IBN SINA AND MEDICINE

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ABSTRAK

Ibn Sina was one the greatest Muslim scholars who wanted to understand the Greek knowledge and their heritage. As a famous philosopher-physician, he could write in different discipline of knowledge. Ibn Sina's al-Qanun fi al-Tibb, is an encyclopedia of medical knowledge, a codification of the whole of ancient and contemporary theory and practice of medicine. He had done in his work based on what he found from the past civilization. Ibn Sina's thought and works had a clear and strong impact on the East and on the West, in medical sciences, literature and also philosophy. He earned the additional title of "excellent" without the aid of modern equipment. If he had the modern equipment, he analyzed and keep update on his medical work, it might be more comprehensive and advance for modern age used.
INTRODUCTION

Ibn Sina, an ethnic Persian who spent his whole life in the eastern and central regions of Iran, received his earliest education in Bukhara under the direction of his father. Since his father’s house was a meeting place for learned men, from his earliest childhood Ibn Sina was able to profit from the company of the outstanding masters of his day. A precocious child with an exceptional memory that he retained throughout his life, he had memorized the Quran and many Arabic poetry by the age of ten. Thereafter, he studied logic and metaphysics under many teachers whom he soon outgrew and then spent four years until he reached the age of 18 by self-education. He read avidly and mastered Islamic law, then, medicine, and finally metaphysics. He came from a family devoted to learning thus he received an excellent education, especially after his family moved to the city of Bukhara itself. His father acquired the teachers in every domain for his remarkably precocious son to master grammar, literature and even some theology and knew the Qur’an by heart. At the age of eighteen, he had mastered all the sciences of his day. At the end of his life, he wrote that he knew then only what he had learned in his youth. Ibn Sina’s ability would be seen when the scholar introduced him to the logic of Aristotle when he was only about fourteen. Ibn Sina studied the text and commentaries of Aristotle’s Physic and Metaphysic on his own. However, he made little headway with metaphysic and turn to medicine, which he found easy and accessible. Guided at first by Abu Mansur al-Hassan ibn Nuh al-Qumari and the philosophically inclined Abu Sahl al-Masih, Ibn Sina soon began to practice medicine, finding methods of treatment that books alone could not convey. Abu Sahl, one of Ibn Sina’s teachers was a Christian philosopher-physician and a learned person in ancient and modern knowledge. Al-Khawarizmi and Isa ibn Yahya were also his teachers. Al-Khawarizmi was his teacher in mathematics.

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Ibn Sina and Isa ibn Yahya in medicine. From here, we find that Ibn Sina never looked to religious side of his teachers but what was importance for him were their qualifications and abilities.

WORK AND INFLUENCE

1. The Assimilation of Greek Heritage.

Ibn Sina was one of the greatest Muslim scholars who wanted to understand the Greek knowledge and their heritage. Thus for St Albert the Great, known for his encyclopedic interests and learning as the 'universal doctor' (Doctor Universalis), that he regarded Aristotle as the author of the Liber de causis and that he saw the philosophy partly through the eyes of commentators such as Ibn Sina. Ibn Sina discussed about the functions of illuminating the human mind. That is to say, it exercises the functions of Aristotle’s active intellect. In his account of the ways in which we come to know, Ibn Sina followed Aristotle; but the Greek philosopher’s remarks on the ontological status of the active intellect were notoriously obscure and open to various interpretations, Ibn Sina made it perfectly clear that in his opinion the active intellect is not simply a function of power of the human mind but a separate intelligence.

In particular, its activity is required for the apprehension of the universal concept or essence. Otherwise the potential intellect would actualize itself by its own power. And this, for Ibn Sina, is not possible. He also acquired the idea of a radical dualism between body and mind from the Greek epistemological. He made his own conclusion that all human souls survived and body being unresurrectible.

Based on materials taken from many of the important previous and on temporary writers on the medicine, he brought forth prominently the

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7 Ibid. p. 114.
important features of Muslim medicine and systematizes its different part on the basis of Aristotelian principles. He also developed the systematic treatment of the different branches of the subject which was initiated by Oribasios and Paulos. Through the hand of al-Razi and ‘Ali b. ‘Abbas and others, the knowledge was culminated in the Qanun of Ibn Sina. Ibn Sina was interested in the Greek medicine because it is a compilation and a new arrangement of the ancient Greek authors. It is a rich field for historical investigation, often clarifying such topics as surgical procedures. Ibn Sina had tried to assimilate and repair the Greek heritages but found new discoveries. After that he had represented his own method and concept based on the Islamic frame work better the Greek’s work. Thus, according to Sachico Murata and William C.Chitick, therefore Ibn Sina had found a harmonization between Greek’s philosophy and the religious beliefs of Islam. From here we can see Ibn Sina had produced a masterly synthesis of Greek and Islamic wisdom.

