

THE DAILY FELIX

In partnership with Deutsche Bank



WEDNESDAY 2ND MARCH

KEEP THE  FREE

CAMPAIGNING BEGINS

HOO-RAH! THE SABB ELECTIONS ARE HERE: PAGE 2



Happy Birthday Jobs!

Students make international news with Steve Jobs birthday website: Page 3



Visa “victory” for scientists

Government alters visa restrictions to favour researchers

Ian Wei

Last week, the government announced alterations to the proposals to curb immigration to reflect the importance of research to the UK amid much fanfare from activists and campaigners. The change will see a new restricted ‘certificate of sponsorship’ (‘CoS’) system where researchers are favoured significantly over other applicants. From April of this year, the government will implement an extra monthly system for sponsoring institutions to apply for extra ‘CoS’s.

Imran Khan, director for the Campaign for Science and Engineering (CaSE), the leading independent advocate for the science and engineering sectors hailed the news as a “important victory for the science and engineering sector”, but added that CaSE would “work closely with the UKBA [United Kingdom Borders Agency] to make sure this package works for Britain, as well as making sure that other aspects of the immigration system – including student visas – don’t prevent the recruitment of

CaSE



Imran Khan of CaSE

“[It’s an] important victory for the science and engineering sector”

non-EU researchers that are so important for our research base”.

‘CoS’s are a necessary part of the application for a Tier 2 visa, the visa route by which a significant number of researchers come into the UK. These certificates can be issued by sponsoring institutions, such as Imperial, though sponsors have a limit on the number of certificates that can be issued every month.

The new restricted system will be a monthly points-based system, where sponsors can apply for extra ‘CoS’s for applicants. The applicant will then be given a score based on both salary and occupation. Applicants with the highest number of points per month will be allocated a restricted ‘CoS’. Extra points are added if the applicant is intending to apply for a post classified as a shortage occupation, a post-doctoral position, higher education teaching professionals, or almost any science-based researchers.

Under the new points-based system, a science researcher earning over £20,000 per annum would get a total of 52 points, whereas an applicant earning £149,999 per annum would only get a total of 30

points provided he or she did not qualify for any extra points based on occupation.

While it has been mutually agreed that the new proposals are far better for science and engineering sectors than the previous ones, the continued existence of a cap on Tier 2 visas threatens the effectiveness of the proposed changes.

The cap on Tier 2 visas has been set at 21,700 for the next year, around 70% of the official figure for last year, following the governments pledge to reduce immigration numbers from the hundreds of thousands to the “tens-of-thousands” by 2015. The official document for the proposals has not clearly outlined how the new restricted ‘CoS’ will work in tandem with the Tier 2 visa cap.

When talking to an administrator of a research group about the new proposals, the biggest concern was the possibility of the changing of the amount of ‘CoS’s sponsoring institutions can issue.

On top of that, the new changes include a new minimum income requirement and increasing language requirements for applicants.

...Continued on Page 3

BUSINESS



The hairstyling business: Page 4

TELEVISION

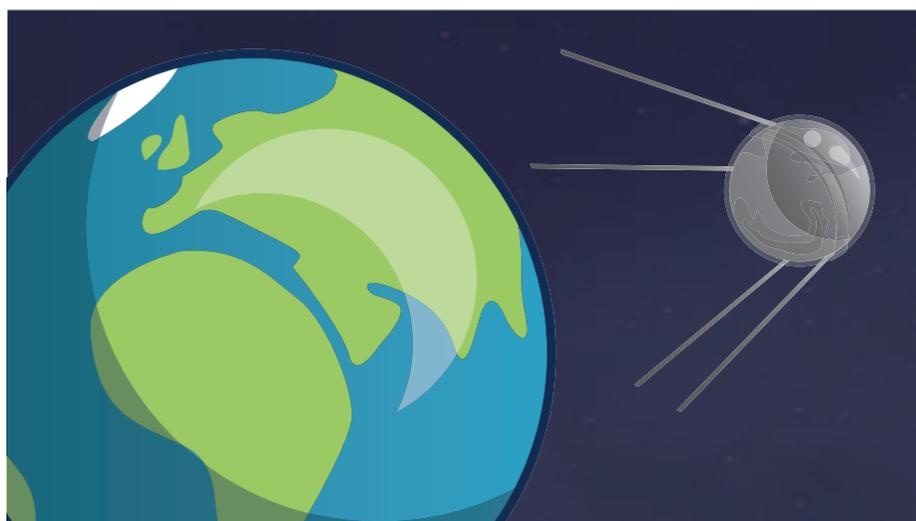


A moody trip into teen angst: Page 7

GAMES



Graphics do not make a game: Page 9



EXPLORING THE DEPTHS OF SPACE

In the **Science Pullout**: How Imperial scientists are leading space exploration

HIGHLIGHTS

felix@imperial.ac.uk

On campus today

Lies, damned lies and the light fantastic

Professor Martin McCall takes you through the weird and wonderful world of light and why it doesn't always travel in straight lines at constant speed, or even bend according to the laws of refraction that we all know (and love). Register in advance via events@imperial.ac.uk

LT1, Blackett Laboratory
17:30-18:30

RAG Slave Auction

Come along and 'buy' the Sabbs (and other 'luminaries') by making them perform an act for cash. Outbid your peers to win the President (naked butler anyone?)

Metric
20:00 onwards

@feliximperial



Lolcat of teh day



From Beneath the Editor's Desk

Today is rather calm. The office is at peace – except for a moment of panic where it appeared that Fonzie had crashed the server – and we're buzzing along nicely to the print deadline. Monday evening, on the other hand, was rather different.

I always tell people, those who will listen that is, that part of the reason that I feel confident to advise contributors and editors about their articles, or the layout of a page, is that I've already made every mistake that there is to make. For example, in my 1st year I printed part of the same article two weeks running, while in my 2nd year I had an ignominious fact-checking fail. On Monday night, I accidentally deleted two pages of the Music Pullout... with only an hour to go until the deadline. (Didn't I say that the hypothetical failure of the Daily would rest on my shoulders?)

But today is much better. The server did not crash so much as hiccup, and there's an office full of Editors completing their pages to the easy melodies of Ducktails. No doubt some terrible piece of news will crash through the office door at any moment and ruin my front page again – I shall not name names, but cancelling an event does ruin ones ability to photograph it.

I feel that I should make some point, so I shall say this: If you see a Felix Editor or contributor around campus, give them a smile or say "well done". They're really working their asses off and they truly deserve recognition.

Ben Scally



Afonso Campos



Candidates begin campaigning

Maciej Matuszewski Aemun Reza

With Sabbatical Elections right around the corner, the candidates for the different positions are getting geared up for a fierce week of campaigning for the voting period that starts next week.

In yesterday's initial election meeting, the terms of campaigning were set with the different opportunities for the candidates to fight for votes. There's a chance for students to virtually meet the candidates via a STOIC live broadcast on Wednesday at 6:00pm where viewers can ask questions via Twitter, Facebook and email. To meet the candidates in person, there will be a formal Hustlings in FiveSixEight tomorrow at 6:30pm. The next week sees all the candidates battling it out for their positions with intense campaigning to get your vote. The ideas for campaigning included the standard flyers, lecture shout-outs and posters. But be warned now, with the main target for campaigning being cybernetic, sabbatical-election-related groups, pages and events, will hijack your Facebook.

The three candidates that have put themselves forward for President are Danish Khan, Nadia Dzigal and Scott Heath. The students standing for Deputy President (Education) are Jason

Parmar and Stefan Bauer. The candidates for Deputy President (Finances and Services), who is also responsible for organizing the Summer Ball, are Rebecca Clark, Michael Foster and Chia Lim. Jehan Pasangha, Mevani Jagodage and Nicolas Massie are campaigning for Deputy President (Welfare) and only Monya Zard is standing for Deputy President (Clubs and Societies)

The highly coveted position of Felix Editor has three candidates – Matthew Colvin, Alexander Karapetian and Indy Leclercq.

The four places for Student Trustees, who sit on the Union's Trustee Board without taking a year out of their studies has generated a lot of interest with Abdul Patel, Dominic Andradi-Brown, Eugene Chang, Joseph Rumer, Kandeaban Gopalakrishnan, Miles Robertson, Muhammad Khas, Nathaniel Bottrell and Ravi Pall all standing.

So when can you start voting? Voting opens on Wednesday 9th March at 00:01 and closes on Saturday 12th March at 23:59. All voting will take place online, where you will also find the candidates' manifestos to help you decide. The candidates' manifestos will also be published in this Friday's Felix. Make sure your vote counts, by making sure you vote!



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NEWS

Science campaigners claim victory on visas

...Continued from Front Page
The new proposals may not be exactly what science activists and campaigners were hoping for, but CaSE remains

optimistic. Imran Khan explained that “while we still disagree that a cap on scientists and engineers is something the Government should have at all, and

are wary of plans to limit Tier 4 student visas, these proposals should mean that the UK can continue to work with the globalised world of research.”

Further disruption for Computing students

Server issues as rootkit investigation continues

Afonso Campos



What a disappointment, this is nothing like The Social Network...

Alex Karapetian

Following the recent root level security breach in the Department of Computing (DoC), sources have informed Felix that the Computing Support Group (CSG) endeavoured to successfully patch all affected physical lab machines, rendering them safe to access and free from keylogging or other malicious activities. The Secure Shell (SSH) service, taken down in order to prevent the vulnerability expanding, is being restored, with secure server shell4 providing students with external access to the lab machines.

CSG continue to face problems, however, as students suffered various issues regarding accessing their home directories in the Department of Computing yesterday due to problems on two home directory servers. This, although unrelated to yesterday's story regarding ICT user profiles, results in a similar problem in terms of loss of files and settings. Kestrel and Osprey, the affected disk arrays, experienced various failures

yesterday. CSG are moving all of the affected data onto a new RAID array that should be in operation within the next few days.

Students of the Department of Computing have been informed by DoCSoc that the previously reported rootkit was successfully installed after various failed attempts, giving the attacker full access to the shell1 server. Typically, root level (administrative) permissions would only give access to stored passwords that are hashed. Hashing is a method of using one-way algorithms to protect passwords and other sensitive data that needs to be stored. For instance, passwords used to login to forums are typically hashed in the administrator's database such that they may not view their users' details. It is speculated, however, that the DoC compromise resulted in the rootkit being installed between the layers, which provided authentication, and RSA protection, which resulted in the malicious attacker potentially viewing all passwords transmitted unhashed and in cleartext

form.

CSG have been working intensively on the various problems that have arisen. A DoC student commented to Felix that they are “second to none”, having observed their rapid and intuitive responses to various potentially catastrophic failures. It is still not known whether the breach arose from within Imperial or not.

The affected disk arrays, which caused the home directory problems, are speculated to hold majority of their data for higher year students in DoC and Information Systems Engineering (ISE). The majority of second year students continued to work in the labs unaffected. DoCSoc advised those affected that they may be able to retrieve their data from nightly backups using a recovery share and that “CSG are willing to give security advice to anyone worried in any way about the security breach”. Service updates are regularly posted on CSG's website at www.doc.ic.ac.uk/csg along with informational messages.

Enthusiasts create Steve Jobs birthday website

Imperial students launch *happybirthdaystevejobs.com*

Alex Karapetian

The time was 4am on the 23rd of February. A relatively large coursework deadline loomed over the heads of Department of Computing students Gabriel Lorin and Raoul Gabriel Urma, but this was not what they were pulling an all nighter for. Having purchased server equipment and spent since noon the previous day configuring it, the two launched *happybirthdaystevejobs.com*.

The website rapidly popularised last week and having since been featured on CNN's website, is self described as “an effort to show [Jobs] support and gratitude”. The submission of wishes was closed on the 25th at 9:30am.

The duo looked towards Amazon's EC2 cloud servers, famed for their extremely solid infrastructure, to host the site. Amazon has resisted Distributed Denial of Service (DDOS) attacks from the Anonymous online group regarding WikiLeaks earlier this year. Felix interviewed Raoul and Gabriel on day one of the website going live, after approximately ten hours. When asked about why they chose not to capitalise on the venture, they commented that they “just want to show support” and that “ads wouldn't look good on the page and it's not what [they] wanted.”

They added that they ran statistical monitoring tools, from which they were able to report that the website gathered 12,000 unique (different IP addresses) visitors in the first twelve hours and had over 9,000 birthday messages in the first day. Within the first minute of the site going live, 40 birthday messages were posted, and the site was popularised through E-mails, blogs and social media such as Facebook and Twitter. Reminiscing on their efforts, they commented: “it's so rewarding when you do something as big as this and it takes off. Everything comes together”.

“[They] successfully managed to fend off hackers”

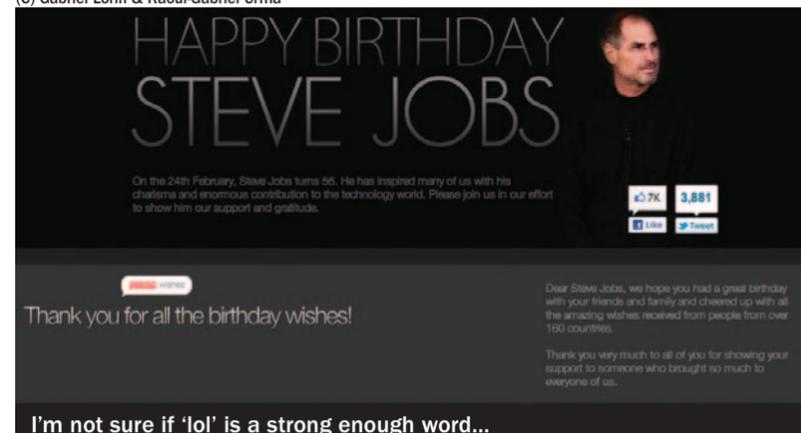
“The website is very database intense, and the idea was to keep the initial design as simple as possible”, they added. Around the time of taking the submission of wishes offline, two days after launch, they reported statistics of 73,000 unique visitors from 156 countries with over 20,000 messages. On day two, a few isolated groups in the US attacked the website. The two students, however, said they were committed all day and night protecting the website, and successfully managed to fend off the hackers. The creators said the lack of sleep and all the efforts put into running the website smoothly were “definitely worth it because of some of the amazing wishes people made to Steve Jobs”.

One such posted example was: “Your vision and creativity has touched us all. I hope you are spending your day comfortably with loved ones as you recover. Warmest wishes on your special day as we all celebrate with you throughout the world you've changed forever”.

Raoul is a fourth year student who met Gabriel, a second year, during the course while being an Undergraduate Teaching Assistant in tutorials. The duo have worked on a web based project before and learnt a lot from the venture.

Steve Jobs, CEO of Apple, turned 56 last Thursday and has been suffering from health problems. He was diagnosed with pancreatic cancer in 2004 and underwent a liver transplant in 2009. Much speculation regarding his health continues as he has taken medical leave for the second time without specifying a return date.

(C) Gabriel Lorin & Raoul-Gabriel Urma



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Afonso Campos

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BUSINESS

Afonso Campos



The business of hair styling

Afonso Campos talks shop to Drew Foster, one half of the duo behind Foster London

I meet Drew Foster at his brand new hair salon in the heart of Shoreditch early one morning. I am there as he opens up shop. There is a familiar atmosphere to the place, not unlike that of a mid to late sixties music video awash with distant pastel colours. Hues of green, pink and blue are adorned with vintage paintings and what seems like an endless collection of porcelain cats. Ramone and Margo, the two resident puppies try to engage us in play. It is impossible to sit down and not be taken aback by the love that has clearly been poured into this place.

