multiplication, and division. Numbers are also qualitative entities. In its qualitative aspect, number is the spiritual image resulting in the human soul from the repetition of unity. Numbers are therefore regarded as the projection or as so many expressions of unity. Knowledge of the generation of numbers from the number one presents to the human mind a powerful illustration of the generations of all things from God. Ikhwan al-Safa' compared the creation of the world by God to the generation of numbers from the number One⁵. The number zero, whose historical origin may be traced to the metaphysical speculation of the Hindus, is said to symbolize the Divine Essence which is beyond all determinations including Being.

Mathematics as cultivated by the Muslims emerges as a primary link between the physical world and the spiritual or metaphysical world of the Platonic archetypes. Arithmetic and geometry, the foundation of the mathematical sciences, find their application in the domain of the mathematical sciences; find their application in the domain of the physical sciences as well as in the domain of metaphysical knowledge of *tawhid*. Muslim philosopher-scientists like al-Farabi, Ikhwan al-Safa and Qutb al-Din al-Shirazi considered mathematical training indispensable to having a sound knowledge of spiritual truths⁶. Nature is also a source of spiritual and metaphysical knowledge because it is not merely 'natural'. Nature also possesses a 'supernatural' aspect. In Islam, the natural and the spiritual are closely intertwined. Spiritual reality manifests itself in the natural world while remaining independent of the letter. The two orders are connected by means of a vertical, metaphysical relationship. The natural world is variously described in the different religious traditions as an effect, a manifestation, symbol or reflection of the spiritual world. Conversely, the spiritual world is described as the cause, principle, root, or archetype of the natural world. In the religious and intellectual history of the West, however, a sharp distinction has often been made between the natural and the spiritual in a manner which is not conducive to the realization of the unity of science and spiritual knowledge. The natural world is identified with the profane and the spiritual with the sacred. There was also a sharp line drawn between the natural and the supernatural or between nature and grace. In modern science, nature has lost its sacred character. The natural world has been emptied of its spiritual content. Consequently, nature is no longer seen as having a meaningful role in religious and spiritual life.

⁴ *Ibid*, p.49.

⁵ "Know, oh Brother (May God assist thee and us by the Spirit from Him) that God, Exalted Be his praise, when He created all creatures and brought all things into being, arranged them and brought them into existence by a process similar to the process of generation (of numbers) from one, so that the multiplicity (of numbers) should be a witness to His Oneness, and their classification and order an indication of the perfection of His wisdom in creation. And this would be a witness to the fact, too, that they (creatures) are related to Him who created them, in the same way as the numbers are related to the One which is prior to two, and which is the principle, origin and source of numbers, as we have shown in our treatise on arithmetic". Ikhwan al-Safa, *Rasail* (cairo Arabiyyah press, 1928), trans. by S.H.Nasr in his science and *civilization in Islam*, pp. 155-6.

⁶ The views of al-Farabi and Qutb al-Din al-Shirazi on this question are described in *classification of knowledge in Islam* (Kuala Lumpur Institute for Policy Research, 1991).

The fact that there is something of a spiritual order that resides in nature finds numerous expressions in Islamic philosophical and theological literature. In the language of the Qur'an, nature is said to bear within itself the imprints of God. The phenomena of nature, in the macrocosmic world as well as within the souls of men, are said to be the *ayah* (signs) of God. The verses of the Qur'an are likewise called the *ayah* of God. Nature is therefore regarded as a divine revelation, a counterpart of the Qur'an. It conveys to man its metaphysical and spiritual message of transcendence. In this religious and spiritual conception of nature lies the basis of unity of science and spiritual knowledge.

