



## Science question time in Norwich

Report of a meeting at the University of East Anglia on 21 April 2005

For the **Conservative** party, **Kay McCallum** (Local Councillor and former Parliamentary Candidate) said she had given up science at the earliest opportunity in school. However, she believed the Conservative manifesto contained many important policies for science, and particularly in the areas of Further and Higher Education.

As a science teacher, **Andrew Aalders-Dunthorne** for the **Liberal Democrats** (City Councillor and Parliamentary Candidate for Norwich South) believed that the most important problem for science in the UK was that children's enthusiasm for science was not being promoted. Children come from primary to secondary school with a strong practical interest in science, but our educational system pours cold water on their excitement.

**Dr Rupert Read** for the **Green Party** (Local Councillor) believed that what was important was to develop policies that would harness the power of science for sustainable development. Some scientific advances were not sustainable, such as genetic modification. But science would be a part of the solution to the problems of global climate change. For example, the Government had failed to invest sufficiently in research into renewable energy.

The **Labour Party** was represented by **Dr Ian Gibson** (MP for Norwich North in the Parliament of 2001 and Parliamentary Candidate for the same constituency), who said that although he had worked at the University for 35 years before becoming an MP, he did not now recognise it because of all the major developments made possible by the doubling of the science budget under Labour. He thought that Norwich should become a 'science city,' like Nottingham and Newcastle. The Government's favourable stem cell legislation was bringing people into the UK science base. There should be a Minister of Science in the Cabinet, and that person should be a member of the House of Commons, not an unelected Lord. The science budget should have been quadrupled, not just doubled.

*QUESTIONS FROM THE FLOOR INCLUDED:*

**Everyone applauds the fact that Government funding for science is up, but the flagship John Innes Centre in Norwich is having to make 10% of its core scientific staff redundant. This is not due to**

**negative publicity about genetic-modification work, but because of funding that was directly or indirectly under Government control. Is the fact that there are insufficient funds to support existing excellence consistent with Government policy? Would the candidates make a public commitment to fight for the JIC if elected?**

LD: The redundancies were extremely bad news. Funding mechanisms should ensure adequate support for existing centres of excellence. There was a need for a much more cohesive link between different elements of funding to reduce duplication. Pressure should be brought to bear on the Government to alleviate the problem.

Lab: The problem was not unique as the closures of university science departments demonstrated. The old style of doing things wasn't working, and there was a need for more working together between institutions to have an impact – not merely the competition engendered by the Research Assessment Exercise. Dr Gibson deprecated the culture of Vice Chancellors being pitted against each other. The John Innes Centre should work more closely with the Institute of Food Research; there was good Research Council backing, with support from the Chief Executive of the BBSRC. But plant science is not supported in this country in the way that animal science is; partly it was suffering from the aftermath of the GM debate. The JIC should be actively communicating more about the positive aspects of its work, publicising it using the media. If Norwich was a Science City, there might be more money to promote such joint working and communications activities.

Green: Dr Read agreed with Dr Gibson, especially in saying that the JIC should not merely be identified with its GM work. Science funding should be for the long term future, with a reassertion of the social and democratic control of funding. The Greens would have panels of experts and laypeople chosen randomly as juries are to encourage, discourage or even prohibit certain types of research.

Con: The Conservatives would match Labour's investment plans for science. They would have a Minister in the House of Commons, who would have a cross-departmental brief. They would have tax credits for R&D, which would bring new money into the system and there would be an independent National Science Foundation, so the JIC could go to a substantial national body to seek extra funding.

**The state of school science education was worrying, partly because young people are disillusioned by a boring curriculum. How would the parties improve the science curriculum?**

Con: The country faces a shortage of students going into key science areas and the Conservatives would offer bursaries of £2000 for this finishing their studies. Students are put off by debt and the Conservative Party had a policy of free education and the abolition of tuition fees. In schools, we needed

more and better teachers and better equipment; bureaucracy and central control would be reduced so teachers could get on with the job.

Green: This is a big and important question. It is essential that students find science exciting. The Green approach would be a guaranteed place in the curriculum for science and society and for science in the world. If students were enabled better to see how science can bring benefits and how it can be harmful, more of them would want to study it. Classroom discipline needs to be improved. The curriculum need attention: When HEFCE tried to ensure that sustainability was brought into the universities' curriculum, many saw it as an outrageous invasion of academic freedom, but the Greens believe that such constraints are appropriate.

LD: There is a huge problem with class sizes, with many young people still being taught in classes in excess of 30. It is not safe to use Bunsen Burners or chemicals in these circumstances. Teachers are prevented from doing anything a bit daring, and children's experience is diminished. In addition, the curriculum is boring and prescriptive and it is difficult to break out of it. Children who are interested in the world around them are easily turned off. The Lib Dems will free up teachers' ability to create a flexible curriculum, which will not end up being the same for everyone. For example, boys like practical work.

