



## What matters for science is who runs the country

A chief scientific adviser is no substitute for a ruling elite that is actually engaged with science and engineering, argues **Colin Macilwain**.

Britain loves its scientific advisers. Almost every government department has one and, earlier this month, Southampton city council became the first local authority to appoint its own: AbuBakr Bahaj, head of the energy and climate-change division at the University of Southampton.

The UK government itself has a new chief scientific adviser in waiting: Mark Walport, director of the Wellcome Trust. Appointed in June, Walport will be the 11th man to fill the role when he takes the post next April. He is a scientific heavyweight whose selection has thrilled Britain's senior scientists.

Walport's appointment is unusual, and heartening. He is voluntarily relinquishing a position that is not only hugely influential — the Wellcome Trust is the biggest biomedical research charity in the world — but is also far better paid than his new role. He is clearly satisfied that his voice will be heard in the corridors of power.

But will it? And what sort of advice does the UK government want, or indeed need, from a chief scientific adviser?

Researchers look to whoever fills the role to strengthen their voice in government and, ultimately, improve their funding prospects. The government, in turn, looks to the scientific adviser to enhance the credibility of its policies.

Scientific advisers in Britain — and the United States, which also has one — have, to an extent, been successful in these duties. But they have failed in a broader task: the mission originally envisaged for them.

The position of scientific adviser wasn't set up to secure science budgets or communicate government policies to the public. Instead, advisers were meant to address competitiveness by bridging the great divide between what UK physicist C. P. Snow called the "two cultures": scientists and engineers on the one hand, and the non-technical elites who govern London and Washington DC, on the other.

It was the launch of Sputnik that led US President Dwight Eisenhower to appoint James Killian as his country's first scientific adviser, in 1957. Seven years later, Harold Wilson was elected UK prime minister after pledging that a new Britain would be "forged in the white heat" of scientific and technological revolution. He appointed his first scientific adviser, Solly Zuckerman, in the same year.

Neither Eisenhower nor Wilson hired a scientific adviser so that their countries' researchers could win more Nobel prizes or publish more papers. What they meant by 'science' was military and industrial competitiveness achieved by harnessing science and technology. What they coveted was Soviet rocketry and German machine tools, not papers in *Nature*.

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Unfortunately, in both countries, the scientific adviser's role has evolved in ways that marginalize its impact on competitiveness. In the United States, most advisers have little direct access to the president, and busy themselves mainly with interagency mediation on important but arcane matters such as how to coordinate different satellite systems. In the United Kingdom, the adviser is a bigger fish in a smaller pond — but is still seen primarily as a representative of the special interests of academic science, not as a player in economic or industrial policy.

Meanwhile, Germany, Japan, China and France have found no need for a 'chief scientific adviser' — despite frequent cajoling from the English-speaking world. Scientists and engineers already permeate these countries' governing elites.

Contemplating some maddeningly immaculate railway lines in Berlin this summer, I wondered whether this is why the Germans can not only make the trains run on time, but also keep the whole system to a standard that shames the dilapidated, rubble-strewn routes of London or New York.

It seems that whoever runs the railway lines in Germany knows and very much cares about how a railway works — as does their boss. Back in Britain, it is widely accepted that those in charge neither know nor care about how things really work.

Scientific advisers in London and Washington are now part of a political world dominated by 'special advisers', who rarely have any background in science or engineering. In both capitals, the world of finance holds almost limitless sway.

Two years ago, John Beddington, the population biologist who will continue to serve as Britain's chief scientific adviser until Walport takes over, organized a meeting of 200 civil servants

with backgrounds in science or engineering, from different government departments, in an effort to forge better links between them.

The exercise brought to mind the fact that no one will ever see fit to organize a meeting of the senior officials who, like UK Prime Minister David Cameron, read philosophy, politics and economics at the University of Oxford. They run the country already — and their networking skills are impeccable.

My point is not that Beddington's efforts were futile; it is rather that in 50 years of trying, the underlying dynamic of London's ruling elites hasn't shifted an inch. The public prestige of science is higher than ever but it remains disturbingly removed from the centres of power.

And under these circumstances, the scientific community's hope that the scientific adviser will exercise meaningful influence is liable always to be frustrated. ■

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