Spurred by his mother, a young Drew Foster enrolled in a College to study for a Business degree, only to realise early on that this despite not knowing exactly where life was to lead him, that was perhaps not his best option. At the beginning of the 90s, his aunt, a multi award-winning stylist (including a win at the British Hairdressing Awards), brought a nineteen-year old Drew to one of her ceremonies and he was hooked. It must have seemed at the time all the pieces of his life had been slowly falling together only to come perfectly aligned at that one pivotal moment when he knew – he was going to be a stylist. He caught the

bug and there was nothing else he could do. Drew promptly withdrew from his business studies degree and started formal education to become a stylist, which was swiftly followed by five years under his aunt's tutelage and watchful eye.

Armed with that experience, Drew felt ready to take on the world and moved to London where he then spent ten years at the ubiquitous Tony & Guy, eventually becoming their Head Educator, overseeing the training of an army of future stylists, culminating in a nomination for British Men's Hairdresser of the year; an honour bestowed on less than a handful of stylists a year. Drew then spent many years as a stylist in the TV and film industries and has also styled for prominent fashion powerhouses, in-

“In his many years working in the industry Drew says that he “never saw anything like it” anywhere else”

cluding John Galliano, Christian Dior and Alexander McQueen.

Despite the glitz and the glamour, Foster craved something a little bit more sedentary and client focused; something that meant he could build long-lasting relationships with real people. He felt that oftentimes, the relationships in those circles could be somewhat short, despite the amount of highly interesting people. Roughly six years ago then, Drew decided to join a relatively young Salon at the time, Taylor Taylor, mostly out of the need for a steady income in order to qualify for a mortgage.

Although the cogs had been set in motion many years previously, it was when his local Council engaged in a compulsory purchase of his flat that ignition really happened and his salon, Foster London started gaining shape.

His sister, Nadia Foster, (Charles Worthington Colourist of the Year and Session Stylist of the Year), and him felt a good use of the compensation awarded by the Council would be to invest it in the premises for their very own business. Thus, Foster London was born and now occupies a grand prime spot in the very heart of Shoreditch. Understandably, the experience of being forced to sell his flat, although underpinned by a

rather prominent silver lining, was not painless.

Drew and Nadia have now been in business officially for about four weeks and it is going splendidly well. They have been operating since late December however, styling for friends and regulars, while the building they now occupy was very literally, a construction site. The amount of people deciding to get a haircut in the midst of the chaos was, without a doubt, testament to the siblings' talent. They now employ 8 people, two of them part-time. Drew's experience in educating young stylists even led him to take on one of the builders that worked on site as a junior, citing the young man's enthusiasm.

Three weeks after opening there were already plenty of days where all the stylists were fully booked. In his many years working in the industry Drew “never saw anything like it”; a clear and resounding success story so far. He is seeing business from previous regular clients, but also from a surprisingly large number of walk-ins and brand new patrons. It seems like Foster London is generating unprecedented buzz.

Having had the fortune of working in many different places, Drew has had the opportunity to not only learn from oth-

ers, but also to take time to decide how he wanted to run his own business. His philosophy is relatively simple, albeit powerful. Drew wanted his staff to be able to talk to him about anything and be able to talk them as equals too. Correct treatment of staff and the banishing of negativity were joint number one on his priority list.

Some have raised concerns about the saturation of salons in the area, but Drew is quick to dismiss that this could be an issue in a rather frank manner. He believes that if you “provide a good service, enough people will come”. So far, this way of thinking has been proved correct for Foster London. In business, Drew exclaims, “it is important to be lucky and do things properly”. Drew talked of his day-to-day frustration with the agglomeration of small annoyances that inevitably come with starting up a business, such as the extortionate potential £12,000 yearly fees that banks were trying to charge him for the supposed privilege of being able to accept cards from his clients. Given his can-do attitude, I have a very sneaky suspicion Drew actually enjoys overcoming these problems and takes it in his stride. The Foster siblings are quickly taking over London; next step, the world.

Politics Editors: **Rory Fenton**
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POLITICS



As the European Court of Human Rights overrules the UK government over prisoner rights, Felix asks:

Should prisoners be allowed to vote?

Sarah Jeyaprakash



Yes – Andrew Purcell

Last week's news that a high court judge had not only thrown out prisoners' compensation claims, but also ordered the prisoners to pay £76 each towards the cost of their action, was greeted with a raucous cheer from Mail and Express readers, which could be heard all the way to Brussels. And, essentially, for Conservatives this was exactly their reason for making their ludicrous stand.

By denying prisoners their right to vote, a right enshrined by the European Court of Human Rights, euro-sceptic MPs are cynically aiming to undermine the EU's authority to adjudicate on such issues. They are making an ideological stand, which has little or nothing to do with the actual issue in question, and are putting Britain in serious danger of becoming known as the petulant child of Europe. Britain's prison population has simply been caught in the crossfire.

There are fundamental democratic reasons why prisoners should be disenfranchised. Politicians make the laws which govern our country, so denying prisoners a say in choosing the politicians, who make the very laws they have been convicted of breaking, is an extremely dangerous proposition. Perhaps this is less of an issue in Great Britain, where the majority of laws tend to have at least a reasonable moral basis. Yet, surely there is an argument for setting an example to countries such as China, where there are large numbers of political prisoners. But wait, before we start getting too self-congratulatory, let us not

“There are fundamental democratic reasons”

forget that a significant number of our prison population is made up of people who simply snort, smoke and inject various substances in the hope of improving their overall happiness. Let us also not forget that blasphemy only ceased to be a crime three years ago and that homosexuality has only been legal in Scotland and Northern Ireland since the eighties.

As well as the obvious ethical arguments for not denying prisoners the right to vote, there are also pragmatic reasons. A government which is currently undertaking a severe programme of public services cuts should probably think twice before committing itself to a path which will inevitably result in it paying hefty fines to Europe. Also, what about the idea of rehabilitation for prisoners? The government's decision risks ostracising large swathes of the prison population from wider society. Surely, this is not a good way of reducing future crime rates.

Finally, what about the sheer hypocrisy of the situation? The government is trying to remove the right to vote from people who break the law, but in doing so they are breaking European law themselves!



No – Navid Nabijou

In our society, we tend to view the democratic system with a certain sense of pride. The underlying principle of equal representation is deeply rooted in our social consciousness. For those who relate particularly strongly to this ideal, it is tempting to regard voting as an inalienable right; something beyond question.

This is idealistic but misguided. As with all rights, the right to democratic engagement is predicated upon related social responsibilities. This coupling of rights with responsibilities is natural, and absolutely essential: the responsibilities themselves preserve and ensure the accompanying rights. Hence, when an individual decides to abrogate their responsibilities, they forfeit their claim to the accompanying rights.

In the context of prisoner votes, we see that when someone commits a crime, they are flouting their responsibilities to society, and to the democracy which that society underpins. Consequently, they lose the claim to their democratic rights.

On a practical consideration, we must realise that the right to vote is just one of an entire range of rights which we suspend in order to punish prisoners. This punishment, though sometimes unpalatable, is absolutely necessary, in order to deter potential criminals and curb crime levels.

This refutes the argument of many proponents of prisoner votes, who complain that suspension of voting rights infringes upon civil liberties. They are completely right, and as we have just shown,

“This is idealistic but misguided”

this infringement is justified, and indeed necessary, on both a moral and a practical level.

Finally, we must consider the impact that this measure would have on prisoners. It is often stated that politically active prisoners are less likely to reoffend. The problem with this reasoning, of course, is simply that correlation does not imply causation. It is far more plausible that the type of prisoner less likely to reoffend just so happens to be of the type more likely to engage in politics; with no necessary causal relationship between the two.

Nevertheless, the more general argument that democratic involvement encourages prisoners to “re-engage with society” demands a more extended response. Consider first that most prisoners come from underprivileged backgrounds, often with little in the way of education. Because of this, the vast majority do not engage at all with the democratic system prior to incarceration. As such, there is no reason to suppose that the continuation of voting rights into prison would have any meaningful impact. In actual fact, a suspension of this right would make prisoners appreciate for the first time the value of democratic engagement. Upon their release – and the concurrent reinstatement of their rights – this would certainly aid in their general re-engagement with society.

For all these reasons; both the practical and moral considerations, we urge for a maintaining of the ban on prisoner votes.

Breaking News

The European Court of Justice has declared the use of gender in insurance prices to be unlawful. The move is most likely to affect car insurers, who charge males, especially the under 25s, considerably more. Young males will see car premiums fall by 10- 25% while young women could pay up to 60% more.

George Osbourne has hit out at Ed Milliband's pandering to the 'squeezed middle'. In a savage article in the Guardian, the chancellor mocked the Labour leader for ill-defined plans that would define 90% of taxpayers as 'the middle'. He also claimed that he was making the same cuts that Labour would make.

International Development Secretary Andrew Mitchell has announced that the government will stop giving aid to 16 of the 43 countries it currently helps. China and Russia will be among the losers, however many still question why the UK will continue to fund India, which has both a nuclear and space programme.

Correction

Yesterday's piece arguing against House of Lords reform was wrongly attributed to Lingxi Huang. Apologies to Matthew Parker. **Editor**

Yesterday's news, today.

COMMENT

Comment Editors: **Anna Perman**
Jan Piotrowski

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Catch I, Science 11th March

J.B.S. Haldane famously remarked: “the universe is not only queerer than we suppose, but queerer than we can suppose”. As a geneticist and evolutionary biologist, Haldane believed that there are definite limits to human comprehension. He based this belief on the fact that our intelligence has evolved to help us overcome specific problems related to our survival. Thus, it has been argued, while our brains are well-equipped to tackle the sort of problems our ancestors had to deal with out on the African plains of the Pleistocene, they are, and will forever remain, woefully inadequate when it comes to truly understanding the universe.

Of course, not everyone shares Haldane’s pessimism. Albert Einstein once averred: “the most incomprehensible thing about the universe is that it is at all comprehensible”.

Scientific progress means that our world is no-longer limited to that which we can see, touch, taste, hear and smell. Instead, scientific developments are pushing back the horizons of our collective understanding, allowing us to see further than previous generations even thought possible. As the wheels of progress turn, the ranks of the giants, whose shoulders we may stand upon, are continuously growing in number. Thus, our understanding of the universe is increasing with each passing generation.

Inventions to augment our five basic human senses are certainly nothing new. But, what about our intelligence? Surely, this is the ultimate limiting factor with regards to our understanding of the universe?

Of course, we now have computers capable of performing calculations far beyond the capabilities of even the brightest human intellect. Yet, these machines are not sentient, at least not yet. So, while they may be good at performing complex calculations at high speed, they aren’t currently all that useful when it comes to answering some of the more existential questions science has yet to answer.

However, we do have the Internet, which allows us to pool our resources, share ideas and work together to solve problems in a way which could previously scarcely be imagined. Thus, while our individual understanding of the universe may be limited, the amount which we can collectively understand as a species is potentially boundless.

It is thanks to this scientific progress that that which was once out of sight, no longer has to remain out of mind.

Andrew Purcell
Co-Editor of I, Science

Issue 16 of I, Science magazine, ‘Unseen Science’, is out on Friday 11th March.

Alive and kicking

Medicine can become a routine of life stories, lectures and feet. But sometimes, a patient can surprise you



Rhys Davies

Id like to share with you, if I may, an episode from my life as medical student. No, stop, don’t run away! It’s not that bad, I swear. There may even be a moral at the end of it.

You begin Medicine learning dry facts and theories but the emphasis on these largely evaporates by the time you reach the wards in the clinical years.

Instead, you are encouraged – even forced by some consultants – to talk to patients. The official word is “clerk-ing” and the desiccated dryness of these terms almost put me off applying to Imperial. In practice, you spend the better part of an hour listening to a person regale you with a chapter of their life. These chapters may span sagas or may only be a few scribbled lines but they are invariably fascinating. And at the end, you may get to prod them with your stethoscope, if you’re lucky.

Last year, I did my first hospital placement in Endocrinology. After a few weeks on the wards, the initial excitement of seeing every new case of diabetes began to ebb and I had settled into a comfortable routine – ward rounds, clinic, and lectures. I still enjoyed the medicine but it had ceased to surprise me. Or so I thought.

We were on a particularly long ward round on a hot, uncomfortable Monday afternoon when we came to one patient in particular. She was a little old lady, engulfed by the hospital bedding around her. My consultant gently roused her and asked if she could have a look at her ulcer. [WARNING – EDUCATION: Because they can’t feel their toes and because their blood vessels are shot through, diabetic patients have the worst feet. I’ve seen patients go for amputation for what started as a blister. Imagine what Day of the Dead or 28 Days Later would look like from the ankle down.] Yet another foot, I sighed inwardly. The patient stared back mutely, the result of a recent stroke. The consultant gingerly began to undress the wound.



Stop getting turned on by pictures of feet, you bloody pervert, that’s just disgusting

That was when the patient let out the most pitiful and heart-wrenching cry I have ever heard. She was in a pain beyond words. I once ripped a plaster off my arm really fast for a dare, taking a good rectangle of hair with it. That hurt but I can’t even begin to comprehend the pain this lady was in. As distressing as it was for the patient and for us, the consultant continued her work until the sore in question was exposed.

It was horrific. It probed right down to the bone of the big toe, with pus, gangrene and necrotic tissue all the way down. With a high temperature and a low BP, she had gone into septic shock from this wound. This was despite being treated with metronidazole, vancomycin and teicoplanin, three of the strongest drugs in our arsenal for foot ulcers.

Afterwards, when we discussed the ward round, it was agreed that this lady was not going to live long and since our antibiotics were neither prolonging her life or treating her disease (clearly), we would switch to supportive management. I was shocked. In my mind, people died of strokes or heart attacks or road traffic accidents, not of something so simple as a “bad blister.”

And so it was. We withdrew antibiotics and prescribed morphine as required, warning the nurse that this patient would not be able to ask for pain relief. We

“In practice, you spend the better part of an hour listening to a person regale you with a chapter of their life”

tried to make her as comfortable as possible. After that, we sat back and waited for the inevitable. Even our consultant, who is notoriously optimistic and determined when it comes to foot ulcers, admitted that she probably wouldn’t last the night.

With that said, I was more than a little surprised when I came in on Tuesday morning and the patient was still in her bed. She was still ill but also still alive. And Wednesday, and Thursday, and Friday, and she was still there by the next Monday. What’s more, she even began to look a little better. Later that week, I caught her sitting up in bed, smiling.

I was amazed. If this were a textbook case scenario, she would have passed away on that first night, but she didn’t! I’m only in my third year and I still have a lot to learn but one thing that this lady taught me was that medicine – and people – will always find ways to surprise you.

I love this course.

Have your say on this article at felixonline.co.uk

Television Editors: **Matt Allinson**
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TELEVISION

Best in Class: Teen

Vicky Jeyaprakash takes us through the fluffy angsty world of Teen TV

There is no shame, only greatness and beautiful people. At least that's the cover I'm hiding under. Teen Drama has a bad reputation and for good reason; the word teen conjures up an image of a thirteen year old girl painting her nails and blue tacking pictures of some floppy haired, half clothed male from Smash Hits to her wall. As someone who was once that 13 year old girl I can confirm we were that twee. Thankfully though, good teen telly despite its trapping has a little more depth than my musings over canary yellow or cherry red for my nails. Not that any award show beyond MTV Best Kiss has ever noticed. Though I'm not going to go and pretend that I never appreciate the ridiculous hotness this brand of TV celebrates. And that my friends, is the beauty of watching something so unashamedly aimed at the "younger generation": the pure eye candy. Shallow? Yes. True? Entirely.

Now that we've all acknowledged that little guilty fact I feel I can actually discuss why any of these shows are actually worth watching, whether or not some pretty boy's fronting it. Teen does not have to mean fulfilling your fluff quotient for the week. There's some hard hitting emotion hidden amongst the angst and drama and I have no hesitation in calling you heartless if none of the shows I mention do not get you weepy, and not because Dawson and Joey breaking up rocks my world (really people, Pacey all the way).

