

## Science and the war on terror

Two years after the attacks on the World Trade Center, the promised reorientation of US national research priorities proceeds without much direction or conviction.

On a beautifully still and sunny September morning two years ago today, the United States received a blow from which the world still reels. It didn't take long for US scientists to realize that 11 September might transform their professional world. The still-unsolved anthrax attacks that followed compounded the impression that the scientific agenda of the nation would be redefined by the challenges of what became known as the 'war on terrorism'.

US researchers recognized that the federal government had a new, overarching mandate. Many set to work to find technical fixes to the formidable array of challenges involved in defending the country from an elusive enemy. The National Academy of Sciences let it be known that its formidable advisory apparatus stood ready to serve the administration of George W. Bush in the nation's hour of need.

Two years on, that expertise has been tapped only sparingly. The government's myriad research agencies have shown varying degrees of success in coming to grips with their roles in the war on terror. The National Institutes of Health has probably turned in the most convincing performance, coping well, in the circumstances, with a huge influx of funds for biodefence research — including \$350 million released last week to build eight regional centres (see page 110).

The redirection of research priorities has already produced results. In biodefence, for example, scientists have made significant progress in identifying and targeting the anthrax toxin, researching into the longevity of the smallpox vaccine, and developing new vaccines, such as the fast-acting Ebola vaccine (see *Nature* 424, 681; 2003).

The newly formed Department of Homeland Security has visibly struggled to manage its half-a-billion-dollar research budget, however. A *Washington Post* article on 7 September detailed its struggle to attract the high-calibre staff needed to formulate and implement the department's mission, in research or in other spheres. The agency's research wing has so far been able to disseminate only about half of its grant funding this year (see *Nature* 424, 986; 2003).

Security-related research programmes in other agencies remain diffuse. There has been little sign, for example, that the Department of Energy's huge network of laboratories, which have a strong history

of defence-related work, have been harnessed effectively to meet the new security challenges.

Meanwhile, researchers are finding that they are being affected by the aftermath of the 11 September attacks in unexpected ways — in particular, they are becoming increasingly isolated. Immigration regulations keep scientists from countries such as China, India and Russia away from meetings staged in the United States, so truly international gatherings must take place elsewhere.

Young researchers who want to immigrate to the United States from its closest allies — including France, Germany, Britain and even Canada — are finding it more difficult. The best European universities are enjoying a recruitment mini-boom as a result. It's too early to say how pervasive these developments will prove to be, but their long-term impact on US science could be profound.

On the home front, tighter rules on the handling of pathogens and some examples of clumsy law enforcement — such as the treatment of Thomas Butler of Texas Tech University, who failed to properly explain the destruction of some plague samples from Africa and could face years in jail — may scare researchers away from fields such as biodefence that the government wants to pursue.

And while scientists and the federal government should be marching in step towards the desired goal of better homeland security, there are disturbing signs that the Bush administration remains estranged from the scientific community. Scientific leaders such as Bruce Alberts, president of the National Academy of Sciences, are reduced to writing open letters to public officials complaining about Butler's treatment (see *Nature* 425, 5; 2003), instead of working quietly to resolve such problems before they arise.

On the global stage, the run-up to the anniversary has been characterized by the Bush administration reaching out to its estranged allies in a belated effort to more effectively pursue a war that the United States cannot win alone. It is high time that the Bush administration also reached out to people inside America — including scientists and their leaders — who feel ignored and increasingly estranged from the direction that the war on terror is taking. ■

## Here, there and everywhere

Not before time, there is now a *Nature* journal devoted to the most diverse branches of the tree of life.

They can survive being entombed for 25 million years in a resin-trapped bee, the conditions inside an operating nuclear reactor, pressures as high as 10 tonnes per square centimetre and depths of 7 km in the Earth's crust. They have existed for most of Earth's history. The number of species is uncountable but is estimated at a billion and more. And although humans depend on the activity of some 30,000 genes encoded in our genome, we are also critically dependent on the presence of up to 4 million genes in upwards of 1,000 species that inhabit the human mouth, intestine, vagina and skin.

Such are the microbes. *Nature* is pleased to welcome a new sibling that gets to grips with them: *Nature Reviews Microbiology*

(see [www.nature.com/reviews/micro](http://www.nature.com/reviews/micro)). In the multidisciplinary spirit appropriate to a *Nature* title, the journal seeks to enhance communication between the communities of researchers who study viruses, bacteria, fungi and protozoans.

Its relevance can be expected to extend beyond microbiologists. The journal is collaborating with the World Health Organization and others to ensure strong regular coverage of progress in relatively neglected diseases. And there are topics of broad appeal. How much better might we be at cleaning up polluted environments? What can we infer about the last common ancestor of everything alive on the planet? With such questions addressed in forthcoming issues, a broad readership should take note of the new arrival. ■