

SEPTEMBER 2010

# INSTITUTE OF MEDIEVAL AND POST-MEDIEVAL STUDIES

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The mission of IMPMS is to make people aware of the great contributions of Islamic civilization to the West, and indeed to the whole world, by presentations and dissemination of written and audio-visual materials and also through participation in academic conferences as well as by organizing events on this subject.

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## IMPMS Activities during first 8 months of 2010

### Setting the year's agenda

We began the year with optimism and a determination to make further progress in carrying out the mission stated just above. Several new members were introduced at the first board meeting of 2010, held on January 24th. At that meeting, led by IMPMS President Dr. Basheer Ahmed, we agreed upon the main ways in which we planned to pursue our objectives. These include educational programs at schools, Islamic centers and varied houses of worship; further development of the IMPMS website; writing articles and children's books for publications and making DVDs carrying our message. We also discussed scheduling another dinner-and-speaker event to take place during the last quarter of the year as the second of an annual IMPMS function, following the 2009 event with Michael Hamilton Morgan, author of *Lost History: The Enduring History of Muslim Scientists, Thinkers and Artists*. Ambassador Ahsani emphasized the importance of also participating in academic conferences like the annual Medieval Congress in Kalamazoo, Michigan. These rubrics account for most IMPMS activity so far this year.

### IMPMS Presentations

On March 5, 2010, the first presentation of 2010 took place in Fort Worth for the Islamic Association of Tarrant County (IATC). It was arranged by Dr. Yushau Sodiq and chaired by Chaplain Muhsin Shaheed. Speakers included Dr. Basheer Ahmed and Mr. Edward Thomas. Besides explaining the purposes of IMPMS, Dr. Basheer projected a short DVD film entitled "1001 Inventions and the Library of Secrets" and starring Sir Ben Kingsley. Dr. Sodiq also organized a visit to Al-Hedayah Academy in Fort Worth on March 25 for a group of Muslim scholars and journalists from ten Arab countries who were being escorted by Edward Thomas during their stay in the Dallas-Fort Worth metroplex. More on this subject and on Dr. Basheer's presentation to them about IMPMS can be found elsewhere in this Newsletter. On March 27 Reem Elghonimi gave a presentation for graduate students from five universities in the Metroplex attending a R.A.W. (Research, Art, Writing) Symposium at UT Dallas. On May 21 Dr. Basheer Ahmed and Mr. Thomas took part in a presentation at Al-Hedayah mosque organized by Dr. Sodiq. (The mosque is located beside the Al-Hedayah Academy and is also used by that school, but the audience was a different one.) On May 27 Mr. Thomas gave a brief presentation to an informal dinner gathering of Peacemakers Incorporated.

### Meetings with Imams and executive committee members of Islamic Centers

Dr. Sodiq and Mr. Muhsin Shaheed made two presentations to the Imams and executive committee members of the Islamic Center in Tarrant County. IMPMS member Mr. Aziz Budri also took part. They explained the goals and objectives of IMPMS and the importance of disseminating information on Islamic scholars to students, teachers and the public at large. They also sought support for future projects at Islamic Centers.

### Participation in Academic Conferences

Presentations proposed by Dr. Basheer Ahmed, Ambassador Ahsani, Edward Thomas and Muhsin Shaheed have been accepted for the Texas Medieval Association (TEMA) meeting at SMU, Dallas, Texas, Sept. 24-26, 2010. IMPMS also expects to be well represented at the International Congress on Medieval Studies at Kalamazoo, Michigan, May 12-15, 2011. Reem Elghonimi is organizing the IMPMS Sponsored Session there.

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### Visit by Arab Religious Leaders and Journalists

Edward Thomas

The U.S. State Department conducts what is called the International Visitor Program, which brings leaders in diverse fields from many countries to visit various parts of the United States, where they meet and talk with Americans active in the same fields. In one recent program for Muslim religious leaders and educators as well as three journalists, eleven visitors from ten countries visited Washington DC and four other cities (and nearby regions). Their last stop was the Dallas-Fort Worth area, from March 23 to March 27, 2010.

I was asked to arrange their program in this region and to accompany them throughout their stay in the area. The program I developed included a visit to Thanksgiving Square in downtown Dallas; a luncheon and afternoon meeting at the home of Mike Ghouse, President of the Foundation for Pluralism and the World Muslim Congress and Co-Chair of the Center for Interfaith Inquiry; and visits to three different schools. The first was a public high school in Dallas, where the group met with the Associate Principal, several teachers, and some 25 students. Another visit in Dallas was to the TKG Academy, a fully accredited private school of the International Society of Krishna Consciousness. The third school visited was Al-Hedayah Academy in Fort Worth, a private Islamic school that now provides fully accredited education from pre-K through 10<sup>th</sup> grade. It is planned to go on soon to cover 11<sup>th</sup> and 12<sup>th</sup> grades.