2. Work and His Famous Books

The illustrious personality of the “Prince of Physician” and the glamour and prestige of the Ibn Sina’s work, unfortunately, arrested the progress in the medical teaching and practice of the healing arts especially in Persia and eastward. He overshadowed the great men who had gone before him. His undeserved renown restrained and hindered any attempts to perform original investigation. Thus, when embarked on the writing of his medical books, he relied heavily on compilation, reorganization and regrouping of data from books by earlier authors, most of which sources he never acknowledged. Nonetheless, he contributed important and well organized interpretations and personal speculations. His style,

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except for verbosity, was elegant and admirable. Through his intelligent, persuasive approach, and the compiling and organizing of contemporary medical knowledge, the star of Ibn Sina shone brightly. Unfortunately, and in Islamic countries particularly, this prestige held sway over the minds of medical educators and practitioners who followed in his footsteps. As a result, progress in Arabic medicine and pharmacy has been thwarted and impeded up to the modern period. As a famous philosopher - physician, Ibn Sina could write in different discipline of knowledge. Some of his works in the field of humanistic studies are: al-Madhad ila Sina at al-musiqā; Kitab al-Mulah fi nahw; Risala fi l-îshq; Kitab al-Birr wa l-it, in two volume, on moral philosophy; besides the already mentioned Maqala fi Taqasim al-Hikma wal l-‘ulum.14

The following books, al-Qanun fi al-Tibb and al-Syifa were the most important books written by Ibn Sina:

2.1. Al-Qanun fi al-Tibb.

Ibn Sina’s supreme work was the monumental al-Qanun fi al-Tibb and it is known in the West as The Canon of Medicine. Over one million words long, it was nothing less than a codification of all existing medical knowledge. Summarizing the Hippocratic and Galenic traditions, describing Syro-Arab and Indo-Persian practice and including notes on his own observations, Ibn Sina store to fit each bit of anatomy, physiology, diagnosis and treatment into its proper niche. Ibn Sina’s al-Qanun fi al-Tibb, is an encyclopaedia of medical knowledge, a codification of the whole of ancient and contemporary theory and practice of medicine, and also pathology and pharmacopoeia. Ibn Sina had elaborated, classified and codified the subject in a scientific manner from his own research.

Encyclopaedia of Islam in explaining this supreme work, says that the Qanun appears to have formed a more consciously coherent whole than the philosophical works.

13 Ibid.
Because it constituted a monumental unity, which maintained its authority until modern times when experimental science began and because it still remained more accessible than Hippocrates and Galen, it served as a basis for seven centuries of medical teaching and practice.  

William E. Gohlman has studied about the Ibn Sina life and work. He said the Qanun is the clear and ordered "Summa" of all the medical knowledge of Ibn Sina's time, augmented from his own observations. This impressive work known as the healing art in Islam.  

It is divided into five books and it can be summarized as the following:  

a) The first, known as al-Kulliyat because it deals with didactic, natural medical generalities, the elements, humors, spirits, anatomy and physiology, and the six hygienic principles such as air, food, rest, and emotional expression.  

b) The second, is two parts: One, on the natural laws and medical regulations which govern drugs; their usage, temperaments, experimental testing as well as comparing of colors, smell, and solidity characteristics, and their general and specific pharmaco logical effects.  

c) The third, on diseases of body organs from head to foot, with anatomical and physiological data that overlap with that in Book I and IV. It deals with special pathology, with disorders of particular internal and external organs of the body.  

d) The fourth, on fevers, acute diseases, plagues, delirium, prognoses, crises, swellings, pustules and ulcers, surgery, and setting of fractured and dislocated bones. Similar to Book II, it discusses poisons and antidotes, medicated cosmetics, and dermatology.

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e) The fifth, on the need for preparation techniques and pharmaceutical forms of compounded drugs such as ointments, syrups, powders, tablets, electuaries including theriaca, inhalants and dentifrices and their therapeutic uses in one ailment or another with brand named cures.

2.2. Al-SHIFA

In detail, the Shifa contained nine books on logic, eight on the natural sciences, four on the quadrivium of arithmetic, geometry, astronomy, and music, and metaphysics. Although some writer classified the Shifa into two major sections, theoretical knowledge and practical knowledge. Actually, the main divisions of the Shifa are Logic, Physics, Mathematics, and Metaphysics, show that it not intended to be an encyclopaedia in our sense. It made no attempt to include medicine and does not at all celebrate the vastness of human inquiry that is so much a theme of Diderot or Bayle. In the Kitab al-Shifa, Ibn Sina devoted a separate chapter to music. The chapter deals with doubling with the octave, and organizing (tarkib), doubling with the fourth and fifth. Such a system in itself is a big leap forwards the harmonic system. Considering the series of consonance represented by the series, \((n+1)/n\), Ibn Sina observed that, when \(n=31\), the intervals begin to sound alike, and that above the value, \(n=45\), the ear is unable to distinguish the tone, (It is to be noted that the value \(n=32\), corresponds to a quarter of tone).

