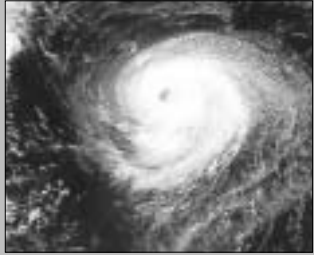


litmus paper

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TODAY'S HIGHLIGHTS



Lisa Burke and Meric Srokosz
Wild Weather
4–5 pm/Town Hall

Richard Wiseman
Science of Laughter
6–7 pm/Town Hall

John Emsley
Elements of Murder
7.30–8.30 pm/Town Hall

Sara-Jane Arbury and
Marcus Moore
Slam the Atom
8.45 pm–late/Town Hall

Genes: it ain't what you do, it's the way you DNA it

By Peter Wyton

Robert Winston, Armand Leroi, Marcus Pembrey and Mark Ross have been kneeling on the sitting-room carpet for decades, fitting together the pieces of the human genome. They have put the last one in, got up, stretched, checked that there are no missing bits and viewed the completed project from all angles, with appropriate satisfaction.

The question now arises – what are they going to do for eternity? The meaning of life is spread out before them. There's nothing left to achieve, unless it's that model of Wayne Rooney's metatarsal constructed solely from matchsticks, on a scale that would constitute a land bridge between Limerick and Manhattan.

Alas, this being science, the whole genome project has this much in common with every breakthrough since the invention of the wheel, i.e.



Robert Winston: one of the gene genies discussing DNA development.

it raises far more questions than it answers. However, immediate positives are apparent, mostly connected with our ability to go on the offensive against the genetic and inherited disorders that plague

humankind. Soon, we will be able to tailor existing medication much more successfully, to cure complex diseases, or to eliminate the side-effects of certain treatments.

Curiously, it is the rarest diseases that will reap the first benefits of the "Map of Life". The common cold, cancer, etc will take much longer. Your 5'6" correspondent was unhappy to note the panel's assertion that he is much more likely to die from heart disease than some gangly item like Peter Crouch.

It was also interesting to note that half of our make-up is what scientists term "junk DNA". Remember that next time your semi-junk eyes are scanning your junk mail, while your half-junk gob is masticating junk food. You can learn a lot at the Cheltenham Science Festival, sometimes more than you feel you actually want to know.

Will you still need me...when I'm 94?

By Chloe Heywood

Being old is a tough business and Raymond Tallis painted a gloomy picture of the life expected by the elderly. In your latter years you will always be in hospital – usually in the corridor on a trolley instead of a bed. You will be treated with contempt and you will eventually succumb to MRSA. This, he declared, is a myth.

Instead of chasing meagre increments of an unenjoyed longer life, the statistics show that there is no increase in the amount of suffering. Today you can expect to spend 87% of your life in good health, which is the same as 20 years ago. This is despite a 240% increase during the last 50 years in the number of people reaching 80 years of age.

So what does the future hold? We worry that there won't be enough



money to make old people healthy, but it's clear that they are already in good shape. What is more worrying is that people might feel that we can't afford healthy OAPs.

Tallis reminded us that the elderly are producers as well as consumers. Continuing to work is not so bad, he suggested: there are no weekends off when you're dead; longer life still means extra leisure time – an extra 130 000 hours if you're lucky – so you're bound to find time to go to that extra Festival event you were interested in.

Let's stick it to the man

by Emily Koch

The Arena last night surreally played host to Doctor Rock, Doctor Love and Doctor Drugs, aka science buff's Mark Lewney, Graeme Jones and Harry Witchel. The trio entertainingly wowed the audience with a deliciously risqué and fabulously offensive mad dash through the science of those three vices that get to most of us every now and then – "Sex, Drugs and Rock & Roll".

Lewney, in KISS-style monochromatic maquillage and black wig, slid through guitar riffs as he and his colleagues (dressed as a 1970s porn star and a lean hippy) ensured that this evening was ridiculously fun.

The audience roared with laughter as the speakers delved into the joys of anaesthetic-enhanced con-



doms, *Pot Head Pixies* and musical pitch, to name but a few.

This juicy sketch show was reminiscent of the most fun science lesson you ever had at school, but with its explicit content let's keep this one for the grown-ups.

Critical theories

by Adam Horovitz

What science and creative writing share is a questing approach to the question of "what is human nature". Quoting examples as varied as the epic of *Gilgamesh* and Jane Austen, poet Maurice Riordan, novelist Maggie Gee and popular-science writer Johnjoe McFadden discussed the nature of the relationship between science and creativity.

Gee was most succinct about what attracted her to science: "I think writers need science because we need sand," she said. "We need the grist that science gives." A good metaphor: writers are oysters and writing is pearls, but where does it leave scientists? And are the pearls always pearls of wisdom?

Riordan unearthed an excellent example of creative writing and science working in harmony in a Michael Hoffman love poem, which praises "the 57 muscles that it takes to make a smile". However, it was McFadden who caught the spirit of the debate with a quote from Salman Rushdie's *Midnight's Children*: "To understand a single life you have to swallow the world." "Science tends to do the opposite," said McFadden, "but I think that's changing."

