

# litmuspaper

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Edited by Stet Press

## TODAY'S HIGHLIGHTS



James Lovelock  
Gaia  
1-2 pm/Town Hall

Simon Singh  
Risky Business  
6.15-7.15 pm/Everyman

Debbie Parker  
The Science of Beer  
8.45-10 pm/Town Hall

## The HP source of science

by Adam Horovitz

In a continuing bid to keep science relevant and prevent it from disappearing up its own wormhole, a whole new sub-genre of books has been appearing over the last few years tying popular fantasy and science fiction in to serve a different purpose, namely popularising hard science.

Aside from Terry Pratchett and his motley collection of tame scientists postulating on the increasingly Earth-like Discworld, the chief poobah of this scientific wizardry is *The Daily Telegraph's* Roger Highfield, who came to The Everyman yesterday to talk about *The Science of Harry Potter*.

Despite apologising for his "slightly daft book", Highfield gave a jaunty and avuncular peek into the world of the sort of science that is



Highfield hoping his "slightly absurd book" will sell as well as JK's.

normally rather hard to swallow and definitely leaves bits in your teeth. He related broomstick propulsion to universal dark energy ("Sounds like it's straight out of Harry Potter, doesn't it?" said Highfield), owl post to research into avian intelligence by Irene Pepperberg

and invisibility cloaks to military research into adaptive camouflage.

It became clear that Highfield considers Harry Potter a useful tool in his bid to rationalise the universe; asking one child in the audience who he thought the greatest wizard of the age was. "Dumbledore," came the reply.

"I'd argue that the greatest wizard is your brain," stated Highfield, backing it up in numerous answers to questions from the audience that catalogued tricks that the brain can play.

Highfield gave a subtle and fascinating talk – one that skimmed adroitly across all sorts of ideas and left the listeners desperate for more. If only a few of the children in the audience take up just some of the book's challenges, there is much hope for the future of science.

## Muddying the waters of consciousness

by Mike McManus

In all likelihood, the majority of the audience left "The Stream of Consciousness" seminar with less understanding of what it is to be "conscious" than when they walked in. This, I suspect, allows the speakers to claim success.

Defining the central term is not straightforward, but there were agreed aspects to it: the importance of our senses in providing inputs to our cognitive processes; the interconnectivity between consciousness and time; and the subjectivity of how we consciously interpret things around us; how we choose to consciously or unconsciously ignore things around us, were all touched upon. This latter point was aptly illustrated by Susan Blackmore using Dan Simon's visual deception test – was it our visual sense or our cognitive processes



that blocked the "test object" out?

However, it seems consciousness is more than just the aggregate sum of our cognitive processes; perhaps it includes an "effortless awareness" of our environment. Indeed, I wondered how many people had been conscious of the ticking clock in the hall, but had chosen to filter it out of their thought processes. In summation, it requires a great deal of cognitive activity to be conscious, but perhaps a great deal more to fully understand what it is.

## Chips are down in Silicon Valley

by John Conboy

In an age where very few of us stop to examine what happens to technology as it passes through us, Christine Finn lends an archaeologist's eye and the ability to detail and deconstruct the alien world of Silicon Valley.

Starting with a summary of the pre-60s history of the Santa Clara Valley, made famous by Steinbeck's *The Grapes of Wrath*, she explored how the subsequent technological development of the area, fuelled by substantial Defence Department budgets, eventually led to the evolution of what is now known as the dotcom bubble.

Christine was "fortunate" to be in the Valley as the world around her dissolved – teenage multimillionaires once again becoming teenagers, twenty-somethings with million-dollar flats moving back in with their parents, while the non-technocrats remained excluded



Archaeologist Christine Finn muses the history of Silicon Valley.

and – with the collapse – worse off.

Her insightful talk, and the subsequent open forum, show that this field is rich in social history and that her new book *Artifacts* promises to be a very interesting read.

So, what are the people in the Valley up to now? Well, they've discovered history – but this time it's new, new history. "Retro-tech" is the new collectors' market with interest not just in Apple IIs – \$28k to you, sir – but also the virtual world itself.

Well, what did you expect – the geek shall inherit the Earth after all.

## Martin Rees: the end of the world as we know it?

by Jon Andriessen

Martin Rees is a Cosmologist with more awards and prizes than there are unknown universes, so when he says there's only a 50 percent chance of humankind surviving the next century, we really should listen.

Rees took to the stage like a stooping, grey-haired Mephistopheles and assured us that there was only about "a 1:10,000 chance that the Earth will be hit by a major asteroid," but it was all downhill from there. It seems this was not his primary concern. Global warming is a worry, but unlikely to "cause the end of the world alone." What keeps Rees awake at night is his anxiety for the increasing acceleration of science and the ability of humans to misuse it.

Even ethically developed science intended for good may ultimately have "a dark side and no science can be disinvented." He reminded us that it would take "just one nutter" to make and distribute chemi-



Martin Rees doesn't need a sandwich board to get his message across.

cal weapons from domestically purchased items. Similarly, technologies could advance in robotic technology that would see specially designed nanobots feasting on the biosphere. Yes, folks, it's a frightening time to live in. "The future of humankind," he added in scary sci-fi manner, "is not necessarily organic in structure!"

Rees is not your average harbinger of doom; he's actually quite considered and not without recourse to humour. Having first entitled his new book *Our Final Century* with a question mark, the British publisher insisted on removing the element of doubt. Furthermore, his American publisher had no time for such hesitancy and simply renamed the book *The Final Hour*.

Let's just hope that Martin Rees was having a bad day when he forecast the end of the world. With any luck, I'm sure we'll all be back to have the same discussion next year. See you then, Martin.

## Waste disposal is no time waster

by Michael Chirgwin.

An interesting debate on waste management ensued from the Pillar Room last night. The topic was whether cost, both economical and ecological, causes recycling to be redundant.

Julian Morris started the talks by stating that we produce a staggering 400 million tons of waste per annum. He suggests that the manufacturing industries are largely responsible for this in the form of disposable packaging and products. He weighed the pros and cons, but the underlying issue was that it will cost more than landfill. The cost of landfill is £12 per ton as opposed to recycling at £60; a vast difference.

There are several ways to dispose of waste, of which recycling is only a small part. That both corporations and the general public should take responsibility of waste ownership and be held economically accountable was the general consensus. Unfortunately this all costs money and we do not like this, which usually sways the local politicians. Perhaps we should keep doing as Julian Morris suggested, and just continue to fill holes with rubbish.

## THE DROID

During the Stream of Consciousness debate, audience members were asked to answer a series of questions. The age-old gender question revealed the same old prejudice; men were number one and women number two. "Isn't it always that way?" bemoaned psychologist Sue Blackmore.

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"Human beings are just mice with the genes reshuffled!" Roger Highfield scares the children come to hear about The Science of Harry Potter.

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Martin Rees overheard: "Some of the audience were looper than I am!"



ROBOTIC EXCHANGE: Pfizer's inquisitive and vaguely camp robot Oscar, who has been stopping one in three at the front of the Town Hall during the Cheltenham Festival of Science, is seen here enjoying a ribald exchange with one of the many schoolchildren attending the Festival. He was also seen asking Cheltenham's mayor how he got into politics – *Litmus Paper* would like to know if this is the first step towards a Matrix-style future for local government? RC