

Muslim science on show

An exhibition at London's Science Museum has reopened debate on the science and technology of the mediaeval Muslim world, writes **David Tresilian**

There is a fascinating story to be told about mediaeval Muslim, or Islamic science, this being the scientific culture that thrived in the Muslim lands between approximately the 8th and 14th centuries CE. As Salim al-Hassani, prime mover behind the *1001 Inventions: Discover the Muslim Heritage in our World* exhibition currently at the Science Museum in London, points out in his introduction to the book accompanying the exhibition, proper understanding of that story could lead to reevaluating "the role of Muslim civilization in laying the foundations of modern science and technology."

In al-Hassani's view, the role of such a reevaluation could also be "to instill confidence and to provide positive Muslim role models for evolving Muslim identities, especially in the West." However, reevaluating the scientific culture of mediaeval Muslim civilisation is, of course, also of much wider interest than that.

As Roland Jackson, chief executive of the British Association for the Advancement of Science, points out in his prefatory remarks to the exhibition, "science and technology, in some shape or form, exists and develops within all types of societies and in the context of all shades of religious belief."

However, standard western histories of science have sometimes tended to overlook the contributions made to its development by non-western cultures and civilisations, also leaving, in versions of the history of science once commonly taught in schools, from the science of the ancient Greeks and Romans, represented in the works of Aristotle and the engineering feats of the Romans, to the "scientific revolution" associated with the first heroic figures of modern European science.

These included Galileo, combating the forces of religious obscurantism in his conflict with the Roman Catholic church, or, on a stranger note, Francis Bacon, an early champion of publicly funded scientific institutions, leaping into the snow to conduct an experiment on refrigeration on a dead chicken and then dying of a fever contracted while doing so.

As the Cambridge scientist and historian Joseph Needham demonstrated long ago in his massive work on the history of science in China, some 25 volumes of which were completed before his death in 1995, familiar stories of this sort tend to deflect attention from the scientific achievements of other cultures, producing a version of the history of science that places the emphasis firmly, and perhaps almost exclusively, on Europe.

Yet, Needham wrote, Chinese science was historically far more developed than anything in to be found in Europe perhaps at least until the early modern period, which suggested that reasons needed to be found not so much for European scientific progress, when compared to that of other cultures, as for European scientific backwardness, at least until the early modern scientific revolution.

An additional question, also considered by Needham, was what factors led to the failure of Chinese science to develop after its early successes. This was the mirror image of a question posed by historically minded European sociologists, who have sought to know the reasons for Europe's take-off and the piling of innovation upon innovation that became a feature of European civilisation from the 18th century onwards.
