In this paper, I shall discuss the philosophy of Islam as it affected science in general and medicine in particular. As Islam spread rapidly during the 7th and 8th centuries, Muslims came in contact with the older civilizations. During this period of interaction, the Muslim philosophy provided a perfect stage for the retrieval and preservation of older literary treasures. There was tremendous emphasis on acquiring knowledge. The Arabic language served as a flexible medium for translation of these works. Great literary centers developed, extending from India to Eastern Europe, as the Byzantine and Persian Empires were annexed to the Muslim world and Greek medicine was way past its epoch. The school at Jundeshapur, after Islam reached the Persian empire, was not only left untouched but the learning at this institution was greatly encouraged. The learned were patronized and given every facility for propagating knowledge. Most of them were Christians or Jews at that time. The learning center at Jundeshapur became fervent with activity during the period of Abbasids. It served as a melting pot for Nestorian physicians, Greek physicians who were leaving Athens, and physicians arriving from India and Syria. It became a large medical center. People were sent long distances in search of remedies and medical knowledge. Many Greek works were translated into Arabic. Islamic medicine developed through two successive stages.

1. Period of translation and amalgamation:

Greek medical works, especially those of Galen were translated during the early 9th century by a prolific translator, Hunayn-ibn-Ishâq and his disciples in Bagdad, which became one of the greatest learning centers of that period. He translated voluminous materials and many of these manuscripts can still be found in the libraries of Constantinople. He also wrote manuals and textbooks for students, such as “Questions on Medicine” (which was in the question and answer form), “Ten treatises on the Eye” (the first textbook of ophthalmology) and numerous other similar works. Hunayn demonstrated that he was an excellent editor. His writings were very succinct, and translated from at least three different manuscripts of a book so as to maintain and preserve the original thought. Compendiums of medical knowledge were compiled discussing various diseases systematically. This provides evidence of the understanding of medicine even in those early days.

Hygiene was emphasized. Diseases of systems starting from the head, ending at the feet, infectious diseases, toxicology, fractures, nutrition, and sex were all dealt with.

Each disease was discussed clearly giving the etiology, symptoms and signs, as well as the treatment.

2. The era of new knowledge:

A great upsurge in new thought was seen during the 9th and 10th centuries. I would like to quote the example of al-Râzî, also known as Rhazes. He was a Persian muslim who trained under Hunayn ibn Ishâq. He must be regarded as one of the greatest physicians of all times, who produced over 100 medical writings. One of the most comprehensive books on medicine was written by Al-Râzî and entitled “al-Hâwî.” It consisted of 20 volumes. The diseases were described clearly drawing on the experience of Greek, Arabic, Syrian, Persian, and Indian physicians and he concluded by adding his own observations and experience. His work on smallpox and measles was translated, for centuries to come, in other languages. The breadth of his wisdom and the scope of his understanding of the humanistic and ethical problems faced by the physician can be seen by merely looking at some of the titles of his works: “Why People Prefer Quacks and Charlatans to Skilled Physicians?” “Why Ignorant Physicians, Laymen, and Women Have More Success Than Learned Medical Men?” “On the Fact That Even Skilled Physicians Cannot Heal All Diseases?”

These titles also suggest that inspite of his vast understanding of medicine as practiced at that time,
he was well aware of the shortcomings of a physician. This period saw numerous other physicians, both in the Eastern and Western Islamic empire. One of the well known names of that period is Abu 'Ali al-Husin ibn Sinâ also known as Avicenna. One of his well known books is the “Canon of Medicine.” This was an excellent encyclopedic work. I could mention numerous works by Muslim physicians establishing the influence of the Islamic period which molded the shape and future of medicine. These works were read, translated, and reprinted for many centuries to come.

Hospitals and medical academies were created throughout the Islamic world. These also served as teaching centers for medical students, where learned physicians taught medical science. Most of the training was in form of apprenticeship with experienced physicians. There was also a system of granting diplomas and inspecting the skill of physicians, pharmacists, barbers, and orthopedic surgeons. The annual pilgrimage to Mecca also served as a factor in dissemination of medical knowledge. Physicians would travel long distances, stopping to discuss medical problems and their skills on the way to the pilgrimage, thus disseminating their own knowledge and acquiring new skills.

