

## **The Foundation for Science and Technology**

Dinner Discussion 15th November 2006

### **Scientific Advice, Risk and Evidence Based Policy Making The Rt Hon John Gummer MP, House of Commons**

The fundamental trouble with truth is that it often gets in the way of much-cherished theories, and politicians are particular cherishers of theories. Indeed, many are elected because of the theories which they have managed to put forward. Had they been elected on the basis of theories that later turn out not to be true, they find themselves in grave difficulty. I want to suggest, therefore, that one can follow the effect of this – and see how best to avoid it – in the context of what the Committee has produced.

I want to start with an example which is actually, very simply, statistical. I remember as the Secretary of State for the Environment being presented with a series of possible numbers of houses that we might need – a range (it had to be a range because there were so many different possibilities). I remember looking at the range and deciding that all of the figures were utterly impossible. None of them was politically acceptable, and therefore I either had to ignore the facts, or to take what was the most politically acceptable of the possibilities and run with it. It was that that I did.

When I got to the House of Commons, I remember the immediate reaction of all those who had brought their cherished theories to the debate, which was that this was an impossible figure. The idea that we needed 4.5 million units of accommodation could not be borne; I was predicting, and therefore providing. I wasn't: I was doing my best to get the facts upon which to make a decision. And then, after about two years (and I ceased to be the Minister), my successor (having said that all the figures were wrong), produced a version which ended up with the same figures, but spread over a different series of years, thus making it all alright.

I use this example because at every point in that discussion, one sees the difficulties. Much of science has to be the best that you can manage because you base it on the facts that you have. Predictions of housing figures are always the best you can manage. Some other things are closer to truth but all, as previous speakers have said, are based upon the scientific concept that everything must be argued, nothing is sure – and the moment a scientist says he has the truth he rightly is criticised by all his peers. And so politicians start from the disadvantage of recognising that truth is often inconvenient. Then the second disadvantage lies in recognising that truth, in any case, is often merely transient; it's the best that we can do.

Out there is a public, of course, that doesn't recognise either of these. First, it has cherished theories it will hold to, whatever the facts. And the newspapers and media will continue to press those bits of fact which may support the theory that the newspaper happens to hold.

I always liked the way in which George Orwell showed how the world changes in its advice: you remember when our hero discovers that the information that he has just received has been contradicted by the opposite information from the same infallible source. Readers of Mr Murdoch's newspapers must have felt the same when Mr Murdoch decided that climate change was after all true, whereas his newspapers had been campaigning in the opposite way for a very long time! Suddenly, all of a moment, the situation changed. The public out there,

of course, still has its cherished theories. The politician has to deal with those theories and in that sense comes to that other inconvenient aspect of truth, so well expressed by Cardinal Newman when he confused poor Charles Kingsley by pointing out that truth was not only what you said, but how it was heard. It isn't only a matter of saying it right, but of saying it in a way in which you know it will be received right. Very often truth needs to be presented in a way in which you do understand how it will strike the ear.

That quotation from Ruth Kelly is perhaps worthwhile. Whatever the scientific base, or lack of it, there was no doubt about the impression that the sentence was supposed to have carried upon the person who heard it. It was supposed to be thought that there was evidence which suggested that certain actions were necessary. The fact that there wasn't and the fact that she didn't say it, wouldn't (in Cardinal Newman's view) mean that she hadn't said something which was not true, for she ought to have thought of it in that way.

But of course, if politicians behave like that, they find themselves in great difficulty when they need science to be able to carry through a policy. All politicians in this room tonight will have received large numbers of letters from the Alzheimer's Society, telling us that we should not accept the best evidence we have as to how certain drugs should be used for Alzheimer's Disease. NICE, the organisation that is supposed to give us that advice, has not only given it, but looked at it all over again because of public disquiet. I write to my constituents to say that as I am not a scientist and certainly not a medic, I can only rely on the best evidence there is. I can take their worries and ask for that evidence to be recalibrated, reconfigured, looked at again, but in the end it would be quite wrong of me to accept their view against the view of the best evidence that I can have.

I have to say that, because if I go with the populist view then I can never ask the public to accept the best advice that we have on other issues. If I want them to accept what I believe on climate change I do have to accept, in the end, what NICE advises me on the Alzheimer's drug, although it's extremely unpopular. Now I don't know how many of my colleagues write the letter that I write, but I suspect very few. It is much easier – and I think Phil will agree with me – it is much easier to write a note which says “Of course there must be a great deal in what you say, and I shall write to the Minister about it”. There is little education in such letters and we do, I'm afraid, as politicians, little to make our case more acceptable when we fail to try to take those occasions to say what you have to do when it comes to dealing with science. And that, of course, has got us into a series of awful situations.

