

medieval science. But the two books in fact offer much more. The list of sources and subjects they introduce is so vast that an entire generation of scholars would be required to study them in depth. David King describes this task with the aim not only of showing how much remains to be done, but also, and even more importantly, to arouse the reader's curiosity and interest. The bibliography, instruments, tables and manuscript references and so on are so huge that readers may feel lost if they have not already read some of the papers and have some acquaintance with the related information.

As the studies presented in the two volumes were not initially intended to be collected in a book, there are several repetitions and the internal cross-references are not always well accomplished. However, this slight problem is more than offset by the advantage of having all these studies together in only two volumes. This will greatly facilitate the work of the researchers in the subject.

In addition to the text, the two volumes contain a vast array of pictures, figures, diagrams, formulas, editions of Arabic texts and, last but not least, an impressive bibliography (complemented by the bibliographies in some of the studies), as well as a complete set of indexes on topics, proper names and titles, selected modern scholars, technical terms, parameters, instruments and manuscripts consulted. Volume one contains a list of comments on the studies previously

published from both volumes and volume two has two chapters devoted to this subject, one for each volume. Both volumes include a page of errata, although -inevitable in books of this kind- there are some more which have been overlooked.

Printed on high quality paper, both volumes are over a thousand pages long and are almost twice the size of a normal book. This may give an idea of their weight, which may make them rather difficult to consult. However, their interest is beyond doubt for researchers in a number of fields, not only the history of exact sciences, but also the history of cultures and religions of any society from medieval to modern times. Definitely, they will be a required reference point for all those working or interested in these fields.

Mercè Comes

Peter E. Pormann & Emily Savage-Smith, *Medieval Islamic Medicine* Edinburgh University Press, 2007

The book under review presents a study of certain aspects of the development of medicine in Islam although, as the authors state in the introduction, their aim is not to present a complete history of medieval Islamic medicine in a single volume but to concentrate on specific points and to highlight them with particular examples. Nevertheless, the study includes a consi-

derable amount of unpublished material, making it not only a state of the art but a research project in itself.

As the authors state in the introduction, the medical tradition developed in Islam during the Middle Ages has influenced the fates of countless human beings. It is the story of contact and cultural exchange across countries and creeds, affecting caliphs, kings, courtesans and commoners. In addition to being fascinating in its own right, this tradition formed the roots from which modern Western medicine emerged.

The first aim of this book is to demonstrate that, contrary to the stereotypical picture, medieval Islamic medicine was not simply a conduit for Greek ideas but a venue for innovation and change. The medical needs and practices of the medieval Islamic world over a vast area and time-span were neither uniform nor unchanging. Everyday medical practices and the general health of the Islamic community were influenced by many factors: religious, climatic, social and economic conditions, battles, plagues, and other epidemics. The resulting medical literature and practices involved a rich and diverse mixture of religions and cultures which were reflected in both the physicians and the patients.

Therefore, instead of trying to compress the entire history of medieval Islamic medicine into one volume, the authors present an overview. One of the reasons is that

there are several topics that have yet to receive proper attention and, as a result, it is still not possible to undertake a comprehensive history of medicine in the Muslim World. Instead, the authors have chosen to examine certain aspects of the social history of medicine, such as female patients and practitioners, hospitals, public health care, rural and urban provisions, medical ethics and education. Rather than simply describing the medical theory and offering a chronology of famous physicians, the authors are keen to explore the problem of how patients were actually treated.

The medical tradition described in the book is intimately linked to the European tradition. It had its origins primarily in parts of the Greek-speaking world located in modern Turkey and Egypt, and it made significant contributions to late medieval and Renaissance medicine in Europe. And even though medical theory and anatomical and pathological knowledge were to change radically, particularly in the nineteenth and twentieth centuries, the authors see the history of medieval Islamic medicine essentially as the history of the origins of early modern Western medicine.

The book is conceived as a supplement to Manfred Ullmann's *Islamic Medicine*, a survey completed in 1976 and whose earlier volume was published, like the present study, in the Edinburgh University Press Islamic Surveys.

