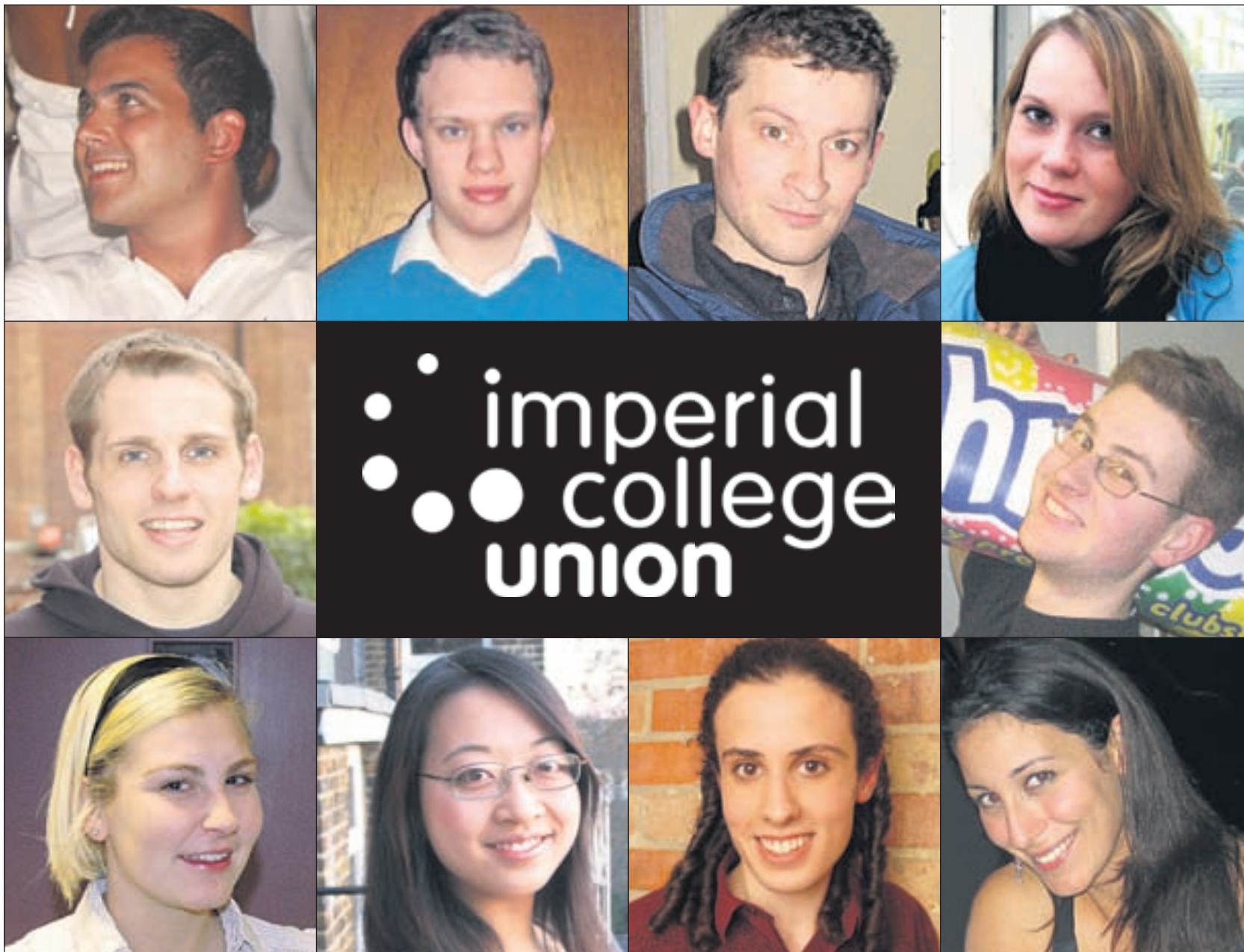


felix

The student 'news'paper of
Imperial College London

Issue 1,397
Friday 22 February 2008
felixonline.co.uk



Sabb Elections '08

Vote online today to elect the next Union President, set of Deputy Presidents and Felix Editor. See pages 3 to 12.
Then head to www.imperialcollegeunion.org/vote to cast your vote

