nature

www.nature.com/nature

Vol 439 | Issue no. 7079 | 23 February 2006

Science under attack

Researchers are increasingly upset with the Bush administration, not for its tactics but for its entire operational philosophy.

The highlight of the annual meeting of the American Association for the Advancement of Science (AAAS) last week was an impassioned session in which scientific leaders, including molecular biologist David Baltimore, made clear their views on the fraught relationship between science and the Bush administration.

The discussion was organized by the Union of Concerned Scientists in the wake of revelations about how the administration's political appointees have sought to control the messages communicated by scientists to the public, including attempts by the NASA press office to muzzle climate scientist James Hansen (see page 896).

And judging from the response at a packed and emotional hall in St Louis, a great many US scientists now believe that the Bush administration is prepared not only to ignore scientific facts in making policy decisions, but also to suppress findings that conflict with its own priorities.

For Baltimore — Nobel laureate, outgoing president of the California Institute of Technology, president-elect of the AAAS, and arguably the most eminent voice in all of American science — events have reached a tipping point. He suggested that the Bush administration's approach to science stems from its adherence to a particular philosophy of government, that of a 'unitary executive'. Instead of resignedly shrugging their shoulders whenever such a case of scientific manipulation arises, Baltimore argued, scientists need to recognize the potency of the threat that this governmental philosophy represents to the long-cherished independence of US science.

The unitary executive is an old idea, but not many Americans had heard of it until last month, when it cropped up during the Senate confirmation process of Supreme Court judge Samuel Alito. At the extreme, it holds that the executive branch can run the US federal government as it sees fit, especially in wartime. Given that a seminal achievement of the Constitution of the United States was to establish a balance of power between the executive branch, the Congress and the judiciary, this may sound absurd, but it seems to hold considerable sway within the Bush administration.

Baltimore warned that the doctrine opens the way for "an exertion of executive hegemony over science". He called on researchers to "fight for a very different doctrine" under which "the executive's role is to defend intellectual freedom". In the light of the Bush administration's adherence to this philosophy, he added: "It is no accident that we are seeing such an extensive suppression of science." From someone of Baltimore's experience and reputation, these are strong words.

For science to flourish it needs settings that support freedom of enquiry, and the creation of such settings was a great achievement of the Enlightenment. Protecting them is vital, not just for science but for all of humanity.

"Scientists need to recognize the potency of the threat this philosophy represents to the long-cherished independence of US science."

Government agencies can never provide such settings in quite the same way universities can. But their scientists must still be allowed to express the results of their research as they see fit. They should also be free to discuss how their research makes an argument for changes in policy, as Hansen sought to do with regard to climate change. In return, scientists have to acknowledge that the line between science and policy is a fine one, and endeavour to distinguish clearly between their scientific findings and their policy ideas.

In its five years in office, the Bush administration has sought to exert tighter control of the branches of government where scientists work. This applies not only to regulatory agencies, where politics are never far below the surface, but also to places such as the National Institutes of Health and NASA, where intramural researchers are used to the freedom of expression enjoyed by their university colleagues.

It is by no means the case that these proud federal agencies or their staff have fallen subject to the executive branch's decree. Most federal agencies have a deep stock of integrity, which even eight years of the Bush administration will not erode away. Yet Congress, in particular, should be doing much more to defend them from White House interference. And researchers should stand up and be counted with colleagues in the federal government in their hour of need. ■

Not picture-perfect

Nature's new guidelines for digital images encourage openness about the way data are manipulated.

Researchers struggle to amass good data and present them in as clear a fashion as possible. But what do we mean by 'clear' when it comes to images? In days gone by, whether we liked it or not, data acquired at the bench were not much different from what was published. In a biomedical lab, for example, samples that had been radio-labelled and separated on a gel were recorded on X-ray film. Composite figures were assembled, with lettering carefully placed around the mounted film. If a control was forgotten or a gel was uneven, the graduate student or postdoc was sent back into the lab to get it right 'for publication'. If a speck of dust on the film obscured data in the original photograph, another picture was taken. Slicing films to rearrange the order of samples, or to splice in a control group that was actually part of another gel, was not common because it took almost as much skill to do that as to rerun the experiment.

It is doubtful that scientists were more angelic then than now. It is