In al-Shifa, Ibn Sina states that the subject of physics is existing natural bodies that are changeable and that have in them different manners of movement and rest. Natural bodies, as the subject of physics, are things composed of matter, which is their

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substratum, and form which comes into it. And what is common to all of them is the three-dimensional form which constitutes extension. These dimensions do not enter into the definition of matter, they are just external accidents and not part of its existence even though they determine its state. In fact natural bodies, in an absolute sense, have only two principal constituents, matter and form; the attributes are accidents accruing from the general categories. Accidents come after matter by nature, and form precedes matter by causality. And that separate principle, which governs all natural bodies, is not the cause of their existence only, but of their two principal constituents as well. 22

He also has described the certain power or faculties placed in them which produce their actions. It is because of the presence of these powers that they react to outside forces, be they movement or emanation. These powers which are innate in them are of three kinds: (1) natural forces that pervade them and keep their perfection; (2) forces that act through different means; without knowledge or will, with knowledge and will, and with knowledge of the reality of things through thought and investigation, and (3) forces that act independently without the intermediary of any means or instrument. For Ibn Sina, these forces are all to be found in one or other of the natural bodies affecting their matter and their form. 23

The translation of the Shifa came at a time when Aristotle was known only through his “Posterior Analytics”, the “Topics” and the “Refutation of the Sophist”. It was through Ibn Sina that the metaphysic of Aristotle, his treatise on soul and the heavens was transmitted to the West. Even when the Aristotle became known, it was still thought that the Shifa “augmented his work on the subject of the origin of the world, on God, the soul, the intelligence and angels”. Such a heritage is destined for individuals who can be counted on finger tips. 24

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22 Soheil Afnan, Avicenna; His life and Works, p. 207.
23 Ibid., p. 208.
24 Mohammad Said and Sadia Rasyid, Bulletin of Islamic Medicine, vol 1, p. 147.
INFLUENCE

1. East

Ibn Sina gained his reputation through his performance as an encyclopaedist, philosopher, natural and pure scientist. His farm spread during his lifetime in the Islamic world, and radiated also further to the west. Many Muslim scholars were interested in Ibn Sina's thoughts and works. The writing of Sadr al-Din Shirazi, written in the 11th/17th century and still displaying a relatively high quality of philosophic thought, reminded the highest texts of philosophy in the subsequent centuries, but were (where philosophy was pursued) always the ideal never surpassed. And yet al-Shirazi is himself largely a commentator on previous thinkers, especially the philosopher, Ibn Sina.

In the 12th century, Fakhr al-Din al-Razi had written a commentary on Ibn Sina, as well as the author of several independent works. Fazlur Rahman said that his commentary on Ibn Sina's is the highest emphasis on the rational sciences, on the pure work of philosophy. Abu al-Barahat al-Baghdadi, also known as Ibn-Malka, who was born a Jew, became a Muslim late in life, he was thoroughly well versed in the philosophy of Ibn Sina's, but stood closer to traditional Jewish and Muslim theological doctrine. His critical attitude was followed by Fakhr al-Din in Al-Mabahith al-Mashriqiyya, an extensive work on "metaphysics and physics", although he also borrowed freely from Ibn Sina.

Al-Ghazali was against Ibn Sina in his book on The Incoherence of Philosophers (Tahafut al-Falasifah), which one generation later inspired the refreshing polemics of Ibn Rushd's The Incoherence of Incoherence. Since then, it had been a maxim for Sunni Islam where precise knowledge of God and His Actions can only be gained through revelation, which in turn eludes all analysis, and not via reason: the Muslim must accept the word of God as he finds it, without anything

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26 Ibid., p. 190.
27 W.M. Watt, Islamic Philosophy and Theology, p. 94.
“from” in philosophical hubris. The philosopher Ibn Rusyd regarded Ibn Sina as too religious, at any rate as a philosopher; it is not a moral judgement that he made about him: he thinks that Ibn Sina mixed too much religion with his philosophy. Al-Ghazali, on the other hand, thinks that Ibn Sina is all too much of a philosopher.

In his medical works, the Urjuzah and the Sakanjabin, Ibn Sina apparently transmitted this practice to his admirers, an attitude almost foreign to the early scholar activities led by Hunayn in Iraq, al-Razi in Iran and al-Zahrawi in al-Andalus. Unfortunately, many great Muslim physicians after Ibn Sina, especially in the Eastern part of the Islamic domain were followers and blind imitators. This fact caused an immediate leveling off of medical education and development in those places where his prestige was held high, and hindered new progressive ideas.

