

The x-change, Monday 10 September 2008

Speakers:

- **Steve Fuller**, University of Warwick
- **Jim Al-Khalili**, University of Surrey
- **Lorelly Wilson**, University of Manchester
- **Giles Yeo**, University of Cambridge
- **Tim Grant**, Aston University



Host: **Sue Nelson**

The x-change began with Steve Fuller, a geneticist at the University of Warwick, who argued against BBC television programmes like "Who do you think you are?" in which celebrities research their family tree. Steve believes such programmes inspire negative racial discrimination between people of different ethnic groups and encourage us to see our genetic origins as self-affirming when in fact, our origins are irrelevant.

Sue suggested that surely knowing our family history is harmless. However, Steve pointed out that we can only trace our origins back a few generations and this tells us nothing about who we really are. The debate was opened up to the audience. One member argued that if we trace our origins back further, are we not all members of the same race – the human race? After all, what is so distinctive about our human origins in Africa?

Steve ended by mentioning his own play in which Charles Darwin and Abraham Lincoln – who both celebrate their 200th birthday this February – are brought forward to the present day. Once here, they are given the choice to either stay or return to the 19th century.

Next up was Jim Al-Khalili, a nuclear and particle physicist at the University of Surrey. Jim examined the experience and challenge of making his recent three-part BBC physics documentary, Atom. Although initially daunted, he found the project an overall positive experience, having been given considerable flexibility over the writing of the script.

The discussion moved on to a topical issue: are people happy with the standard of science on TV? The overwhelming audience response was no. One member argued that TV science was heavily distorted and many less popular fields were entirely neglected. Jim agreed and added that science programmes could easily be billed as entertainment and general interest, rather than as science documentaries.

Sue asked Jim's opinions on recent comments by Sir David King, former chief scientific advisor to the government and current president of the BA, that science should concentrate its funding on combating climate change and eradicating poverty in the third world rather than expensive particle physics like the Large Hadron Collider (LHC). Jim disputed this by saying that particle physics is important to inspire young children into physics. Not only this, but discovering the answers to fundamental questions such as what universe is made of and how it all began is of huge cultural importance.

Lorelly Wilson then showed some hands-on science from her lecture, "Fizz, Foam and Flubber". Wilson encourages kids to experiment with chemistry using simple experiments which involve everyday ingredients such as potato starch and water. Atoms really are really small: if each molecule in a spoonful were a marble, said Lorelly, then the whole world could be covered to a thickness nine miles high.

The most dramatic experiment Lorelly showed us was of a sheet of polystyrene completely dissolving in acetone – an ingredient easily available from a local pharmacist.

Giles Yeo, a biochemist at Cambridge University, was the next scientist up on stage. Giles discussed the roles of genetics and the environment in the development of obesity. He remarked that 99.9% of people have no excuses over their weight – it's all down to exercise and healthy eating – yet for some people genetics does play a part. If so, should there be a cure for people who are genetically predisposed to becoming obese – and is this acceptable?

Tim Grant finished the evening on a lighter note by discussing the analysis of text messages as a forensic tool. He explained how text messages have their own grammar – rules for describing how the 'language' works – based largely on the need for economy in texts. One interesting point was that research has shown that the text language of people who text each other often becomes more and more similar. Tim argued that the science of text messaging has thus evolved into a credible scientific tool capable of being used as evidence in court. What message did Tim have for criminals? "C U in court!"

As always, the x-change included quick summaries by finalists in the *perspectives* poster competition. Tonight's subjects included biodegradable plastics (Tom Wells), high energy physics (Jad Marrouche), better gripping surfaces (Sarah Tomlinson), knots (Julia Collins) and stroke (Geert Verheyden).

A great start for the first of x-change 2008!

Daniel Gregory