

Science and the Islamists

Muslim countries stand to gain much from science but will fail to do so if fundamentalists repress openness. Chronic neglect by Arab leaders doesn't help either.

Walk down a street in some predominantly Muslim cities and the chances are that you'll see taxis and buses bearing in Arabic the words "Seek knowledge, even as far as China". Attributed to the prophet Muhammad, the words encapsulate two principles: the duty of Muslims to seek an understanding of God's creation, and to search for knowledge beyond Islamic cultures.

In an unfortunate contrast, across the Muslim world secular governments are giving way to more overtly religious 'Islamist' leaderships that suppress free enquiry and critical-minded scholarship. How very different from the great age of scientific study lasting from the eighth to the thirteenth centuries, when leaders encouraged science and when debate and disagreement were more highly valued. That history can inspire today's young Muslims towards scientific ambition. But there is a danger of such inspiration being thwarted by currents in contemporary Islamic thought and politics.

The tension between support for science and restrictions on expression is one thread that runs through this special issue about science in Islamic countries (see page 19). Another is the shameful lack of interest in science displayed by wealthy Arab states, in contrast to Muslim states in east Asia and Africa. These themes emerged in an event that stimulated this issue: a meeting earlier this year organized by *Nature* at the Rockefeller Foundation's Bellagio Centre in Italy, attended by eminent scientists and science stakeholders from several Muslim countries. What appears this week is an exploration of the issues raised. International politics is avoided as a specific topic, even though it is unavoidable as a context. The intention, rather, is to survey some of the key influences and trends within Muslim states' attitudes towards, and uses of, science.

Another stimulus of our coverage is the diversity of the 57 Muslim nations that make up the Organization of the Islamic Conference (see the map on pages 20–21). This is manifest in their various states of economic health and development, as well as the degree of influence and fundamentalism of Islam.

Mistrust and isolation

Diversity is also apparent in the application of Islam to issues surrounding science, and indeed science itself. There are contradictory views, for example about the acceptability of weapons of mass destruction, therapeutic cloning, and the compatibility of evolution by natural selection with the existence of God. Without explicit guidance from the Koran or *sharia* law, the regulations are, as elsewhere, the outcome of religious opinion, culture and accepted evidence.

Unfortunately, diversity is less obvious in the tendency to restrict freedom of expression. It is disturbing that Islamist leaderships impose such restrictions while simultaneously encouraging science. It is reasonable to distrust their motivations when the originator and salesman of Pakistan's nuclear technology, Abdul Qadeer Khan, highlights the right of Muslim nations to have their own nuclear capability

independently of internationally agreed safeguards. The omens seem even more adverse given the bellicose rhetoric of the president of one of his major historical clients, Iran.

To what extent is science and scientific cooperation in these countries a casualty of these agendas? Certainly they cannot be helped by the resulting international mistrust and isolation of Islamist governments. The pursuit of collaboration creates not only opportunities but also risks for those who do it — and the international institutions that are meant to minimize those risks are weak.

Researchers in scientifically developed countries are further discouraged from contact because of politics, which has undermined non-political collaborations on synchrotrons and water purification, for example; because of regulations by non-Islamic states; and because of their own suspicions that collaboration is asking for trouble.

Collaboration and cooperation

There is no need to despair, however, and any tendency to do so should be challenged. The modern scientific world flourishes on collaboration and cooperation, wherever talent is to be found. The eleventh-century caliphates displayed such a spirit of engagement, and today's sultans and emirs need to foster it, seeking inspiration from both ancient and modern examples in Muslim states. For Western scientists, working with researchers who approach science's challenges within different cultures can only be good for science and encourage broader mutual awareness.

Another more philosophical and cultural motivation is a belief in the value of objective thinking in the midst of a maelstrom. There is much anti-Western feeling in Muslim states, and vice versa. There has never been a greater need for the measured, evidence-based approach to problems that comes from scientific training. Its contribution may be small amid the current turbulence, but it is all the more worth pursuing.

What are the critical components necessary for any Muslim nation with serious ambitions in science? A minimal requirement is an education system that embraces science as well as a critical approach, and at least one first-rate university. Appointments and promotions need to be transparently based on merit. It needs to call on talented expatriate scientists and duly reward them. And there must be openness to ideas and critical evaluation from other countries. The goals of developed scientific nations and individual scientists within them should be to foster these components at every opportunity.

If Islamists are willing to embrace *ijtihad* — unfettered reasoning — and critical investigation of the natural world, they could help unlock the great human potential of the Muslim world. This is not a question of simply importing Western ideas. They can draw inspiration also from the diverse attitudes of fellow Muslim states, reclaiming a great Islamic past in which new knowledge was valued and scholars were free to pursue all lines of enquiry. ■