Nature is also said to be a book of symbols. According to al-Ghazzali, everything that exists in the natural world in a symbol of something in the higher world⁷. As pointed out in an earlier chapter symbol in its traditional sense is to be distinguished from allegory. As traditionally understood in Islam, symbol is the "reflection", in a lower order of existence, of a reality belonging to a higher ontological status. That higher world which is symbolized by the natural symbols is the spiritual world. For example, the sun symbolizes the Divine Intelligence, the empty vastness of space symbolizes the Divine All-Possibility and also the Divine Immutability, a bird symbolizes the soul, a tree symbolizes the grades of being, and water symbolizes knowledge and rain revelation. We can go on and on giving countless other examples. There is an inner nexus between the symbol and the symbolized. This nexus is metaphysical and not physical in nature. Knowledge of the meaning of a symbol or of this inner nexus cannot be gained through logical or mathematical analysis or through empirical investigation. This knowledge belongs to that science traditionally called the science of symbolism, which is metaphysical in nature. The science of symbolism is of crucial importance to the quest for the unity of science and spiritual knowledge. For this reason, this science was cultivated in almost every pre-modern civilization. However, by its very nature, this science poses a certain difficulty to the modern scientific mind. This is because this science presupposes the acceptance of divine revelation and intellectual intuition as two fundamentally real sources of objective knowledge. It also presupposes the acceptance of other levels of existence than the physical and of the hierarchic reality of the universe. These presuppositions are found to be contrary to many of the basic assumptions of modern science. The science of symbolism implies that natural objects are not to be regarded simply as facts as is done in modern science. Natural objects or phenomena that admit of empirical and mathematical study are also to be viewed as symbols. What this means is that the reality of a natural object is not exhausted by its scientific and mathematical content. Symbolic knowledge of natural objects is not only possible, but also is no less real than the corresponding scientific or mathematical knowledge. Muslim scientists of past centuries had shown that symbolic and scientific knowledge of natural things are not contradictory or unrelated. In fact, symbolic knowledge of nature helps to reveal the metascientific or metaphysical significance of scientific facts, theories and laws discovered through empirical study of the natural world. And in a number of known cases, it was the symbolic knowledge itself which inspired Muslim scientists to embark upon new areas of scientific study leading to original discoveries in those areas. A good example is of how Suhrawardi's twelfth century metaphysics of light and cosmology based on light symbolism helped to bring about intense scientific activity in the field of optics in thirteenth-century Islam. Qutb al-Din al-Shirazi and his student Kamal al-Din al-Farsi made important discoveries in this field.⁸

⁷ See his *Mishkat al-anwar*, trans. by W.H.T. Gairdner, pp 121-5.

⁸ For a discussion of these discoveries, see E.S. Kennedy, *The Exact Sciences in Iran under the Seljuqs and Mongols*, "Cambridge History of Iran" vol. v, Ed. By J.A Boyle, (Cambridge, 1968), p. 676.

The harmonious relationship between scientific and symbolic knowledge of nature is well illustrated by Ibn Sina in his work known as *Oriental philosophy*. In this work, scientific facts became transformed into symbols which were to act as guide posts for the traveler upon the path of spiritual perfection in his journey through and beyond the cosmos to the Divine Presence.⁹ Ibn Sina had drawn the scientific facts in question from a wide range of sciences including mineralogy, biology, astronomy, physics, cosmology, sociology, and anthropology as these sciences were known to the medieval world of his time. Physical and astronomical realities of the universe of which this scientific knowledge is a description were no longer seen in this work as external objects and phenomena to be scientifically analyzed and manipulated. Thanks to the symbolic knowledge of nature, Ibn Sina was able to see these realities as part of cosmos of symbols through which his spiritual journey to God must pass. Scientific knowledge of the physical world can, therefore, play an important role in the formulation of the idea of a spiritual journey through the cosmos provided that the traditional knowledge of symbol is cosmos provided that the traditional knowledge of symbols is present and accepted.

Since nature is regarded as a divine revelation it is a source for gaining knowledge of God's wisdom. Muslim scientists firmly believe that God's wisdom is reflected in innumerable ways in His creation. They study such things as natural forms, forces, energies, laws and rhythms not only to gain scientific knowledge as currently understood but also to arrive at a better knowledge of divine wisdom. Let us take the example of zoology. Muslim Zoological studies were pursued with diverse ends in view. There was first of all the scientific study of the anatomy and classification of animals. Muslim classification of animals was based on numerous criteria such as the nature of their habitats and the way they organize their defense from external attacks. Muslim interest in animals also arose out of practical concerns, the most important of which is the medical. Considerable attention was given to both veterinary medicine and pharmacological uses of animals. Then, there was the study of animal psychology and physiology. Another major concern displayed by Muslim Zoologists was with the spiritual, symbolic, and moral significance of animals. What is of great significance from the point of view of our present discussion is the fact that there existed many individual scientists and treatises in Islam which testify to the unity of scientific and spiritual knowledge in the domain of zoology. In al-Jahiz, the ninth-century author of *the book of Animals*, the most famous Arabic work on zoology, scientific, literary, moral, and religious studies of animals are combined. According to him, the primary goal of the study of zoology is the demonstration of the existence of God and the wisdom inherent in His creation. Al-Jahiz, treated zoology as a branch of religious studies.