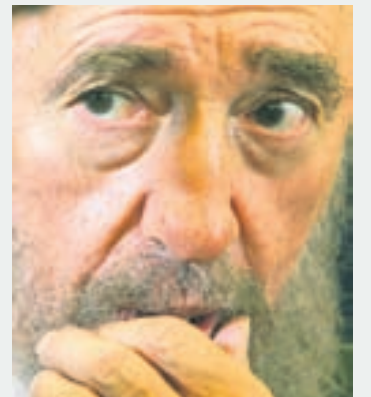


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News

News Editor – **Andrew Somerville**, News Goblin – **Matty Hoban**

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It ain't cheap being Green

Probable Union price rise leads DPFS to question green policy

Andrew Somerville
Deputy & News Editor

Union bar and food item prices may rise by 10p, and concerns were raised by ICU Deputy President Finance & Services, Chris Larvin, over the increase in costs due to the Union's Environmental policy.

Compliance with the Union's green policy has led the bars to replace their disposable plastic skiffs with re-usable and washable plastic glasses, and that food be served with either washable crockery and metal cutlery, or biodegradable knives, forks, spoons and containers that are made from potato starch.

According to the DPFS, the washable plastic skiffs have cost the Union bars in South Kensington an extra £2500 over the past six months, and are expected to cost the same over the next six months. They have also led to logistical issues because of difficulties in finding sufficient storage space (which do not stack as compactly as the previous disposable skiffs), and washing them fast enough to cope with demand in the Union's only dishwasher.

The biodegradable, disposable forks and containers are calculated to cost the Union catering approximately £35



Felix tests the tools with some delicious vegetarian chilli. Mmm, chilli

more per week than the plastic versions (knives and spoons cost the same). The cost of forks has increased from 0.525p for the white plastic, and 1.4p for the black plastic versions, to 3.875p for the potato starch eco-friendly version. The new biodegradable takeaway containers cost 8p each, 2.5p more than the polystyrene boxes.

The DPFS, Chris Larvin, said that the union was "currently having to review prices across bars and catering as a result of the increased costs. This highlights the impact that the policy decisions made by Council have very real impacts on the activities of the Union."

"This has been the result of a very vocal minority harassing the Union all year (the Trading Forum is a prime example which has been hijacked by eSoc [Environmental Society]," he added, "Students need to make their views known to Council... i.e Turn up..."

The lead writer of the Environmental Policy and eSoc Head Gardener, Adele Peel, responded:

"This time last year, 1331 students signed a petition calling on the Un-

ion to adopt an environmental policy. Within a month, Union Council passed a policy incorporating all the ideas from the petition.

Some of these claims about the policy are astonishingly blinkered."

"Contrary to these claims, the Environmental Policy doesn't require the Union to buy excessive numbers of reusable skiffs. It looks like there's an implementation problem if they're spending more on skiffs than they did before.

The Union has chosen to spend more on bio-degradable cutlery than necessary since suppliers suggested by proponents of the policy were over 50% cheaper than those in use.

Chris Larvin says that it's only a "vocal minority" who are interested in greening the Union. Yet the 1331 students who signed the petition last year, more than double the number who voted for Chris Larvin, clearly disagree.

Whilst I'm not denying that some areas of the policy may increase costs, there's also opportunity for savings to be made."

Help design the Union's Summer Ball 2008



On Monday the Union announced it will be holding an open meeting in a few weeks time to discuss this year's Summer Ball. Deputy President Finance & Services, Chris Larvin is inviting students to attend and provide suggestions on a number of issues including: who you would like to see perform, what fairground rides you'd like to play on and what type of veg/meat/poultry/animal/carass you would like to feast on at the dinner. Email your suggestions to Chris Larvin on dpfs@imperial.ac.uk

In others news...

Student media paper to Council

Felix and Live! are meeting to discuss the Union's student media regulations. Everyone is invited to come along to the Felix office at 1pm on Monday. You'll find us in the West Basement of Beit Quad. Help us free the cat!

Science Challenge entries due: 5pm on Tuesday 26th

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Friday 22/2/08



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OF THE WEEK

Voting open!: www.imperialcollegeunion.org/vote

Sabbatical Elections 2008



What are the main issues next year?

Welcome to Felix's Sabbatical Elections 2008 special feature. Over the next ten pages we'll be bringing you manifestos from each candidate as well interviews with the Presidential candidates. Sabbatical candidates were requested to submit 250-word long manifestos. In the interests of fairness, each candidate has been given the same amount of space, hence the frightfully ugly blank spaces at the end of some manifestos! For the Presidential interviews, we've asked the same questions to each candidate. Occasionally we probed the candidates to expand on their answers, hence some transcripts have additional questions.

