

Uncertainty is no excuse to disregard the evidence

From Lord Rees.

Sir, Michael Schrage ("Science must be more political", 26 September) fails to recognise that science is different from politics, and he therefore sheds confusion rather than light on their interactions.

Science is based on the evidence of observation and experiment. With new evidence, the conclusions of science may change. That's why we do research and why, especially in fields that are new, complex or rapidly developing, the scientific consensus may be provisional – the best understanding we can attain in the light of current evidence. But it is a dangerous error to conclude from this provisional character that all imaginable views are equally deserving of attention. Of course, even an overwhelming weight of scientific evidence can, on very rare occasions, be wrong – but it would be foolish to bet your house, let alone everyone else's, on the chance that it will be.

Any significant policy issue will have aspects that are matters of ideology; but, increasingly, important policy issues also have factual, scientific aspects. Science does not always offer clear answers. But politicians can rarely wait for certainty to emerge: they have to go on what is available at the time. It is therefore important that scientists should acknowledge uncertainties and attempt to assess their significance. We have to work with the inherent uncertainties of science, not use them as an excuse to muddy the contributions that science can make to policy.

Mr Schrage seems to be urging politicians to treat science as negotiable, as if they could on a whim choose which, if any, scientific view to adopt and which to discard, much as they might choose one bunch of flowers over another. But that's not how scientific research works. It's about how the world is, not about what suits our prejudices. The whole point of modern science is to base our understanding of the natural world on observation and experiment. That attitude lies at the heart of the unique contribution that science can, and must, make to the business of public policy.

Martin Rees, President of the Royal Society, London SW1Y 5AG, UK