In the fourteenth-century zoological work of kamal al-Din al-Damiri, entitled *The Great Book of the life of Animals*,¹⁰ we encounter another good example of the combining of spiritual, moral, religious and juridical, literary, scientific, and medical perspectives in studying animals. Al-Damiri even dealt with the significance of animals in the interpretation of dreams, a discipline which is inseparable from spiritual knowledge. The injunctions of the *shari'ah*, the sacred Law of Islam, concerning dietary prohibition related to animal flesh, have inspired the study of animals from a religious and juridical point of view. Muslim concern with religious and juridical status of animals according to the Divine Law of Islam provides one of the main frameworks for the unity of science and spiritual knowledge in zoology. Many Muslim scientists were interested in discovering the science justification for

⁹ See H. Corbin, *Avicenna and the visionary Recitals*, trans. W.R. Trask, (Texas: Spring Publications, 1980).

¹⁰ For a modern study of this work, see J. de somogy, "Ad-Damiri's *Hayat al-hayawan*: An Arabi Zoological Lexicon," *Osiris*, vol.9 (1950), pp33-43.

these religious dietary prohibitions. Careful observation was made of animal behavior and the inner qualities and the genius of a particular animal species with a view of deriving spiritual and moral lessons from that animal species. There is a metaphysical basis for the belief that animals have much to teach man concerning the divine wisdom and about his own inner nature. According to Islamic spiritual tradition man is a total reflection of the Divine Names and Qualities, whereas the animals are only partial reflections. However, the reflections in animals are often more direct than those in man. Animals are symbols of cosmic qualities and of spiritual attitudes. By virtue of possessing both good and evil qualities, animals present themselves as moral teachers to man. Qualities, animals present themselves as moral teachers to man. From the Islamic point of view, a true zoology or science of animals only emerges when all of these different aspects of animals are taken into consideration. There is unity of scientific and spiritual knowledge in this conception of zoology. The link between the two types of knowledge is preserved not only in zoological works but also in works of art. Muslim artists drew miniatures of various animal species, which successfully captured the inner qualities of these animals. By virtue of the link that exists between the inner qualities of animals and the spiritual world, these works of art serve a kind of spiritual function, namely to enable man to contemplate the visible world as a reflection of the spiritual world.

Nature as a Source of “Divine Laws”

One of the main features of modern science is its success in the discovery of more and more of what is called in Western intellectual history “laws of nature” The idea that the cosmos has its own laws is found in all civilizations. There is order and harmony in the universe. However, in modern science, the laws of nature? Have lost their spiritual and metaphysical significance. In fact, the “laws of nature” are seen by many people today as being opposed to the “laws of God” found in religion. This modern cleavage between the “laws of nature” and the laws of God” has disastrous consequences for the unity of science and spiritual knowledge. If we wish to restore this unity in the modern world, then one of the possible avenues is through the reassertion of the metaphysical or spiritual status of the “laws of nature”. In Islam, there has never been any cleavage between the “laws of nature” and the “laws of God.” The “law of nature” too is divine laws. All laws are reflections of the Divine principle. God is the Law-Giver. He manifests His will both in the cosmos and in the human domain through laws. In the human domain, God has prescribed a Law (Shari’ah) for every people. The Islamic *shari’ah* in only the last to be revealed. While there are many different Divined law revealed to mankind in its history, which are spoken of in Islam as ‘*nawamis al-anbiya*’ (Laws of the prophets), here is only one Divine Law governing the whole of creation. This latter Law is called *namus Al-khilaqah* (Law of creation). Although we speak of a single Divine Law governing the whole cosmos, there are different sets of laws for different orders of creation. Even within the same order of creation, such as in the natural order, there exist different laws for different species of beings. The Qur’an itself speaks of each animal species as an *ummah* (religious community) implying that God has promulgated a law for each species of being. The Qur’an also speaks of each creature as possessing its own nature. The Goal of Islamic science is to know the true nature of things as given by God. Islamic science also seeks to demonstrate the unity of the “laws of nature” as a reflection of the unity of the Divine principle. To know the nature and law of each species of being is to know the *Islam or manner of submission* of that species to the divine will. This is the Qur’anic way of looking at the unity of the “laws of nature” and the revealed Law of religion. According to the Qur’an, all creatures other than the human species are necessarily Muslims, understood in this universal sense, since they cannot rebel against their own nature. In the human order, those people are Muslims who submitted to the Divine law which God has promulgated for them. Man alone among the creatures is capable of revolting against God’s laws and his own