Anyway this last year or so, one show seems to be getting considerable attention as more than teen placeholder of the week, and that is the magnificent **Glee**. Which I'm going to go out on a limb and say is a bit of a mess. Sorry, sorry, sorry, I know many of you consider yourselves a "Gleek" and I did initially, but as one of the most successful shows about teens and for teens I feel it doesn't often stand up



to any scrutiny. It's a confused mix of plot devices that service the music it wants to perform, but ultimately it's down some truly original characters that have highly inconsistent behaviour and never seem to grow and learn. From someone who grew up with **Buffy**, which took often risky but consistent turns with their characters this is utterly painful. I suspect my justification for watching anything is that the characters or the plot feel like they are truthful to the series, and **Glee** I have to say, has sacrificed itself on the altar of commercialism. It has all the teen tropes of dealing with sex, homosexuality and the future but is often too excited by its gimmick of the week to actually say anything about any of those issues with coherency. It holds itself to be something it frankly never quite achieves. Best in Class for originality but for genius dialogue and some great characters in a high school setting, check out Ryan Murphy's earlier **Popular**. Far superior.

Now I've snuck in a **Buffy** reference I can tell you that I measure all television by this yard stick. This is teen television the way it's meant to be made. Witty, pretty and seriously heartbreaking. It has all the trappings of teen telly: crushes, evil teachers and parents who don't understand, but uses the sci-fi genre to make a more nuanced point about the drama that is being sixteen. To be fair, **Vampires** are optional. Just get a copy of **Veronica Mars** and then tell me teen drama can't hold a candle to anything that's aimed at adults. That's the saddest thing about the label 'teen', the idea that the target audience can only be placated by hot blondes and skimpy bikinis. We heart hot blondes but only if Seth Cohen gets to mock them endlessly while they look confused. So when teen drama gets it right it's like finding out your crush hearts you back. So why I wonder did it take so many years for an actual living teen to get onto the writing scene? Adults have a



Hells yeah it's all about Pacey (bottom right). He's so much hotter than Dawson, that jerk

tendency to make everything a bit shiny and glossy, so unsurprisingly when it finally happened, you got the rawness of **Skins**. I don't care if no one's life is that exciting and that all adults are irresponsible; the teens seem real in their reactions and insecurities if not the situations they find themselves in (finding a dead body and running away to NYC never happened to you?). The sex and the swearing are all set dressing and a cheap thrill while the fragility of the characters and the way they feel about each other is touching. The actual teen actors they use are phenomenal and hold

the show together in a way **90210** can only be jealous of. Gah, waste of space, not mentioning that zip code again.

I will however give a quick nod to a show that has many of the trappings of that hideous show but is held together with the great writings of Josh Schwartz (Creator of the **O.C.**) and the magic of Leighton Meester and Ed Westwick. Yes, **Gossip Girl**. In this case I'm going to point at the dialogue and more often than not the great plotting that actually makes this a joy to watch. This is guilty TV at its finest. It's a show that embraces the clichés and somehow subverts them and **Gossip Girl** has a deft hand and a sly wit whilst doing it.

And if this is all getting a little bit girlie for you, let me point to one of the best shows in years, the **Inbetweeners**. Filthy, hilarious and as awkward as any moment in **The Office**, teen television has some of the best quality that has been around for years. If you are willing to invest a little time and patience, there is often nothing better than good television disguised as frothy, hedonistic teen drama to entertain yourself with.

"Teen does not have to mean fulfilling your fluff quotient for the week. There's some hard hitting emotion hidden amongst the angst and drama"

On the Box tonight

7pm

Would I Lie to You – Dave

First episode of new series has Duncan Bannatyne on a team with Frankie Boyle. Guaranteed gold.

8pm

Gossip Girl – ITV2

Inspired by Vicky's review of Teen TV? Watch one of her picks tonight; not convinced? It has hot women.

9pm

OMG! With Peaches Geldof – ITV2

Brand new. The potential for this show to be completely awful is almost limitless. I cannot wait.

10pm

Model Agency – C4

Like spinal tap but with evil heartless people who manipulate impressionable teenage girls. So better.

11pm

Film 2011 – BBC1

Claudia Winkleman is the new Jonathan Ross. Except Ross didn't need a co-presenter to give his opinions weight.

FILM

Film Editors: **Jade Hoffman**
Ed Knock

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Cage loses his shit... in 3D

Nicolas Cage gets mad in *Drive Angry 3D*, what else did you expect from him?

Drive Angry 3D

Director Patrick Lussier
Screenwriter Todd Farmer, Patrick Lussier
Cast Nicolas Cage, Amber Heard

Jade Hoffman
Mark Bruggeman

When a film uses the suffix of "3D" in its title, it comes with several expectations. Not only does this generally promise an excessive, gratuitous use of 3D, but it also often means that the film will be entirely, irreparably and mind-numbingly ludicrous from start to finish; Enter Nicolas Cage in *Drive Angry 3D*. This film not only deliver all of the above, but it also – as the rest of the title suggests – has Academy Award winning actor Cage doing a lot of angry driving.

The plot, which is as ridiculous as the title, follows John Milton (Cage) as an angry, undead badass who breaks free from Hell to rescue his baby granddaughter from a ritualistic killing at the hands of a Satanic cult leader who has already killed Milton's daughter. On the way, he encounters the obligatory

tough-but-sexy blonde, Piper (Amber Heard), who joins him on his shoot-em-up mission. It is the typical trashy revenge film, with Milton and Piper chasing after the Satanists in Piper's boyfriend's Dodge Charger, and Milton himself being closely tracked down by the ever-brilliant character actor William Fichtner as "The Accountant" – a man sent by Satan to bring Milton back to Hell.

In the same way that Snakes on a Plane revelled in its own ridiculousness, so too does *Drive Angry 3D* go all-out on being possibly the most absurd film of the year – 3D. The opening sequence sees Milton shooting off a man's hand with a shotgun. The hand flies out of the screen towards you, marking the first of many stunts designed solely to remind you that this film was shot in 3D. If Samuel L. Jackson could've flung a stowaway snake at his audience in 2006, there's no doubt he would've and, with films like *The Last Airbender* trying to look impressive with "clever" use of 3D technology, it's somehow refreshing to see a film like *Drive Angry 3D*, fully aware of its own stupidity, turning its over-the-top use of special effects into a



I hate when the door flies off your car...

great experience.

The difference between *Drive Angry 3D* and a film like *The Last Airbender* is probably that this film carries itself with that delicate mix of farce, self-awareness and genuine good humour. From Milton's epic gunfight whilst having sex and drinking Jack Daniels scene, to the moment where Piper whips out a gun referred to as "The Godslayer", there is not a single moment of the film that takes itself seriously. Though it may seem like a foolish career choice for an Oscar-winner, in retrospect it is classic Nicolas Cage. As a regular face circulating the internet in his "Not the Bees!" meme from *The Wicker Man*, or the "Nicolas Cage Losing His Shit" montage on YouTube of all his craziest moments, *Drive Angry 3D* is lead by perhaps the only Hollywood actor who could really have pulled it off. Any actor who may have been slightly precious about the role may have hammed the jokes up, but Cage – in his divine, mental wisdom – lets the full lunacy of the film shine through. Amber Heard, too, plays her role with conviction and if you needed any more reasons to love her after her appearance

Read me my last rites

The Rite has got me dying of boredom

The Rite

Director Mikael Håfström
Screenwriter Matt Baglio, Michael Petroni
Cast Anthony Hopkins, Colin O'Donoghue

Ed Knock

Any film about exorcism will always be compared to William Friedkin's unintentionally hilarious 1973 classic *The Exorcist* but Mikael Håfström's attempt to circumnavigate any comparisons with the latter in his latest horror *The Rite* inevitably fails. Although we're informed that the story is 'inspired by true events', the film unfortunately resorts to your typical body convulsing, manic preaching we'd expect of an exorcist movie minus the profanities.

Colin O'Donoghue sleepwalks through his role as Michael Kovak, a cynical trainee priest in a crisis of faith unable to comprehend the events he

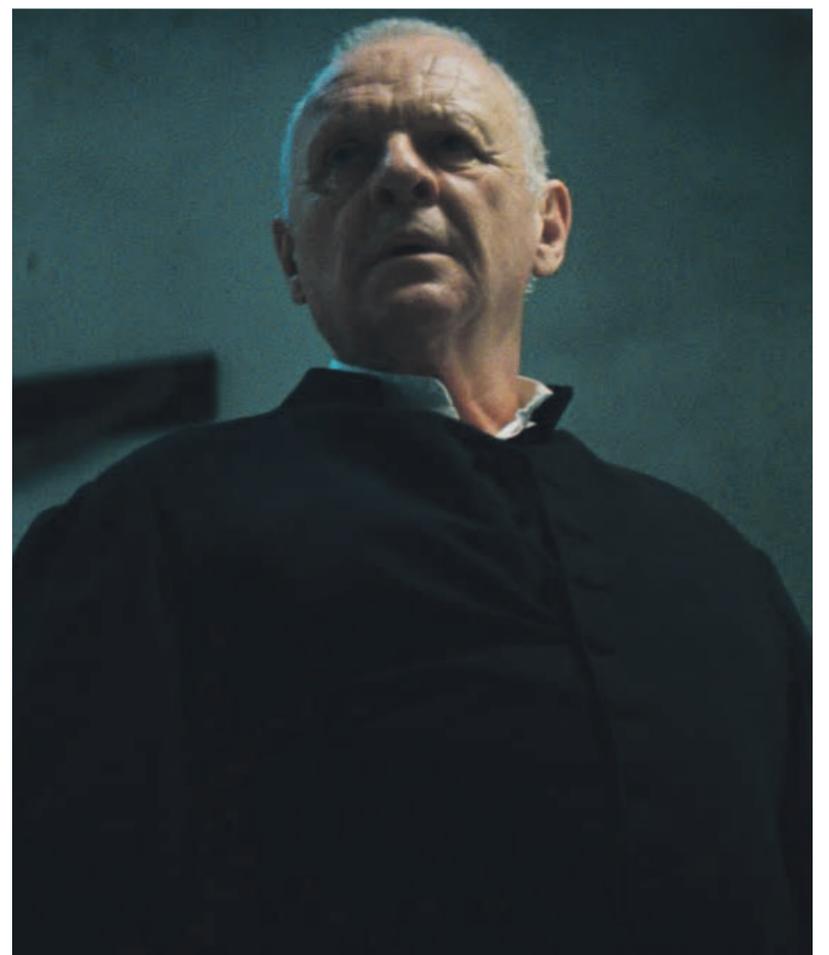
"As the plot progresses so does the tedium [...] I found myself pining for some good ol' fashioned crucifix in the crotch action."

witnesses as he accompanies Anthony Hopkins' veteran exorcist during his 'rounds'. In his attempt to balance the emotions of concern, guilt and fear O'Donoghue just about manages to carry off a permanent perplexed look like a confused toddler on his first day of playschool. Fortunately Hopkins is a delight to watch a usual, invigorating his role with hammy gusto or just enjoying

a months shooting in Rome.

Interestingly the film has been embraced by the Vatican as a honest portrayal of real exorcism but in reality it's just a water downed version of it's more notorious forefather. All the usual clichés are present; limbs are twisted into impossible shapes, bones crack and veins literally pop out of victim's faces. As far as scares are concerned, they are few and between and instead we are treated to a creepy atmosphere reminiscent of *The Shining* involving amusing hallucinations of demonic donkeys, hairy hands and iridescent frogs.

As the plot progresses so does the tedium as Håfström piles on the theology or mindless religious babbling, it depends on how you view it. 'The greatest trick the devil ever performed, was to convince the world he never existed' is the basic plagiarised message we're submitted to but in all honesty, I found myself pining for some good ol' fashioned crucifix in the crotch action.





SCIENCE

PROBING THE DEPTHS

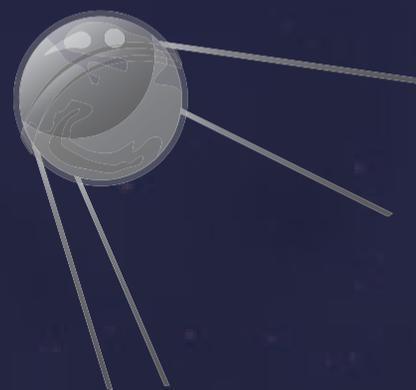
Imperial scientists are at the forefront
of space exploration:
Page IV

WORDS WILL NOT FEED THE WORLD

Nicola Robinson on the need to tackle
the threat of rising food prices:
Page II

SEX, DRUGS AND ROCK 'N' ROLL

Ejaculation, cocaine and music are all
linked in the brain says Polly Bennett:
Page VI



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SCIENCE

Words will not feed the world

Last month the United Nations' global food price index hit its highest peak since its record began in 1990. In doing so it has raised fears of a return to the food crisis of 2008, when high prices sparked violent riots around the world.

So what is driving the current trends in food prices? There have been many causes, from droughts and fires in Russia to excess rains in North America and Australia. The impacts of poor harvests have been exacerbated by a government-imposed export ban in Russia, coupled with a rise in the use of food crops as biofuel in the US. A weakening of the US dollar, which underpins the prices of most globally traded commodities, as well as market speculation, have also been blamed for the soaring food prices.

Worryingly, the drivers behind the current trends show little signs of slowing, says the United Nations World Food Programme (UN-WFP). And there is reason to fear that market speculation and "political overreaction" will continue to drive price volatility, admits Sgustafson from the Food Security Portal. Recent headlines will not help; on the 8th February UNFAO issued an alert as China, the world's largest producer of wheat, suffered its worst drought in 60 years. With the affected area representing two thirds of the national wheat harvest, UNFAO has described the ongoing drought as "potentially a serious problem".

These developments are critical for the world's poorest nations. According to the World Bank, 920 million people worldwide already suffer from poverty and malnutrition. The Low-Income Food-Deficit countries (LIFDC), which are net importers of food, will be particularly affected by soaring international prices. There are currently 70 countries classified as LIFDC, such as Egypt and Mozambique, of which many lack sufficient foreign exchange to make up the shortfall from international markets. Clearly, volatility of global food prices will only serve to exacerbate existing issues of food security in these countries. According to Abbassian, these countries are "on the front line of the current surge in world prices".

The instability in the global food market has already driven millions more vulnerable people into poverty. Indeed, earlier this week Robert B. Zoellick, President of the World Bank Group warned that "global food prices are rising to dangerous levels and threaten tens of millions of poor people around the world... who spend more than half of their income on food." The World Bank estimates that an additional 44 million people in developing nations have been pushed into poverty since last June due to food price hikes.

But hunger is not the only threat posed by rising food prices. As vulnerable people become increasingly unable to feed themselves and their families, many are taking to the streets in protest. The Executive Director of the UN World Food Programme, Josette Sheeran, explains; "volatility on the markets can translate quickly to volatility on the streets". For example, a 30% rise in the price of bread last Sep-

Drought. Fire. Floods. Numerous factors are causing food prices to rise. Is this the start of another global food crisis?

Nicola Robinson

tember in Mozambique lead to riots which left 288 people injured and seven dead. During the food crisis of 2008, food prices played a role in anti-government protests and there were food riots across Africa, Latin America and parts of Asia. In Algeria and Egypt (the world's largest importer of wheat) soaring food prices are said to have been a factor in the recent protests. As prices continue to rise, it is feared that food riots will spread to countries in Africa and Latin America. Indeed, Zoellick said recently in the Financial Times that "rising [food] prices are re-emerging as a threat to global growth and social stability". Admittedly, a return to the crisis of 2008 is not yet upon us, says Sgustafson from the Food Security Portal; there is still sufficient production and reserves of wheat and rice, and the price of oil has still not reached the peak of 2008. The oil price has a direct impact on food prices in several ways; it directly raises the cost of production, processing and distribution in system that is heavily reliant on energy intensive inputs. It also makes the use of food crops as biofuels more financially attractive. But, as Abbassian warned the Guardian earlier this month, given the possibility of further harvest failures "there is still room for prices to go up much higher."

