

CHAPTER FIVE

What is Taught and What Should be Taught ¹

O Allah (The Exalted) bless the One for whose intercession was sought by the gazelles and whose request was made in human speech.

The concept that the sciences are exclusively the products of Western minds remains unquestioned by most individuals. A review of any of the standard texts or encyclopedias regarding the history of science would support this view. As these books are perused, it becomes evident that the only contributors given significant mention are Europeans and/or Americans. It is hardly necessary to repeat the oft-mentioned names: Galileo, Copernicus, Kepler, Bacon, Newton, Da Vinci, Benjamin Franklin, etc. The unavoidable conclusion is that major contributions to the development of the modern sciences by other cultures is minimal. Most texts give little or no mention of the advancements made by ancient Indian, Chinese or, particularly, Muslim scholars.

Western civilization has made invaluable contributions to the development of the sciences. However, so have numerous other cultures. Unfortunately, Westerners have long been credited with discoveries made many centuries before by Islamic scholars. Thus, many of the basic sciences were invented by non-Europeans. For instance, George Sarton states that modern Western medicine did not originate from Europe and that it actually arose from the (Islamic) orient.

The data in this section concerning dates, names and topics of Western advances has been derived from three main sources: World Book Encyclopedia, Encyclopedia Britannica and Isaac Asimov's 700 page book, Chronology of Science and Discovery.

Antiseptic

What is Taught: Paul Ehrlich (19th century) is the *originator of Drug chemotherapy*¹, that is the use of specific Drugs to kill microbes.

What Should be Taught: Muslim physicians² used a variety of specific substances to destroy microbes. They applied topical sulphur specifically to kill the scabies mite. Ar-Razi (10th century) used mercurial³ compounds as topical antiseptics⁴.

Anesthesia

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 also known in the West as Abulcasis (936-1013) and Ibn Zuhr (1091-1161), 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.

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 utilised oral as well as inhalant anesthetics.

¹ The prevention or treatment of disease by the use of chemical substances.

² A medical practitioner who specializes in the diagnosis and treatment of disease by other than surgical means.

³ A silvery metallic liquid at room temperature.

⁴ A chemical that destroys or inhibits the growth of disease causing bacteria.

Quarantine⁵

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 the prophet Muhammad (may Allah bless him and grant him peace) who wisely warned against entering or leaving a region suffering from plague. As early as the 10th century, Muslim physicians innovated the use of isolation wards for individuals suffering with communicable diseases.

Antiseptics

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 utilised 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 comparably the “Mayo Clinic” of the Middle Ages.

Surgery

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 ligating⁶ 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.

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 that is the 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. His most famous work is a 30 volume treatise on medicine and surgery. His books contain sections on preventive medicine, nutrition, cosmetics, drug therapy, surgical technique, anaesthesia, 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.

Blood circulation

What is Taught: William Harvey (1578-1657), 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 (865-925) wrote an in-depth treatise on the venous system, accurately describing the function of the veins and their valves. Ibn an-Nafs (1210-1288) and Ibn al-Quff (1233-1286) 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 upon Ibn Sina's (980-1037) and ar-Razi's (865-925) textbooks.

⁵ The period for which a person is kept in isolation in order to prevent the spread of contagious disease.

⁶ Any material that is tied firmly round a blood vessel to stop it bleeding.

Pharmacopoeia

What is Taught: The first *pharmacopoeia*⁷ was published by a German scholar in 1542. According to World Book Encyclopaedia, the science of pharmacology⁸ was begun in the 1900s as an off-shoot of chemistry due to the analysis of crude plant materials. Chemists, after isolating the active ingredients from plants, realised their medicinal value.

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” pharmacopoeia. 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 (1197-1248) wrote a monumental pharmacopoeia listing some 1400 different drugs. Hundreds of other pharmacopoeias 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.

Drug therapy

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 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 criticise ancient medical theories and practices. Ar-Razi devoted an entire book as 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.

Treatment

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

Mental illness

What is Taught: Medical treatment for the insane was modernised 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.

So why do people place so much emphasis on the Sunnah? Can't we just go with the times?

⁷ A book containing a list of the drugs used in medicine, with details of their formulae, methods of preparation, dosages, standards of purity, etc.

⁸ The science of the properties of drugs and their effects on the body.

Well, the answer to the question is very simple, and that is there is, worldly as well as spiritual benefit in following the Sunnah as we will find with the research presented in this book. Let us now take a look at the blessed Sunnah of the Prophet (may Allah bless him and grant him peace) and scientific research.

¹ Excerpted from: Appendix B of 'The Miracle of Islamic Science' by Doctor K. Ajram