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I thank the convention committee for giving me the honor of delivering the IBN SINA Memorial lecture of 1986.

Although my theme is the health conditions of the Afghan muhajireen and mujahiden, I would be a miss if I did not devote a great part of my time first to discuss the significance of Ibn Sina's contribution to Islamic civilization and to world civilization. It may not have been an accident that I was asked to give the Ibn Sina Memorial Lecture with the subject of health conditions of Afghan refugees and the Afghan people at war with Soviet invasion forces, since this war and Soviet oppressive measures are taking place in the very birth place of Ibn Sina, the towering philosopher, scientist, physician, the Hakim of Islamic World.

Before going into some of the thoughts and contributions of Ibn Sina, Sheikh al Rais, the chief, a short biography of this great man is in order.

Ibn Sina (Abu Ali al Hussein ibn Abdullah ibn Sina) who is known to the West in its Latinised form as Avicenna, was born in the village of Afshana in the province of Balkh now located in Afghanistan and present Republic of Tajikistan of USSR in the year 980 A.D. His father, Abdullah, an Isma'ili, was a tax-collector under Nuh II, Ibn-i-Mansur, Amir of Bakhara (976-997 A.D.) His mother, Sitara, was of Persian origin. As a child he was very precocious and a prodigy of his time. Ibn Khallikan says: "At the age of ten, he was a perfect master of the Qur'an and general literature and had obtained a certain degree of information in dogmatic theology, the Indian Calculus (Arithmetic) and Algebra".

Abu Abdullah al-Natili, who was amongst the leading philosophers of his age taught him text of Greek philosophy and logic, Porphyry's Isagoge, Euclid and Ptolemy's Almagest, divinity and other sciences. He learned theology of the mystics from Ismail Zahid and studied medicine under Abu bin Mansur and 'Isa bin Yahya. In his autobiography Ibn Sina says, "Medicine is not a difficult subject and in a short space of time, I excelled in it so that the

master of Physics, came to read with me and I began to visit the sick . . . consequently there were opened doors to various kinds of treatment which I learned by experience (or experiment). I was then about sixteen years of age. During the period of hard practice and study which then ensued, I never once slept the whole night through."

Although he was twice a vazier in Hamadan, he also spent four months in prison because of political vicissitudes of the time. Later under the patronage of Prince 'Ala'-al-Dowlah, the ruler of Ispahan he was entrusted all the important affairs of the Kingdom. "And, indeed, since Alexander the Great whose minister was Aristotle, no king had such a Minister." His pupil and disciple Abu 'Ubaid of Juzjan refers also to the weekly gatherings of learned man at his 'school'.

His biography gives us the impression of an amazingly intense and versatile man who loved pleasure almost as much as intellectual work and unfortunately committed many excesses which culminated in shortening his valuable life. Just before his death he freed his slaves, gave his wealth to the poor and listened to the reading of the Qur'an. He died in 1036 A.D. of colic about which he had written a book. He was buried in Hamadan, Iran.

Ibn Sina's works

He started writing at the age of twenty-one. Brockelmann lists ninety nine works by him; 68 on theology and metaphysics, 11 on astronomy, philosophy and physics, 4 on poetry and 16 on medical science. He wrote mainly in Arabic and only two of his works were in Persian.

Intellectually Ibn Sina belonged to a school which in Arabic literature is known as the school of philosophers (al-Falāsifah). Before him about twenty savants including al-Kindi, and al-Fārābi and some Jews and Christians had received the title of Philosopher. Ibn Sina cleared up and systematized the works of all these philosophers and by steering a middle course between Plato and Aristotle presented a unified philosophy.

Ibn Sina's philosophy is quite sound. He discusses form and matter, functions and arguments, with the following questions: "firstly what a thing is? And if it is, where is it? How is it? And finally, why is it?" He gives both the senses and reason a share in the

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foundation of the primary data of sciences. According to him, "thinking always supports reason: opinion and even memory fulfill the same office."¹

Ibn Sina viewed vital force-rooh-as a quasi-material substance. Galen deemed it was the breath (pneuma) but Avicenne described it as that "which emerges from a mixture of the first principle, and approaches towards the likeness of the celestial beings. It is a luminous substance. It is a ray of light."

In a treatise on the classification of knowledge, Ibn Sina gives to logic a prominent place. In the *Isharat* he says, "The aim of logic is to provide mankind with a rule the observance of which will prevent him from erring in his reasoning." According to Ibn Sina, logic does not discover truths but helps man to make the best use of those which he already possesses and prevents him from making a wrong use of them.

His greatest work in medicine was *al-Qānun*, the "Canon" which was taught up to second half of 17th century in Europe. Abu Bakr al-Rāzi (865-920 A.D.) and 'Ali ibn-ul-'Abbas al-Majusi (994 A.D.) had already presented the doctrine of Galen and through Galen the doctrine of Hippocrates, modified by Aristotle. However, Canon is more logical and systematic than any of the earlier works on medicine.