I do believe, as politicians, we have done a disservice to the nation over genetically modified organisms. I think Britain is damaged very considerably as a result and I believe, more than that, that some of the most vulnerable nations in the world have failed to be helped, in a way in which they ought to be helped, because politicians have found it easier to discover a mechanism to get out of making a decision, than to take the best advice available and to act upon it.

I think the same is true of the way in which we often deal with smaller and less important things. Here I'd like to make a point about the Report's conclusions. I think it's quite right to say that very often the problem is not that the evidence is not there, but that the evidence doesn't get to the person who is supposed to be making the decision. I remember, when I was the Minister for Agriculture, that I happened to be on the Council which was being asked to make a final decision about the noise of construction machinery. It just happened to be that Council that had to make that decision and so I was briefed by the DTI. But the person

who briefed me in the DTI took for granted that the industry's statement – that they couldn't get road mending machinery down to the required decibel level – was true. There had been no effort to ask for any scientific evidence, and so, because that was the evidence I had, I spoke on that basis, and voted against it. As is so often the case, within six months the industry managed to meet the decibel level without any difficulty whatsoever – and I felt betrayed because I, on behalf of the United Kingdom, had said something which was actually untrue. I didn't think I had told a lie, but I had said something which was in fact untrue.

Let me contrast that with an occasion dealing with vets. Now I must say, of all the scientists one deals with, vets are much the most difficult! Partly, I think it's because I have an innate distaste for most of the things they talk about. I remember dealing with vets on the requirements for special arrangements we have as we are an island, in certain circumstances of animal transfer from one country to another. It was late one evening, and Mrs Thatcher was Prime Minister, and she had previously gone to town on how we were going to stand up for this particular rule. She had said it in several places, in a way which was absolutely unmistakable (indeed she usually said things in a way which was unmistakable). As the discussion went on, and I asked more and more questions, it became clear to me that the advice I had been given was not true and that the vets had hidden from me (or accidentally failed to tell me, or themselves had been misinformed about) – some very important facts.

After a bit I became convinced that our position was untenable. So I remember ringing up (I had to go to vote and debate this in the European Union the next day), ringing up Mrs Thatcher and saying "I must see you, Prime Minister, before I go tomorrow". So early the next morning I went to see her and I knew that if I didn't get the whole story out, we would never get a decision. I needed to get the scientific facts out and so I got somebody to produce some story boards (and I don't think anyone had ever gone to her with story boards before). So I said "I want to go through this. It will take five minutes". I went through it, and at the end of it Mrs Thatcher showed herself as the scientist she was and said "You must be right, and we will have to change our position because the facts are clear; mind you they'd better be clear!" I didn't mind that last word, but I did mind being sent to Brussels with the wrong facts on the other issue.

So it is important to recognise how difficult the issue may be, and it is important to be big enough to change your mind when the facts are put before you. But sometimes the facts that you are dealing with are very, very illusive, and I don't want to fail to point to the very clear way in which this report has recognised that some things lie between science and what is perceived. Let me give you the example of organic food. The organic argument is nonsense. It has no scientific basis at all. It cannot be true that it is proper to put copper sulphates on crops and not proper to put potassium; that cannot be true. Yet the organic believers (and it is, to some extent a belief) have every right to insist that if you call your product 'organic', it actually meets these particular requirements, ludicrous though they may be. Once upon a time you used to have to plant them by the phase of the moon, which made them even more ludicrous! But if that is the rule it is right for government to insist that people who want organic food can, when they buy it, be absolutely sure that it meets these requirements, however ludicrous they may be. That is a proper act of government.

Of course people don't buy organic food for any of those reasons, they buy it because they want more natural food than the sort of food they think they get if they don't buy it. The fact that it is smothered in copper sulphate is entirely outside of the argument, but the fact is that they are making a choice and they have the right to know that when they make that choice, it

is a truthful one in the sense that it is meant; it doesn't need to be a scientifically proven one. That means that we do have to recognise that it is not always easy to talk in terms of 'this is the science'.

