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litmus paper

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TODAY'S HIGHLIGHTS



Paul Parsons
Doctor Who
2-3 pm/Town Hall

Camp Energy
Survival of the Physicists
4-5 pm/Town Hall

Jack Liebeck and Brian Foster
Superstrings
4.45-5.45 pm/Town Hall

R Massey, S Bell and U Hasan
Islam and Astronomy
7.30-8.30 pm/Town Hall

Bliss of the spiderman

By Charlotte Bathe

The Festival brochure blurb led me to expect a youthful bunch of Attleborough wannabees on stage at the "FameLab Final". Then, on Thursday night, I witnessed last year's winner, Mark Lewney, dressed as Gene Simmons and in the company of Dr Sex and Dr Drugs. This was going to be an interesting event.

The 10 finalists were an energetic and somewhat eclectic bunch. There were braces, a wet suit, even a green beard. I'm not sure what fashion statement our finalists were trying to make, but they certainly didn't conform to the lab-coat wearing bearded male stereotype.

The FameLab finalists' task was to explain a difficult scientific idea to four judges in just five minutes. There were two approaches. The first was to wow the audience with astonishing facts, and the second was to bring science home by relating it to everyday objects and expe-



FameLab winner Jonathan Wood.

riences. Who'd believe the science of charcoal could be interesting?

One competitor tried to influence the judges by wearing a red dress. Some animals, she explained, signal their superiority by colour. This lets a weaker animal willingly concede to a stronger animal without a physical fight, and thus avoid injury. It might work for some species, but unfortunately the strategy failed to impress our human judges.

The competition was strong and it took our judges a long time to reach their decision. So long, in fact, that Quentin Cooper, our host for the evening, struggled to fill the gap. Sima Adhya, who gave an animated talk about what makes Earth spin, was the first runner-up. The second, Lindsey Sternhouse, could be accused of cheating. She seduced Mark Lythgoe with her green beard (and her engaging talk about selfish genes).

Finally, congratulations to the winner, spiderman Jonathan Wood. His talk, about the incredible strength of spider silk, had both the wow-factor and a homely feel. He was chosen because he told a story, because he told us something about the nature of science and because he was obviously enjoying every moment. I don't think he'll be impersonating KISS at next year's Festival, but I look forward to watching him perform again.

Don't know what to do with my selves

By Kath Nightingale

The "Ego on Stage" event may have sounded like an exploration of bigheaded thespians, but it turned out to be more of a dressing-down for the rest of us. The painter Samuel Palmer said that "a picture is something between a thing and a thought", and that's pretty much what clinical neuropsychologist Paul Broks thinks of humans.

I, however, would like to think of myself as something more than a mere thing, more than just a body and a bunch of self-deluding neurons. Despite my scientific leanings, I'd like to think that there's an essence, a self, which Broks refers to as ego.

There are two camps when it comes to thinking of a sense of self: those of us who believe in a singular ego, and those who believe in "bundle theory", that we are a series of discontinuous selves.

Broks teamed up with theatre

director Mick Gordon to explore these ideas through the emotional vehicle of the stage, producing *On Ego*, a play about a protagonist struggling with his sense of self. Initially, he is a hardcore bundle theorist, but when it comes to choosing which of his selves should die, he's not so sure. Though the character ultimately doubts bundle theory, Broks planted himself firmly in this camp, illustrating this belief with a series of photos of himself throughout life.

Toeing the line of current philosophical thought, Broks believes there is no such thing as ego or self. Interestingly, just hours before, Susan Blackmore had denied the very same concept.

So what is self? To Broks it's just a story we make up because we can't deal with the emotional difficulties of a discontinuous self: it's hard to let go of "me". So why do I keep talking about myself?

Cutting the Concorde

By Adam Horovitz

Like the best funeral service in the world, yesterday's "Concorde" event was a paean to the preposterous supersonic beast that went out of commission in 2003.

Fronted by Captain Tim Orchard, in dryly witty best-man mode, it came stuffed full of PowerPoint video clips featuring elegiac lift music and awed voices speaking purely in superlatives, plus a wealth of facts that could only have been compiled by an obsessive/compulsive aeroplane nut – or perhaps a Concorde Captain.

The aeroplane was essentially the biggest, baddest flying fuel tank in the world, driven on nothing more than 1960s technology, made to expand in supersonic mode and weighing in at 86 tons empty and 182 tons full. It was so complicated that it even needed a co-autopilot



and, technically, couldn't slow down from Mach 2 if it ran out of fuel mid-flight. Concorde was an astonishing achievement, but an environmental bloodsucker.

It looked like a swan in flight but, when landing, it looked more like Big Bird from *Sesame Street*, denuded of feathers. It must have been the plane's excessively long legs. Given that Concorde is one of the great icons of the eternally OTT 1970s, this is at least appropriate. It would also explain why Queen's *Don't Stop Me Now* played the audience out of The Arena, accompanied by a film oozing and sticky with the sweat of sentiment.