His books were read and recited as authoritative references by medical students and practitioners alike. It was fashionable to consider that the closer a physician followed in the steps of the “master of physicians”, and comprehended his doctrine. His medical books, especially the Qanun and the Urjuzah were diligently studied, copied and commented upon by authors and compilers. Numerous copies of texts and commentaries are still extant in many libraries as an evidence of their great popularity. Furthermore, the Unani medicine which has thrived through the centuries up to the present in India, Pakistan, and neighbouring countries was mainly the offshoot of Ibn Sina’s medical teaching and that of his time. For Nasr, in the East for over a century numerous figures from nearly every oriental tradition had tried to harmonize science and religion usually with a sentimental optimism and each of intellectual vigor that is far below that dignity of civilization which had produced their Sanhares, Nagarjunas and Ibn Sina.

31 Ibid.
2. West

In the Western world, Ibn Sina’s influence was felt, though no distinct school of “Latin Avicennisme” can be discerned as in the case of with Ibn Rusyd, the great Spanish-Arabic philosopher. Ibn Sina’s “Book of Healing” was translated partially into Latin century, and the complete Qanun appeared in the same century. These translations and others spread the thought of Ibn Sina far and wide in the West. His thought, blended with that of St. Augustine, the Christian philosopher and theologian, was a basic ingredient in the thought of many of the medieval Scholastics, especially in Franciscan schools.

In the west, Ibn Sina known as Avicenna. His Qanun Fi al-Tib or Precept of Medicine was published in Arabic in 1593. For six hundred years from the 12th to the 17th century this masterly work served as the basis for medical studies in all French and Italian universities. During the 15th century it was edited 15 times in Latin and once in Hebrew. It was printed again and again right up to the 18th century, and even at the beginning of the 19th century there were ex cathedra lectures on it in the Medical Faculty at Montpellier. Ibn Sina’s Qanun made its first appearance by the end of the 12th century, and its impact was dramatic. Copied and recopied, it quickly became the standard European medical reference work. In the last 30 years of the 15th century, just before the European invention of printing, it was issued in 16 editions; in the following century, more than 20 editions were printed. In 1930 Cameron Gruner partly translated this book into English entitled “A Treatise on the Canons of Medicine of Avicenna”. From the 12th to 17th centuries the Qanun served as the chief guide to medical science in the West. Dr. William Osler, author of the Evolution of Modern Science, writes: “The Qanun has remained a medical bible for a longer period than any other work.”

The influence of Ibn Sina, which has attracted the attention of many Catholic scholars, preceded that of Ibn Rushd and continued long

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after it, and eventually proved a far more vital force. Yet in spite of all its importance and widespread penetration, it was rather vague and indefinite in form. It did not crystallize into a specific set of doctrines to be accepted by a clearly marked group as did the teaching of Ibn Rushd. We find traces of Ibn Sina in almost every scholastic author in a form that has been described as 'augustisme avicennisant'. Although there was never developed such a thing as a school of Avicennism, he is everywhere 'a constant and pervasive excitant'. He was identified with the concept of being which had been the core of his metaphysics. His distinction between essence and existence became widely adopted.35 Ibn Sina appears to have attracted the attention of the West earlier than other Muslim scholar either al-Kindi or al-Farabi. It is because Ibn Sina's production is very extensive, and since he was a doctor by profession, it is natural to find that his interest extended over a wide range of natural sciences, as well as philosophy. The influence of medical writings, al-Qanun fi al-Tibb, used as a textbook in Europe as late as the seventeenth century, and much later in the East. The Book I of the Qanun, was translated by O. Cameron Gruner, is one of the most substantial books of recent times on it is no doubt Ibn Sina is most celebrated single work. It seems to have been largely neglected by the present generation.36

In medicine, his writings retained their individuality and authority for very much longer, indeed until the advent of printing. A glance at the catalogue of one of the great libraries of western Europe (the British Library, for example) confirms this, for it reveals that new editions of Ibn Sina's great medical work, his Qanun, and also commentaries and academic based upon this, were still being published regularly. In fact, Ibn Sina is medical writing remained at the front of medical knowledge, dominating the curricula of medical commentaries upon them suddenly ceased almost entirely. Presumably this was a by-product of the wider "scientific revolution". The influence of Ibn Sina on both East and West was immense. In the Islamic world his spirit has dominated the intellectual activity of all later periods while

35 Soheil M. Afnan, Avicenna; His life and Works, p. 265.
36 D.M. Dunlop, Arab civilization to AD 1500, Longman and Librairie an Liban, 1971, p. 192.
his philosophy and medicine have continued as a living influence to the present day. In the West he became known as the “Prince of Physicians” and dominated medical sciences for centuries while his scientific, philosophical and theological views left their mark upon many important figures such as Albertus Magnus, St. Thomas, Duns Scotus and Roger Bacon.