Worryingly, the current trends in food prices might be a glimpse of what lies ahead. David Murran, chief investment officer at the London-based venture capital firm Emergent Asset Management, recently told Reuters; "The world is still in denial about food prices... If you look at demographics, if you look at production, if you look at the impact of climate change, then we are only at the beginning of this." Indeed, the global population is expected to reach 9 billion by 2050, and it is estimated that food production will have to rise by 70% to meet this demand. But given the rising demand for land from other sectors, particularly the biofuel industry, it seems likely that agriculture will have to meet these demands without significant increase in land use.

But whilst an explosion of demand is forecasted, agriculture has been eroding the very ecological systems on which it will increasingly depend. Agriculture is a very significant contributor to climate change, deforestation, pollution and biodiversity loss. According to the UNFAO, agriculture accounts for approximately 25% of the world's human greenhouse



70% of deforestation in the Amazon is due to livestock grazing – is your Big Mac really worth this?

gas emissions. According to a recent publication by the World Economic Forum, climate change in turn is likely to lead to a change in rainfall patterns, and reduce yields by up to 20% in some regions; the past year is testament to the threat such climatic disturbances pose to global food security. Furthermore, unsustainable agricultural practices in the tropics have resulted in severe soil degradation and consequent widespread land abandonment.

Water scarcities have in turn been driven by, and will continue to affect, agriculture. According to a report by the World Economic Forum, 70% of the global withdrawal of precious freshwater is attributable to agriculture. Furthermore, the Millennium Ecosystem Assessment estimates that 15-35% of current global irrigation practices are exceeding the rate of sustainable supply. Climate change, as well as competition for water from other sectors, is likely to exacerbate these water scarcities.

The global demand for meat and dairy products, which is predicted to double as incomes rise in developing economies, has been driving livestock's significant ecological footprint. Indeed, according to the UNFAO, livestock production represents "one of the major causes of the world's most pressing environmental problems." These include climate change, loss of biodiversity, land degradation, pollution and deforestation. For example, 70% of deforestation in the Amazon can be attributed to livestock grazing, with much of the remaining land used for feed production. Furthermore, greenhouse gas emissions from livestock represent 18% of total global anthropogenic emissions, greater than that from the transport sector.

So what is to be done? According to the World Bank, immediate measures to address

the current food price surge should include expanding safety nets of food provisions for the most vulnerable countries, and avoiding food export restrictions. In the long term, huge investments into agriculture will be required, along with the development of less food and land intensive biofuels. As seen by the recent hikes in global food prices, climatic disturbances can cause massive disruptions to global food security; adaptation to climate change was therefore cited as an urgent priority.

The action of consumers will also be critical. For example, a report by the UNFAO has highlighted that, both commercially and politically, consumers were likely to be the main driver "to push the livestock sector into more sustainable forms." The imperative for a sustainable global agricultural system is not just environmental or moral. As demonstrated by the recent riots in Africa, the issue of food security threatens the very political stability of nations. With this in mind it is perhaps timely that the issue of food prices has been put firmly on the G20 agenda for this year; France's President Nicolas Sarkozy said, "Food riots in the poorest countries have a very unfavorable effect on global economic growth." The need for widespread action is urgent and compelling. As Ban Ki-moon, Secretary-General of the UN remarked in his address to the High-Level meeting on Food Security for All in 2009, "world poverty cannot be reduced without improvements in agriculture and food systems". But the scale of action required necessitates a level of international and cross-sector collaboration that is as yet unprecedented.

Reforming the global food system is "one of the greatest challenges of our generation" says the World Economic Forum, but it is also, it argues, "achievable". Will global leaders, businesses, academics and civil society rise to this challenge and deliver action on this fundamental issue? Let us hope so, because "words will not feed the world."

"Hunger is not the only threat posed by rising food prices"

SCIENCE

SCIENCE IS FIGHTING TO SURVIVE IN WASHINGTON
STATE OF THE UNION 2011

Nils Christopher examines Obama's plan for the future of science in the United States

In his recent State of the Union address, President Obama said: "This is our generation's Sputnik moment." Invoking the Space Race of the 1960s, he called for an unprecedented level of research and development, especially in biomedical and clean energy technology. At that time, the 2011 budget still had not been passed – and what is today's Sputnik supposed to be, anyway? Obama said that funding science is "an investment that will strengthen our security, protect our planet, and create countless new jobs for our people." The image of the space race thus paints a picture of science as the motor of the economic power of the United States and the American people. Why the Sputnik shock? Why not mention the great achievement of the first astronauts looking back at the earth, making us realize that we share a common responsibility for the planet?

Obama's science advisor John Holdren started out in 2008 with an ambitious agenda to increase science funding, develop a comprehensive strategy to lower carbon emissions, and support biomedical research, especially concerning bioterrorism. The main difference to the Bush administration was to recognize climate change as a global problem and pledge to lower carbon emissions. However, after the disappointing outcome of Copenhagen and the hazing of the new healthcare law, the Obama administration appears to have lost sight of its grand plans. There are currently no comprehensive initiatives on the way to match the goal of providing 80 percent of US energy from clean sources by 2035, and while a State of the Union address is always a good occasion to announce ambitious goals, getting there will be a rocky road.

The Republican Party took over the House of Representatives in last autumn's midterm elections. This new distribution of power will affect vital science issues such as global warming and energy policy, as well as basic



In his address, Obama harked back to the space race of the 1960s – but will the budget live up to his promises?

research funding in the US. Regarding the Republicans' pledge to return government spending to the levels of 2008, many scientists fear a funding squeeze for research in the United States. While the 2011 budget is still under debate in the House, large funding bodies such as the National Institute of Health, the National Science Foundation, and even NASA faced a freezing of their budget and a future that is increasingly hard to fathom. Republicans, especially during the Bush years, have gained an image of being restrictive with respect to science and research, as, for example, the journalist Chris Mooney in his 2005 book *The Republican War on Science* argues. Nevertheless, the fronts in the quarrel about science funding are not as clearly drawn as we tend to think.

Just before Christmas in 2010, the new House Committee for Science and Technology under Republican chairman Ralph Hall, a lawyer from Texas with no experience in science, helped to pass the

America COMPETES Act, extending programs to improve basic research and science education – a result that left pessimistic scientists pleasantly surprised. His Republican colleague Vernon Ehlers from Michigan states that it was important not to abandon scientists, who contribute crucially to manufacturing in America.

On the other hand, the scientific public was left stunned when John Shimkus, the new Republican chair of the House committee on the economy and the environment, denied the severity of climate change in November 2010 by quoting

"The Republican victory in the midterms will make Obama's job all the more harder"

scripture to argue that God would not destroy the world through global warming. Thus, the Republican Party appears divided between the traditional American trust in progress, science, and technology and the Tea Party's zeal to cut government spending.

Were funding levels really returned to the levels of 2008, an analysis by the AAAS (American Association of Science) concludes, the average cut for scientific bodies would be 7 percent in comparison to 2010. Funding for the military will not be affected by the cuts, since cut-backs in military spending could easily be seen as putting the lives of American soldiers in danger. Yet, this also points us to another problem with Obama's Sputnik reference. The surge of investment into US science after World War II was intricately related to security concerns and potential military threats. After 9/11, the relationship of technology and science to national security has changed. Units to counter cyber attacks and bioter-

"Cutting the deficit by gutting our investments in innovation is like lightening an overloaded airplane by removing its engine"

rorism are now on the agenda, and yet, many Americans today regard economic crisis and bankruptcy as similarly frightening threats. That is why science and research now have to justify their actions in terms of economic pay-off. Simply put, Sputnik was a satellite, and neither terrorism nor the financial crisis can be reduced to a shiny metal probe zooming around the earth emitting radio signals.

The State of the Union supposes a linear relationship between scientific research, innovation and job creation. The Science is Vital campaign in the UK took a similar approach, arguing that funding cuts will hurt the country economically. Obama also sees research as an innovation engine, saying, "Cutting the deficit by gutting our investments in innovation and education is like lightening an overloaded airplane by removing its engine. It may make you feel like you're flying high at first, but it won't take long before you feel the impact." Speaking in general terms about science as creating jobs is rather uncontroversial, yet specific issues are subject to substantial disagreements about values. Last year, an initiative by the Administration to permit federal funding of embryonic stem-cell research was unsuccessful even before Republicans took over Congress. A cap-and-trade bill for carbon emissions failed to pass the Senate. And Obama himself runs risk of failing to overcome this division by justifying science in terms of economic prospects instead of addressing the underlying values of debates about biotech and climate change.

Invoking a 'Sputnik moment' was a call for a bipartisan push to get the US out of the economic slump by out-innovating competitors. However, science is not just about racing the Soviets anymore, there are bigger questions to consider, especially the tough calls of reconciling a clean energy future with the American lifestyle of economic prosperity. The Republican victory in the midterms will make Obama's job all the more harder.

PROBING T

Words: Kelly Oakes & Charles Harvey

Mars

In 2018, the ExoMars rover will land on the red planet. ExoMars will look underneath the surface of Mars in the hope of finding life – or evidence that life once existed there. One of the problems with looking for life on Mars is that any organic matter on the surface will not last for long. Thanks to plentiful amounts of carbon dioxide and water in the Martian atmosphere, any matter present would quickly oxidise. With the help of a drill that can dig up to two meters down, ExoMars will look for organic matter that has been preserved underneath the oxidising surface.

Scientists at Imperial are working on an instrument for ExoMars called the Lifemarker chip. It works in a similar way to a pregnancy test, using antibodies to identify particular molecules. But even if life is not detected, all is not lost. Another possibility, and one that Professor Mark Sephton, from the Earth Sciences and Engineering Department at Imperial, thinks is likely, is that ExoMars will detect the signature of ancient life. 3.8 billion years ago, Mars was much wetter and warmer than it is now, and not too dissimilar to the Earth at that time. Life arose on Earth, so why not on Mars too? If life did exist, ExoMars hopes to find its signature preserved in the rocks.

One reason to suspect life on Mars, or conditions conducive to life, is the amount of methane in the Martian atmosphere. There are only a few ways for the methane to have got there, and most have already been ruled out. The remaining possibilities are that either life is creating methane, or that water underneath the surface is reacting with basaltic rock and creating it. Sephton seems confident that, either way, ExoMars will find something interesting: "If we discover biology, great. But even if we just find reactions going on underneath the surface, that means there's water there and that creates opportunities for life."

Earth

Space research at Imperial is not focused solely on those distant heavenly wanderers. One important mission that Imperial is involved with, Cluster, is studying the magnetic environment of Earth. It is well named, this mission, as it involves the use of four spacecraft, orbiting the planet in a pyramid formation. With such an arrangement, a 3D view of the planet's magnetosphere can be created. What have we learnt from Cluster? As Chris Carr, senior research lecturer says, "everything's a lot more complicated than we thought!". Operating four spacecraft, calibrating and processing the data and keeping them flying for over a decade is apparently hard work. To further complicate matters, two new instruments have been added to the configuration in the form of the Double Star Mission. The instruments are identical in everything but their orbit, and will provide much needed context to the Cluster Mission. Double Star is a collaboration with researchers from China, and the first time China has launched a satellite for purely scientific reasons. All data from the Cluster missions are now open to the world scientific community, a requisite for being publicly funded. On the issue of finances – NASA has had to abandon any plans for future missions to the moon, thanks mainly to a massive US deficit. In a climate of austerity, with scientific funding frozen, we asked Chris Carr whether unmanned space research was the future. "Indeed", he says, "We shouldn't be aiming to put humans into space. It's a nasty place – there's radiation, a vacuum, and no one can hear you scream. In my opinion, 99% of the effort and money is spent on keeping the humans alive and bringing them back safely. Only 1% is spent on the actual experiments. The best value for money in space research is that done remotely from the ground. There's nothing an astronaut can do that you couldn't do from the ground by remote control." While getting humans back to the moon may be a cause for celebration for all humanity, its focus is exploration of the unknown, and not on science.

Ever since man has been a
has dreamed of heading to
students at Imperial College
and have been involved in
plore our solar system. He
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THE DEPTHS

Illustrations: Veronika McQuadeova.

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und while doing all of this.

Churyumov-Gerasimenko Comet

Launched in 2004, the Rosetta spacecraft is on a 10 year mission to the comet 67P/Churyumov-Gerasimenko. As well as observing it in visible, microwave and infra red light, and studying its composition via spectrometry, the Rosetta mission will study the comet's magnetosphere – a task controlled and coordinated by a team from Imperial. When a comet travels towards the sun, the heat vaporises the water, carbon dioxide and tarry materials that make up the body of the comet. The intense solar radiation, at the same time, ionises this gas creating a plasma. Rosetta will position itself within this plasma, and will study the magnetic environment of the comet. Chris Carr, head of Imperial's Space Magnetometer Laboratory, explains why such information is useful. "The raw material of the solar system is in a comet", says Carr, "This stuff has been preserved out in the far reaches of the solar system for 4.5 billion years, without being modified, so it would be great to see some of this material close up". Previously, the spacecraft Giotto, in 1986, flew by Haley's comet. Since it was only a flyby, it could only get a snapshot of the environment of the comet. Rosetta will be the first satellite to go in orbit around a comet. Once there it will also release a lander, to study up close and personal the chemical and magnetic structure of the comet. This kind of mission has never been attempted before; it is an exploratory mission. The team of Imperial scientists hope that the study of the interaction between the sun and the comet will lead to greater understandings of the plasma environment around our own planet.

Saturn

One of the big mysteries remaining in our solar system concerns atmosphere on Saturn. Models that predict the temperature of Saturn's upper atmosphere, based on the sunlight that reaches it, give a temperature that is around 200°C below what is observed. Dr Ingo Mueller-Wodarg, a physicist at Imperial, admits that this should be a "rather basic" problem to solve, but that nothing has yet been identified that can explain these high temperatures on any gas giant. But he thinks that he and his colleagues may have a solution.

Saturn, like Earth, has its own magnetic field. This magnetic field causes currents to flow in the atmosphere, heating it up. However, these currents flow at the planet's poles, but the unexplained high temperatures are seen near the equator. Moving energy towards the equator on a fast spinning planet like Saturn is tricky thanks to the Coriolis force. Mueller-Wodarg and colleagues have now been able to simulate the high temperatures observed by including forces between charged and neutral particles in their model. This additional drag allows the heat from the poles to eventually spread out over the whole planet, giving the atmosphere a temperature boost.

Titan

The model, which aimed to predict the behaviour of the winds in Titan's atmosphere as well as the temperatures, was developed ten years ago, in part by Dr Ingo Mueller-Wodarg, a physicist from Imperial. It made predictions based purely on solar heating of Titan's upper atmosphere, but did not predict the changes in temperature and atmospheric density that Cassini has since observed in the moon's atmosphere. Cassini's orbit is designed so that the spacecraft flies through the atmosphere of Titan periodically. Each time it does this, it measures a different atmospheric density. Mueller-Wodarg says the variability in Cassini's measurements is still a "major mystery". His current work investigates a possible cause.

Imperial physicists are also contributing towards an understanding of Titan's unique chemistry. Titan is the only body in the solar system, apart from Earth, that has a weather system – but its lakes are filled with methane and ethane, rather than water. However, we can't see any of this from the outside; the moon is enveloped in a yellow haze, made up of methane and large hydrocarbon molecules. While Cassini measurements are important for looking at the upper atmosphere of Titan, the Huygens probe was needed to take a closer look near the surface. In 2005, Huygens drifted down through Titan's atmosphere, taking measurements on its way to the surface. It found lots of heavy molecules. Mueller-Wodarg and colleagues believe that extreme ultraviolet sunlight absorbed in Titan's upper atmosphere creates lots of free radicals that then combine to create the huge hydrocarbon molecules that are seen. These molecules then sink down to the surface and contribute to the weather cycle.