nature. From the metaphysical point of view then, there is no difference in nature between the “laws of nature” and the revealed laws of religions.

The laws governing the different order of creation are not of the same degree of fundamentality or universality. Some laws of the same degree of fundamentality or universality. Some laws are more fundamental and universal than others. There is a hierarchy of universality of laws of creation corresponding to the hierarchy of created order. For example, biological laws are more fundamental and universal than physical or chemical laws since the former laws concern the biological domain which possesses a higher ontological reality than the physical domain which gives rise to the latter kind of laws. But the biological laws themselves are subject to a higher set of cosmic laws which are spiritual in nature. If the attempt to unify all to know existing laws in physics and biology is progressively pursued and in an objective manner, then a point is reached whereby the higher, nonphysical orders of reality would have to be seriously considered and examined. In other words, there is a limit to the universality of physical laws.

Cosmological Knowledge as Source of Conceptual Framework for the Unity of Science and spiritual knowledge

In the foregoing discussion, I have dealt with some of the most important teaching of Islam, which provides the necessary philosophical and religious justification for the unity of science and spiritual knowledge. I asserted that this unity is realized when each of the particular sciences is organically related to supreme knowledge of *tawhid*. But what is meant by this “organic relation” and the concrete manner in which it could be achieved need further clarification. The various natural and mathematical sciences are particular sciences in the sense that they deal with particular domains of reality; the supreme knowledge of *tawhid* is a metaphysical science. It is the most universal science since it deals with the Supreme Reality which contains all things. Between the supreme knowledge of *tawhid* and the particular sciences there lies a body knowledge called cosmological knowledge.

By cosmology, we do not mean the modern discipline known by the same name. Traditional cosmology, whether in Islam or in other civilizations, refers to that science which deals with the structure of the cosmos and its qualitative content. Insofar as cosmology deals with the whole reality the cosmos, it is a universal science. In his famous treatise on the classification of the science entitled *Ihsa al-‘ulum* (Enumeration of the Science), al Farabi considers cosmology a branch of metaphysics. He also maintains that from cosmology may be derived the principles of the particular sciences. Indeed, in Islam, cosmology plays an important role as a bridge between pure metaphysics and the particular sciences. Cosmology is a source of conceptual framework for the unity of science and spiritual knowledge. What is meant by science being organically related to the metaphysical knowledge of *tawhid* is that the former is conceptually integrated into the latter type of knowledge. The particular sciences may be conceptually integrated into the metaphysical science of *tawhid* because the Divine principle is the metaphysical source of the world of multiplicity dealt with by the particular sciences. However, the necessary “conceptual tools” for that integration need to be derived from cosmology. Cosmology is competent to supply these “tools of conceptual integration” because its goal is “to provide a science that displays the interrelation of all things and the relation of the levels of the cosmic hierarchy to each other and finally to the supreme principle. Thereby it provides a knowledge that permits the integration of multiplicity into Unity”.¹¹

¹¹ S.H Nasr, “The Cosmos and the Natural order.” *In Islamic spirituality*: Foundation, ed. S.H. Nasr, vol 19 of *World Spirituality: An Encyclopedic History of the Religious Quest* (London: Rout ledge and Kegan paul, 1987) p.350.