The contents of the book are organized in five topics discussed in the first five chapters: the emergence of medieval Islamic medicine and its intense cross-pollination with other cultures, notably by way of translation, but also by trade and travel; the theoretical medical framework and extensive literature that guided learned doctors in their work; the function of physicians from various backgrounds within society as a whole; medical care as seen through preserved case histories, studying the application of medical practices to specific patients and the remedies they resorted to; and the role of magical therapies, folkloric traditions and devout religious invocations in scholarly as well as everyday medicine. A concluding chapter on the afterlife of medieval Islamic medicine reflects on its impact upon the European medical tradition and examines the ways in which medieval Islamic medicine is still practiced today.

In the six chapters, the authors raise a series of questions (and offer good answers to them). How did Islamic medical writers attain such a high standard of medical knowledge and such successful treatments? What was the position of the physician in medieval Islamic society, and how did one become a physician? How do the many theoretical treatises relate to the actual practice of medicine? What role did the Islamic hospitals play in the provision of medical care and in the education of physicians?

The first chapter, devoted to the emergence of Islamic medicine, is the story of the emergence of Islamic medicine from a diverse background of early traditions. The text identifies the elements taken from Bedouin, Greek, Indian and Chinese medicine, the Sassanid Empire and the Syriac tradition, and reviews the myth of Gondēshāpūr. The translation movement is described and some misconceptions of this movement are analyzed and corrected in the light of recent studies, for instance, the role of the institution known as “The House of Wisdom”. The medical terminology created by the translators and, in particular, by Hunayn ibn Ishāq and his collaborators is analyzed giving examples of the intervention of translators not only at the scientific but also in the cultural level, such as the replacement of the polytheistic references in Greek medical texts with the reference to Allāh.

The second chapter deals with medical theory, starting with the description of the medical principle of the humoral pathology, inherited from the Greeks and which, combined with the “six non-naturals” (factors external to the body over which a person may have some control), provided an explanatory basis for the cause and nature of illness. Concepts related to the structure and function of the body such the *pneuma*, together with some innovations in this field such the formulation of the pulmonary transit by Ibn al-Nafīs, who corrected the interpretation found in

Galen, are analyzed. The study makes clear that this discovery is not equivalent to the demonstration of the continuous circular motion of the blood throughout the body published by Harvey in 1628.

Another aspect described in this chapter is the importance given by Islamic medicine to the patient's state of mind when treating an illness. This concern led some physicians to write treatises on moral philosophy motivated by the idea that philosophy could provide spiritual health which in turn can influence bodily well-being. The importance played by diet to prevent illness is clear, as is the stress on using pharmacology as a final resort. Here the authors describe the two most prominent pharmacological sources of Antiquity, namely Dioscorides' *On Medicinal Substances* and Galen's *On the Powers of Simple Drugs* and describe methods of diagnosis, classifications found in medical treatises of diseases of different kinds, and sections in medical encyclopedias devoted to anatomy, surgery and ophthalmology.

The following part of this chapter is devoted to the description of the different types of medical discourse in which the treatises were written: compendiums or encyclopedias were the most popular but, for teaching purposes, medical questions were often discussed in the form of questions and answers or in verse.

The prophetic medicine articulated by religious scholars rather than

physicians aiming to produce a guide that would be acceptable to pious Muslims is also mentioned by the authors as a part of the medical theory within Islam, and some of the treatises produced are described in its context.

The third chapter entitled *Physicians and society* tries to answer the question of how physicians operated within a larger social context. It would be unsatisfactory to investigate only the care of the elite within a metropolitan setting. The authors have therefore highlighted other aspects, such as provisions for the poor, competition in the medical market place, and women as patients and practitioners. Certain trends and tendencies emerge regarding the position of the physician within the different societies. It is likely that this preliminary picture reflects the situation at other times and in other urban or rural settings within the confines of medieval Islam.

The chapter also examines the ways in which a student might become a doctor. Mainly there were three ways: family tradition, in which sons followed in their fathers' footsteps, paying a doctor for classes, or in a hospital by practicing and training there. There is a fourth possibility, the *majlis* (session) which also provided an opportunity for medical education. The text gives examples of all of them.

Other topics dealt with in this chapter are medical regulation and medical ethics and the status of

physicians. There is also a description of the main characteristics of hospitals in the Islamic world, which can be compared with the facilities offered by contemporary Christian monasteries and hospices.