THE CONCEPT OF MEDICINE ACCORDING TO IBN SINA

1. The Definition of Medicine.

   Generally, based on history of medicine, The New Encyclopaedia Britannica has stated that the medicine and surgery is the account of man’s efforts to deal with human illness and diseases, from the primitive attempts of preliterate man to the present complex array of specialties and treatments. Specifically in medicine, Ibn Sina defined the medicine as an art which concerned with the preservation of good health, combating of disease, and restoration of health to the sick. For several centuries, the world witnessed and benefited from the great advance made by Muslim physicians in the area of health sciences. These advances were not just based on technical skill or intellectual superiority. They were equally well founded on a clear understanding of the role of the Muslim physician as derived from Islamic teaching and philosophy. For thousands of years, ethics have been recognized as an essential requirement in the making of a physician. Although the ancient codes of ethics, have to some extent stressed this requirement, they were still deficient and contained grave errors. Contemporary codes of ethics tend to be more liberal and less restrictive. The Qur’anic ethics, on the other hand, stand out as a perfect model for all mankind, all professions, and all time.

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2. Curriculum and Licensing of Physicians.

Different medical schools pursued different clinical curriculum and offered separate courses of studies, but the mainstay was usually internal medicine. Emphasis was placed on clarity and brevity in describing a disease and the separation of each entity. Until the time of Ibn Sina the description of meningitis was confused with acute infection accompanied by delirium. Ibn Sina described the symptom of meningitis with such clarity and brevity that there was very little that can be added to it even after a thousand years.

Surgery was also a part of the curriculum. After completing the prescribed course of studies some students been specialized under famous specialists, while others specialized during their clinical training. According to Elgood, knowledge of many surgical procedures such as amputation, excision of varicose veins, and hemorrhoids were essential. Orthopedics was widely taught, and the use of paris plaster for casts after the fracture reduction was routinely shown to students. This method of treating fractures was rediscovered in the West in 1852. Although ophthalmology was practiced widely, it was not taught regularly in medical schools. Apprenticeship to an eye doctor was the preferred way of specializing in ophthalmology. Surgical treatment of cataract was very common. Obstetrics was left to midwives. Medical practitioners consulted among themselves and with specialists. Ibn Sina and Razi both widely practiced and taught psychotherapy. After completing medical training, every medical graduate was required to pass a licensing examination before starting medical practice. It is important to note the existence of a Scientific Association which was formed in the hospital of Mayyafariqin to discuss the conditions and disease of the patients.

39 H.N. Wasty, Muslim Contribution to Medicine, M. Sirajuddin and Sons Publisher, Lahore, 1962, p. 5 -16.
2.1. Medicine and Philosophy.

Islamic science was an integrated and synthetic area of knowledge. It was interacted in Muslim scientists, who were often philosophers or mystics as well, viewed the physical universe from the Islamic worldview and context as a manifestation of the presence of God, the Creator and source of unity and harmony in nature. Islamic science was also a grand synthesis informed by indigenous and foreign sources (Arab, Persian, Hellenistic, India) and transformed by scholars and scientists in urban centers throughout the world of Islam. Thus, it constituted a major component of Islamic civilization, and in the view of many Muslims, a worthy complement to Islam's international political order. Islamic science came into being from a wedding between the spirit that issued from the Qur'anic revelation and the existing sciences of various civilizations which Islam inherited and continued with what had existed before it with a new substance. Based on this principle, Ibn Sina had done in his work based on what he found from the past civilization. In considering Ibn Sina as a philosopher, he tried to combine two methods in his research. That methods are philosophy and science. Thus in his medical book like the Shifa and Najat are also contained the philosophy chiefly in that books. In this contact W.M. Watt has given the comment that like most of the other Islamic philosopher he explains the possibility of Prophethood; while al-Farabi had connected Prophethood with the highest form of imagination, but than Ibn Sina links it with the highest part of the soul, the intellect. Ibn Sina drew a fine distinction between medicine and natural philosophy. In the Qanun, medicine was described as sciences which deal only with the wealth of human body. Ibn Sina argued that a few concepts in medicine such as elements, humors, temperants and a few faculties must belong to natural philosophy. He stressed that, for example

medicine science only cannot answer questions related to those concepts.  

A certain urgent purpose emerges through Ibn Sina's repeated admonitions, namely his desire to safeguard natural philosophy. But he emphasis on the difference between the two sciences amounted to little more than a holding action. The real source of the trouble was that medicine and natural philosophy, though distinct, were nevertheless joined together like Siamese twins by anatomy - the common material on which all medical and biological discussion depended. And since anatomical knowledge was supposed to be based strictly on "experience and dissection", there were no grounds for asking the physician to defer to the philosopher in arguments about anatomical facts.

2.2. The Mind and Psychology

2.2.1. Mind

For R. Ron Hubbard, the human mind can be considered to have three major divisions. The analytical mind, the reactive mind and the somatic mind. Despite of that, according to Ibn Sina, there are three kinds of minds with different approach: (a) the vegetable mind, (b) the animal mind, and (c) the reasonable or the human mind. In further detail, it is discussed by M. Saeed Sheikh as the following:

a) The vegetable mind possesses three faculties:

(i) nutritive power;

Nutritive power which when resident in a body changes another body into the form of the first.

(ii) power of growth;

The power of growth by which the body itself continues

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43 Ibid.
to increase without changing its form till it attains full maturity.