After a guided tour of the al-Hedayah facilities, the principal, the imam of the mosque it uses and a couple of school board members had a lively discussion session with the visitors. Dr. Yushau Sodiq, a professor at TCU and IMPMS Vice President, who had arranged for the visit, also took part. Then, after lunch provided by the school, several IMPMS board members met at the school with the visitors in order to tell them about IMPMS objectives and activities and to exchange ideas. IMPMS President Dr. Basheer Ahmed led the meeting, while Ambassador Syed Ahsani (President Emeritus) and I also took part. Many of the visitors expressed their pleasure at learning about IMPMS's efforts to make Americans better aware of the great contributions of Islamic civilization to the West, and indeed to the whole world.

### Solving Al-Khwarizmi's Problem

Edward Thomas

Some of you may remember that, in the IMPMS Newsletter dated November 2009, I described how the great mathematician al Khwarizmi explained in words how to solve this problem: What number squared, then added to ten of the same number, equals thirty-nine? He said, take half of that ten, multiply that by itself, add the result to thirty-nine, then take the square root of that sum, and finally subtract from that result half of the ten. That will be your answer.

Expressing this problem as an equation:  $x^2 + 10x = 39$ . Here is how he said to solve it:

Half of 10 = 5; 5 times 5 = 25; 39 + 25 = 64; Square root of 64 = 8; 8 - 5 = 3

So 3 is the answer. Thus the answer to the equation is  $x = 3$

Want to check it? In the equation, replace  $x$  by 3: 3 squared = 9

10 times 3 = 30

9 + 30 = 39

In Algebra class you may have learned this method as "completing the square."



A stamp issued September 6, 1983 in the Soviet Union, commemorating al-Khwarizmi's 1200th birthday.

### Al-Razi (Rhazes) - (c.864-925)

M. Basheer Ahmed, M.D.

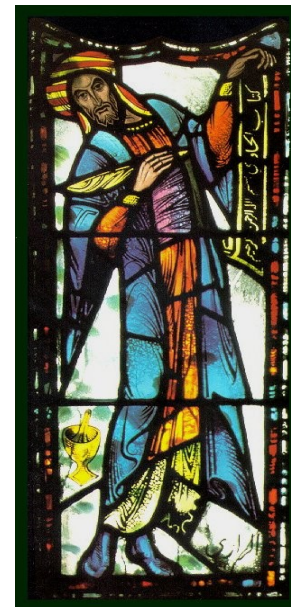
Abu Bakr Mohammad Ibn Zakariya Al-Razi (known in the west as Rhazes) was born in Rayy (which today is adjacent to Tehran, Iran) in 864 CE (AD). He became one of the most renowned physicians of the period when Abbasid caliphs reigned (750-1258 CE). Initially he studied mathematics, astronomy, philosophy, chemistry and music. He gave a brilliant account of his knowledge of music in the book "Fi Jamal il Mauseeqi" (on the beauty of music). He became interested in Medicine at the age of 30 when he visited Baghdad. He studied the writings of Greek medical scholars including Hippocrates, Galen, and others but developed his own methods of diagnosis and treatment. He traveled to Egypt and Spain but finally returned to Baghdad as a Chief Physician of Bimaristan and later took charge of Muqtadari Hospital, which was known to be the world's biggest center for treatment and teaching. It is said that when he was choosing the location to build the hospital, he hung a piece of meat at each of the possible sites. After a few days, he chose the site where meat showed the least putrefaction. He was the first physician to infer indirectly the bacteriological putrefaction of meat and environmental contamination, long before the modern concept of airborne infection.

He is considered as one of the greatest clinicians of the medieval period, an original thinker and a researcher. He had a great influence on the development of pharmacy and medicine in the 9<sup>th</sup> century, and his influence in the West lasted until long after the European Renaissance.

He wrote over 200 books of outstanding merit on various medical subjects. His most famous books are 'Al-Hawi Fil Tib', 'Kitab-Al-Mansuri', and 'Kitab-UI-Maliki Jami'. His book, 'Al-Hawi' in 20 volumes was written in a span of 20 years. Al-Hawi (translated as Liber Continens) was an encyclopedia of medical knowledge based on his personal observation and experiences. He cites Greek, Iranian and Arab authorities in respect of every single disease and then adds his own observations and recommendations. One of the important features of this book is that Al-Razi included several sections related to "pharmacy in the healing art". He arranged data about the drugs in alphabetical order including compound drugs, pharmaceutical dosage and toxicology. This book became one of the standard medical reference works in Renaissance Europe. He published research work on kidney and bladder stone in the 9<sup>th</sup> volume of Al-Hawi, which was published in its original form with French translation, in Laden, France, in 1896. The National Library of Medicine, in Bethesda, Maryland, U.S.A, while celebrating the 900<sup>th</sup> anniversary of Al-Razi, recently exhibited a manuscript of this book.