Islamic philosophy and emphasis on preventive medicine:

The philosophy of Islam in itself contributed to the development of hygiene and principals of preventive medicine. Examples of direct guidance by Prophet Muhammad (PBUH) are

"If you hear about plague in a land, do not go to it, but if you were in that land, do not run away." 13

"No son of Adam would fill a container worse than his stomach." 14

"The stomach is the home of illness and dieting the head of all treatment." 15

Cleanliness was also emphasized a great deal in the Qur'an. Allah says:

"And thy garments keep free from stain." 16

"O, ye who believe when ye prepare for prayer, wash your faces and your hands to the elbows, rub your heads (with water) and wash your feet to the ankles." 17

The Qur'an emphasizes the purity of food that one consumes:

"This day all things, good and pure are made lawful unto you." 18

"Forbidden to you (for food) are: dead meat, blood, the flesh of swine, and that on which hath been invoked the name of other than Allah; That which hath been killed by strangling, or by a violent blow, or by a headlong fall, or by being gored to death; that which hath been (partly) eaten by a wild animal: unless ye are able to slaughter it (in due form); That which is sacrificed on stone (altars); (Forbidden) also is the division (of meat) by raffling with arrows; that is impiety." 19

"O, you who believe, intoxicants and gambling, (dedication of) stones, and (divination by) arrows are an abomination of Satan's handiwork; Eschew such (abomination), that ye may prosper. 20

Islamic philosophy and medical ethics

One of the hottest issues in medicine today, is the subject of medical ethics, morality, and liability. If one looks back, it becomes apparent that Hadith refers to these problems. It will also be of interest to note that problems faced by the physicians and the patients today, are no different from the problems faced at that time. I would like to quote a certain Hadith that relates to the responsibility of physicians:

"A person whoever practices treatment when he was not known to be acquainted with medicine before, will be responsible." 21

Another Hadith delineates when a patient should seek treatment:

"You servants of Allah, seek treatment, for Allah did not send down an illness that Allah did not send down treatment for, except senility." 22

Hadith also made treatment mandatory or obligatory when a treatment was definitely available and also if holding off this treatment would be harmful. However, if one is not assured of benefits from treatment and harm could occur, then it is discouraged. These principles were designed to discourage quackery and protect the patient.

One of the most extensive works dealing with ethics was written by Ishäq ibn 'Ali al-Rühäuser. He was a Christian who embraced Islam and had also written works on Galen. It will not be possible to cover all works on Galen, or to cover all facets of his writings. His book, Adab al-Tabib (Ethics of a Physician) is an extensive work which will be only briefly discussed. It consisted of 122 folios with 17 lines per page and was found in Sulîmâniyah Kitâbkhânah, a library in Turkey. It has been translated into English. 23 The Islamic philosophy served as a basis for defining and suggesting solutions of the ethical and moral problems facing physicians. The translator of this work, Martin Levy, in his preface states "...In addition, the contents of this work are remarkable in their delineation of the manner in which Muslim (and to lesser extent, Chris-
tian) religious ideas were made to harmonize with the older science and ethics of the Greeks in particular.\(^{13}\)

The Islamic philosophy and the Muslim code were so realistic and practical, that al-Rūחawi was at ease in dealing with this difficult subject.

The society was changing from a tribal primitive society to a more orderly society with emphasis on human values and strong religious feelings. These were times of great changes. Therefore, the setting for this work was no different from the one prevailing at present. It is worthwhile to examine the titles of the 20 chapters of Adab al-Tabib:

1. Loyalty and faith of the physician, and ethics he must follow to improve his soul and morals
2. Care of the physician’s body
3. What the physician must avoid and beware of
4. Directions of the physician to the patient and servant
5. Manners of the visitors
6. Care of remedies by the physician
7. What the physician asks the patient and the nurse
8. What the patient may conceal from the physician
9. How the healthy and ill must take orders of the physician
10. Training of servants by the patient before illness
11. Patient and visitors
12. Dignity of the medical profession
13. Respect for the physician
14. Physicians and peculiar incidents to aid treatment
15. Medical art for moral people
16. Examination of physicians
17. Removal of corruption of physicians
18. Warning against quacks
19. Harmful habits
20. Care of the physician himself

Adab al-Tabib is a beautiful illustration of the fact that problems of responsibility, ethical dilemmas, and needs of the society are nothing new to medicine. A review of this work brings home the realization that the present day physician may have been derelict in his responsibility towards the current ethical needs. In the past, it was the physician who was the advocate of morality, who defended ethics, and who was in the forefront in delineating these areas. During the recent years, due to a variety of reasons, such as busy life, narrow approach or lack of emphasis on ethics during medical training, the physician has failed to emerge as a stalwart among the defenders of ethics and morality.

The definition of ethics and morality in medicine has lately become a favorite topic for politicians and non-physician bureaucrats who lack the insight into the whole gamut of patient-physician relationships. It is time that physicians got back into the saddle as they are still in a great position to do so. Physicians are still regarded very highly and trusted by the people as shown by the polls. Unless physicians take proper steps, the public trust is likely to wither away. Every teaching physician needs to realize his duty to train the budding physicians, not only in the art of medicine, but also in handling the ethical dilemmas of medical practice.

In the present day controversies of medical ethics, certain other aspects of the responsibilities of the other parties involved, which have been well delineated by al-Rūחawi, have been completely ignored in the recent years. For example, the responsibilities of the patient and the society towards a physician. The patient has equal responsibility in the relationship between the physician and the patient. Similarly, the society has to realize the nature of demands placed on a physician and afford him the support that he may need at times.

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10. Glorious Qur’ān, Chapter 5, verse 93