

White heat — at last

Britain's political leadership, for the first time in decades, is well placed to take a reasoned, strategic approach to the long-term development of science and innovation. But watch out for resurgent bureaucracy.

For fifty years, British governments have sought to reverse the actual and perceived decline of the nation's relative economic and political clout. The decline — which economic historians date from the zenith of British imperial power at around 1870 — has frequently been attributed to a deep-seated, almost cultural, national aversion to science and technology.

This malaise was articulated most forcefully and famously by C. P. Snow, who in 1959 described the “two cultures” in Britain of the scientist and non-scientist, and argued persuasively that the latter always had the upper hand. Snow's diagnosis was accepted by, among others, Harold Wilson, a technocrat who was elected as Labour prime minister after pledging to forge a new Britain in the “white heat” of scientific and technological revolution.

But Wilson's four governments, like others before and since, were unable or unwilling to get a real handle on the issue of science and innovation. In a country torn by economic and political crises, as Britain was for much of the time from the 1960s to the 1980s, prime ministers and chancellors had other fish to fry. Economic solvency and industrial peace were always their elusive goals; modernization of the science base would have to wait.

Since its nadir in the 1970s, there is no question that a spirit of confidence has rebounded, and science and technology with it. This can be attributed at least in part to Margaret Thatcher, a trained chemist whose loathing for the British academic class was reciprocated to an unhealthy degree when she was prime minister. Her confrontational approach was necessary, however, to shake Britain's universities and laboratories from the complacency in which many of them had wallowed for a large part of the twentieth century.

Now, Prime Minister Tony Blair and his friend, rival and putative successor, Chancellor Gordon Brown, are united in their genuine commitment to science and innovation. A change in government is not anticipated in elections expected next year, but even if one occurs, the current government's level of commitment to science could and should be maintained.

Concerted action

The latest manifestation of that commitment, following a series of important reviews into key aspects of science and technology policy, is a consultation document on a ten-year investment strategy for science and innovation, launched last week by Brown and fellow ministers (see http://www.hm-treasury.gov.uk/consultations_and_legislation/science_innov/consult_sciinnov_index.cfm). The source of the document is significant because so much real fiscal power in Britain rests not with elected representatives, or even with the great departments of state, but rather with the mandarins of Her Majesty's Treasury. Snow regarded high-handed Treasury officials — traditionally educated in politics, philosophy and economics at Oxford University — as the epitome of the crisis that he diagnosed. The significance of Brown's insistence on their commitment to science and innovation cannot be understated.

The document, the exact financial implications of which will not be clear until later in the year, makes a good effort to identify the key questions and problems that need to be tackled in the British

research system. Its authors deserve the congratulations of the scientific community for setting out these issues and proposing an assault on them based not on a few flashy initiatives, but on concerted action over a realistic period of time.

But there is also cause for alarm, both in what is discussed in the document and in what isn't. It emphasizes enhanced links between university and industry. The assumption that more industrial involvement in university departments is a ‘good thing’ was certainly valid twenty years ago. A lot has changed since then, however, and the industrial links enjoyed by strong departments at British universities are now quite solid.

More movement is required by those in business than by the academics: with a few exceptions (primarily in the pharmaceutical industry), British industrial companies are amateurish and lax in their approach to research and development. The government's tax incentives for business research and development are praiseworthy. But an insistence that universities do even more to address economic problems could undermine the academic creativity that history proves to be a significant source of profound technological innovation.

Bureaucratic burden

Alarm bells should also ring in response to the document's suggestion that universities obtain full returns on their costs “at the project level”. The idea that they can plan a sustainable future when faculty staff and other core costs depend on individual research grants is a nonsense. This is also a recipe for yet more bureaucracy. It is essential that the system for funding British universities, currently being reformed by the government, reduces the burden of assessment endured by academics.

The document also contains significant omissions that must be corrected during the consultation period. In particular, it contains no mention of the needs of the developing world, although this government has consistently invoked the state of the South as the scandal of our age. Both altruistically and for enlightened self-interest, investment in building the capacity for research in Asia and Africa has to feature in a ten-year plan for UK science. This is all the more urgent given the government's failure so far to recognize the value of such investment in its aid programmes.

Interested parties are invited to comment on Brown's document by 30 April. Individuals, as well as their laboratories, universities and professional societies, should make their voices heard in what could be an important process in the steady rebuilding of British science and innovation, and national self-confidence in both.

Scientists and engineers of a reflective bent will be delighted that the Treasury is leading the development and promotion of a thorough, long-term plan for science and innovation. The initiative is a measure of how far British science and innovation has come since Snow's diagnosis. Whether industry will rise to the opportunity this presents, and whether the government will take it forward with the appropriate lightness of touch, are important questions that remain to be answered. But for the first time in decades, there are reasonable grounds for optimism. ■