Cosmologically speaking, the world of sense perception is only one of many levels of existence. Muslims develop many cosmological models, each of which having its basis on certain scriptural data. Each model may be identified with the use of one or more types of symbolism. For example, in the cosmological model of Muslim Pythagoreans, such as Ikhwan al-Safa, a combination of numerical, alphabetical, alchemical, and astrological symbolisms is used to depict the levels and qualities of cosmic reality.

The Peripatetic model, such as that of al-Farabi and Ibn Sina, makes use of the symbolism inherent in the geocentric scheme of Ptolemaic astronomy. The model of Ishraqi philosophers employs the symbolism of light. The Sufi cosmological model of Ibn ‘Arabi presents all cosmic qualities as reflections of the Divine Names and Qualities and each level of cosmic existence as a “Divine Presence” But regardless of the type of symbolism used, we may discern in all these models three fundamental levels of cosmic existence namely the spiritual, the subtle, and the physical. This division of the cosmos is a qualitative or “vertical” one for it refers to three different levels of qualities. Cosmology provides us with knowledge of how the three worlds are related to each other. The spiritual world is a principle of the subtle world and the latter a principle of the physical world. Cosmology therefore demands that the physical world be treated not as an autonomous domain which is cut off from higher orders of reality. It insists on the relevance of spiritual and subtle entities in the study of the physical world. For example, the traditional “ether” is a non-physical, subtle entity. Knowledge of this “ether” is essential to the understanding of the origin of the physical cosmos. Similarly, living forms studied in the biological science are essentially related to the spiritual and subtle worlds. The question of the origin of life on Earth cannot be resolved in terms of physical entities alone no matter how deep we penetrate into the molecular world. Life is a non-physical entity. It is an animating principle or energy which has penetrated into the physical realm. Molecular activities associated with living forms are not the source of life. Rather, they are particular manifestation of life on the physical plane. The Islamic cosmological principle, which is essential to understanding of the mystery of life, is the idea of the Universal Soul (*al-nafs al-kulliyah*). The Universal Soul is the “soul” of the natural order. It is to the natural order what the human soul is to the human body. The universal Soul, an entity which animates the whole cosmos is what generates life in plants and animals. Plants and animal souls with their numerous respective powers or faculties are considered as so many faculties of the Universal Soul. The Universal Soul is itself created by God. Knowledge of the cosmic functions, powers, and qualities of the Universal Soul, especially in relation to the natural order, is indispensable for the integration of the biological sciences into the spiritual knowledge of *tawhid*. It is beyond the scope of this essay to go into a discussion of all the relevant cosmological principles. The examples I have given are sufficient to demonstrate the importance of cosmology as a source of conceptual framework for the unity of science and spiritual knowledge. There is a need to revive traditional cosmology in the modern world. This cosmology has an important role to play in any proposed project aimed at realizing the unity of science and spiritual knowledge. The revival of traditional cosmology does not call for the abandonment or neglect of the experimental method and modern tools of scientific research and inquiry, which have proved so successful in the quantitative study of nature. But it does call for fundamental changes in the modern attitude to-wards reality and knowledge. The acceptance of traditional cosmology has profound methodological consequences. It means that the modern scientific method has to drop its claim of being the sole way of knowing things. Other possible avenues to know-ledge of the universe need to be acknowledged. Modern science must come to terms with the historical fact that there have been societies and civilizations which cultivated diverse ways of studying and knowing the natural world. This diversity of ways of knowing is not to be construed as a kind of

“epistemological anarchy” as imagined by some contemporary philosophers of science. Such societies and civilizations have seen unity in this diversity, thanks to the traditional doctrine of the hierarchy and unity of modes of knowing.

Unanimity of Science and Islam: The Justified Muslims’ Argument:

Sayed Qutab Shaheed has thrown light on the mutual relationship of Islam and Science. How the Holy Qur’an provides the facts to show the basis of science.

