



The x-change at the BA Festival of Science in Exeter
Monday 6th September 2004

Panel members were:

- **Simon Singh**, writer and broadcaster
- **Sir David King**, Chief Scientific Advisor to the Government
- **Adam Crewe**, University of Bristol
- **Henry Gee**, Nature
- **Richard Jones**, University of Sheffield

Chair: **Quentin Cooper**

James Turner started off with a preview of the 'Reweaving the Rainbow' session that was on later that evening by reading out a poem about a scientific conference. Sir David was then quizzed by Quentin to try to get the audience involved. Sir David mentioned that the most controversial of his sound bites was daring to compare global warming with the terrorist crisis (and arguing that global warming is the bigger crisis). He used the example of a frog in boiler happily sitting there as the temperature slowly rises until it has cooked to illustrate that global warming is creeping up on humanity. He also mentioned his first film review, of *The Day After Tomorrow*, which was so positive that Fox thanked him and agreed to send a scientist around the UK to give talks to accompany screenings of the film. A question from the audience – does Sir David think that kids will be turned on by scientists creating wealth or being paid more – sparked a debate that involved Simon Singh and the audience. This ended with Sir David saying 'I dislike doom-laden discussions' to which Singh quickly replied 'But you're the man who was just talking about global warming!' When a student in the audience mentioned that scientists are paid so poorly that you have to be really dedicated and willing to sacrifice earning potential to become a scientist, Henry Gee agreed. He said that when his daughters tell him that they want to be paleontologists, he tells them that's fine for the weekend, but they should do something else to earn their living!

Quentin then moved on to Adam Crewe, who gave the award lecture earlier that day on earthquakes and what can be done to make buildings safer. There is a conflict between designer buildings and safe buildings, with the simplest buildings usually being the safest. People in the UK tend to ignore the risk because it's so low – only 1 in 10,000 chance of experiencing an earthquake. Sir David pointed out that the chance of the Thames breaking its banks (again, global warming) was only a 1 in 500 chance. Simon Singh then talked about the Clay Institute's prizes – 7 million dollars to solve 7 unsolved mathematical problems. Two people think they are getting close to proving two of the problems. When he wrote *The Code Book* he offered prizes to people who could break some codes that were written at the end of his book. He used a book code for one of the puzzles, and when chat rooms spread the rumour that his thesis was the book used, people started appearing in the university library in Cambridge and for the first time people read his PhD thesis! He claims that maths is part of our culture, which is why people devote so much time and energy to solving mathematical puzzles.

Henry Gee then spoke about fake fossils and told the audience about a curious Indian academic who has made a living out of sending real fossils to paleontologists and lying about the location where they were found. This academic has single-handedly managed to destroy a branch of paleontology. Nature receives 180 new papers each week, and they receive papers about new fossil finds so frequently they cannot begin to tell whether those are all genuine finds or not. Finally, Richard Jones described his work on nanotechnology –

whenever people think that it's not possible to do something his boss always says that nature has been able to do it, so it is possible. While biology is good at it, humans sadly aren't yet. He watched *Fantastic Voyage* for research purposes (ah, to be a scientist...) All in all, a rather hot but very successful and enjoyable evening according the feedback from the audience!