

From our readers

SCIENCE AND POLITICS: A FATAL MIX?

To the editor — Why does science and politics have to mix? When French scientists were marching this winter, was it just to contribute to their government's electoral defeat as put forward by your Editorial (*Nature Materials* 3, 275; 2004)?

Often, 'mixing' for politicians means obtaining direct returns on security, economy and employment for their financial support for science. This gives the wrong impression that science should be dedicated to and drive the economy. Obviously, as observed in the 18th century by the economist Adam Smith, science has its own economy. But — often practised by politicians since Francis Bacon — the 'cause and effect' relation between the financial support of knowledge creation and technological benefits is not straightforward, and is still awaiting for a correlation theorem.

To scientists, 'mixing' often means extracting positions and funding by lobbying, surfing on the actual dedication of any government for the wealth of the state. This is almost a Darwinian reaction: using and supporting an artificial correlation to grasp support from the state — a correlation too long to be measured on the lifetime of a government.

In any given country, there are always some individuals passionate about the pursuit of knowledge. The basic political question is whether and how the state will financially support such a practice, or leave it to the individuals or companies. These days, many countries have definitively chosen to support innovation, setting up priorities in line with economical or health returns. In France, fields such as cancer, nanotechnologies and the environment are targeted.

But science is not just about finding solutions to identified problems. Beyond potential and immediate returns, a state also has a duty to support science for its cultural role because knowledge is a

raw material. If, according to Vannevar Bush (first US National Science Foundation Director) in 1945, "science is an endless frontier", this choice between these diverse roles of a state results in difficult organisational problems. How can rules be set for an endless frontier? How many scientists does a state need? Is it the politicians, the scientists or the public who must decide the financial support and the scientific questions to be explored? Is there sufficient mixing between professional politicians and scientists to be able to make the decision? France, for example, is famous for coming up with new structures and organisations every decade to compensate for the wear of the current ones without abandoning them.

As mentioned in the Editorial, by refusing to accept a full change of science organisation (truly not well negotiated by politicians), French scientists are playing the political game expecting that basic state support will be forever. But new external factors like the emergence of China and India into the scientific arena may force governments to abandon this decision that a certain number of citizens should be supported by all the others to freely explore the future, because, like the production of many goods, knowledge may be cheaper to create in those countries.

As a French citizen, I believe scientists (paid by my taxes) have a duty to protest against the statement running among politicians, and expressed publicly by our formal ministry of research, that "science is the motor of economy". Today, it is the permanent confusion between the production of knowledge (which has truly but not only fuelled our economy in the past) and "the motor of economy" that may end up killing science.

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