In chapter four we find one of the most interesting topics of this study, namely the actual practice of medicine in Islam. It is difficult to find reliable evidence of it due to the absence or scarcity of the sources. Nevertheless, the authors have compiled and analyzed some case histories and clinical notes from sources such as al-Rāzī's *al-Kitāb al-Hāwī* and al-Kaskarī's *Compendium*. These notes describe questions such as drug therapy, bloodletting, cauterization, surgery of different kinds, anesthesia and antisepsis, circumcision, diet and personal hygiene (for instance, a form of dental hygiene regularly practiced by all the strata of the society is described, consisting of cleaning the teeth using a brush called *siwāk* made from the *arāk* tree. Recent studies have demonstrated that the wood of this tree prevents plaque and inflammation of the gums due to the fluoride and tannins in its wood).

Chapter five is devoted to popular medicine. It describes magical, folkloric and astrological practices which formed part of the medical pluralism of the time and reflected ancient beliefs and customs that long predated Islam. The reliance at times on astrology and magic can be seen at all levels of the society. To varying degrees,

magical and astrological techniques were an integral part of all medical practice, whether learned or traditional. Amulets and talismans were widely used, and learned physicians and scholars discussed their efficacy in their treatises. This chapter describes the contents of some extant manuals of magical methods. Treatises on Prophetic Medicine also come under the heading of popular medicine, containing folkloric and magical remedies and invocations to protect from *jinn* and the Evil Eye. This chapter includes information on magic-medicinal bowls and on the use of astrology by physicians, who followed Hippocrates' dictum "the science of the stars is no small part of the science of medicine".

The last chapter of this study is entitled *Afterlife*. The authors offer a panoramic view of how the medieval Islamic medical tradition spread to other regions of the world, beginning with Europe to the northwest, and then south and east, to look at the continuation of this tradition within other Islamic countries. Throughout the process of transmission, translations were required, and many subtle changes ensued. Islamic medicine also faced challenges from competing medical systems, most notably modern Western medicine: indeed, the Islamic tradition was eventually pushed to the margins of medical care.

The chapter gives information on Medieval Latin and Byzantine Greek translations of Arabic

medical texts, on the role of the Jews as transmitters, and of the Crusades as an occasion for exchanging medical ideas and translations like the one carried out by Stephen of Antioch from al-Majūsī's *Complete Book of the Medical Art*. This influence continued during the Renaissance, a period in which the medical works of al-Rāzī and Ibn Sīnā continued to be highly influential sources. As for the East, the text gives information on the influence of Islamic medicine in the Ottoman Empire, in Safavid Persia and in the Indian subcontinent. This influence is evident throughout the Islamic countries even today.

At the end of each chapter, before the notes section, the authors provide a paragraph with suggestions for further reading on the topics covered.

In their conclusion, the authors discuss the extent to which Islamic physicians can be considered to be innovative. The answer is that, while maintaining great respect for the authority of ancient texts, they often tested and challenged their precursors. Al-Rāzī is, possibly, the outstanding example of this. Physicians also compiled compendia, which skillfully organized the medical precepts and principia: the *Canon of Medicine* by Ibn Sīnā is a good example. Some later physicians (both European and Islamic) were so impressed by the methodically construed system that they may have thought that it required no further elaboration or

development. Innovation was also evident in what we would today call "public health care", comprising public bath-houses, drainage systems and hospitals that contributed to the general health of the population.

Two other questions are addressed and answered in the conclusion of the book: why did this tradition emerge when and where it did, and why do certain aspects still prove attractive to peoples in many parts of the world? The answer to the first question is that Islamic society tolerated other customs and confessions and permitted peoples of divergent backgrounds and beliefs to cooperate and to participate in a joint scientific discourse.

As for the second question, the basic medical system was what we would today term 'holistic'. The concern was for the improvement of the patient through manipulation of environmental factors and diet. When those proved insufficient, medicaments were applied. Intervention was kept to a minimum. This approach resonates with many current trends in medical care.

The book ends with a good bibliography that contains studies by modern scholars as well as translations into modern European languages of the sources discussed in the study. There is also a comparative chronology between the "East" and "West" from 450 BC, the time of Hippocrates, until 1814 when al-Salāwī was active in the North of Africa. An index of

names and works gives references to the historical personalities and the titles of their writings. This index includes references to translations as well as editions when they are published. There is also a general index which includes mainly medical concepts and names of places. The book has 22 illustrations, most of them corresponding to pages of Arabic manuscripts containing medical treatises.

In summary, this is a very useful overview of some important aspects of the development of medicine in Medieval Islam.

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