

Science and politics - how to bring them together, and keep them apart

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Chair: The Rt Hon. the Lord Willetts FRS
Chair, The Foundation for Science and Technology

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DAME ANGELA MCLEAN began by setting out how the pathways work between politicians and scientists. Politicians have questions, they get help from civil servants, who pose a series of questions to academics. The civil servants then feed back the answers to politicians. However, this is not a perfect circle, there can be significant back and forth both to elicit a good set of questions from civil servants and a good set of responses from academics.

During the Covid-19 pandemic, Dame Angela has co-chaired SPI-M, a group of modellers who have fed through data and evidence to SAGE. Initially there was a very long list of questions from civil servants, and a long, complex response with lots of uncertainties in the responses (“if this, then that”). There were frustrations on both sides, but after lots of talking between them, there is now a broader range of scientific advisory products which SPI-M provide.

Dame Angela illustrated this with a slide of “ready reckoners”, a series of boxes showing how the R number of the virus varied with people venturing out of their homes, with different scenarios for the number of children returning to school, the level of contact tracing and the level of Covid security in pubs, restaurants etc. These ready reckoners were trying to capture the things that were known and the things that were

not (contact tracing is easy to measure, whereas covid security is not, for example). Whilst the accuracy of measuring the R number is limited, this system has increased understanding in how the R number changes with the different variables. This work has been a collaboration between scientists and civil servants, and illustrates that it is possible to deliver timely, relevant and independent scientific advice to government.

One concern was use of the phrase “following the science”. A much better phrase would be “hearing the science” – so scientific advice is present at the heart of decision making but is only one of the things taken into account.

Dame Angela concluded by noting that this intense, urgent, collegiate and collaborative process had been able to bring science produced at great pace into the decision making process, whilst preserving the independence of the scientists who do the work.

SIR DAVID KING noted that whilst it was of prime importance that science was divorced from political influence, the Government Chief Scientific Advisor (GCSA) had to interact with the political system. He gave the example of Solly Zuckerman, during the war, who gave advice to Churchill about where to bomb during the Allied Landings, and persuaded the Prime Minister to change his mind

from bombing cities and towns in Germany to bombing strategic infrastructure such as bridges, to stop German troops being able to move quickly to the landing area.

Sir David quoted from the document setting out the role of the GCSA, who “advises the Prime Minister and the Cabinet on science and technology policy issues which cut across individual government departments”. A key function of science advisors is to advise on policy, with politicians then taking the decisions.

Sir David had become GCSA just after the BSE crisis. The Phillips Commission, which reported on the handling of that event, recommended that Chief Scientific Advisors must be able to put their advice both to Government Ministers and Cabinet, but also into the public domain. The reason for this was that the responsible minister for agriculture at the time of BSE was trying to persuade the public that British beef was safe to eat at a time when it was understood that variant CJD was probably arising from people eating British beef. Science advisors were kept away from the media, ministers said they were “following scientific advice” but the public had no assurance whether that was true.

During the Foot and Mouth crisis, Sir David set up a committee including scientists and others from both within and outside government. Whilst the Prime Minister took decisions, his decision was to take the policy advice of the GCSA and that committee. Separately, Sir David converted the foresight programme into an in-depth, long term look at areas such as flooding, cognitive systems and infectious diseases. In all cases, the programme was chaired by a Minister, so that as the programme identified different scenarios, some good and some bad, there was someone to take decisions based on the findings to move towards more positive scenarios.

Sir David had set up Independent SAGE because he had been worried that the public were not told who was on SAGE, or what their processes of decision-making were, and the current GCSA and Chief Medical Officer were not made free and available to go on the media and be challenged by them. The Independent SAGE group had experts in various fields, and were able to give policy advice. All of the members were frequently asked to do media interviews, a role which no-one else was fulfilling in terms of communication directly with the public. If an advisory system is to be trusted by both the government and the public, that is what is needed.