SCIENCE

SEX DRUGS AND ROCK 'N' ROLL

Why do the hedonistic pleasures of music, sex and drugs please us so? It's all in our heads, says **Polly Bennett**

Listen to Puccini, others listen to rock, while others still listen to some horrid musical genre called drum and bass. It would be obvious to point out that music plays a central role in our lives, but what is specifically interesting about music is how it reinforces and defines the personal spaces we choose to live in. This is something that Dr. Harry Witchel, of the Brighton and Sussex Medical School, calls "social territory". As he explains in his new book, "it is not a place – it is a state of mind that triggers various behaviours of empowerment."

The common garden robin is the flagship species of our great British birds. Competition for territory between male robins and other perching birds, such as warblers, is known to be determined by singing. Two males will have a singing showdown until one of them gives up, and thus a territory or "home range" is gained. But in contrast to the animal kingdom, music has no physical function for humans. In 1999 *Nature* published a paper detailing an attempt to understand the human neurological response to music. The research team explained in their paper that "music has no intrinsic survival value, but it still evokes powerful emotions".

Dr. Witchel's new book *You Are What You Hear* explores this topic – what effect does music have, and why does it so powerfully elicit certain behaviours in us. He recently tore through the stale fuf of the Royal Institution to give an exuberant talk on this social function of music in humans. Music we enjoy provides a sense of ownership and belonging through associative memories. It also increases our confidence. He explained that this is why car drivers can be so rude, because while listening to their favourite music in this safe and protected bubble they own, they can ignore other motorists.

Sex, as probably the most intimate, private



Clearly, Kraftwerk wasn't the right choice for setting the mood. Try some Barry White next time, that always gets me going

and vulnerable of human activities, usually takes place in our bed at home. This is the very heart of our social territory, and equates to our 'nest'. It is the biggest, most driving reason why we all want to own territory. Sex between two people in this nest creates "joint social territory," and this is enhanced if the couple are listening to music they both enjoy. Evidence suggests they will feel more synchronised and coordinated and subsequently the sex should be more mind blowing and intimate.

But if our beds are the safest and most comfortable places to have sex, why do people fantasize about sex in more unusual places? What Dr. Witchel argues is that when someone is in the right mood, perhaps enhanced by a good day followed by a few cocktails and some banging tunes in a happening new club, then sex can be used to "borrow feelings of territory" even in a foreign situation. Sex is not the only goal in these situations; otherwise people would just wait until they got home. So Dr. Witchel suggests that people want to dominate the social space, as well as have sex. And as music evokes powerful emotions in us then the music, sex and territory all become tangled in a charged and intense web.

Brian Sheridan owns a swingers club in London called The F Club. He explained that although his different crowds want different music, his DJs must always "interpret the mood of the floor to create an atmosphere that is inspirational sexual. The music needs to be sexy, erotic and soulful." Brian explained how the evening builds up with more and

more dance music climaxing with the funky house genre when it's time for punters to get a little more risqué with one another. Funky house is best described as pumping, often fast-paced, very disco and occasionally a little like porn music.

In the last few years Brian has observed that the "younger sector want R&B." Based on the theories suggested by Dr. Witchel, R&B music encompasses the worlds of today's youth and is therefore familiar and comforting to them. This genre is part of their everyday social territory and is likely to make them more confident engaging in sex in this foreign environment. So while funky house is most likely not the musical genre people have sex to in their bedrooms, its thumping beats and the heady atmosphere it creates can encourage people out of their comfort zone.

Our behavioural responses to music differ in response to music choice, as witnessed in, for example, sex clubs, and research has shown that our neurological activity parallels this depending on if we're listening to what we personally consider good or bad music. Our perception of and emotional response to music affects everyone's brains differently.

The research team responsible for the *Nature* paper found there were changes in cerebral blood flow to regions of the brain that became activated when listening to pleasant music. Test subjects listened to six versions of a piece of music with varying degrees of dissonance while undergoing PET scans. Findings suggest that the neural processes occurring when responding to pleasant/unpleasant music are similar to those occurring when experiencing pleasant/unpleasant emotions. So, when we experience emotions in response to music, blood flow to the affected regions of the brain increases to cope with our increased demand for glucose at this time of high activity.

MRI scanning can look at such changes in



This little piggy went to a swingers club

"Cocaine, ejaculation and music all elicit a pleasure sensation in the same region of the brain"

the brain with more sophistication, testing regions with stimuli to create maps that show which regions become active in response to which stimuli. This has been done for a variety of stimuli, including music. For comparison, Dutch scientists took MRIs of male brains during ejaculation (only in the Netherlands would this be remotely possible) to see which regions were activated. They then compared this with other activities that elicit a similar response in these same regions. Music activates the ventral tegmental area (VTA) of the brain, which acts as a pleasure centre. Other activities known to activate this region are taking cocaine and heroin. Despite cocaine being a depressant and heroin a stimulant, both activities elicit pleasure or a 'reward' feeling and hence the VTA is stimulated while taking either of these. Similarly for drugs and music, the VTA is activated in male and female brains during orgasms, which partly explains why music and sex have such a positive-feedback mechanism during our desire to increase or further define our social territory.

SCIENCE

The Clone Wars

Thea Cunningham looks at the science behind *Never Let Me Go*

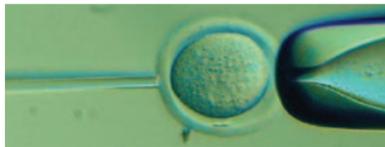
The film industry isn't shy of a human cloning plot or two (*Alien Resurrection*, *Multiplicity*, *The Island*, anyone?) and last month was no exception with the UK release of *Never Let Me Go*, based on the 2005 novel by British author Kazuo Ishiguro. The film centers around three youths – Kathy, Tommy and Ruth – who are all pupils at a fictional English boarding school. So far, so normal. But behind its walls lies a dark secret, for Kathy and her peers are each a human clone, created from the DNA of members of society to act as organ donors. Throughout their lives, the clones are forced to undergo several 'retrieval operations', in which the required organs are plucked from their bodies, until one fateful day, when their original requires a vital organ, they 'complete', and their time is up.

Cloning humans to serve as organ donors is not yet a reality. Nevertheless, the concept of human cloning, much like reproductive technologies and genetic engineering in general, is not immune to controversy.

There are two types of cloning: therapeutic cloning and reproductive cloning. Therapeutic cloning involves inserting a patient's cells (often skin cells) into a fertilized egg which has had its DNA removed. Once the cell divides, scientists can then extract stem cells from it and use these to grow tissue. The Human Fertilisation and Embryology Act, which has allowed research on human embryos for medical research since 1990, was amended in 2001 to make legal the cloning of human embryos for medical research into serious diseases and their treatments, under the provision that they are destroyed by the end of the 14th day.

Over the past decade therapeutic cloning has proved costly and often inefficient (over 90% of attempts at cloning fail to produce viable offspring) but it's become invaluable for things like drug development and insulin production. Because therapeutically cloned tissue is a perfect genetic match for the patient, it reduces the risk of the body's immune system rejecting it, and just three years ago, surgeons in Spain announced they had carried out the first tissue-engineered whole organ transplant using a windpipe made from the patient's own stem cells.

Instead of using this type of technology to create organs suitable for transplants, *Never Let Me Go* makes use of human clones as the source of such items. To produce human clones would require reproductive cloning, which involves removing the nucleus of an egg cell and inserting a nucleus from a donor cell in



A short history of cloning

1895 – Hans Driesch clones a sea urchin by dividing an embryo and allowing both sides to grow

1951 – Frog cloned by replacing the nucleus from an embryo with another's

1993 – Scientists clone first human embryonic cells

1999 – Dolly the sheep – the first vertebrate cloned

2005 – Hwang Woo-Suk clones first dog, named "Snuppy"

2008 – Human Fertilisation and Embryology Act allows experiments on hybrid human-animal embryos

place to create a new artificial cell that is a genetically identical copy of the donor. The new cell is equipped with the full genetic toolkit needed to develop into a human being. When it starts to divide, it sparks the embryonic development process. In order to clone a human, scientists would have to transfer this lump of cells from the petri dish into a uterus and allow it to develop. The concept of human cloning started moving from the realm of science fiction to that of reality following the birth of Dolly the sheep – the world's first cloned vertebrate – in 1997. The Human Reproductive Cloning Act, passed in the UK in late 2001, made it an offense to implant a cloned human embryo into a womb and threatens a hefty prison sentence to anyone who tries. But whilst cloning humans for reproductive purposes may be illegal in the UK, it hasn't stopped scientists trying their chances elsewhere. Around a decade ago, Italian embryologist Dr. Severino Antinori, famous for his fertility work, became the centre of debate when he made public his intentions to use cloning technology to help infertile couples have children.

Antinori planned to inject DNA from

"Human cloning dumps a whole heap of ethics into the lab"



Keira Knightley, centre, cast perfectly as a character that looks and behaves almost like a real human

the father into an egg before it was implanted into the womb, so that the resulting child would be a clone of its father. In 2009, he claimed three of his clones – then supposedly all nine years of age – were alive and kicking somewhere in Eastern Europe. There's still no evidence that these clones exist and scientists remain somewhat skeptical.

Media-covered scandals like these that seep into the public consciousness do little to relieve the fears surrounding cloning already instilled amongst society. For many, the technical and health risks involved with reproductive cloning are reason alone to ensure the concept never comes to fruition. There is widespread unease over the inability of scientists to predict to what extent cloning could impact on mental and physical development should a defect in the donor cells occur. What would happen to cloned humans that are past the pre-embryo stage but are unlikely to turn into live, healthy offspring?

Cloned animals tend to have weaker immune systems, as well as higher rates of infection, tumor growth and other disorders. So far scientists have been unable to see how clones age because many cloned animals haven't lived long enough. Dolly was put to sleep in 2003 after developing progressive lung disease. Her death – just six and a half years after her conception – sparked concerns about her true age, and whether her cloning

was attributable to her cause of death.

These risks aside, human cloning also dumps a whole heap of ethics on the lab bench. Though science fiction might be to blame for perpetuating gross misconceptions of a utopian society, the idea of creating exact human copies has provoked the kind of ethical dilemmas often asked when considering abortion. At what point does life start? Who would have control over a clone's body, their actions, and their life? Would clones be at liberty to claim equal rights as their donors, or equal rights to those created by natural fertilization?

In the film, pupils at the school become so accepting of their fate that they don't attempt to challenge it. Each of them are treated as nothing more than a dehumanised organ repository, soulless and unworthy of emotion. They are monitored with electronic bracelets like animals, required to sit through frequent medical examinations and are forbidden from doing things that could possibly jeopardize their health, such as smoking, drinking and having unprotected sex.

Any clone created in the laboratory is essentially an artificial product, the result of a human decision and human action. There is concern that some creators will use the technique as a mere means to fulfill their selfish whims, egoism and self-interest, as seen in the case of Antinori. Like the fertility field, human cloning for reproductive purposes has the

potential to become a lucrative industry.

Though 'organ farms' are an unlikely possibility (and arguably immoral) the film's premise highlights the hypothetical benefits of reproductive cloning for organ transplantation. According to latest figures from the NHS Organ Donation Register in the UK, 10,500 people are currently in need of a transplant and approximately 1,000 people die every year whilst waiting for one. Creating clones from which organs and other bodily elements could be harvested would both reduce the need for donors, and reduce the chance of organ rejection.

It's not just transplant technology that human cloning may have the potential to assist; the cloning of animals would aid our understanding of the safety and efficiency of the cloning technique on humans. Scientists in favour of cloning speak of its ability to assist infertile couples and greatly improve our understanding of the genetic basis of disease.

The future for genetic and reproductive technologies may be exciting, but it's frightening as well. The technical and ethical factors are abundant. Mix these with the moral imperative, the types of emotional issues seen in *Never Let Me Go*, plus a shroud of public mistrust generated by cloning scandals and you have a contentious issue on your plate. With this in mind, perhaps we should rest safe in the knowledge that this premise belongs only to fiction, for now.

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Passion to Perform



Games Editor: **Simon Worthington**games.felix@imperial.ac.uk

GAMES

Game developers don't need to draw...

Michael Cook can't draw pictures or compose music, but he *can* still make games

As you saw yesterday, if you took a look at our prototype, *IC.HACK* now has some visuals. We've looked at building prototypes and getting the basic challenges out there for playtesters to get on with. What else is important for small-scale game design? Today we're doing 'look and feel' and the first half of this is the art and music. No doubt, we'll probably be nodding our heads to yesterday's thoughts on 'shortcuts' too, because most of us are in no position to take on the challenge of art ourselves.

As indie developers, you have a mixed hand. Your weaknesses are a lack of funding, time and sometimes technology. But one of your strengths is that people want to play your game. Gamers like games, and they like 'one of their own' having a go, and that means that art doesn't have to be your top priority. But no one wants to stick with those rectangles forever, so what can you do?

Assuming you, like me, have all the artistic ability of a paralysed kangaroo, you don't want to spend time drawing and composing your own resources. Where do you go to look? The key resource for this sort of thing is TIGSource, an independent game development community who are as friendly as they are informative. Their Assemblée competition (<http://tinyurl.com/gamedev3>) resulted in a vast collection of free art and music, which *IC.HACK* borrows from hugely, but their forums are also full of artists and composers willing to help people out for free. They also can help point you the direction of larger pools of art and music available to games developers.

This might lead you onto the biggest



You can tell he's a Maths student by the hooded robe and glowing eyes...

visual problem you'll face as a developer - animation. Animation complicates everything, for so many reasons. First, you often can't use animation drawn by other people, because of scale, speed or position problems that might not be compatible with the rest of your game. As for creating your own, animation is probably the hardest thing you could attempt yourself. Not only is there the problem of creating the initial art, but synchronising multiple frames as well can be a nightmare. You'll notice my solution

in *IC.HACK* is a pretty simple one - I don't use animation. It means *IC.HACK* takes a hit visually - attacking enemies becomes a rather nasty flash of a sword on the screen, and damage is indicated by fading blood marks or flashes of red. But it works, and it saved hours of fussing over placement and representations. Game Maker makes it easy to include animation, but the problem of creating it remains. Ask yourself if your game really needs animation before trying to go ahead with it. And if it does, try to find

ways you can lessen your reliance on it.

So we've got our look, as well as some great sounds and music from the talented TIGSource community. Now we need the feel - and by that, I mean controls, interface and so on. People dedicate their entire academic lives to researching human interactions with computers, so believe me when I say there's no limit to the stuff you can read about this. But for now, common sense reigns supreme. Let's look at *IC.HACK* and see what we've got.

First, know the theme. *IC.HACK* is simple and arcade-like, so we've stuck with arrow keys for movement and just two keys for actions - attack, and spe-

missing from your UI when you can't find it yourself. Initially, *IC.HACK* only displayed the current health, not the maximum. But that made it impossible to know when to heal yourself, so that quickly got changed. Playtesters will pick up on these things too, but many will be so simple that you should be able to catch them yourself.

Third, go listen to developers. Plenty have written about UI design, and it's all there on Gamasutra, or in developer commentaries. Common themes that emerge in these are the use of visual metaphors (*IC.HACK* has the classic heart next to the health - obvious, but helps catch the player's eye when their focus is elsewhere on the screen) and colour-coding. The latter is quite underrated; lots of games rely on white text and blue boxes to convey information, but the use of colour can help gamers react faster. Red text draws their eyes to danger, for instance. Green colours have been associated with healing for decades of platformers and fighters.

This version of *IC.HACK* introduces the meat of gameplay, with special moves, proper sound and music, better visuals and camerawork. We're now halfway through our tour of small-scale game development! Make sure you check out today's build and get in touch at imperialgamedev@gmail.com.

"We want to entertain our players for minutes rather than hours, so simplicity is best."

cial attack. Things like item use and other world interaction is automatic, done on collision with items. Games like *Dragon Age* get away with much richer interfaces, but they're packing in more depth. We want to entertain our players for minutes rather than hours, so simplicity is best. Every extra key you add is a new function your player has to learn - bear that in mind.