(iii) power of reproduction.
The power of reproduction which draws from the body a part similar to itself in potentiality, capable of producing other bodies similar to it in actuality.

b) The animal mind possesses two kinds of faculties:
   (i) motive faculties and
   The motive faculties include appetitive powers and efficient powers.
   (ii) perceptive or cognitive faculties.
   The perceptive or cognitive faculties of the animal mind are classified as external and internal. The former include the five senses: sight, hearing, smell, taste and touch. The latter has their beginning in common sense, a sort of center in which all the perceptions assemble before being elaborated by the higher faculties.

c) The human mind alone possesses reason. Reason or 'intelligence' is considered by Ibn Sina to be of two kinds more or less on the Kantian lines, namely, the practical reason and the theoretical reason. The practical reason or the active intelligence is that on which morality depends. 46

Based on his theory of mind, Ibn Sina came very close to Descartes. Both advocated dualism and believed in body and mind as two independent and separate existences. For the existence of mind, Descartes adopted the method of doubt. Ibn Sina gave the dualism of mind and body that both have dissimilarities and even fundamentally different characteristic. In medicine, he used his theory of mind and body to help the patient which will be discussed below.

2.2.2. Psychology - Psychotherapy.

Ibn Sina recognized 'physiological psychology' in treating illnesses involving emotions. From the clinical perspective, Ibn Sina developed a system for associating changes in the pulse rate with inner feelings. He had treated a seriously ill patient by feeling the patient's pulse and reciting aloud to him the names of provinces, districts, towns, streets, and people. By noticing how the patient's pulse quickened when names were mentioned, Ibn Sina deduced that the patient was in love with a girl whose home Ibn Sina was able to locate by the digital examination. As a result the man took Ibn Sina's advice by marrying the girl, and recovered from his illness.47 In the modern world, Ibn Sina's concept of psychotherapy is still being practiced, especially in serious diseases. Cancer, for example, is an illness where set can has important consequences. There is a general set throughout Western society that cancer is a killer. Once it is diagnosed in an individual, the negative set becomes more confidential - particularly if it is reinforced by a prediction that the patient can only live for a limited period of time.48

A prediction of death can in itself sometimes be enough to bring death about. In the Murngin tribe of northern Australia the headman can tell a tribesman that he will die in two days, and almost invariably the person is dead before the forty-eight hours are up. Scientists investigating such cases have found no evidence of physical illness in the corpse. When, however, a dying tribesman is told that the sentence has been lifted, he generally recovers with no ill effects.49 Similar principles have been applied in one of the more promising approaches to the treatment of cancer. Carl and Stephanie Simonton gave their patients a positive setting for survival, showing them many cases

47 E.G. Brown, Arabian Medicine, p. 85.
of spontaneous remission, educating them on the body’s own self-healing potential, and getting them actively to visualize the body becoming well again. As a result, 30 percent of their patients have shown a complete recovery and another 45 percent have become well on their way to recover.50

But this concept was never related to Ibn Sina’s theory of mind and body in modern medicine. On the other hand, among the modern physicians, one of the first people to recognize the power of mind in curing disease was the sixteenth-century Swiss physician Paracelsus. He believed that imagination could cure illness as well as produce it, and although he interpreted many of the theories in terms of good and evil spirits, his methods of healing were in essence a mental setting for health.51 Basically, the important concept of psychotherapy that introduced by Ibn Sina was accepted by the modern medicine for patient treatment. It is because most medical systems have realized that set can play an important role in sickness and health. The person who thinks of himself as prone to sickness is more likely to get sick than the healthier person. This is called as an optimistic attitude. Most forms of treatment are in fact helped by an optimistic attitude on the part of the patient.

2.2.3. Anatomy

The science of anatomy is one of the basic interests because the life activities of organism are limited by their structure.52 In anatomy, Ibn Sina made his own observation from Aristotle’s anatomy. In his work, Hayawan, he provided a more accessible account of the Aristotelian biology in the form of clear summaries of the Historia and the Generation. But it was in the section which paralleled to the Part of Animal that Ibn Sina performed his radical solution: he

51 Ibid., p. 217.
simply discarded the original Aristotelian text and replaced it by new anatomical material. The new material consisted of the later anatomy of the Hellenistic physicians which Galen had inherited and elaborated, and Ibn Sina had already taught in the Qanun. The substitution of the new anatomy for the old carried out - with a vengeance - Ibn Sina’s evident design to modernize Aristotle. Yet he managed to do without sacrificing basic Aristotelian theory. For example, he kept the truth of Aristotle’s idea that heart is the origin of all the body’s faculties by arguing that Galen’s anatomical facts derived from dissection of the completely formed animal, where indeed the nerves appear to ‘grow’ from their brain and spinal cord, and the veins from the liver. Ibn Sina interpreted Aristotle’s idea to mean that heart is in the origin of all the organs and their faculties in embryological development, where it is the first organ to be formed by the soul, and all else is formed later through its agency.