Later on in the feature you'll find shorter, 100-word long manifestos for the Student Trustee and NUS Delegate candidates along with a few short explanations describing what they're required for.

Voting is open online now at www.imperialcollegeunion.org/vote, but before you head there, here's a quick run down of the main issues facing the students hoping to sell their souls to the Union:

The National Union of Students (NUS):

Imperial College Union rejoined the NUS last year but signs of change have been barely noticeable. The NUS is currently undergoing some crucial reforms which – all going well – will be in place from April after the 2008 Conference.

How deep these changes will run remains to be seen though. Some believe that the reforms are merely paper changes that will only affect those deeply involved with their Union such as Sabbatical and Club Officers, whereas supporters feel that big enough changes at the top will be seen by the general student body on the ground. Next year's Sabbaticals will have to decide the best ways of utilising a £44k per year institution.

Union Masterplan Phase Two

The Masterplan is the Union's rejuvenation project which has been running for the last couple of years. Phase Two, which includes the development of a new Student Activities Centre and the additions of a dance studio and refurbished gym, has been given the green light. Next year's Sabbs will have to

ensure it's delivered smoothly, on time and to spec.

Union Masterplan Phase Three

Phase Three is some way off yet, however the incoming Sabbs will probably be involved in securing funds for the development and they will certainly be able to influence the design decisions.

2009 Higher Education Funding Review

The government will be conducting a review of Top-up Fees next year. The current £3,000 cap could be increased or even lifted entirely. Next year's Sabbaticals will have to represent the views of the student body on a national scale and be prepared to fight for what ICU's members want.

A new Rector and change in the College regime

The current Imperial College Overlord Sir Richard Sykes is stepping down in the summer to make way for the new Rector, Sir Roy Anderson. The Sabbaticals regularly work with College staff and a change in College's style would definitely affect the day-to-day life and running of the Union.



Snow in the Quad: Not one of the most pressing issues on the incoming Sabbaticals' minds, but the promise of a giant snow machine in the archway of Beit would have been an awesome manifesto point

What are the Sabbs for?

Not much! Ahahaha. Er, let's be serious people, come on. The Sabbs play a vital role in the running of the Union and you really ought to think carefully before you decide on who to vote for. If you pick someone solely on the basis of how good looking you think they are, or whether you agree with their attire or not, you've only got yourself to blame when they're successfully elected and proceed to hike-up drink prices by 20% to pay for their executive leather chair and Cuban cigars.

Yes, the Sabbs are taking either a year out from their studies or before they head out into the real world, but it's not just simply a 'year out'. Their decisions really do affect the student body and in the following several paragraphs we'll explain the functions of each role:

Union President

The big cheese. The King of the Dawghouse. The MacDaddy. Essentially the Union President oversees the entire Union and all its students. He/she is the boss of the three Deputy Presidents and has a hand in permanent staffing matters too.

The President has regular meetings with College staff including the Rector so he/she needs to be able to argue for the Union and hold his/her ground around experienced people. At the same time, the President needs to be

approachable and easy for students to communicate with.

The character of the President sets the character of the Union for the year, so vote wisely.

Deputy President Clubs & Societies

The DPCS is responsible for overseeing all of the clubs and societies at Imperial so if you're a member of one, there's a good chance you'll have to deal with this person at some point.

He/she is responsible for organising Freshers' Fair at the start of the year and with over 250 clubs at Imperial, it's an operation that requires meticulous planning over the summer period.

Deputy President Finance & Services

The DPFS is responsible for pretty much every budget within the Union. That means club, events and the bars' budgets. If you're club has to pay for something expensive, this person has the power to prevent you from doing so. Similarly to the DPCS, this person has to regularly deal with students, often clueless ones who don't know how the Union's financing system works. He/she needs patience and a mild spot of OCD will help with signing claim form after claim form.

Deputy President Education & Welfare

The DPEW is the mother or father-figure of the student body. He/she is responsible for making sure students are well looked after, have a home or halls to live in, aren't getting too stressed out with work and are able to cope when they run into financial troubles.

This person has to deal with students on a one-to-one basis and definitely needs to be approachable, but he/she also has to attend a plethora of meetings with various welfare related committees in College, so needs to be able to argue a point well.