His book on the diseases of childhood was one of the first medical books written on children's diseases and thus he is known as the father of pediatrics. He also discussed the subject of homosexuality. He wrote extensively on the causes and on different modalities of treatment. He was the first physician who described homosexuality in clinical terms. He was among the first clinicians who described the disadvantages of excessive consumption of wine, leading to physical and mental illness including cirrhosis of the liver, impotence, and mental deterioration. Although he recommended use of opium for relieving insomnia and cough, he warned against its severe side effects and fatality if used in excessive amounts.

Another book, "Kitab Al-Mansoori" dedicated to Caliph Al-Mansur, became famous and remained in the curriculum of European medical schools for centuries. It consists of 10 sections on anatomy, wounds, injuries, poison, diseases of the body from head to foot, fevers, diet, hygiene, and the influence of psychological factors on health. He also emphasized "Tibb-e-roohani" (spiritual medicine). This showed his interest, concern for, and penetration into human nature, its complexities and the directions leading into it. This further confirms his appreciation of the importance of psychotherapy and psychology as two important parts of healing art. In his book "Judari Wal Hasbah", he described in detail small pox and measles, distinguishing the two diseases from each other. He introduced for the first time the use of mercurial ointment in medicine and he was the first clinician to identify hay fever and its causes.



Al-Razi (c. 864-925 A.D) [Europe: Rhazes]

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Another of his books that became famous is *Kitab-ul-Jame* (encyclopedia). It has 12 sections describing various aspects of the practice of medicine. The section on therapeutics discussed the substitutes of many diets and medicines, the method of determining expiration date, and enumerated names of medicines in Persian, Greek and Arabic. The other sections contained a description of subjects such as the anatomy of eye, ear, liver, heart, joint & testes. He also wrote on allergy, frostbite, emetics and purgatives.

He strongly discouraged the practice of medicine without knowledge of anatomy, physiology, pathology and pharmacology. He expected high professional standards and insisted on continuing education for physicians. He even refused to submit to an operation on his eyes when a surgeon who offered to operate could not satisfy him on the question of the number of membranes the eye contains.

Al-Razi earned his reputation on clinical observation. He wrote case histories with detailed description of patients and their symptoms. He also wrote details of clinical trials of treatment in his "chapter on illustrated accounts of patients". In his writings he initially followed the pattern developed by famous physician Galen but corrected several errors made by Galen and introduced new data. This was a courageous step to take as medical therapeutic concepts and procedures stated by Galen were blindly accepted and transmitted by his followers and commentators. Al-Razi's books were translated into Latin by order of King Charles of France and taught in European medical schools until the 16<sup>th</sup> century. He was the first to give an account of the operation for the extraction of cataracts. He was also the first to apply chemistry for the preparation of drugs. He is regarded the first Islamic-chemist of the 10<sup>th</sup> century. Al-Razi was one of the first physicians to establish medical education for physicians. According to Al-Razi, a physician had to satisfy two conditions: to be eligible to practice medicine in a hospital; he should be well versed in new and old medical literature and he must have worked in a hospital as a trainee.

His works were printed in Europe when printing was still in its infancy. He exercised a remarkable influence on the minds of scholars of the West for centuries after his death and it passes on to present day in the history of medicine. His portrait, along with that of Avicenna, still adorns the great halls of the School of Medicine at the University of Paris. He was a major contributor to the advancement of science, medicine, and civilization. The prestigious Razi Institute in Tehran is named after him.

### Do You Know...

Did you know that the renowned astronomer of the European Renaissance, Copernicus, presented mathematical models for the motion of the moon and of the planet Mercury that are identical with those that had been formulated two centuries earlier by a 14<sup>th</sup> century scholar in Damascus named Ibn al-Shatir? Copernicus also adopted Ibn al-Shatir's model for the upper planets after shifting placement of the center of the universe from the earth to the sun.

### Recommended Reading

Morgan, Michael Hamilton, *Lost History: The Enduring Legacy of Muslim Scientists, Thinkers, and Artists*. Washington DC: National Geographic, 2007. (For the general interested reader. Best-selling book on this subject.)

Dallal, Ahmad, *Islam, Science, and the Challenge of History*. New Haven & London: Yale University Press, 2010. (Thoughtful analysis of the rise and fall of Islamic world's scientific leadership.)

Saliba, George, *Islamic Science and the Making of the European Renaissance*. Cambridge MA & London: The MIT Press, 2007. (A solid academic work, with special emphasis on progress in Astronomy.)

Pormann, Peter E. & Emilie Savage-Smith, *Medieval Islamic Medicine*. Washington DC: Georgetown University Press, 2007. (Covers the major contributions in Medicine and more, like popular medicine.)

Steffens, Bradley, *Ibn al-Haytham: First Scientist*. Greensboro NC: Morgan Reynolds Publishing, 2007.

Rached, R, & B. Vahabzadeh, *Omar Khayyam: The Mathematician*. New York: Bibliotheca Persica Press, 2000.