The Sayed writes:

“Neither the Holy Qur’an is a book of Scientific Ideology nor has it come to compile the Sciences through experimentation. In fact, the Holy Qur’an is a complete code of life, which gives training to reason so that it should activate itself liberally under the prescribed limits. It bestows to the citizens the capability of developing such a taste with which reason may get the chance to function in freedom. The Qur’an does not discuss the details of Sciences in particular but it prepares the reason accurately and leaves to it to settle all such scientific affairs”.¹²

Muslim’s concept of science is quite different from the scientific concepts of the West. To the Muslims, Knowledge and Social Values are inter-dependent. To the Muslims only single method of research is not sufficient but the Muslim Scientists adopted a number of methods in the realm of research. The Muslims liked to utilize reason but keeping it subordinate to moral values, therefore in the Islamic system, in place of the method of reduction and isolation, synthesis and integration is practised. The Qur’anic concepts and Qur’anic Values are the basic origins of this system. Sayed Qutab Adds: Through the amalgamation of different Sciences and with the mutual consonance of various ideologies, a deep sense of social demands and with the Doctrine of accountability to the almighty God, such an Institution was thrived in Islamic Civilization under the influence of these concepts. This is a unique example for which no precedence exists in any civilization in the World. This sagacity and width of knowledge in a single person, i.e. his being the master of all Sciences and trades is a Tradition in which we can see hundreds of Muslim Scholars in the Islamic Civilization of the old era. This factor is a natural result of a particular temperament shaped by Islamic Scientific thought.¹³

Philip K. Hitti, while counting the motives of the literary and scientific development of Muslim Scholars, has referred to hidden talents and capabilities of the genius and quick intelligence of the Arabs. He writes:

The Arab Muslims have started their research on the basis of their ordinary Scientific, Philosophical and Literary information, only for the reason they brought from the desert with them the eagerness of research and inquiry, and keen desire of getting knowledge with the use of their inner talents and potentialities, therefore they soon became the successors of old and civilized nations.¹⁴

But the question is “where from they got the capabilities of high genius and Superior Thinking and who awakened their hidden talents?” Now is there any incentive that is more powerful than the Holy Qur’an who has instigated a sleeping nation to unveil the secrets of nature its deep study in the light of verses of the Holy Qur’an very effectively and forcefully and created in them the taste of knowledge and research, due to which they tried to knock

¹² Sayed Qutab, *Quran and Science*, (Urdu Translation: Dr. Nijatullah Siddiqui, Lahore, pp. 8,9

¹³ Z. Sardar, *Why Islamic Science?* Maraf-e-Islami, Lahore, 1991, p. 34

¹⁴ Phillip K. Hitti. *The History of the Arabs from the earliest times to the present*. Macmillan. 1970. pp. 30.

every gate of knowledge and Science and they thronged at every fountain-head of knowledge and research with the curiosity of a thirsty individual. He Adds: The main reason of the inclination of the Muslims towards Sciences is the mind making of the Muslims under the Ideological Guidance of the Holy Qur'an. It infused in them the spirit of enlightenment and broad mindedness; as a result, they soon captured the international heritage of knowledge and opened fresh avenues of modernity and Deep Thought.¹⁵ Famous Orientalist Mr. Margoliath writes in the preamble of the Holy Qur'an translated by Mr. Rodwell as under: "The Holy Qur'an has got an important place among the great religious journals of the World. Though it is the youngest of the World's such History making Manuscripts but it is in no case wonderfully less efficacious than other documents. The Holy Qur'an invented a new human thinking and a new moral standard for the World".¹⁶ Another Orientalist Hartwing Hirshelinfeld writes: "We should not be surprised that the Holy Qur'an is the fountain head of all the Sciences in the World. The Cosmos, the Universe, the Human Life, trade and industry are the topics duly mentioned in this holy Book for the elucidation of which, a number of books and commentaries are compiled, due to this factor the doors of discussions and debates was opened among the Muslims and it paved the way for development of various Sciences. It not only affected the Arabs but also influenced Jewish Philosophers that they emulate the Arabs for the solution of religious and Meta Physical matters. The Greek Astrology and medical descriptions gave them incentive to make the study of the Sciences. In the messages revealed to the Holy Prophet (SAW), the circulation of the Heavenly bodies is not mentioned only to regulate the Prayer timing but it is made also as a system of God and for the purpose of human service. All the Muslim nations studied the Astrology very successfully. They were pioneers of this Science for centuries. Even today the names of different Planets are mostly Arabic and they are pronounced in inter-related Arabic words. In Europe the Astrological experts of medieval ages were the students of the Arabs, likewise the Holy Qur'an encourages learning the medical Science and exhorted to study the nature and deeply think over the facts of life".¹⁷