SIR MARK WALPORT started by making the distinction between “science” in a narrow (STEM) sense, and in a wider sense also including social sciences, arts and humanities (corresponding to the German word *Wissenschaft*). Taken in this wider sense, science is the evidence base for politics and should be intrinsic to the political process. However,

with the rise of popular politics across many democratic countries, the application of *Wissenschaft* was in trouble.

In times of emergencies, Government needed to lead decision making at pace and in the context of uncertainties. In these cases, there needs to be a system of bringing science and politics together swiftly, and this was in fact one of the strengths of the UK system. An important lesson emerging from the Foot and Mouth outbreak in 2001 was the need for an expert committee, and that subsequently led to the creation of SAGE.

And as modern economies become more efficient, they become less resilient, and so a shock in one area can be felt more widely. When things do go wrong, there is a series of cascading emergencies, a complicated system of systems. Policy makers are constantly balancing competing priorities, with every decision needing some degree of trade off.

The Covid pandemic has been the most challenging emergency since the Second World War. The key goal is to prevent direct harm to citizens from infection, but policies to do this will bring their own harms (such as restricting other health treatments, mental health effects, loss of education, loss of work etc).

The policy maker has to look through three lenses. The first is “What do I know about X?”. It is the lens of evidence, and often there is great uncertainty, so broad science advice is essential. The second lens is “If I make a policy, is it deliverable, and what might be the unforeseen consequences?”. The third lens is: “How does this policy fit with personal and political values and the values of the electorate?”.

Politicians have to integrate inputs from all three lenses to decide on policy. Some commentators, however, look only through one lens. Concluding, Sir Mark quoted the famous saying from George Russell that “experts should be on tap but not on top”.

IN THE DISCUSSION, it was suggested that perhaps Ministers use science like drunks use lamp posts – more for support than illumination. The question was asked about whether politicians and scientists should have more trust in people to get across the complexities of the science. A second question was raised about whether there was confusion when Independent SAGE came to a different conclusion than SAGE.

On the question of confusion, there was disagreement amongst the panel. One panel member pointed out that when Independent SAGE was set up, the minutes, advice and membership of SAGE were not being published, so there was no confusion. All members of Independent SAGE had been subject to scrutiny by the media. Independent SAGE at all times assessed the current position and gave advice on moving forward. For example, Independent SAGE was recommending action to head towards zero virus in the

community. It was stated that the per capita incidence of covid was very different in the different nations of the UK.

Another panel member disputed this data, stating that there was little difference between the 4 UK nations in per capita incidence of covid. They also noted that moving to zero virus in the community was policy advice not science advice (which should rather set out pros and cons of different options), and that moving to zero virus in the community would be extremely expensive. A third panel member suggested that Independent SAGE had spent much of its time criticising the implementation of policy.

On the question of trust and openness, one panel member suggested that for the current SAGE, set up for the Covid emergency, that all advice and data from SAGE should go into the public domain. However, they suggested that the politicians should have that data for a while before it was made public.

In response to a question about the scientific knowledge of Parliamentarians, one panellist argued that too few scientists and engineers stood for Parliament, and if scientists wanted to be involved in making policy, they should stand as politicians. Another panel member mentioned POSTNotes, produced by the Parliamentary Office of Science and Technology, as a great source of scientific briefing for politicians.

Another question concerned striking the right balance between having a clear message and communicating uncertainty. The view was expressed that the quality of science journalism during the pandemic had been very high, with journalists working extremely hard to report accurately. The question about what will happen to covid during the winter months was an example of an area of scientific uncertainty being well communicated. It was also noted that uncertainty in the public was related to their feelings, and it was importance for scientists to speak directly to the public – which is what members of Independent SAGE had done.

Finally, the question was raised as to whether scientific advisors should have stood next to the Prime Minister during the Number 10 press briefings on Covid, and whether this left them too associated with the policy, not just the advice. In response, it was noted that this had happened in the past (for example during the novichok incident). Inevitably there were some risks associated with this, and science advisors were certainly aware of the possibility of being set up to take the blame. However, the alternative was to walk away and that seemed completely wrong.

Gavin Costigan