

Brainchild of the Foundation for Science Technology and Civilisation, '1001 Inventions' is a unique experiment, raising awareness and encouraging debate on the contribution Muslims have made to civilization through science and technology. The exhibition is the tip of an iceberg - a signpost to teaching and learning resources, and to a blog where the debate continues. Elizabeth Woodstock describes the project and its very special contribution to science and society.

1001 Inventions

1001Inventions focuses on the period between the 7th and the 17th centuries. Sections of this time are referred to in the West as the 'Dark Ages' but actually science was very much alive and flourishing in the south of Europe and other parts of the world. Other elements of the project are a highly illustrated, easily accessible book, a dedicated website, a bespoke secondary school teachers' pack and resources, and a themed collection of educational posters.

While also replacing a missing piece in the history of science jigsaw, the exhibition also communicates the rich heritage that the Muslim community share with other communities in the UK and Europe. The exhibition is the first of its kind to actively engage the public in discovering Muslim Heritage in a hands-on, interactive approach by using multi-sensory interactive exhibits, moving models, audio-visual displays, objects and graphics panels. Through this engagement with the public the exhibition reveals the scientific and technological contribution made by Muslim scholars and thinkers over 1000 years to the development of the world that we live in today. Their translations, innovations and

inventions since the 7th centuries produced a spring board from which the Renaissance emerged.

Developed by the Foundation for Science, Technology and Civilization (FSTC) with external consultants, all the content is vetted rigorously by these high calibre academics to produce a non-religious and non-political project seeking to allow the positive aspects of progress in science and technology to act as a bridge in understanding and illustrate the interdependence of communities throughout human history.

To access the thousand years of missing history the exhibition is split in seven zones which divide our world into easily recognisable areas like home, school, town, hospital, market, world and universe, working from a micro up to a macro level, absorbing content like the advancement of timing devices and clocks, the development of schools, the transference of knowledge, the invention of distillation, the designing of surgical instruments, the formation of algebra, the appearance of architectural feats and the development of astronomy. This form of presenting the material on a societal level engages understanding in an all-encompassing way. The exhibition does not focus on one concept, idea or experiment but has an incredibly wide remit that is directly relevant to the world we live in today.

The presentation of the content is proving to inspire visitors of all ages and it produces role models for current and future generations while also aiding inter-cultural understanding. It's not just about science but about science, society, people, ideas, culture, heritage and identity, and all this impinges on the minds of those visiting.

The exhibition was launched at the Museum of Science and Industry in Manchester (MSIM) in



A small enthusiast interacting

March 2006 where it was on display for 6 months (3 months longer than planned due to popular demand). Until February 2007 it is on show at the National Museum of Wales in Cardiff. Other planned destinations include Thinktank in Birmingham, and Glasgow Science Centre.

Independent evaluation of the exhibition during the first 3 months (March - May 2006) found that the exhibition increased visitor numbers with over 10,000 more visitors to MSIM, a 12% increase compared to the same period the previous year. 26% (23,000) of the visitors during that period were prompted to visit MSIM as a result of the exhibition.

The exhibition also attracted new audiences with 11% of the visitors coming specifically to see the exhibition and had never visited the museum before (ie 9,700 new visitors were generated by the exhibition).

Two out of five visitors to the exhibition were Muslim, a much higher percentage than the norm for Manchester.



The Chairman of FSTC guides the Lord Mayor of Manchester

The profile of the *1001 Inventions* visitors to MSIM was 40% Muslim; a third were aged 35 - 44; 61% were non-family visitors; 55% male; and 45% female. Comments in the visitor's book included

"Great exhibition I hope we see this come to our city of London."

"Engaging, exhilarating we need more of this."

"Hopefully you do more programmes like this, great."

The exhibition impacted differently on Muslim and non-Muslim visitors. The exhibition was highly successful in attracting Muslim visitors. It changed their view of their own history, inspiring them to find out more and giving them a greater sense of cultural identity and pride. Non-Muslim visitors had an increased recognition that different cultures can learn from one another and a deeper understanding of the Muslim contribution to the world around us.

Although no detailed research has been carried out in Cardiff, Pip Diment, National Museum of Wales Exhibitions Officer said "In the first week (6 days) of opening the exhibition has had 1909 visitors with a conversion rate of 31% (31% of the people who came to the museum went to this exhibition). This is excellent - we consider anything over 20% to be good so over 30% is great."

Professor Al-Hassani, Chairman of FSTC has said that "The reason this has become so successful is that people want to learn about Muslim history".

This highlights the necessity to have the strong bedrock of content provided by academics, historians and scientists, but a key factor in the development of this exhibition was the inclusive consultation with those who represent the target audience and in this way discovering what would engage the public and in what form. There was a good deal of deliberation with experts and non-experts, but the 'experts' who did help out did not assume that they set the agenda of the presentation of the material.

With a comments book present at each exhibition and a blog on the www.1001inventions.com website, visitors and interested citizens can pose questions and make their views known. The organisers of the exhibition also encourage feedback and discourse to positively generate a debate around the subject area to further knowledge and understanding in a climate of respectful dialogue.

The exhibition can also create a platform for an unusual and exciting programme of educational and visitor events based on a contemporary and relevant topic. Developed specifically to accompany the exhibition, a free teacher's resource pack can be downloaded direct from the 1001 inventions website. At the Cardiff launch of the event, science buskers (Science Made Simple) brought the content to life in a contemporary setting which thoroughly engaged all members of the audience from school children to visiting Professors!

The project has been accompanied by a strong media presence. An article in *Nature* entitled 'The zenith of Islamic science' (20/04/2006) discusses other reasons why the public have been so engaged

"The exhibition is particularly timely given the recent tensions between the Western and Islamic worlds. But there has also been a resurgence of interest among Muslim scholars in the evolution of Islamic belief and its relation to the philosophical and scientific traditions of European culture."

The article carries on with

"Common scientific words such as alcohol, algebra and alkali are a constant reminder of the debt that contemporary science owes to the Persian and Arabic scholars of the sixth to the eleventh century AD. But it is a debt that receives little public acknowledgement - Western schools, deplorably, still teach of this being the 'dark ages'.

As an educational resource the exhibition is impressive. Indeed, even enthusiasts of science history are likely to find something here they did not know: Ibn al-Jazari's exquisite water clock, perhaps, or Ibn al-Mosuli's cataract operations."



Science busking at the opening in Cardiff

The exhibition is interesting as it does not pit science against religion; it protects the integrity of science by using certified sources of information and fact; it is 'glocal' as it talks about local ideas and items in everyday use that all can relate to in and from a global context; strengthens science's link with society; and the development of the exhibition listened to and still listens to the public.

To end with a note from Professor Al-Hassani, Chairman of FSTC:

"Great Muslim men and women of the past - mathematicians, astronomers, chemists, physicians, architects, engineers, economists, sociologists, artists, artisans, and educators - expressed their religiosity through beneficial contributions to society and humanity. They did so with open-mindedness and, in many instances, positively and constructively worked alongside non-Muslims. This track record of cooperation over the centuries, although deeply rooted within early Muslim society, seems to have been forgotten. The 1001 Inventions project, indirectly, is tapping into that tradition by seeking to develop a better understanding between peoples and cultures."

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Home zone