Medicine

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The science of Medicine flourished during the Middle Ages throughout the Islamic dynasty. The proven medical wealth of the Muslim physicians available in the form of practices, encyclopedias and scripts enlightened Europe for five centuries.
Arnold and Guillaume in "Legacy of Islam" on Islamic science and medicine stated:

Looking back, we may say that Islamic medicine and science reflected the light of the Hellenic sun when its day had fled and that they shone like a moon. Islamic medicine and science illuminating the darkest night of the European Middle Ages; that some bright stars lent their light, and that moon and stars alike faded at the dawn of a new day, the Renaissance. Since they had their share in the direction and introduction of that significant movement, it may reasonably be claimed that they are with us yet.

The Book of Water
Kitab Al-Ma'a (The Book of Water) appears to be a strange title for the first known Encyclopedia of Medicine arranged according to the alphabet. It was recently discovered in Algeria and published in Oman. The author's apparent reason for naming the book as Kitab Al-Ma'a was because the word Al-Ma'a (the water) appears first in the book.

Drug Processing
The First Built Hospital, Baghdad
The author was Abu Mohammed Abdellah Ibn Mohammed Al-Azdi, known as Ibn Al-Thahabi, (died 1033 AD, 466 AH) in Valencia, Muslim Spain. He was born in the city of Suhar, Oman. He moved to Basra, then to Persia where he studied under Al-Biruni and Ibn Sina.

Later he migrated to Bait Al-Maqdis (Jerusalem) and finally settled in Valencia. The manuscript contains about 900 pages. Under each letter of the alphabet, there are names of an illness, a medicine, a physiological process or a treatment. This work is the first known alphabetical classification of medical terms.

In this encyclopedia, Ibn Al-Thahabi not only listed the names but added numerous original ideas about the function of human organs. He explained the original idea of how vision takes place. He described how seeing is a process of an image which goes through the pupil of the eye and strikes the vision nerves. The brain, then, unifies the two images into one and stores it in its memory bank. Such explanation resembled the vision theory of Ibn Al-Haitham who died in 1040, just 33 years before the death of Ibn Al-Thahabi. However, it is not certain whether they met or were aware of each other's work.

The book contains treatment, usually herbal, of a vast number of ailments and diseases. It also contains a course for the treatment of psychological symptoms. The main thesis of his medication is that cure must start from controlled food and exercise and if it persists, then use specific individual medicines, if it still persists, then use medical compounds. The manuscript has recently been edited by Dr. Hadi Hamoudi and published by the Ministry of National Heritage and Culture, Oman, 1996. by: FSTC Limited, Fri 17 January 2003.

What is Taught: The Italian, Giovanni Morgan, is regarded as the father of pathology because he was the first to correctly describe the nature of the disease.
What Should be Taught: Islam's surgeons were the first pathologists. They fully realized the nature of the disease and described a variety of diseases in modern detail. Ibn Zuhr correctly described the nature of pleurisy, tuberculosis, and pericarditis.

Al Zahrawi
Az-Zahrawi accurately documented the pathology of hydrocephalus (water on the brain) and other congenital diseases. Ibn al-Quff and Ibn an-Nafs gave perfect descriptions of the diseases of circulation. Other Muslim surgeons gave the first accurate descriptions of certain malignancies, including cancer of the stomach, bowel, and esophagus. These surgeons were the originators of pathology, not Giovanni Morgagni.

What is Taught: Paul Ehrlich (19th century) is the originator of drug chemotherapy, that is the use of specific drugs to kill microbes.
What Should be Taught: Muslim physicians used a variety of specific substances to destroy microbes. They applied sulfur topically, specifically to kill the scabies mite. Ar-Razi (10th century) used mercurial compounds as topical antiseptics.
What is Taught: Purified alcohol, made through distillation, was first produced by Arnau de Villanova, a Spanish alchemist, in 1300 A.D.

