

Salim T. S. Al-Hassani (Chief Editor), **Elizabeth Woodcock**
and Rabah Saoud (Co-editors): *1001 Inventions: Muslim*
Heritage in Our World

Manchester, UK: Foundation for Science, Technology and
 Civilisation, 2006, 376 pp. HC, ISBN 978-0-9552426-1-8

Propelled by the desire to reclaim one thousand years of missing history and inspired by a series of fruitful encounters with people who wanted this history to be known to a wider audience, a small team of scholars and researchers led by Salim Al-Hassani, Professor of High Energy Rate Engineering at the University of Manchester Institute of Science and Technology (UMIST), conceived the idea of recreating inventions and discoveries of that missing period. Their first step was small projects aimed at the reconstruction of machines and inventions of that period and the establishment of the Foundation for Science, Technology and Civilization along with a website (www.MuslimHeritage.com). The next step was a touring exhibition, *1001 Inventions: Discover the Muslim Heritage in our World*. This book was produced to accompany the exhibition, along with posters and a teacher's package.

How have our lives benefited from Muslim inventions? This is the question that the book, along with the exhibition, explores in seven areas—home, school, market, hospital, town, world, and the universe. The answers are fascinating; the information is specific; the stories connect past to present. *1001 Inventions* uncovers a world of innovative contributions to human civilization.

The reference section includes “A Thousand Years of Scholarship” with a listing of 171 influential scholars. It includes a helpful record of where some of the original manuscripts can be located, thereby documenting and providing evidence of the research work that has gone into the compilation of this publication. A timeline of scientific events from 632 to 1720 demonstrates how prolific scientific work by Muslims in the earlier years was superseded by European activity in the later years. Eleven short

biographical sketches highlight selected “Personalities from the Past”.

“Europe’s Leading Minds” outlines how the work of Roger Bacon, Leonardo da Vinci, Nicolas Copernicus, Tycho Brahe, and Johannes Kepler was built upon the foundations established much earlier by outstanding Muslims. Roger Bacon had insisted that “knowledge of Arabic and Arabic science was the only way to true knowledge” (322), acknowledging Muslim genius. But contemporary history texts have largely ignored the Islamic intellectual and scientific tradition and thus we have “1000 years of missing history”. Copernicus, for example, is generally lauded as the founder of modern astronomy but his theory of the planets is identical to that of Ibn al-Shāṭir, who preceded Copernicus by more than a century. Ideas presented by Ibn al-Haytham in his *Kitab al-Manāẓir*, the foundational text for optics, were later developed further by Bacon, da Vinci, Descartes, and Kepler, but Ibn al-Haytham is seldom mentioned. This list can be expanded to thousands of missing links in Western history and school textbooks.

The 1001 Inventions project was established to achieve five main objectives: (i) raise awareness of the thousand years (7th-17th century) of Muslim heritage; (ii) generate understanding and appreciation of Muslim contributions towards the development of contemporary science and technology worldwide; (iii) inspire young people from both Muslim and non-Muslim backgrounds to find career role models in science and engineering; (iv) promote the concept of scientific and technological innovation as a positive and constructive channel of personal expression of beliefs, as an alternative to religious isolationism and extremism; and (v) bridge themes in the history of science, industry and arts with contemporary developments.

The objectives are lofty and the degree of success is measureable by the demonstrated response which the exhibit has received and continues to receive. The book clearly has a point to make about Muslims in a world where Muslims have been maligned: Muslim contributions to science, technology, and other aspects of contemporary Western civilization have been ignored; Islam and Muslims have generally received negative coverage; and despite the legacy of Muslim scientists, Western historians of science continue to ignore them.

The book, however, stands in stark isolation; it neither mentions nor benefits from previous more scholarly publications and efforts—for instance, certain books and videos produced on the subject by the World of Islam Festival Co. in 1976, in particular Seyyed Hossein Nasr’s *Islamic Science: an Illustrated Study* or the more recent two volume *Science and*

Technology in Islam, published by UNESCO in 2001, or the ground-breaking work of Donald Hill, *Islamic Science and Engineering*, which is listed in the further reading section but could have been better used as a resource to draw out concrete examples of Muslim contributions. The book overstates the case in many instances, in particular in the chapter “Hospital Development” where it ignores a much older Persian tradition of hospitals, “Vision and Cameras” where it under-rates the Greek tradition, and “Market” where it overstates the case of paper making in the Muslim world.

Despite these important shortcomings, *1001 Inventions: Muslim Heritage in Our World* is a positive contribution to the understanding of Muslims and their role in the history of civilization. Its greatest merit is the organization of material in a manner that provides links between present-day life and the past; it is well-designed, and is particularly suited to spark the interest of students in the classroom. The need for such books is obvious; the first edition of the book was sold out within three months. The second edition includes an extended index, a glossary, and an expanded reference list of manuscripts and where they can be found. If the third edition replaces generalized accounts of Muslim contributions with specific examples the effort will be solidly grounded. The exhibition would also be improved by including more specific content such as scientific instruments and inventions, especially some of the 800 reconstructions of Fuat Sezgin and his team (see, for instance, <http://www.islamic-awareness.org/Polemics/nature_fs.pdf> and <<http://www.turks.us/article.php?story=2005110222492110>>).

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