Second, play the game yourself. You should be doing this anyway, but you'll quickly realise what information is

DOWNLOAD IC.HACK:
sn.im/ichack

Discuss: felixonline.co.uk
Game Maker: sn.im/25gndv

Games That Never Made It #2: *Fallout 3* Van Buren

Hush up fanboys and those sad enough to try and pick a fight with static print, I'm gonna say it, they cancelled *Fallout 3*. Not the one you or I played/saw/read about/licked etc. No, this game was in development by Black Isle Studios, the inventors of more cancelled games than ones to actually make it to the shelves.

Van Buren was to be set back west as opposed to the DC



environment Bethesda chose for *Fallout 3* (which clearly made more sense as this where *New Vegas* went back to anyway). Players take the role of a prisoner who could decide whether they had been wrongfully convicted or were actually a full-blown criminal, with bonus skills pertaining to their particular misdeed.

The game appeared to be following a far truer path to the original two games of the franchise with the NCR ever present, and the idea for Caesar's Legion, one of the key *New Vegas* factions, actually started here with *Van Buren*.

OK, I guess this is kind of a whine that I wish *Fallout 3* had just been a bit better and I think this was the way to do it, but the game was so close to completion it's mental

they didn't just see it off. The *Fallout* Wiki estimates it at about 80% finished, with most of the engine, dialogue and models already polished and perfect.

This is, however, Black Isle Studios. Maybe it just didn't meet the standard they set themselves for making awesome games, but I really can't believe that would have been the case. Maybe I should just cut my losses and be thankful for the VATS system that most likely would have never come in without Bethesda, but even that's just a solution to a design Black Isle were trying to implement. Either way, it's definitely a game to cry yourself to sleep over never getting to play.

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TRAVEL

Travel Editors: **Chris Richardson**
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Regal charms of New Zealand

Dylan Lowe

The lowdown: Two million tourists tread the two islands of New Zealand every year – for a very good reason. Its natural beauty is second to none; its reputation as an adrenaline junkie’s wettest of dreams well deserved.

Culture: Easy-going, liberal – the Kiwis presenting a big culture gap is as likely as you being eaten by a sheep. The Maoris, indigenous people of New Zealand, have a colourful history and are immensely proud of their heritage – behold and respect it.

Costs: Prices are considerably lower than in England, yet still substantially higher than the likes of South America and Southeast Asia. Much of your budget will be spent on activities so try reducing your everyday expenditures.

Cuisine: With a sizeable ex-pat population from Asia and Europe the gastronomic diversity is astonishing. Locally-sourced ingredients – kiwis, crayfish, mussels, lamb – should keep you salivating; brush it all off with top-notch wine from Central Otago, Hawkes Bay and the Marlborough region.



Must see: The snow-capped Southern Alps basking in the golden sunset – one glorious panorama of a bedroom view

Augmenting Auckland

By far the largest city in New Zealand, Auckland is often regarded for its logistic merits rather than entertainment. It serves as the reluctant port-of-call and layover for visitors to New Zealand, most trying to flee at the first opportunity. Some may even call it a dump. Truth is, unpopular may it be, Auckland represents the cultural melting pot New Zealand is transforming into, and houses many hidden gems yearning to be discovered.

Accommodation: The local YHA and Base both have multi-storey complexes in town. Smaller, daintier hostels can be found scattered around the central business district, a stone’s throw away from all the action.

Food: The façade of Auckland, Queens Street, unjustly represents the seemingly limited culinary options. The cultural diversity shows in the vast number of cuisines dotted around side alleys. Several pan-Asian food courts provide delectable meals that will keep the lowest of budgets in check. For more upmarket options check out the Elliot Stables as well as districts like Parnell.

Activities: Escape the modernised CBD and Auckland’s charms unveils itself. The colonial past is visible on buildings, though for a thorough history lesson the Auckland Museum is the place to be. The Auckland Central Library offers a range of free talks, which includes Maori lessons. A ferry-ride away, Waiheke Island boasts vineyards and fine dining whilst Rangitoto is a dormant giant volcano, its past eruptions fossilised in intriguing rock formations. Auckland Bridge is scenic spot for anyone eager to lose their bumpy-virginity.



Taupo-nui-a-Tia

Taupo boasts many features that surpass Queenstown, its South Island adventure-capital counterpart. Consisting of a small town and Lake Taupo, a crater lake the size of Amsterdam formed by a super-volcano eruption, it lures in tourists with its sexed-up selection of extreme sports – alongside world-class hiking and a ferocious party vibe.

Accommodation: Being one of New Zealand’s most popular tourist destinations, finding a place to kip isn’t the centre of worries – choosing one is. A backpackers’ hostel practically springs from every street – do some comparing.

Food: The big fast-food chains have colonised and dominated the food scene – an unsettling observation for the foodie – though some are not without merit. Burgerfuel, a Kiwi establishment, is one worth an attempt. Two mega-sized supermarkets perched on the edge of town will attend to your self-catering needs.

Activities: Allow your imagination to go wild – and a sturdy finance too. This is where adrenaline-seekers let loose their comfort-zone boundaries; a more economic choice compared with Queenstown too. Indeed, Taupo Tandem Skydiving lays claim to the cheapest skydive in the country – a rather pleasant, panoramic plunge into the lake below. The mix-bag of the usual suspects – bungee jumping, jetboating – is readily available. Tramping – New Zealand slang for hiking – enthusiast or not, the nearby Tongariro National Park pledges to give you all one of the best day’s walk of your lives. Bring your skis to Ruapehu, one of the three active stratovolcanoes constituting the National Park.



Glacial Franz Josef

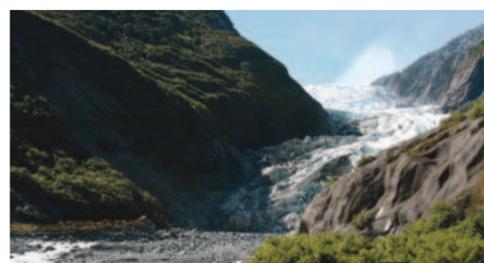
Whilst the township of Franz Josef consists mainly of a handful of blocks and the major road running through it, it’s unfairly overshadowed and dwarfed by the nearby glacier that shares its name. While the village provides conveniences to visitors it’s the natural spectacle they are after – the 12km-long glacier is the main attraction of New Zealand’s West Coast, flocked by thousands of tourists each day eager to admire the icy giant.

Accommodation: Franz Josef Township, 5km from the glacier, supplies the bed spaces. Despite an abundance of accommodation-providers they are fairly packed – swiftly booked out too. The local YHA, for instance, is often frequented by clientele ending up there after driving past too many ‘no vacancy’ signs.

Food: With a limited number of options clustered along the main road the food scene isn’t exactly glamorous – though some offer costly culinary delights. There is a convenience store, which is usually adequately stocked up – sufficient to fend off hunger for relatively short stays.

Activities: Coming to Franz Josef people are fairly clear-minded with their purpose: to see the glacier. The Franz Josef Glacier Guides have tours covering the needs of distant speculators and expert ice climbers alike. Heli-hiking – descending on to the ice in a helicopter – gives you a chance to soak up its magnificence from an aerial view.

Annoyances: Do not attempt to hike the glacier without a guide. Several lives were sharply terminated last year by tumbling ice when guidance was ignored.



Quaffy Queenstown

Regarded as the southern hemisphere’s adrenaline capital, Queenstown enjoys a healthy year-round blitz of tourists. Whilst many have arrived with the intention of leaping off something, Queenstown’s gorgeous scenery has in turn enticed the less adventurous. As a result there’s no shortage of eateries, shops, pubs and nightclubs accommodating the tourism market.

Accommodation: Hostels are aplenty, scattered all over the town centre. Whilst the big chains like YHA and Base have branches here, try a small-scale hostel for a more homely stay. More upmarket options are located further away from the vibe, which may be handy if you prefer quieter nights.

Food: No supermarket but one exists for miles from the centre, its produce unjustly extortionate. Most restaurants offer budget-friendly lunch menus or, if your finance won’t stretch, try the local food court. Recommended is getting your hands on a Fergburger – if not to experience its legendary status, savour their size-of-your-face burgers. Expect long queues – especially during rat-arsed hours.

Activities: Queenstown is a daredevil’s definition of paradise: from paragliding to heli-snow sports, from jetboating to skydiving – it’d have your bladder clenched day and night. Queenstown is also the birthplace of commercial bungee jumping – paying tribute to Kawarau Bridge – where the first-ever leaps were performed – aside, the real rite-of-passage lies with the Nevis, which boasts a 134m freefall. For the less gutsy, there are always milder water sports, hiking, and frisbee golf. Queenstown becomes a popular ski destination in the winter.



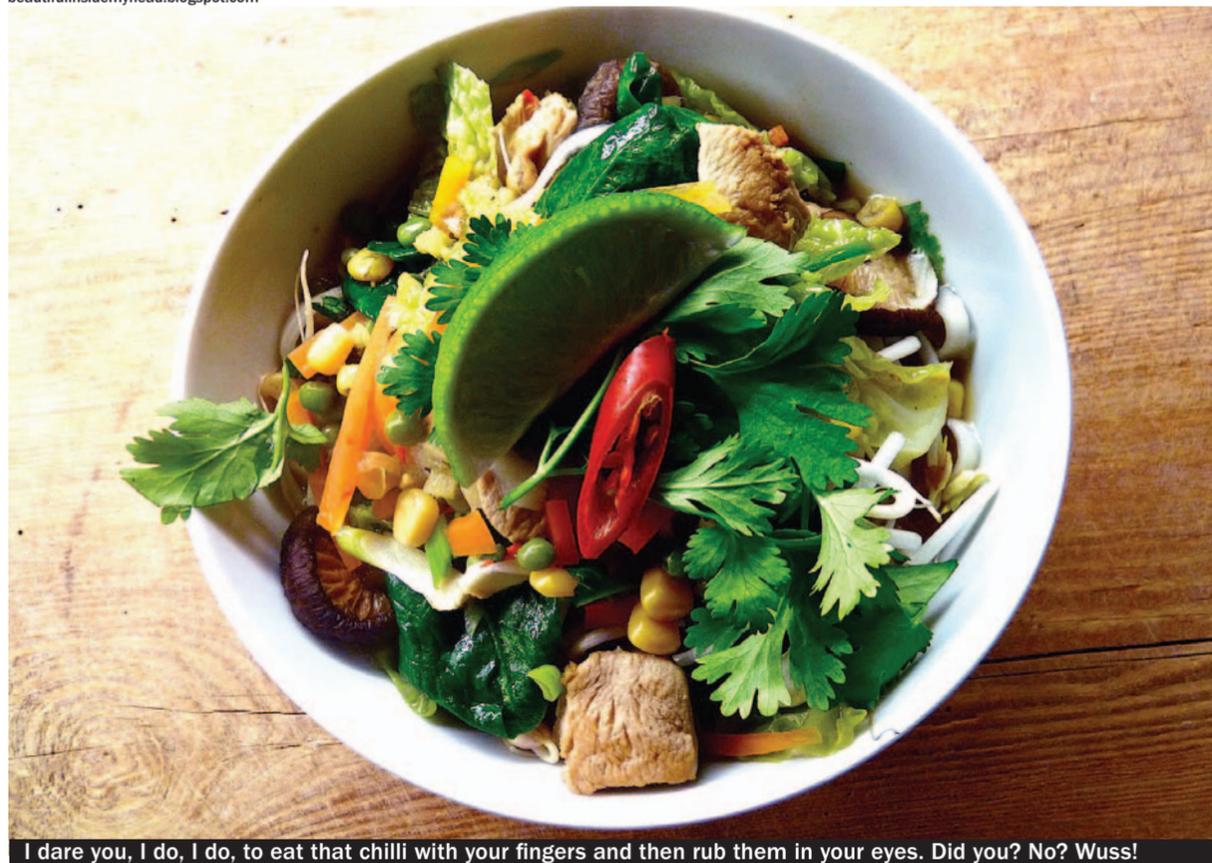
Food Editors: **Vicky Jeyaprakash****Dana Li****food.felix@imperial.ac.uk**

FOOD

Apocalypse Chow in Ho Chi Minh

Peter Quicke and Jamie Rickman share their Vietnamese food know-how

beautifulinsidemymind.blogspot.com



I dare you, I do, I do, to eat that chilli with your fingers and then rub them in your eyes. Did you? No? Wuss!

It's breakfast time in Vietnam, the sun's not up yet but you can hear the clashing of pots and pans and the calling of the street vendors hawking all manner of foods from greasy deep fried spring rolls to crystal clear broths. Families congregate around their tiny matriarchs, little old ladies pouring out steaming bowls of noodle soup from cauldrons larger than themselves. They eat together, squatting outside their front doors, calling to their neighbours as the dawn breaks. Food is deeply rooted in the Vietnamese culture and is far more than just sustenance. The principle of Yin and Yang is even applied to the preparation of food; ingredients are put together in harmony with season, climate and the physical well-being of the diners. Food brings the family together; to be invited to share a meal in Vietnam is extending the hand of friendship and welcome.

Fish sauce, soy sauce, fish sauce and more fish sauce. This is the definitive taste of Vietnamese cuisine, the salt and pepper of their table. Vietnamese food is pure and vibrant, its basic food bought to life by herbs, spices and heaps of chilli. The most popular dishes are fresh or fried spring rolls, dumplings – sweet or savoury filled with minced meat or red bean paste, and barbecued meats all sold on the street, oh and pho, the cult of pho.

Pho, pronounced 'fer', the ubiquitous Vietnamese dish is the embodiment of their food. The flourishes vary from re-



Vietnam eh? GET ME SOME PHO NOW! Purrrr-ty please?

gion to region but the basic idea stays the same; a bowl of aromatic noodle soup filled with tasty things: mung beans, leaves, and succulent meat finished with chilli and lime. It's simple, filling and so delicious, Hanoi eats it for breakfast, lunch, and dinner. Creamy rice noodles temper the chilli and the lime cuts through the boiled meat; usually beef or chicken.

While *Pho* remains a staple, there is so much more to be tried. Sandwiched between India and China, previously colonised by France and plagued by missionaries from around the globe, Vietnam remains a fiercely independent country and has thrown off the shackles of all these nations while pillaging their

“It's breakfast time in Vietnam, the sun's not up yet but you can hear the clashing of pots and pans and the calling of the street vendors...”

recipe books to create the tastiest fusion dishes in the world. A surprising sight are French baguettes under the arms of

RECIPE

Pho Ga

10 cups chicken broth
1 onion, thinly sliced
1 1/4 ounces fresh ginger, 4 1/2 inch thick slices
2 tablespoons fish sauce
3 cloves garlic, halved
2 star anise
10 whole cloves
1 large skinless, boneless chicken breast, trimmed
8 ounces fresh bean sprouts
12 small carrots, sliced
8 ounces rice stick noodles or udon noodles
3 green onions, sliced
1 or 2 limes, cut into wedges
1/2 cup fresh cilantro
1/2 cup fresh basil leaves

Cook noodles according to the directions on the package, then drain and set aside in a bowl.

Combine chicken broth, onion slices, fish sauce, sliced baby carrots and chicken in a soup pot; bring to a simmer.

In a tea infuser, add the cloves, ginger, garlic, star anise and place with the chicken.

Simmer the chicken, vegetables and spice mixture for about 30 minutes, until the chicken is tender and cooked through.

Remove chicken and cut into small pieces, then place back into the simmering soup pot.

Remove the tea infuser, discard ingredients inside.

Ladle the soup into the large serving bowl with the noodles.

Add the bean sprouts, green onions, cilantro and basil leaves to the serving bowl.

Serve with fresh lime wedges and chilli.

Credit: www.soonthen.blogspot.com

cyclists. Filled with cold cuts of sausage meat, Vietnamese mayonnaise, pickled vegetables and laughing cow cheese - they make the perfect afternoon snack.