I want to end by just discussing what that means for government decision making in terms of getting the right scientific advice. I am very concerned that it is always easiest to cut scientific research. Defra is a good example; because most of Defra's expenditure is actually decided by us all, around the table in Brussels, and outwith the ability of the Treasury to control. What's left is very limited, so when the government makes a perfectly reasonable scientific decision that we should all cut our budgets by 8% (a perfectly reasonable number, let us say), in Defra that 8% can only fall in that very narrow bit that it has control over. So you end up by cutting back on flood prevention and science and research, because there isn't anything else which is big enough to have any real effect.

So in the current situation, we have one of the most unacceptable circles that I have come across. Because Defra did not have the best scientific advice on the way in which computers could be used to implement the perfectly proper policy which lay behind the Rural Payments Agency, it found itself vastly overspent. So it didn't get the advice, it made the wrong decisions, it found itself overspent and the Treasury then told it that it had to find the money somewhere else. So where has it found the money: by cutting the very advice that led it to the mistake in the first place, so next time it will be worse. So that is the circle we have got ourselves into, and it does seem to me that government has to set an example for the rest of society which doesn't allow it to cut back on that which it needs to make decisions, simply because at this moment it needs to cut back for perfectly reasonable economic decision making. And because of the structure we have, those cuts fall so disproportionately as far as science is concerned.

The second of these things is exactly what was said by the last speaker; I think that Professor Wiles was absolutely right to draw attention to the fact that statistics are now going to be so much more carefully protected from any hint of government intervention. Why only statistics, because the whole business is about public trust and confidence? Let me give you one example, which will be embarrassing because it is actually rather different from what Phil Willis said. I think the Food Standards Authority is actually less believed today because Sir John Krebs was not followed by somebody whose scientific independence was seen as being of the same quality. Because the great success of the FSA was that people really believed it, and he was prepared, as a scientist, to say some very, very embarrassing things (his words on organics are much ruder than mine, for example). But the fact is, by doing that people believed the Food Standards Authority in a way which they cannot believe when the leadership is of a different kind. This is no criticism of the leadership, it is a statement about the reality of belief. That is why I feel strongly about the cut back as far as science and research is concerned, and why I do believe that appointments in many of these areas need to be most carefully made, if the public is going to believe.

That then comes to the third bit, about belief. The trouble is, of course, that not only do politicians find it inconvenient to publish scientific results which disagree with their prejudices, but so do an awful lot of people outside. Let me take the issue of nuclear power. You cannot have a serious discussion about nuclear power because people are potty about it, on either end. Perfectly reasonable environmentalists will not discuss nuclear power in a sensible way. Perfectly reasonable people at the other end of the scale think you've lost all

your marbles if you dare to criticise the fact that they think nuclear power ought to play a part in the future combating of climate change.

I'm Chairman of the Conservative study group looking into all these issues and I must say that I've come out of the discussion of nuclear power with a very different view from when I started. Now the result of that is that I'm actually disliked by both ends of this argument because I'm trying to find the truth and I'm trying to see what the balance is, and actually it isn't as easy as many people would make it out to be! It means that one has to challenge the arguments of both sides. The result of that is that you do then see the really worst use of science.

And so I end with the comment on the most important thing of all: climate change. I do find it very difficult to accept a situation in which the same Queen's Speech states that we should have an independent statistics operation absolutely separate from government, but refuses to have an absolutely independent organisation to deal with the problems of climate change. I just find that unacceptable. The reason for that is that if we are to deal with climate change, as we have to, we do have to have a scientific base that we can point to as being the best advice there is publicly, without fear or favour – stated, checked, monitored and constantly available. Us politicians will not deliver unless the whole of the time the public has access to the best advice that we can be given, and that advice is turned into proper targets and the proper monitoring of those targets. Now I know this is a specific issue, but I do have to say that scientists themselves need to help us to get what we need in this area.

The problem about truth is not only that it is immediately disagreeable if it undermines much long-held belief, it's also that it goes on being disagreeable. What politicians hope is that you'll forget it, that they can overcome the disagreeable nature of truth for long enough for that particular truth to disappear out of the public eye. One of the things that I regret that the committee perhaps did not consider was how to ensure that scientific advice remains sufficiently public and sufficiently well-known so that it doesn't become lost to the argument and we revert to the uninformed prejudices with which we started. There is no area where that is more important than in the battle against climate change and that battle is going to take a long time and it needs continuous refreshment from the science which never is hidden, nor do people believe they can forget.

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