What Should be Taught: Numerous Muslim chemists produced medicinal-grade alcohol through distillation as early as the 10th century and manufactured on a large scale the first distillation devices for use in chemistry. They used alcohol as a solvent and antiseptic.
What is Taught: The first surgery performed under inhalation anesthesia was conducted by C.W. Long, an American, in 1845.
What Should be Taught: Six hundred years prior to Long, Islamic Spain's Az-Zahrawi and Ibn Zuhr, among other Muslim surgeons, performed hundreds of surgeries under inhalation anesthesia with the use of narcotic-soaked sponges which were placed over the face.
What is Taught: During the 16th century, Paracelsus invented the use of opium extracts for anesthesia.

Medical Instruments
What Should be Taught: Muslim physicians introduced the anesthetic value of opium derivatives during the Middle Ages. Opium was originally used as an anesthetic agent by the Greeks. Paracelsus was a student of Ibn Sina's works from which it is almost assured that he derived this idea.
What is Taught: Modern anesthesia was invented in the 19th century by Humphrey Davy and Horace Wells.
What Should be Taught: Modern anesthesia was discovered, mastered and perfected by Muslim

anesthetists 900 years before the advent of Davy and Wells. They utilized oral as well as inhalant anesthetics.

What is Taught: The concept of quarantine was first developed in 1403. In Venice, a law was passed preventing strangers from entering the city until a certain waiting period had passed. If by then, no sign of illness could be found, they were allowed in.
What Should be Taught: The concept of quarantine was first introduced in the 7th century A.D. by Prophet Muhammad, who wisely warned against entering or leaving a region suffering from the plague. As early as the 10th century, Muslim physicians innovated the use of isolation wards for individuals suffering from communicable diseases.
What is Taught: The scientific use of antiseptics in surgery was discovered by the British surgeon Joseph Lister in 1865.
What Should be Taught: As early as the 10th century, Muslim physicians and surgeons were applying purified alcohol to wounds as an antiseptic agent. Surgeons in Islamic Spain utilized special methods for maintaining antisepsis prior to and during surgery. They also originated specific protocols for maintaining hygiene during the post-operative period. Their success rate was so high that dignitaries throughout Europe came to Cordova, Spain to be treated at what was comparable to the "Mayo Clinic" of the Middle Ages.

What is Taught: In 1545, the scientific use of surgery was advanced by the French surgeon Ambroise Pare. Prior to him, surgeons attempted to stop bleeding through the gruesome procedure of searing the wound with boiling oil. Pare stopped the use of boiling oils and began ligating arteries. He is considered the "father of rational surgery." Pare was also one of the first Europeans to condemn such grotesque "surgical" procedures as trepanning (see reference #6, pg. 110).
What Should be Taught: Islamic Spain's illustrious surgeon, az-Zahrawi (d. 1013), began ligating arteries with fine sutures over 500 years prior to Pare. He perfected the use of Catgut, a suture made from animal intestines. Additionally, he instituted the use of cotton plus wax to plug bleeding wounds.

The full details of his works were made available to Europeans through Latin translations. Despite this, barbers and herdsmen continued to be the primary individuals practicing the "art" of surgery for nearly six centuries after az-Zahrawi's death. Pare himself was a barber, albeit more skilled and conscientious than the average ones. Included in az-Zahrawi's legacy are dozens of books including his most famous work, a 30 volume treatise on medicine and surgery. His books contain sections on preventive medicine, nutrition, cosmetics, drug therapy, surgical technique, anesthesia, pre and post-operative care, as well as drawings of some 200 surgical devices, many of which he invented. The refined and scholarly az-Zahrawi must be regarded as the father and founder of rational surgery, not the uneducated Pare.