Lutfi Juma in his book "The History of the Philosophers of Islam" Writes:

The book, which was revealed on the most eloquent personality of the Arabs is not only a religious book but also the main origin of the more than one hundred Sciences of the World for instance, "the *Shar'aiah*, Diction, History, Literature, Physics, Meta-Physics, Astrology and Philosophy" etc. All such Sciences are derived from the basic origin of Holy Qur'an. The Scholars have received their basic concepts from its texts.¹⁸

Morius Bokaia also has made a research in this connection, the gist of which is, the Holy Qur'an provides basic origin for all the branches of Science therefore there is no conflict between Islam and Science.¹⁹ Likewise the most of the Orientalists have confessed that the Muslims have made so many inventions in the field of Science, hence their statements that the Muslims have declined due to religion of Islam carries no wait in reality. Another Orientalist Edward Jurji writes:

¹⁵ Shihab ud Din Nadvi, *Quran, Science aor Muslman*, Majlis-e-Nashriyat Islam, Karachi, p. 42

¹⁶ Margoliath, G, Introduction to the Qur'an by J.M. Rodwell, London, 1918, p. 99

¹⁷ Hartwing Hirshelinfeld, *New Researches into Composition and Exegesis of Qur'an*, 1902, p. 9.

¹⁸ Lutfi Juma, *Tareekh Falaspha-e-Islam*, p. 18

¹⁹ Mourice Bucaille, *Quran & Science*, p. 16

The Arabs were the part of the Islamic Community, which by its mere presence served as a powerful solvent of Ascotic influence.²⁰

Prof. Hitti writes: The Arabs have acted as intermediary bridge to transport the ancient culture to the medieval ages of Europe. This was the result of their Philosophical affect, which paved the way of Renaissance for the Europe. In the medieval ages no group or community was more helpful for human development than the Arabs and Arabic speaking communities.²¹ The above statement of Prof. Hitti has categorically decided that the Muslims have laid the foundation of present day Sciences and have put no hindrance in the way of development. The Muslim Spain has played the marvellous role to build the history of the mental evolution of Europe in medieval ages. In the era between 8th and 13th centuries, the Arabic speakers were the only Torch Bearers of the civilization and the culture of whole World. Moreover they were the source of findings of old Science and Philosophy in which they made addition to serve the Western Europe to make it capable of Renaissance.²²

Islam was the dynamic force behind the scientific achievements of the Muslims; we will explain it in the light of personal maxims and quotations of the Muslim Scientists. Almost all of them believe that their Philosophical origin is only the Holy Qur'an without considering about school of thought or the religious sects, we are only to elucidate the Muslim Scientists have deep and direct affiliation with Deen-e-Islam.

Jabir bin Hayyan was one of the pioneer Muslim Scientists. Dr. Hussain Nasr writes about him: Jabir was a Shiite belonging to a Soofi school. He was a student of sixth Imam Jaffer Sadiq. He mentions in his book a number of times that he is nothing in himself but an interpreter of the thoughts of his teacher.²³ Mr. Sardar writes about the religious beliefs of Alhazen: To declare the thoughts of Alhazen as Secular is a big injustice to great Scientist like him. In spite of being the exponent of the Knowledge for the sake of knowledge, he was in favour of defining the knowledge within the limits of Philosophy and Theology. The popularity of Alhazen was reliant upon his valuable achievements in the field of Mathematics and Physics but he was also an expert in Meta Physics, Philosophy and Theology. In his Philosophy there is a confluence of Science and Theology.²⁴

Alhazen explains himself that he contemplated the common beliefs, when he got full perception of the intellectual matters he put attention to seeking the truth, he by passed all the doubts and whims and decided to discover the things which made him the favourite of God almighty, leading him towards getting his consent and pleasure and guiding for his obedience and fear.²⁵ The author of the book "The Thinkers of Islam" writes about the Muslim medical expert Avenca:

He was an Orthodox Muslim in the beginning and remained as such till his death. Sheikh Avenca was also a practical religious man. Whenever he had to face a problem, he went straight to the Mosque and offered Prayers and supplicated before God almighty, which resulted that the complex problem was altogether solved.²⁶

Dr. Nasr writes about Averroes, the famous Scientist and Jurist.

