Editorial

The Canon of Medicine
(Kitab al-Qanun fi al Tibb)

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Sir William Osler called it the most famous medical text-book ever written. What prompted this great physician and teacher of Medicine of late 19th and early 20th centuries to make this statement is highly significant. He himself was a legend in his own time. His text book on medicine saw more than twenty editions and reprints and was translated into more than eight languages.

Considerations are not wanting which entitle the Canon of Medicine of Ibn Sina (Avicenna), the great Persian sage, an esteemed position in modern thought. The importance of idea over material achievement is not to be forgotten. The achievements of any age are subject to decay with the lapse of centuries, but the ideas which gave rise to them remain living through all cycles. The place for Avicenna in modern thought is gained when it is agreed that he shall be viewed as one who entered this world entrusted with a mission independently to express for that age, by means of those various tools which he found in it, the wisdom which is unchanging and impersonal. So also there is the need today that this wisdom should be re-expressed for this age by means of the new data which lie to our hands.

Al-Qanun, divided into five books, was started by Ibn Sina (980-1037AD) when he was in his thirties (one thousand years hence) and at the peak of his fame and prowess. It took him twenty years to complete and it contains the most extensive knowledge of the day concerning the theory and practice of medicine and allied subjects. He had studied all the available translations of Aristotle, Hippocrates and Galen as well as all the well known physicians who had written in Arabic and Persian before him. There was thus a whole tradition of medical writing in existence when the Canon of Medicine appeared. It cannot therefore claim to be entirely original in form or in subject matter; but in more ways than one, it was the culmination of all that had been done before in this field. Nevertheless, significant parts of his books are based on his own clinical studies of his patients, his discussion with other scholars and various types of experiments, including those on animals. A large work by any standards, it is in most parts extremely well written and organised. Giving mainly facts it rarely indulges in lengthy discussions. In spite of its size the students found it easy to follow and put to memory. Compared to his other medical works this gained the most popularity and was read and taught in the well known medical schools of the East and in the West was standard text book in such places as Padua, Vienna, Louvain and Montpellier till eighteenth century.

Each of Canon’s five books is further subdivided into different Fanns, then Fasl and then Maqala. Book one gives a general description of the human body, its constitution, parts, temperaments and faculties. Then follows a section about common diseases, their causes and complications. It is followed by a section on general hygiene and the ‘inevitability of death’ and finally a section about the treatment of diseases. Book two deals with Materia Medica. Book three deals with diseases afflicting a certain part of the body. This consists of twenty-two Fanns. Books four describes those diseases that affect many parts or the whole body such as fevers and is composed of seven Fanns. Book five, the last one, is on pharmacology and lists many compound medications in the shape of a formulary. The U.S National Library of Medicine, Bethesda is fortunate to have a carefully executed complete copy probably made at the beginning of the 15th century with illuminated headings opening each of the five books.

The Canon of Medicine was not, however, greeted everywhere with praise. In Spain the physician Ibn Zuhr (d. 1131), wrote a treatise
criticizing Ibn Sina’s book on *materia medica*, that is, the second book of the Canon. Almost everywhere else the book was received with great enthusiasm and admiration. Even the word *Qanun* in the title, meaning ‘canon’ or ‘codes of law’ put a stamp of authority on it. It occupies the same position in medical literature that his *Shifa* has in philosophical writings, and may actually have been meant to be a counterpart of the other.  

**The Definition of Medicine** in the *Canon* states:  

Medicine is the science by which we learn the various states of the human body, in health, when not in health, the means by which health is likely to be lost and when lost the ways and means by which it is to be restored back to health. To put it in different words it is the art whereby health, the beauty of the body, long hair, clear complexion, fragrance and form is conserved and the art whereby it is restored, after being lost.  

“Practice” of medicine is not the work which the physician carries out, but is that branch of medical knowledge which, when acquired, enables one to form an opinion upon which to base the proper plan of treatment. Thus it is said: for inflammatory foci, the first agents to employ are infrigidants, inspissants, and repellents; then we temper these with mollificants; and finally when the process is subsiding, resolvent mollificants will accomplish the rest. But if the disease focus contains matter which depends for its expulsion on the integrity of the principal members, such treatment is not applicable. Here the theory guides to an opinion, and the opinion is the basis of treatment. Once the purpose of each aspect of medicine is understood, you can become skilled in both, even though there should never come a call for you to exercise your knowledge.  

**The Subject Matter of Medicine**  

To medicine pertains the (study of the) human body – how its health is maintained; how it loses health. To know fully about each of these we must ascertain the causes of both health and sickness.  