By Ibn Sina’s time, the discovery of the ovaries had long been incorporated into the body of scientific knowledge. His first statement of the problem made clear the degree to which Aristotelians were on the defensive, and the extent to which Galenism had come to define the basic issues of generation. In what was a critical departure in Aristotelian biology, Ibn Sina responses to accept the existence of the ovaries along with the argument that it was the female semen, and not menstrual blood, which represents the basic female contribution for reproduction. Furthermore, according to Jurnalis Uddin, we need to study Ibn Sina’s concept of health before we discuss about Ibn Sina’s idea of anatomy. Since, without having a good understanding of the very fundamental of Ibn Sina’s concept on health or sickness, we shall never grasp Ibn Sina’s viewpoint on human anatomy.

54 Ibid., p. 272.
2.2.4. The Concept of Ibn Sina’s Anatomy From Other Scholar’s Perspective

M.H. Shah goes the credit of explaining to the Ibn Sina’s anatomical observations in modern medical terminology bring the perspective of an objective scientist to view the overall contribution of that giant. Ibn Sina’s works, has much influence on Ibn Nafis, an Arab physician of thirteenth century (607-687/1210-1288). The latter has almost correctly described the pulmonary circulation, nearly 3 centuries before its discovery by William Harvey, who is the father of modern medicine. Dr. J. Blatham of the University of Manchester also has recognized that the basic principles of the modern theory of circulation of blood was originally propounded by the Arab physician Ibn Nafis, in the 13th century.56

In The Cambridge Encyclopedia of The Middle East, Ibn Sina’s observations shifted the direction of the medical and biological sciences towards modern medicine. The modern medical sciences developed from the sixteenth century onwards on the basis of new anatomical discoveries which finally helped overthrow the ancient Greek - Arabic medical system. It was Ibn Sina whom, in the process of updating Aristotle, had changed the emphasis in biology. Aristotle, although emphasizing man, considered the whole animal kingdom as his subject. But the anatomy transplanted from the Canon was exclusively human anatomy, tending to shift the focus of biology from the living creation as a whole to a mankind. Equally important is that Ibn Sina’s radically changed the original balance of Aristotle’s biology by nearly doubling the space devoted to anatomy. 57

2.2.5. Drugs.

In the curative use of drugs some remarkable advances were made by Muslim. They established the first apothecary shop, founded the earliest school of pharmacy, produced the first pharmacopoeia and used

56 Muhammad Zubayr Siddiqi, *Studies in Arabian and Persian Medical Literature*, op.cit., p. XV.
chemistry for medical purpose. Muslims provided a service for patients with tooth troubles and made artificial teeth from the bones of animal.\textsuperscript{58}

The patients were treated according to a well-defined treatment plan. It began with physiotherapy and diet; if this failed, drugs were used. Almost, surgery happens to be as a last result. The physiotherapy included exercises and water baths. The Arabs had an elaborate system of dieting and were aware of malnutrition. Proper nutrition was an important part of treatment plan.\textsuperscript{59} Drugs were divided into two groups: simple and compound drugs. The Arabs were aware of the interaction between drugs. Firstly, they used the simple drugs. If these failed, then the compound drugs made from two or more compounds were used. When all these conservative measures failed, surgery was performed.\textsuperscript{60}

The science of medicine of Ibn Sina also deals with particular diseases or drugs but the one dealing with drugs for the treatment of cardiac diseases is important. In this matter, the materia medica of his al-Qanun which contains some seven hundred and sixty drugs is the epitome of Islamic medicine.\textsuperscript{61} Ibn Sina possessed much clinical insights, and is given credit for the first description of several drugs and diseases, such as meningitis, which he was the first to describe correctly.\textsuperscript{62} Ibn Sina prescribes simple and compound drugs for the treatment of heart diseases, but before doing so, he divides the drugs into several categories, such as stimulants, laxatives, diuretics, cooling, imparting warmth and vomit inducing by giving an illustration in each case.\textsuperscript{63} Some of simple drugs mentioned by Ibn Sina are silk cocoon, Azarbowya, Badranjaboya, Saffron, Ruby, Pearls, Egyptian clover, wild ginger, silver and gold, coral leopard's bane (of the genus Dondonicum), rose, camphor, musk, ambergris, embelic myrobalan, myrtle, marigold,