²⁰ Jurji, Edward, *the Arabic Heritage*, pp. 225-226.

²¹ Phillip K. Hitti. *The History of the Arabs* from the earliest times to the present. Macmillan. 1970. pp. 4.

²² Ibid., p. 557.

²³ Hussian Nasr, Sayyed, *Science and Civilization in Islam*, World of Islam Pub. London. 1968. pp. 258.

²⁴ Z. Sardar, *Why Islamic Science?*, p. 33

²⁵ Lutfi Juma, *Tareekh Falaspha-e-Islam*, p. 265

²⁶ Hussian Nasr, Sayyed, *Science and Civilization in Islam*, World of Islam Pub. London. 1968. pp. 54.

In the west, as a whole Averroes is presented as opponent of revealed religion. In fact this notion is against his original temperament for the reason that Averroes is quite different as a Muslim Philosopher from all the misunderstandings created by the Western World.²⁷

It is also mentioned that Al-Beruni was a stench Muslim who starts the writing of his Journal as follows: I pray to almighty God that He may bestow me with His blessings and put me on the right path to lead me in finding the truth. He may make easy the acquisition of knowledge and remove all the obstacles in the way of supreme destination.

Al-Beruni has given in his book the extracts from the Holy Qur'an in the preamble of his book "Kitab-ul-Hind"; he has quoted following verse of the Holy Qur'an:

كونوا قوامين بالقسط شهداء الله ولو على انفسكم

Be adherents of Justice giving witness for God almighty even if it goes against your own selves.²⁸

Likewise, Khayyam, Avcena, Rhazes, Al-Farabi, all the Islamic Scientists have originated the Holy Qur'an and its concepts for all their Scientific researches and information's and they presented to the World, the Philosophical knowledge for Physical Sciences after acquiring it from the Holy Qur'an and Sunnah.

Sayyed Amir Ali has thrown light in favour of this topic in a comprehensive manner. He writes: The evolution of Physical Sciences has given a new direction to natural comprehension of the Muslims. They produced a great number of thinkers who were given the title of "Hukama". The method of their argumentation was quite similar as the argumentative of present-day Science, even if prejudice and ignorance condemned them by giving them derogatory remarks of being "Heretic, Apostate, Infidel but the historical truth has admitted these people never had been alien to religion of Islam nor they presented any such idea which got no ratification by the sayings of the Holy Prophet (SAW) of Islam or his vicegerents.²⁹ In this background it was necessitated that the Philosophical origins of the Scientific Contributions of the early Muslims may be searched out and those factors and stimulants maybe signalled which were before the eyes of Muslims Scientists in background of their Scientific and Philosophical researches and inventions, therefore to achieve this object, it was necessary that the Philosophical Contributions of early Muslim Scientists may be determined. The main theme of this thesis has been that this thing may be manifests that only Islam is the dynamic force behind the scientific development. The explanation of this concept is also necessary that Deen-e-Islam is the sponsor of scientific development. This thing in not only a doctrine but also it is to be proved with arguments that there is a lot of difference between Islam and other religions in their approach towards science. The Islamic injunctions are quite clear in this connection; therefore, in this respect it will be new research that the main dynamic force behind the scientific researches of the early Muslims was only Islam. Muslim scientists have deep and direct affiliation with Deen-e-Islam.

²⁷ Abdul Salam Nadvi, *Hukama-e-Islam*, pp. 117

²⁸ Z. Sardar, *Why Islamic Science?*, p. 28

²⁹ Ameer Ali Syed, *A short story of Saracens*, London 1934. p. 18

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