Coffee is another national institution: hot or cold and strong enough to wake the dead, it is sweetened with condensed milk. The best coffee is brewed from beans diligently processed by the digestive tract of the civet cat known as *cafe cut chon* or fox-dung coffee.

Beer, costing between 13p and 25p a glass, is another remnant of Vietnam's colonial past. It is brewed in some of the best micro-breweries outside of Bavaria with each town selling its own version of *Bia Hoi*, usually from old plastic bottles. Five pounds in your pocket could get the whole of Reynolds bar drunk.

With over 3000 km of coastline, seafood is also a staple. Squid, prawns, shark, ray and practically anything else that can be harvested from the depths is consumed with gusto.

And of course the famous fish sauce, made by fermenting fish in pots under a hot sun for days on end, left long enough this produces an intensely nutty, cheesy flavour that forms the essence of many Vietnamese dishes.

For a food adventure try beating snake heart, a delicacy in Vietnam, it's thought to improve potency when washed down with snake bile and snake blood. Also, rice wine is used to pickle birds and scorpions and used to cure everything from the common cold to a broken heart.

Balut is another delicacy, consisting of a fertilised duck egg cracked open, seasoned with salt and pepper and gulped down bones feathers and all.

So where do you go in London for an authentic Vietnamese meal on a student budget? Old Street and Kingsland Road in east London have some of the finest around. We especially recommend **Cay Tre**. Unfortunately you can't order snake hearts, but it does serve a wide variety of delicious meat and vegetarian dishes all reasonably priced and big enough for a hungry student. It can get quite busy so it's a good idea to book ahead, the service is quick and the atmosphere bustling. Our favourite dishes were the sizzling seafood platter, and beef chunks. And the mixed starter is delicious and fresh, seasoned beautifully with peanuts and chilli and sweet fennel.

There are so many tastes and flavours in Vietnamese cuisine that there's something to satisfy any mood or hunger, and is great for the health-conscious, vegetarians and other undesirables. Feeling inspired and creative? Try our recipe for delicious chicken *Pho*, *Pho Ga*, and get eating!

Tomorrow's section is imported from...

JAPAN

Puzzles Editors: **Polly Bennett**
James Hook
Aman Nahar

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PUZZLES

Pictogram - Another Innocent?

Innocent

1. _____ 3. _____ 5. _____
 2. _____ 4. _____ 6. _____

A strange note arrived at my personal reserved library computer. It read "From the sub-editors" and was accompanied by an unusual series of drawings that looked strangely like they hid something. I found some further instructions below: "Each picture

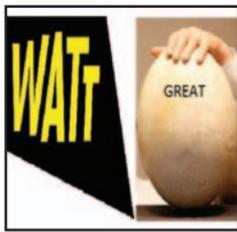
leads to the name of a sub-editor. Use the letters indicated below to reveal another innocent party. But beware: Each picture may contain one false letter."

For someone who seemingly wished to help me bring this fiend to justice, they were being unnes-

sarily cryptic. Perhaps they were being watched? At the very least, I thought, I'll only have two suspects left after solving this. The nightmare may end soon...



8th, 11th and 15th letters



3rd, 4th and 5th letters



2nd letter



3rd and 5th letters



3rd, 9th and 18th letters



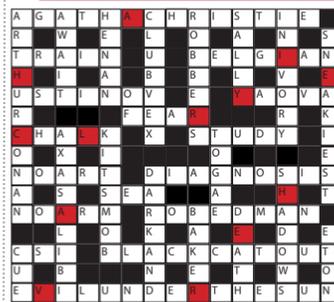
3rd and 4th letters

Word Hunt

1. Almighty
2. Creator
3. Demon
4. Divinity
5. Idol
6. Infinite
7. Jah
8. Jehovah
9. Lord
10. Maker
11. Omni
12. Potent
13. Providence
14. Spirit
15. Totem
16. Tutelary
17. Yahweh

T T I R I P S R K E
 D N Z N D R O L C V
 I W E E F T K N M H
 V M M T A I E K E A
 I O A E O D N W T V
 N D R K I P H I O O
 I C O V E A I A T H
 T O O L Y R S N J E
 Y R A L E T U T M J
 P A L M I G H T Y O

Yesterday's Solutions



CHARLIE
 HARVEY

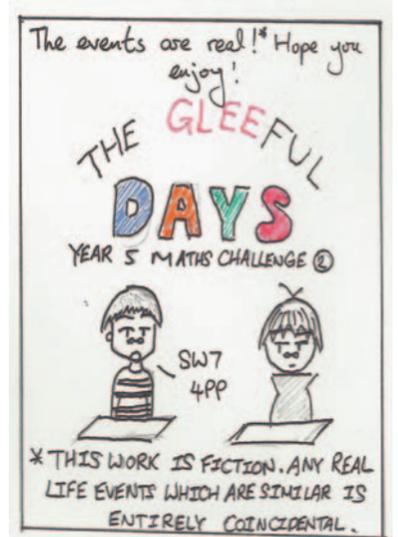
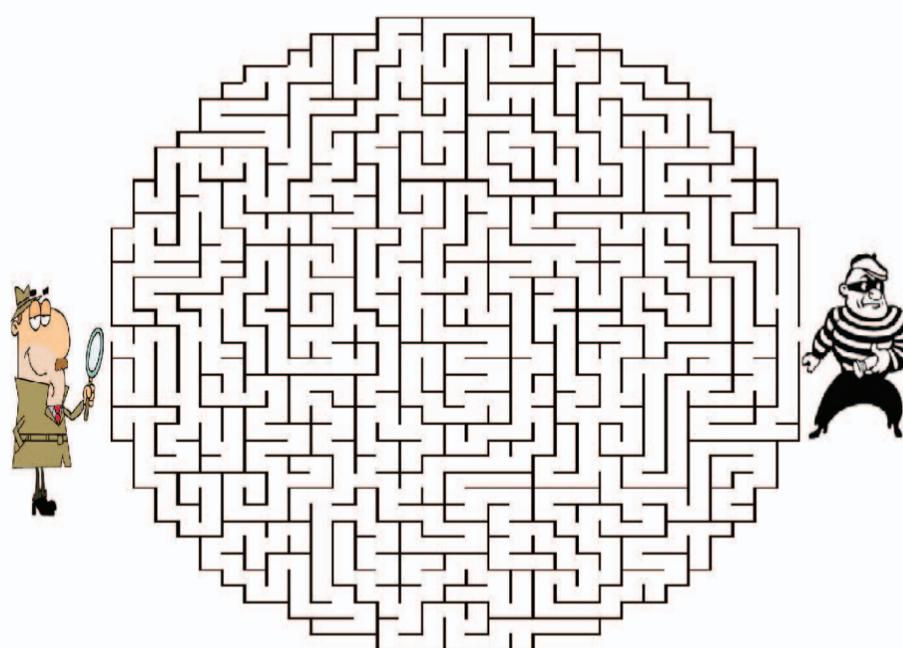
Scribble Space



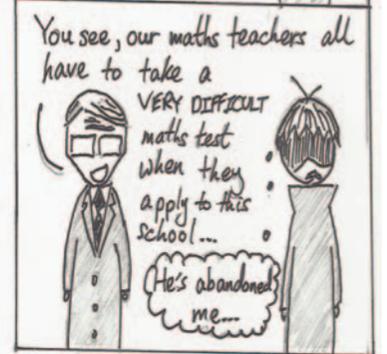
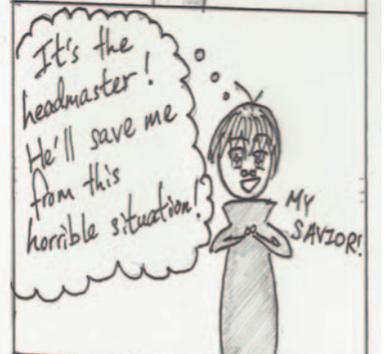
Nonogram

	4	4	2					1		1
	3	3	3	2	2	3	5	5	3	4
3										
3 4										
2 2										
2 3										
3										
4										
1										
3 3										
5 3										
5 4										

Mentalist maze



Last time: I made an addition mistake on the board...



The Hangman Guide to...

Success on the tube

Sweat, smell and Burger King are just three ways to piss people off for your own amusement...

1. You're on the tube. It's an awkward situation. Pretending to text will not work. Remember you're under the fucking ground.

2. Opposite you is the hottest guy/girl/gelatinous blob ever. "I'll walk over there like George Clooney and all men in sight will be jealous." Considering it took you 1 hour to perfect your happy birthday facebook post to that girl/guy/lecturer you are inappropriately friendly with. You went with "Happy birthday. Hope you have a good one!! x" The second exclamation mark made you look desperate.

3. "It was crowded, I touched her arse by accident." You got arrested on purpose.

4. Your train has broken down and the carriage is silent. You think cracking a joke really loudly will make you instantly the most popular person in the carriage. You bet that's just what everyone wants me to do. They don't, shut your mouth you're a fucking twat.

5. There are ticket machines at every station. You know you'll need to get your ticket out. Why must you insist on leaving it till the very last second and holding us all up?

6. It's a crowded tube. You are next to a random hot girl. Don't rub up against



her. The only thing she'll do when she feels your sweaty balls pushing against her leg is contact the police.

7. That bearded guy looks shifty AND he has a bag. What if he has a bomb in that bag? You're just going to move down a couple of carriages aren't you? Not only is it racist, it's a really shitty thing to do to just leave everyone in harm's way without even vaguely trying to warn them. You're a real John Wayne, you really are.

8. Wearing large expensive overhead headphones is fine. If you're listening to them. Just hanging them around you're neck for no reason as you think it "looks cool" makes you a fucking tool. Oh yeah look at me and my Justin Bieber beats. Even though Justin Bieber clearly knows nothing about electrical engineering and probably just used them once and said "yep that's good." If he even did that.

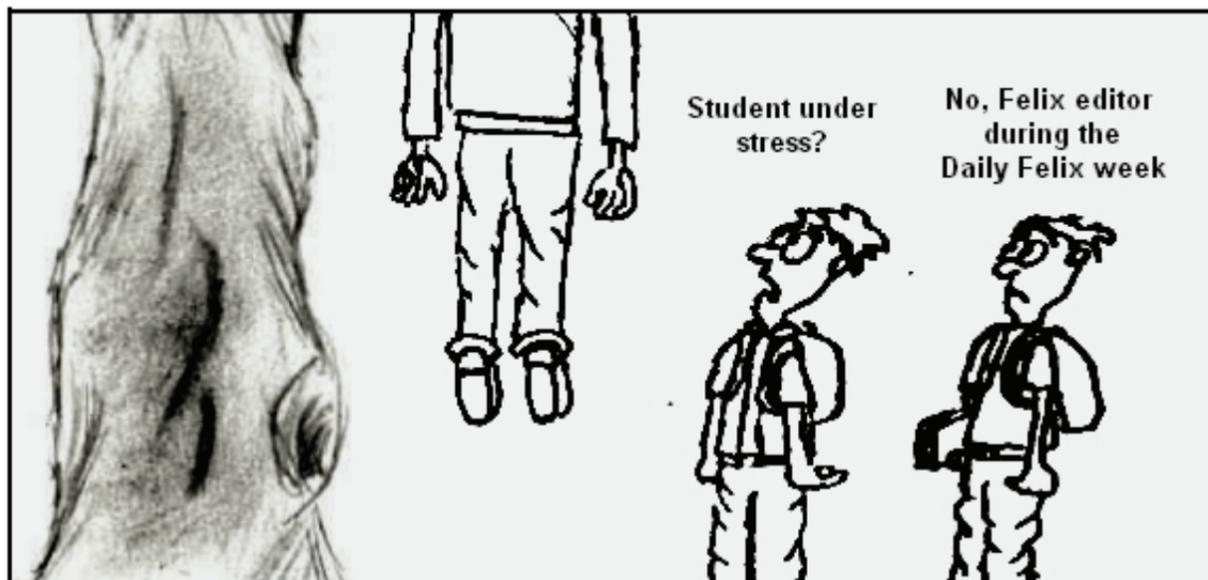
Probably just chose the colour scheme. Yeah hating him is easy, fun to.

9. Giving up your seat is a sign of weakness, cling on to it like it's a vaguely erotic memory of a girl you like.

10. The last point was harsh? Oh come on, she's pregnant. Soon she'll have a baby. Making her stand up is preparing her for the future. You're like her personal trainer. Make sure the entire train knows this logic by loudly proclaiming how it's "for her own good" when you say "fuck off" in reply to a questioning look from her.

11. Informing everyone who forgets to top up their oyster that you have it linked to your bank account so you never find yourself in this situation is not a helpful comment. Oh, and guess what, you're having to wait for them, so you are finding yourself in that situation.

Luca De Benedetti



HANGMAN

Horoscopes

Aries

Today, you carefully clip away all of your body hair with a pair of nail scissors. When you're done you lather yourself in cream cheese and put on your clothes. On the bus into campus the old lady behind you starts licking your neck. Aaaaah, heaven...

Gemini

Today, you disassemble the entirety of Queens Tower. You take it down, brick by brick, stone by stone. Nobody notices you doing anything. When you're done you then carefully reassemble it, exactly as it was, just three feet to the left. People notice. Chaos ensues...

Leo

Today, you decide to go to Thorpe Park. You get there and realise that it's closed. You're obviously disappointed but the day is salvaged when a midget hobo lurking at the entrance agrees to go down on you for a handshake and three old train tickets...

Libra

Today, you're on a mountain top, grappling with a ferocious Space Bear and his pet Galaxy badgers. You finally overcome him and throw the whole posse down the side of the mountain. YEH! You KICK-ASS! You know why? Because you like Sci-Fi. FUCK YEAH!

Sagittarius

Today, you are visited by a mysterious apparition. It tells you to go to India. It tells you that you will find happiness, spirituality and eternal inner peace. What do you do? You tell it to fuck off, of course! Fucking apparitions, what do they know?

Aquarius

Today, you're on the bus late at night alone on the top deck. It stops. Someone comes on. You hear a strangled cry for help and then silence. It's the Burger King man. He walks up the stairs and forces you to eat both your hands... No more delicious burgers. *Sad Panda

Taurus

Today, you wrap up all of your possessions and post them to a random address in New York. When you tell your friends about this they are less than impressed. But they don't understand MAN. It's symbolic MAN. It's like sending your shit to someone else... MAN

Cancer

Today, you leap over the counter at the Library Cafe, kick the staff out and 'claim the space' for the public. You and your friends run poetry sessions, debates, hand-holding workshops and seminars on utilising your inner-douche.

Virgo

Today, you get extremely bored with life and decide to eat your own ear. You cut it up, fry it and mix with BBQ sauce. It tastes like chicken. Oh wait, you're actually just eating a chicken. Then where did your ear go? Damn, got to stop going to Tiger Tiger.

Scorpio

Today, you find that you view Piccadilly Circus hot dogs in the same light as your ex-boyfriend. It's definitely not good for you, it's mainly made up of shit and it's only the slightest bit tasty when you're mad drunk off your face and have got nothing else to eat.

Capricorn

Today, you're a snowflake falling serenely from the sky. Below the Earth drifts slowly towards you. There are kids. Happy kids. Kids who haven't brushed their teeth. One opens his mouth and sticks out his tongue. It's the great red unknown! NOOOOOOOOO!

Pisces

Today, you help an old man walk across the road. As soon as you reach the opposite side, he turns and says "You will regret this when I've taken over the world". As he hobbles off, you wonder whether you've doomed the planet to tyranny... A cute girl walks past. MEH.