Space in a vacuum

By Jon Andriessen

Having been born a couple of days after Neil Armstrong's moon landing, space exploration has always been a subject close to my heart. What could be more exciting than seeking out new frontiers, and boldly going into the deep, dark unknown?

You'd have to be pretty damn accomplished in understatement to make a talk on "Britain in Space" about as exciting as a trip round Lidl's supermarket on a student budget, but somehow yesterday's guests achieved just this.

I really wanted to enjoy the show, and yes, I know it was hot, but the talk was so dry I couldn't even get up a sweat. There were odd moments of minor revelation: who would have thought that Stevenage was central to the satellite-building industry, and that all British rockets are called the something "Express"? Surely this is taking devotion to Matt Groening's *Futurama* a little too far?

The event played out with all the thrill and anticipation of a focus group, with the audience constantly reminded that they were "the taxpayer", responsible for funding the search for new empires, and that it was only through talks like this that the industry could get its point across. The media, it seems, are not interested in success stories, preferring to drag up the failed exploits of the *Beagle* missions. As it happens, *Mars Express*, the rocket that carried *Beagle 2*, is alive and well and sending back data as we speak, just one of many innovations by British-based scientists and engineers.

Britain has some of the best technology and resources for space exploration anywhere on the planet, and to continue this excellent work they need funding. So let's keep the money rolling in and the ambitions alive, even if the storytellers don't always live up to the dream.

Wilful neglect?

by Jonathan Cailles

"I've always been obsessed with consciousness," enthused Susan Blackmore; she has been ever since an out-of-body experience during college. She spent the next 30 years investigating this phenomenon by studying the paranormal, which she now dismisses as "a load of tosh". Consciousness is where it's at, and Blackmore's energetic presentation certainly kept the audience awake.

So how do we define consciousness? According to Blackmore, it's the experience of what it's like to be something. There is no "being like a glass", but we could perhaps understand what it is like to be a bat.

There's more to it than that though. As Blackmore recounted her numerous interviews with experts in the field, it became apparent that thinkers are very much divided and find each others' theories hard to unravel. They agree that there is a distinction between the inner subjective world of the mind, and the outer, objective world of the physical, but that's about as far as they go.

Is consciousness a mystery to be solved, or will the "problem" simply go away by itself? One issue remains either way: free will. "It seems to me," said Blackmore, "that there cannot be free will," and she lives her life accordingly. Our brain is just a part of a decision-making whole, and she invited the audience to replicate an experiment that supports this theory. Black-



Blackmore: me, myself and I.

more asked us to hold out one of our arms and flip our wrist (camper than Camp Energy?) whenever we decided to. Surely this is simple free will? Maybe not. Studies show that the body begins to make the movement 300 milliseconds before the mind makes its decision.

So, crunch time: "If you suspect that free will is an illusion," asked Blackmore, "what can you do about it?" You can either ignore the feeling, live as if you have free will, or stop believing in it. "I do the 'as if'," said Dan Wegner, one of Blackmore's interviewees. "And I think almost everybody who's happy and healthy tends to do that." But what about Blackmore – is she happier without free will? Not happier, she admits, but more spontaneous. "As for consciousness and how I can explain it," she concluded, "I still haven't a clue."



Frank Burnet cartoon by Gemma Hastilow, see www.gemmahastilow.com

Thinking out cloud

by Peter Wyton

In Shakespeare's tragedy, Hamlet asks Polonius to confirm that a cloud above them resembles a camel. When the elderly courtier agrees, the demented Prince of Denmark wilfully revises his opinion. The cloud, he says, now resembles a weasel. "It is backed like a weasel," affirms Polonius. "Or like a whale?" persists Hamlet. "Very like a whale, sire," responds the imperturbable diplomat.

Polonius-like, I am very happy to agree with anything Gavin Pretor-Pinney says about fluffy-woolly things. For a man who edits a publication called *The Idler*, he seems very busy. Thanks to him I am now



conversant with anvils, mammata, altocumulus lenticularis, crepuscular rays, the circumzenithal arc, the Fallstreak hole and the Kelvin-Helmholtz wave cloud. Joni Mitchell looked at clouds from both sides, and finished by not understanding them at all. Me, I'm completely clued up and applying for full membership of the Cloud Appreciation Society.

THE DROID

Overheard on the Festival intercom: "Is *Litmus Paper* actually printed on litmus paper?" If it was, The Droid hopes that it would be red every day.

The Droid hears that Camp Energy's water-heating experiment hit a snag when their bucket would only fit under the hot tap in the Town Hall.

And that just about wraps it up for this year's *Litmus Paper*. The Droid thanks you all.