Knowledge of organs and their function (anatomy and physiology) is presented by Canon as a unified subject of functional anatomy, general at the pre-clinical stage and special with disease of individual organs. It recognizes disease as a disorder of functions and classifies it into temperamental, humoral and structural patters. Causes are described as innate and environmental; congenital and acquired; organic and functional, physical and emotional. Diagnosis is based on history taking and bedside observation. Treatment is allopathic with diet, drugs and physical measures and administered with due consideration of the nature of illness and constitution of the patient. Child care, geriatrics and instructions for travellers with warnings about spread of disease from contagion and drinking foul water, indicate surprising breadth of theoretical and practical knowledge in the Canon.

Ibn Sina was the first to describe trigeminal neuralgia and differentiated facial paralysis into central and peripheral types. He wrote about pupillary reaction to light and described the eyes' six motor muscles. He gave an accurate clinical description of meningitis and its differential diagnosis.¹

With his method of observation and analysis and the appropriate use of logic and reason and by his insistence on controlled experiment, he raised the status of medicine from the realms of magic and witchcraft to that of a natural science. He refers to the uniqueness of human personality as a union of the body with an immaterial soul. From the scientific point of view Canon has many gaps of knowledge and misconceptions in anatomy, physiology,

pathology, pharmacology and biochemistry. Diagnosis was based on history, physical examination and naked eye observations without the help of chemical, bacteriological and radiological methods. The value of Canon lies in Ibn-Sina's passion for observation, classification and generalizations. There is repeated counselling of medical practitioners against indulgence in speculation. Ibn Sina's theory of interaction between the four causes reveals every illness as a product of a) heredity, b) environment, c) constitutional strength and quality of temperament and d) Nature's own effort for the life and integrity of functions. This is quite akin to the concept of equilibrium of life processes as advanced by Claude Bernard, the father of modern physiology at the turn of this century.³

One of the great contributions of Ibn Sina which is so timely for our present century of science and technology is his view of man. Being an Islamic theologian and scientist he could not but view man anything other than the union of physical and psychological entities. According to the Islamic Philosophy of Tawḥeed, the Universal Oneness, human personality cannot be subjected to the Western and materialists' dichotomy of material and spiritual, physical and psychological. Ibn Sina emphasized in his books and discourses the unity of human personality and wrote the *Book of Psyche*, *Relationships of Body and Mind*, *Origin of Grief* and *Interpretation of Dreams* which should be of great interest to the students of psychiatry and psychosomatic medicine of today. Ibn Sina did not suffer from the intellectual schizophrenia of Freud or atheist philosophers such as Jan-Paul Sartre or paranoia of social determinism of Engels and Carl Marx. In his philosophy we do not see tumultuous conflicts, incessant struggles within man and his society. He regards man as in the Qur'ān as *afzal-ul makhluqat* and *ashraful-makhluqat* (the most virtuous of all creatures) and capable of the highest material progress and spiritual perfection.

It is not surprising that in philosophy, Ibn Sina adopts the best course between Plato's idealism and Aristotles' dualism. By modifying the rank materialism of Empedocles with vitalism, he gives a unitary view of matter and life and of body and mind which is consonant with the Islamic Philosophy of Tawḥeed. The totality of existence is regarded as the reflection of totality of God's Consciousness. Accordingly nothing is separate, independent or absolute except the First cause, God himself. Although the understanding of the nature of God's being is beyond the receptor capacity of human mind, yet still man (the God's vicegerent on earth) has the capability of sensing and knowing the presence of God, his Creator, as an experiential phenomenon.

Sir William Osler, father of modern medicine, sums up Ibn Sina's personality as follows: "We can-

not understand the sway exercised by Avicenna for three or four centuries. Mentally to live and move in the medieval mind is not given to many, and the knowledge most of us have of Rais, the Chief, is at third or fourth hand. Students like Carra de Vaux were eloquent over the precocity of his talents, the quickness and loftiness of his intellect, the clearness and the force of his thought, the multiplicity and extent of his works . . . the impetuosity and variety of his passions. Regarded as a resume and symbol of all human activities, he stands out as one of the great personalities in a great civilization, and his enthusiastic biographer Carra de Vaux does not hesitate to say: ne temps ne presentent plus de figure comparable-never time will present a comparable figure, since encyclopedic knowledge is no longer...".⁴

Krueger in a 1963 publication says the following about Ibn Sina. "His medical experience was transcendently greater than that of Galen. Some authorities state that the Prince of Physicians as he became known in the West, demonstrated a mind like Goethe's, possessed a genius similar to that of Leonardo de Vinci and revealed a dynamic personality filled with insatiable desire to acquire knowledge as well as with serenity and sensitivity. It is clear that no Muslim or Oriental scholar has attained as high a

position and has held as strong and enduring an influence as Avicenna has in the history of the World."²

Ethe Browne and A. Jackson have shown that the following quatrain translated by the great English poet Edward Fitzgerald was the genuine work of Ibn Sina. I truly believe that this very rubayi of Ibn Sina is an unquestionable testimony of the loftiness of his intellect and the depth and breadth of his universal wisdom when he says:

Up from the Earth's Center through the Seventh Gate, I rose, and on the Throne of Saturn sate, And many a knot unraveled by the road; But not the Master Knot of Human Fate.

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