Lab: The Science Committee of the House of Commons did a report on this, and many of Dr Gibson's views can be read there. Labour has announced that there will be new money for schools laboratories, and every school will be getting at least one new lab. Enthusiasm was being dented because the curriculum was dictating how time was used, so that time could not be spent on things that happened to interest children. It was abominable that school field trips were no longer common. A questioning approach and the design of experiments should be at the heart of the system. The new Science Learning Centres were giving teachers a chance to get back into their subjects. Young people were attracted by what seemed relevant, which was why forensic science was such a popular university course, even though the Forensic Science Service would rather than chemistry and physics graduates.

**Science is an international subject, with many links throughout Europe that allowed the spread of expertise and the promotion of economic growth. How would issue such as the European Constitution and single currency affect the development of a knowledge-based society?**

Green: The Greens were against a European Constitution because it was not necessary, and were against the particular proposals currently on offer because it built in privatisation, neo-liberalism and unsustainable economic growth. The party was also against the Euro, which would cover far too large an area. In fact, there was a case for currencies going smaller, with perhaps a local currency for London. But in general, the EU is a good and necessary

institution, especially on major scientific areas such as the environment, where there are in effect no national boundaries.

Con: The Conservatives said a definitive 'No' to both the Constitution and the Euro. On the constitution, they would hold a referendum soon after the election, if they are elected on 5 May. The EU should be widened not deepened, and the Conservatives were pleased with enlargement. There was a very good case for exchanging technologies, and Mrs McCallum had been to Russia, where Britain had been sharing healthcare technology. The EU should be cooperative but it would not help Britain to lose control of its own tax rates, currency and sovereignty.

Lab: This was the first time during the election campaign that Dr Gibson had been asked about Europe, but in any case, it appeared the French referendum would kill the Constitution in its current form. Personally, he agreed with the Greens, but there was clearly a divergence within the Labour Party. But none of this would stop science and technology being done across Europe as the particle physics community demonstrated. There should be more money for science throughout Europe, but European money was bureaucratic and awkward to obtain.

LD: The Lib Dems were pro-EU and an internationalist party, but were not uncritical. If the UK operates on the periphery rather than taking a leading role, we will not get a share of the EU cake for big science projects. The Lib Dems supported both the Euro and the Constitution.

**Several parties have suggested they will abolish university top-up fees, but universities are badly in need of extra money. How would the panellists look to find the extra cash needed for university science?**

Con: The Conservative pledges have been costed, so the money is there. Funding will follow the student and there will be £21 billion extra for higher education. There will be £3 billion in capital funding over five years.

LD: The Lib Dems will pay for the scrapping of top-up fees out of an increase in the top-rate of income tax to 50p in the pound for people earning more than £100,000 a year. The figures stack up and the Institute of Fiscal Studies agrees. The extra funding is sorely needed. There is also a need for active cooperation with local and national government, the universities and business.

Lab: Personally, Dr Gibson opposed top-up fees and believed that his party's 2001 manifesto ruled them out. They are not in fact going to generate enough money and he believed that Cambridge University couldn't wait to raise the £3,000 cap on fees. It will probably happen sooner rather than later. If money had not been wasted on the failed e-university and other similar projects, there would have been more money for universities, and if

we weren't spending billions of pounds on a war in Iraq, there would be more money for education.

Green: The Greens are firmly against top-up fees. The top rate of income tax should be raised to 60p in the pound. In fact, instead of the current tax system, we should move towards a land value tax, which would be fairer. Under the current fiscal regime, the bottom 20% of the population pay more of their income in tax than the top 20%. VAT should be scrapped and replaced by an 'ecotax' on fuel, airline activities etc.

**Climate change could be mitigated by the use of nuclear power.  
Why is none of the parties advocating this view?**

Lib Dem: The Lib Dems advocate the phasing out of nuclear power because the dangers outweigh the benefits. It currently makes up 20% of the UK's power, and that proportion is falling, so it could easily be replaced with a range of sustainable options. Wind and wave power are more effective, and in any case, we cannot go on using energy at the rate we are doing.

Lab: There is a strong lobby for nuclear, including the Chief Scientific Adviser. It is an easy answer, but the fact is that the public do not want it. Wind power is not popular either, as the wind farm at Swaffham showed. We need more proper debate, and better home energy efficiency. But the case for nuclear will be pressed from within Government.

Con: You can't afford to put all your eggs in one basket and we need new technologies. As a councillor in Swaffham, Mrs McCallum had expected to be inundated with protest about the wind farm but actually it was not too unpopular, partly because it was sited near an ugly supermarket, so did not spoil the countryside.

Green: There is an unbelievably long timescale for nuclear waste to be made safe, of the order of 100,000 years. Nuclear power should not just be phased out, it should be closed down now. We need to reduce our energy requirements and need changes way beyond the Kyoto protocol. Ironically, it is possible that the World Trade Agreement may help to bring the USA into Kyoto because it may rule that the failure of some countries to be bound by Kyoto is a 'trade restrictive practice'.

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