It is a dictum of the exact sciences that knowledge of a thing is attained only through a knowledge of the causes and the origins of the causes – assuming there to be causes and origins. Consequently our knowledge (of health and sickness) cannot be complete without an understanding both of symptoms and of principles of being.  

**Disease:** This is an abnormal unnatural state of the human body, in virtue of which injurious effects result. This injurious effect is the beginning of the disease. Such an abnormal state is either (a) an intemperament, or (b) an abnormal composition.  

**Symptom:** This is a phenomenon consequent upon this non-natural state of the body. Some symptoms are entirely abnormal phenomena, like the pain of colic. Others are (exaggerations) of a natural phenomenon, like the intense flush on the cheeks seen in peripneumonia.  

The Difference between “Symptoms” and “Signs”. We speak of a symptom in regard to its own intrinsic character, or in relation to that to which it belongs. A “sign” is that which guides the physician to a knowledge of the real essential nature of the disease.  

One Disorder may originate a Second. Thus colic produces syncope, or paralysis, or spasms and convulsions.  

A Symptom may be the Cause of a Disorder. Thus, violent pain causes the suffering of colic, and syncope is the effect of the pain. The violent pain of an inflammatory mass is due to the descent of the matters to that spot.  

A Symptom may be the same time a Malady. Thus headache is an effect of fever, but may also last so long as to amount to a “disease”.  

Ibn Sina in general excelled in logical assessment of a condition and the comparisons of symptoms. A conservative but balanced approach to general therapeutics can be seen in his discussion of the means of relieving pain. Analgesics (*Mukhaddirat*) abate the pain, he says, because they destroy the sensation of that part, which they accomplish either through hyper cooling or by means of a toxic property. Of the analgesics, the most powerful he considered to be opium, and then mandrake, two varieties of poppy, henbane, hemlock, the soporific black nightshade, the lettuce seeds; he also included cold water and ice among the analgesics. The physician must be careful to determine the cause of the pain and to make certain that it is not due merely to an external cause, such as hot or cold, or an incorrect arrangement of the pillow, or a poor bed, or a fall during drunkenness. Often, he says, there is no need for strong measures, for bathing and sound sleep are sufficient. He recognised the importance of sleep for alleviating pain and stressed that, as analgesics might be harmful, they should be prepared in the mildest possible way. The physician needs to determine which is more harmful to the patient, the pain or the possible dangers of the analgesics. He also wrote about other means of relieving pain, such as massage, the application of hot and cold compresses, pleasurable music or compelling work.
The chapter on “The Pulse” is remarkable and should be of interest to physicians even today. According to Broadbent: “Every important variety of pulse revealed by the sphygmograph was recognized, described and named, before the Christian era…. We count the beats and note their force and volume to ascertain the strength of the sufferer and the effect upon him of the disease…. Many of the indications obtained from the pulse do not depend on a knowledge of the circulation at all.”

Ibn Sina starts the chapter by describing the definition, description, reasons for feeling the pulse at the wrist, technique of feeling the pulse, the position of the hand, emotional state of the patient and the state of the observer. Ten features of the pulse are described.
1. Amount of diastole; estimated in terms of length, breadth and thickness.
2. Quality of impact imparted to the finger of the observer at each beat.
3. Duration of time occupied in each movement.
5. Emptiness or fullness of the vessel between the beats.
6. The feel; whether hot or cold.
7. Duration of time occupied by the pauses.
8. Equality or inequality of force in successive beats.
9. Regularity or irregularity; orderliness or disorderliness; presence of intermissions.
10. Metre; rhythm; harmony, measure; accent.

Significance of the above types of pulse is described at great length.

The attitude of Ibn Sina towards Nature which is evident in his other writings including Al Najat appropriately appears in the Arabic version of Canon printed at Rome in 1593, and is included in the Latin edition of the Canon of 1595.

The acquisition of knowledge by this process demands nothing more than a keen observation of the life around us, and was as much within his reach as ours. Such knowledge is not too restricted to one period of history, one language, or to one or few universities. And if it should seem that because our civilization is so different his opportunities were much less. We may pause to reflect that the difference between our age and his is chiefly one of mechanical developments and phraseology; and that even to this day we need not to travel far to see much the same sort of scenery as he was accustomed to behold. In any case, what is human life, at bottom, but a matter of buying and selling, receiving and giving, seizing and relinquishing, constructing and demolishing, acquiring learning and losing it, seeking power and breaking it, bidding and forbidding, covenanting and comminuating, giving in marriage and seeking to obtain in marriage, birth and death.

Difficult to do justice to so great a manuscript in so short a space. Who can, when the work in question is the most famous medical text-book ever written.

References
2. Broadbent; The Pulse. 1890; p. 32