Medical Consultation
What is Taught: William Harvey, during the early 17th century, discovered that blood circulates. He was the first to correctly describe the function of the heart, arteries, and veins. Rome's Galen had presented erroneous ideas regarding the circulatory system and Harvey was the first to determine that blood is pumped throughout the body via the action of the heart and the venous valves. Therefore, he is regarded as the founder of human physiology.
What Should be Taught: In the 10th century, Islam's ar-Razi wrote an in-depth treatise on the venous system, accurately describing the function of the veins and their valves. Ibn an-Nafs and Ibn al-Quff (13th century) provided full documentation that the blood circulates and correctly described the physiology of the heart and the function of its valves 300 years before Harvey. William Harvey was a graduate of Italy's famous Padua University at a time when the majority of its curriculum was based on Ibn Sina's and ar-Razi's textbooks.

What is Taught: The first pharmacopeia (Book of Medicines) was published by a German scholar in 1542. According to World Book Encyclopedia, the science of Pharmacology was begun in the 1900's as an off-shoot of chemistry due to the analysis of crude plant materials. Chemists, after isolating the active ingredients from plants, realized their medicinal value.

Surgical Instruments
What Should be Taught: According to the eminent scholar of Arab history, Phillip Hitti, the Muslims, not the Greeks or Europeans, wrote the first "modern" pharmacopeia. The science of Pharmacology was originated by Muslim physicians during the 9th century. They developed it into a highly refined and exact science.

Muslim Chemists, Pharmacists, and Physicians produced thousands of drugs and/or crude herbal extracts one thousand years prior to the supposed birth of Pharmacology. During the 14th century, Ibn Baytar wrote a monumental pharmacopeia listing some 1400 different drugs. Hundreds of other pharmacopeias were published during the Islamic Era. It is likely that the German work is an offshoot of that by Ibn Baytar, which was widely circulated in Europe.

What is Taught: The discovery of the scientific use of drugs in the treatment of specific diseases was made by Paracelsus, the Swiss-born physician, during the 16th century. He is also credited with being the first to use the practical experience as a determining factor in the treatment of patients rather than relying exclusively on the works of the ancients.

What Should be Taught: Ar-Razi, Ibn Sina, al-Kindi, Ibn Rushd, az-Zahrawi, Ibn Zuhr, Ibn Baytar, Ibn al-Jazzar, Ibn Juljul, Ibn al-Quff, Ibn an-Nafs, al-Biruni, Ibn Sahl and hundreds of other Muslim physicians mastered the science of drug therapy for the treatment of specific symptoms and diseases. In fact, this concept was entirely their invention. The word "drug" is derived from Arabic.

Their use of practical experience and careful observation was extensive. Muslim physicians were the first to criticize ancient medical theories and practices. Ar-Razi devoted an entire book to a critique of Galen's anatomy. The works of Paracelsus are insignificant compared to the vast volumes of medical writings and original findings accomplished by the medical giants of Islam.

What is Taught: The first sound approach to the treatment of disease was made by a German, Johann Weger, in the 1500's.
What Should be Taught: Harvard's George Sarton says that modern medicine is entirely an Islamic development and that "setting the record straight" the Muslim physicians of the 9th through 12th centuries were precise, scientific, rational and sound in their approach.

Physical Medicine
Johann Weger was among thousands of European physicians during the 15th through 17th centuries who were taught the medicine of ar-Razi and Ibn Sina. He contributed nothing original.

What is Taught: Medical treatment for the insane was modernized by Philippe Pinel, when in 1793 he operated France's first insane asylum.
What Should be Taught: As early as the 11th century, Islamic hospitals maintained special wards for the insane. They treated them kindly and presumed their disease was real at a time when the insane were routinely burned alive in Europe as witches and sorcerers. A curative approach was taken for mental illness and, for the first time in history, the mentally ill were treated with supportive care, drugs, and psychotherapy.
Every major Islamic city maintained an insane asylum where patients were treated at no charge. In fact, the Islamic system for the treatment of the insane excels in comparison to the current model, as it was more humane and was highly effective as well.