SPORT

Sports Editors: **Jovan Nedic**
David Wilson
 sport.felix@imperial.ac.uk

Ice Hockey: Oxford no match for the Devils as the B Team make it a clean sweep for Imperial

Imperial Devils B's
 Oxford Women's

4
 1

Devils B were psychologically strong going into last Wednesday's game against Oxford Womens'. Despite an overall mixed season and a previous game close loss to Bristol (4-3), the Devils had reaped the benefits of match experience and knew Oxford was a team they could and should beat. Playing on home turf was also significant as Oxford only brought two lines so the Devils would have the advantage of numbers.

A charge from the opening face-off threatened to put Oxford in the lead but was dis-allowed, only to have them follow up with another before the first minute was up. Overconfidence or simply not being prepared gave the Devils a nasty shock. Continuing aggressive play from Oxford saw the Devils start on the back foot and slowly win back control of the game through hard-work. By the middle of the period the Devils were clearly on song. Early shots on goal, notably a breakaway by Mason (Captain #52), rattled the Oxford defence and their keeper. Shortly, top scorer Sofie Liljegren (#23) equalised unassisted. A few more opportunities were had, but the Devils failed to convert and ended the first period tied.

A laundry list of errors noted by bench coaches Dolan and Runcorn (#28 and #36 of the A-Team) put the Devils in their place and it was clear all should be working harder. The Oxford coach had clearly had some insightful words of his own as both teams returned to the ice playing proper hockey. Nevertheless, a solo effort by Barakat (#11) saw the Devils pull into the lead early on. Determined play by Oxford saw the Devils wait 10 minutes before scoring again, this time by Walther-Büel (#87) from Barakat (#11) and Liljegren (#23). Frustrated, Oxford began to make some bad plays; #63 given two minutes for tripping put the Devils on Power Play. Sadly, Oxford knew what they were doing and played a tight defence, wasting time by deliberately icing the puck.

Overall, the second period had been much better and 3-1 in the lead the Devils were relatively safe with the freedom to hunt for more goals. Most of the errors had been eliminated and the team focused on using numbers to out-skate Oxford and make them tired. A long third period saw more physical play, but the Devils were shutting down the majority of Oxford attacks with some notable saves by Net Minder Bale (#84). A fourth goal by Barakat (#11) kept spirits high, but a dramatic incident occurred to Oxford when one of their players (#28) fell climbing onto the ice. Falling from waist-high boards she landed badly and injured her ankle – play was stopped while she was helped off the ice. Oxford appeared to have lost their motivation and the Devils dominated the remainder of the period. However, a tripping penalty by Oxford's #32 prevented a last minute goal and the game ended 4-1 to the Devils. Player of the match went to Goalie Gemma Bale (#84). Oxford's injured player was taken to hospital for precautionary x-rays as the paramedic's diagnosis was that nothing appeared to be broken.

Will Mason

APOLOGIES

Holy crap, it looks like we managed to get by unscathed yesterday, despite a few articles not turning up. Hopefully we'll be able to have them in later this week

Baseball: Double header opens up new Falcons pitch

...Continued from Back Page

who reacted to the idea enthusiastically. They subsequently invested money and resources to build the baseball field, that now makes use of formerly under used space in Harlington.

The newly built field is now one of the finest in the country, and in addition to being the home of the Imperial Falcons, it will also serve as the primary grounds of British University Baseball, hosting a significant majority of Southern Division fixtures from now on. Mick Reynolds, head grounds keeper for Harlington sports ground, delivered a ceremonial first pitch in the opening ceremony to officially open the field. The games themselves were a tale of two extremes, the first a humbling loss where the previously undefeated Falcons were simply outplayed by the Kings. Oxford dominated Imperial on both pitching and hitting, handing us an 11 run defeat.

Losing the second game would have dropped the Falcons into second place, and left Oxford in pole position heading into the final month of the season. But as if by "bush" magic a fire was seen to be ablaze in the distance, perhaps

it was the fumes which spurred on the Falcons or the imagery. Nevertheless, showing the same resilience that defined the season of comebacks the frozen Falcons were thawed; the Falcons played true to form in the second game against the Kings.

Hajime Urata pitched brilliantly, shutting down the imposing Oxford line-up, holding them to just one run. Several key defensive plays behind him by Dexuan Hong in Center Field and First Baseman Jun (the great wall) Weng helped Hajime on the mound, which gave Imperial's bats time enough to shake off the first game and put seven runs on the board.

With the split, the Falcons remain at the top of the Southern Division at five wins and one loss. We remain in control of our destiny as we will retain our title if we win both our games on Saturday against the Southampton Mustangs. The last time the two teams met, was in a five all draw in the Fall Cup.

Although the season is soon coming to a close, interested newcomers are still very welcome to join and are encouraged to contact the Baseball Club - baseball@imperial.ac.uk



What you talking about blurry? He's just moving so fast that the camera can't focus on him...

Badminton: Women's first team make it past Oxford and into the BUCS Semi-Finals

...Continued from Back Page

I inevitably made a mistake figuring out the required points difference which led the whole team to believe that a very tall order of 21-5, 21-4 was needed to win the match. Oxford, on the other hand, just dutifully added up all the points without any attempted arithmetic shortcuts and thus congratulated us after a 21-10, 21-6 win. After some initial confusion, we finally realised that we had actually won (By 365-350 points after 4-4 in games and 10-10 in sets) and we're in the semi-finals where we will face Bath's second team.

Luckily the next round will be an away match; I couldn't have faced inviting Bath, with their amazing sports village, to play at Burlington Danes. When we arrive there later on today, they might still think Imperial is taking Badminton just as seriously as they do. At least until they realise that we love the sport mainly for the cakes we have after the games. Which doesn't mean that we won't try our best to win. So if you want to know how we got on tonight, come back tomorrow and read the report.



If all goes to plan, you'll be reading how these lovely ladies got on against Bath

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SPORT

Hockey: Varsity battle lines drawn early

J. Ye and C. Chapman
Men's Hockey
 IC 2s 1-1 Medicals 2s

A miserable day befell Harlington, but a bright spirit dawned upon it - a historical rivalry that stretches back many a year. The result of this fixture would be a precursor to the sacred Varsity match. We rocked up in luxury executive coaches that even had a fridge for B. Man Briggs' pasta bake and associated refreshments. The scene was set for a medic bashing.

The game started abysmally for IC with lots of errors by the entire team except Dirty Whaler - our retention was worse than someone with diarrhoea. After a couple of short corners that went woefully wide off the hit of a certain C. Bell we piled the pressure on the medics. Half time arrived with the scores poised with neither team managing to break the deadlock.

After the break IC piled on the pressure. With some probing runs down the left courtesy of G-T-G, and a good set of searching wide balls by Y. Bag the medics' circle was constantly under attack.

It was only 20 minutes from the end when the medics were awarded a penalty corner which, despite some heroics from Goaltender, they poked it into the far post and were given the first goal of the game.

When the game restarted, IC were pinned in our half for around ten minutes - the medics' aerial balls kept our centre backs pinned in our 23 metre area. It was only when we were awarded a short corner 5 minutes from time that the resurgence began. A mischievous shimmy from C. Bell led to a through ball to Goldemort who kept his composure and flicked it graciously over the helpless medics keeper's body.

The remainder of the game was a tightrope walk by IC. A penetrating aerial from Dirty Whaler almost led to a much deserved second goal; alas it was not to be: thanks to the last ditch (and thankfully clean) tackles of Guill-I-Am and B. Man Briggs at centre back, we managed to keep it at 1-1.

Today's performance bodes well for Varsity but IC really need to stop firing blanks - too many chances missed and squandered.

Netball: 3s brutalise Kings

Lucinda Hazell
Netball
 IC 3s 40-26 King's 4s

With two players returning to the team, the 3's were excited to be playing as a full squad on Monday. The opposition was King's 4's, a team who we knew from past experience we could beat, however we also knew they would put up a fight. Literally.

The match started with a King's centre pass which IC failed to over turn despite being given plenty of opportunity and the teams play was anything but tidy. Once we had reminded ourselves how to play netball we overturned the next two centres as a result of great movement down the court by centre Amelia and WA Lucie, but it quickly became apparent that King's liked to play aggressively as GD Nakai had her glasses knocked clean from her face by the opposing captain. The rest of the King's team followed her example and the IC girls were being beaten up all over the court. However, having decided not to retaliate, IC instead showed King's how to play netball properly and without being

called up for contact every five seconds. At the end of the first quarter IC were leading by two goals, due to some fantastic shooting by Heather and Angela, and great defence by goal keeper Fern. In the 2nd quarter, returning shooter Lucinda stepped on to the court and it was like she had never left. With quick passing around the goal third by Sarah and some excellent movement by Heather, the lead was increased to 11-6, a margin that was in no way large enough for IC to get complacent.

After a rousing team talk from captain Lucie and Becky's claim that if we didn't win she would have to slap the King's centre, we returned to the court. The King's captain had apparently given a different talk as they returned with a slightly more literal fighting spirit. IC refused to be pushed around and after Nakai "accidentally" smacked the ball into the King's captains excuse for a face, IC were given a new lease of life, controlling the rest of the game. The final score was 40-26 with Lucinda deservedly receiving player of the match and IC's 3's keeping their unbeaten at home record. Let's keep it going to Varsity

In Tomorrow's Issue...

Volleyball

As the end of the regular season approaches, the BUCS knock out tournaments begin. The Women's volleyball team have already seen off Nottingham and make it through to the Quarter Finals. Can the men do the same against Southampton? You know what you have to do...

Rugby

The Men's first XV were up against Reading University yesterday and our very own David Wilson will be reporting on how they got on. A tough game is expected, how will the boys get on as they prepare for the JPR Williams Cup in two weeks? Find out in tomorrow's issue

Varsity Hockey

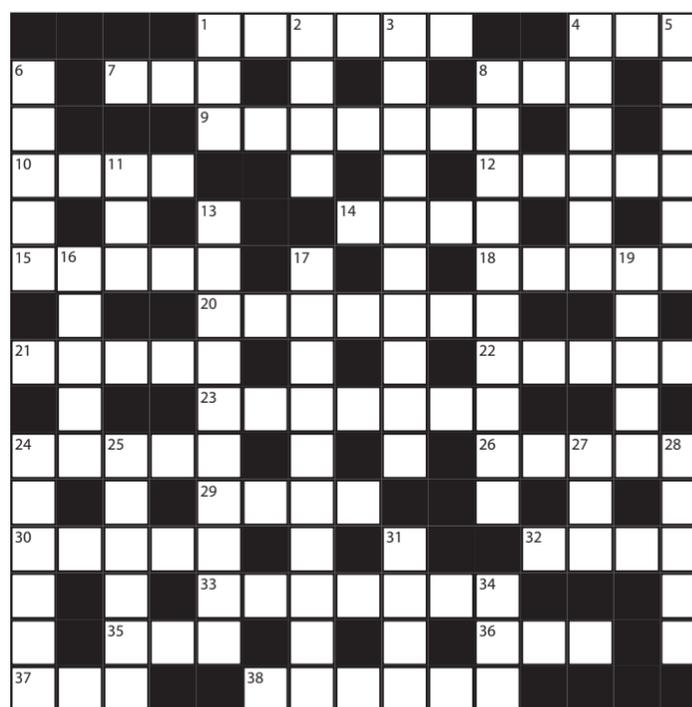
Varsity is fast approaching and to whet your appetite, we're planning on doing an interview with a few of the captains - well the ones that get back to us anyway! Tomorrow we've got Imperial's Men's Hockey Captain Ewan Quince, yes the guys whose face you saw in the sports pages on Monday. Read his views on grazing and what their coach thinks about their style of play.

Badminton

Yes, that's right, you've just seen a report about how the girls beat Oxford in the Quarter Finals of the BUCS Trophy and tomorrow (I really hope we can pull this off) you will read how the girls got on against Bath.

Cryptic Crossword

Solutions on Friday



Across

- 1 Man of the cloth (6)
- 4 Cry, male puppy (3)
- 7 Tangled snake in a bathhouse (3)
- 8 The crib in the cottage (3)
- 9 Yeast with thorium gains depth(7)
- 10 Walk shakily after lively dance (4)
- 12 One skull goes forward (5)
- 14 Notice point (4)
- 15 Slow at the beginning, with some thought, leads to laziness (4)
- 18 Entice a teetotaler to take some hemp (5)
- 20 Sprite on a donkey from the East enters a cul-de-sac (7)
- 21 Mop bristle head at the front of the room (5)
- 22 Straight-edge leader (5)
- 23 Expression in favour of an action word (7)
- 24 Parasite loses anger about rice (5)
- 26 In that robe, seem overweight (5)
- 29 Hit a target spike (4)
- 30 At the beginning, we all liked to zanily dance (5)
- 32 Fever takes the head of a sickness (4)
- 33 Antiquated letter (7)
- 35 At the signal, cutie loses it (3)

- 36 Beer in a leaky barrel (3)
- 37 Grain sounds drily humorous (3)
- 38 Think back about George, the warrior (6)

Down

- 1 Account of an upside-down bat (3)
- 2 Notion from confused aide (4)
- 3 "I do pure sex" incomprehensible from Greek king (10)
- 4 King, cloaked in mist, falls into brook (6)
- 5 And, in a bit, the outlaw (6)
- 6 An army of tailless corpses (5)
- 8 Waffle crate talks a lot (10)
- 11 My subconscious self says: odd eggnog (3)
- 13 PEZ machine broken by the ape (10)
- 16 Unappetizing grub (5)
- 17 Enemy of Shadow government (10)
- 19 Push journalism (5)
- 24 In the dust, Democrats in power (6)
- 25 Comfort, therefore, a cord or ribbon (6)
- 27 Even though, engage Humpty Dumpty (3)
- 28 Appoint some messy, godless treacle (5)
- 31 The male deer, less than half decomposed (4)
- 34 Ingest the edge of the seat (3)



Badminton take on Oxford in BUCS Trophy

Laura Bethke
Women's Badminton
IC 1st 4 - 4 Oxford 1st

This year's BUCS Trophy has proven to be a good one for Imperial's Ladies team.

After a bye in the first and a win against Glamorgan in the second round, we found ourselves in the quarter finals against Oxford last Wednesday. Although it was technically a home fixture, somehow Badminton seems to have been banished from Ethos lately and we were sent to play at Burlington Danes Academy near White City.

We soon realised that this was not a place that was very accommodating to Badminton players. Two of the poles were about two inches too high for Badminton nets, and one court just had volleyball poles which only left two courts to play on (the men's second team was supposed to have a match at the same

time but luckily their opposition didn't turn up, otherwise it would have been only one). All this wasn't helped by the fact that a fan was operating in the hall that was strong enough to make our hair blow in the wind. I mean really, Sport Imperial?

The actual match turned out to be the most exciting one all season. The doubles games were very close, with three out of four going to three sets, but unfortunately we managed to win only one of them.

As our second singles player won one out of her two matches, it was up to our first singles to secure two wins to save the day. As we'd hoped, she won her first game with ease, but after having a quick look at the score sheet it soon became clear that another high two-set victory was needed so secure a 4-4 win by point difference. Trying to be clever and save myself from adding up all the scores,

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Baseball: Falcons and Kings even as new field is unveiled

G. Lam, A. Krishnan, K. Ling
Baseball
IC 1st 4 - 17 & 7 - 1 Oxford 1st

On February 20 2011 the Imperial College Baseball Club officially opened

their purpose built baseball facility in Harlington with a friendly visit from the neighbours, a crowd of two cow/horses.

However, despite their long faces and neighing, they were in for a treat with what was to be a thrilling doubleheader

against second place Oxford Kings.

Plans for the field had begun last academic year, when the Baseball club first held practice at Harlington. The idea was put forward to Sport Imperial
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POLITICS



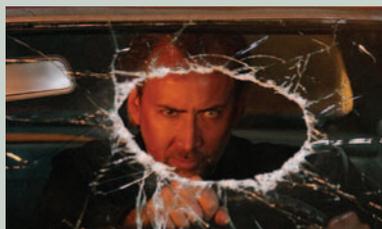
Should prisoners be allowed to vote?
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HANGMAN



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