\begin{enumerate}
\item\textsuperscript{58} Muhammad Ibrahim H.I. Surty, \textit{Muslim Contribution to the Development of Hospitals}, Quranic Arabic Foundation, U.K., 1996, p. 25.
\item\textsuperscript{59} Shahid Athar, \textit{Islamic Perspectives in Medicine}, p. 24.
\item\textsuperscript{60} Ibid.
\item\textsuperscript{61} Muhammad Ibrahim H.I Surty, \textit{Muslim Contribution to the Development of Hospitals}, p. 25.
\item\textsuperscript{62} S.H. Nasr, \textit{Science & Civilization in Islam}, p. 211
\item\textsuperscript{63} Sami K. Hamarneh, \textit{Catalogue of Arabic MSS on Medicine and Pharmacy at British Libraray}, Cairo, 1975, p.98
\end{enumerate}
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lemon balm, zedoary (actwall), Cinnamon, Yew (or mountain spignel). He also recommends egg-yolks and meat soup for heart patients. 64 As for the egg-yolks, he states that it has three qualities; firstly, it change quickly into blood and increases blood supply to strengthen the heart; secondly, it has low quantity of unassimilable matter; thirdly, the blood formed by its substance is light and pure, easy to circulate and help for the nourishment needed by the heart. If the weakness of the heart is due to the thickness of the pneuma, he prescribes the meat of sheep or goat, one or two years old and if it is due to the coarse and thick pneuma, its soup is recommended which is more easily digestible than meat itself. 65 Then he explains how the soup has to be prepared as well. Apple and apple juice drink are recommended as a stimulant for the heart, which strengthens it. He adds that this is due to its sweetness and fragrance because it is not only a food but a medicine as well. Some of these drugs are stated to act also as an antidote to poison. It is not possible to give an account of the simple and compound drugs prescribed in this treatise but it has to be stated here that they are more or less the same with which are prescribed for the treatment of cardiac diseases discussed in Book III, Chapter XI of the Qanun. 66 The Qanun points out the important of dietetic, and the recommended medicine by natural products and methods and healing through dietary regulation in preference to a reliance on drugs. Ibn Sina recommended the way of testing for a new drug by experimentation on animals and humans, making certain to remove all the diseased tissue. 67 Further, Ibn Sina explains, inter alia, the methods of pharmaceutical properties, forms, dosages, strength of each drug and technique of application, preservation and therapeutics. The clarity of thought and expression is characteristic of the writings of Ibn Sina and the whole discussion is in a high key. 68

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66 Ibid.
68 M.S. Khan, Ibn Sina's Treatise on Drugs For the Treatment of Cardiac Diseases, op.cit., vol. XXVII, p. 55.
CONCLUSION

The Ibn Sina's work in medicine, medical theory and practice became once and for all the authoritative sources of Islamic Medicine. More than that, even, among the western scholars were much appreciate of the Ibn Sina's works. Like many of the other celebrated philosophers and scientists of Islam, Ibn Sina practiced medicine in order to gain a livelihood, while his love for knowledge took him to all branches of philosophy and sciences of his day. The Islamic medical world accepted the Qanun as its major reference until the 19th century, and Western civilization used the text for more than seven hundred years. Thus, Ibn Sina's thought and works had a clear and strong impact on the East and on the West, in medical sciences and literature and philosophy. In his writing, he includes in anatomy, surgery, drug used, treatment and psychotherapy. The overall impressive works has given him the same authority with Aristotle and Galen. Beside his genius, he struggled to finish his work. Within his supreme works we could find that as a physician, Ibn Sina enters the field of medicine through the path of philosophy. As a physician, he had to use the combination of philosophy and logic along with his (their) experiences to give him intuition. In order for Ibn Sina as physician, he collected the information, understood and remembered precisely what he had been taught in medical school and what he learned from his practice. Ibn Sina did this properly, he earned the additional title of “excellent” without the aid of the modern equipment. If he did so, like in modern age with ICT, he analyzed and keep update on his medical work, it might be more comprehensive and advance for modern age used. From the above discussion we can see that the new invention or observation by Ibn Sina played an important in the modern medicine and it is still being used widely. Unfortunately, the new generation of Muslim scholars especially amongst the medical practitioners do not recognize him as the great scholar in medicine. Since, the appearance of Ibn Sina is being deviated from the modern medicine curriculum.
REFERENCES


D. M. Dunlop, (1971), Arab civilization to AD 1500, Longman and Librairie an Liban.


H. N. Wasty, (1962), Muslim Contribution to Medicine, M. Sirajuddin and Sons Publisher, Lahore.


Muhammad Zubayr Siddiqi, (1959), Studies in Arabian Persian Medical Literature, Culcutta University, Culcutta.

Munawar A. Aness and S.K. Hamarneh (Editor), (1983), Health Sciences in Early Islam, Noor Health Foundation, and Zahra Publications, U.S.A.

Mohammad Said and Sadia Rasyid, Avicenna; Physician, Philosopher and Scientist, Bulletin of Islamic Medicine.


Muhammad Ibrahim H.I. Surty, (1996), Muslim Contribution to the Development of Hospitals, Quranic Arabic Foundation, U.K.


N.A. Baloch, Great Books of Islamic Civilization.


S. Khalaf Hamarneh, *Yunani, Arabic and Islamic Medicine and Pharmacy*.

Soheil M. Afnan, *Avicenna; His life and Works*.

Shahid Athar, *Islamic Perspectives in Medicine*.