This wide-ranging discussion was something of a world-swallowing experience, with no time to digest or form pearls of any sort. This was a pity, because there was much of worth sloshing around in it.

THE DROID

Oscar the Pfizer robot told The Droid yesterday about his joy at becoming a parent for the first time. After 30 days of severe indigestion, Oscar gave birth to a robotic dinosaur. Both Oscar (or should that be Oscarina?) and offspring are doing well and are receiving visitors as usual in the Town Hall.

Daily Festival podcasts are available to download at www.stetpress.co.uk

Finding a placebo in a haystack

by Kath Nightingale

How do you give someone acupuncture without actually giving them acupuncture? Cynics in the audience of this event may have suggested not bothering at all, but what neurophysiologist Mark Lythgoe was getting at is the main challenge facing acupuncture at the moment. To be taken seriously, and to be open to scientific testing, acupuncture needs to sort out its placebo effect. At the moment it's like a drugs trial where you can't hand out the sugar pills. People tend to know when they're being pierced with a needle, so who's to know that the feel-good factor that people talk about isn't just all in the mind?

Both Lythgoe and acupuncturist Hugh MacPherson took us through some studies to look at whether acupuncture has a real effect on the brain. Participants had scans while undergoing genuine or sham acupuncture – the idea being to convince people they were getting the real thing, even when they weren't. They found that some areas of the brain seem to respond to acupuncture, over and above that which can be accounted for by the placebo



Acupuncture: a prickly problem.

effect. The whys and hows remain mysterious however, which seemed to ruffle a few feathers among the more doubting members of the audience. While acupuncture does seem to do some good for conditions associated with low levels of pain, MacPherson conceded it could never do much good for serious disease. Whether this is of importance is debatable: as the chair Kathy Sykes pointed out, if it works for a particular person, do we need to be worrying about evidence?

When asked whether any definite physical evidence of connections between acupuncture points and brain regions had been found, MacPherson likened the situation to "cutting open a wire and looking for the electricity". I'm not sure we were all convinced.



Identity theft: knowing me, being you.

It ain't me babe

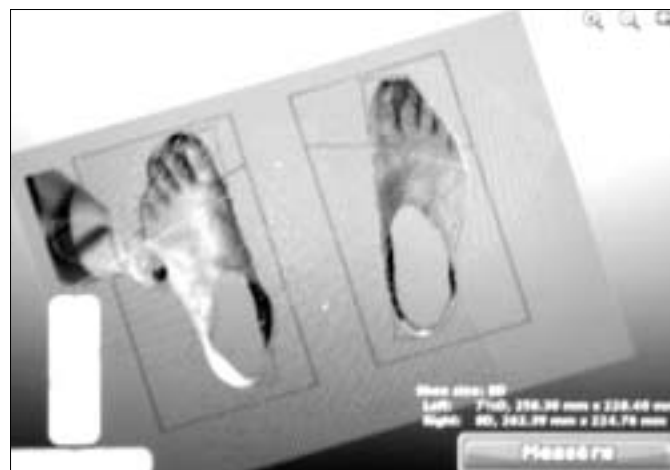
by Jonathan Cailles

Identity theft – what is it and how can we protect ourselves? Emily Finch and Stefan Fafinski (if these are in fact their real names) confronted a concerned audience with the ways in which our identities can be changed, used and abused.

Fafinski suggested some reasons why people assume another identity: to escape the past or create a new future. One such Reginald Perin assumed the identity of his recently deceased friend for 15 years, before attempting to tie up loose ends by faking the death of his former self. He was found out when he turned up at the funeral, and only prosecuted for wasting police time. Assuming a different identity is not currently a crime.

The amusing, unsettling anecdotes held the audience's attention until the real nitty-gritty came out – how identity fraud affects the rest of us. Most such thefts are from dead people, reducing the fraudsters' risk of clashes. "There are a lot of dead people walking around," quipped Finch. It's entirely possible she has developed a sixth sense for this kind of thing. Financial fraud was the hot topic, particularly the fragmented nature of the laws against it and what we can all do to prevent it. "Legal identity is not made up of pieces of paper, but of pieces of information," said Finch. "Protect your information, as well as your documents," warned Fafinski.

One audience member asked how identity cards might help. Finch admitted that these are just as fallible as other forms of ID, but that she would certainly apply for one: "If I don't register as me, then somebody else will." More practical advice may have been useful, but perhaps vigilance is the best we can do. Finch concluded by quoting a self-confessed fraudster: "As long as there are people, I'll be able to commit fraud."



IF THE SHOE FITS: With their track record of elegant, scientific innovation, QinetiQ don't need to believe in the impossible. And now, in association with Clarks shoes, they have developed the ultimate three-dimensional foot measuring device. It seems that symmetrical feet are a rare breed indeed, and given more accurate information the shoe trade could well respond to the needs of the sole. You can see more at the QinetiQ stand in the Discover Zone. **RK**