Felix Editor

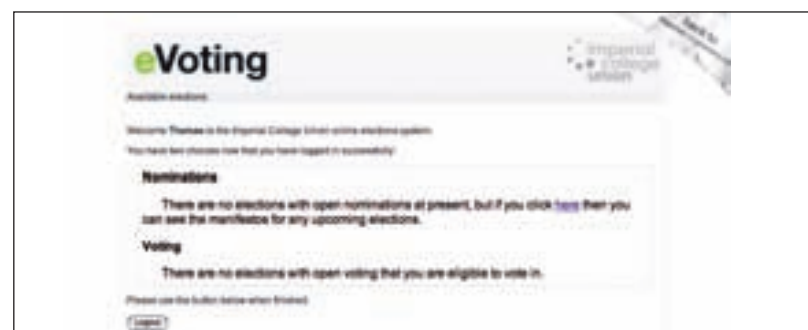
1,000,000 points to the bright spark who correctly guesses what this person is for.

The Felix Editor is tasked with producing 30 issues of Felix a year and the Union Freshers' Handbook. If they feel up to the task, they can also help publish issues of I,Science and Phoenix.

The Editor is responsible for galvanising a team of voluntary students to produce weekly content. How do you play it? Demand content to be on the dot and risk dispiriting your team and losing late content, or play it more leniently but suffer the consequences of all-nighter sessions editing the articles that invariably come in just before the very final deadline?

He/she is also responsible for the Felix website, the finances and also delivering the newspaper across campus.

Voting explained



Voting is open now. If you log on to www.imperialcollegeunion.org/vote you should see the page similar to the picture above, albeit with a nice login window to make sure you aren't rigging the election.

Operate the voting system using your College username and password to log in. Select the election you want to vote in, then you will have a selection of the positions that are up for grabs.

Tell them which candidate you prefer, then repeat for each position remembering to indicate an order of preference to the other candidates (see box for explanation on how the voting system works.)

Enjoy your new Sabbatical, Student Trustee, and NUS teams, and the havoc that they will inevitably wreak o'er the land. They've got me locked in the basement 'til elections are over and oh god, I can hear them coming...

Single Transferable Vote

ICU uses the Single Transferable Voting system (STV). In this system the voter assigns each candidate a preference number, with 1 being the most favoured. Ideally, you number each and every candidate.

If whoever you put a 1 beside does not get enough votes to be elected (or has already acquired enough votes to be elected in the case of multiple posts), your vote goes to the candidate that you put a number 2 beside.

Thus if I hate A, love B, and like C: I'd put a 1 next to B, a 2 next to C, a 3 next to RON, and a 4 next to A to make sure the bastard never gets in.

Diogo Geraldès



I am a 22 year old Portuguese sociable/ huggable 4th year Biomedical Engineering student. I love spending time with friends, a good laugh, clubbing, (watching) sports, music, traveling and meeting people; i.e. I experience University life to the max!

This, together with my previous experiences as Senior Student (Reapp), Holiday Camp Monitor and founder of the IC Unofficial Choir, turn me into a Student listening/ pleasing/ representing machine sent from the future to lift up our Union and Student Body morale.

In my Presidency, I will:

- bring fun and different profiles to the Union bars and Student body by organising workshops and more common events with the medics, Wye and the Royal Colleges of Art and of Music.

- get reading weeks and create the Teacher of the Year award in all the departments, improving results and lecturing quality.

- give more funds to departmental societies and organise career days within each course in order to help with professional decisions.

- turn DB's into an acceptable,

friendly and pleasant place.

- allow post graduate Master students into the SCR.

- fight for better catering and more choice of foods.

- give each society and any student at Imperial College the opportunity of their own bar night.

And finally, do whatever I can to bring the Union decisions and actions to all the students and not to a selected few boring and permanent faces. Everyone will be welcome to come and propose changes/actions. After all, this is still a democracy.

Diogo Geraldès didn't attend his interview because he was in Portugal at the time

Edward Hughes



I started Union life dedicated to enjoying things like sports and music. After three years, not only do I continue to enjoy everything I can, I now hold positions of responsibility on committees I feel strongly about.

Imperial College is well known for producing graduates of the highest academic standard. However, many graduate without enjoying a fraction of what Imperial's Union has to offer. It's the President's responsibility to fight 'Imperial Apathy' in every way possible. People need to realise that Union activities aren't just great fun, but

vastly rewarding. We need to regain our community spirit and common identity; people should feel compelled to support fellow students at their events.

Students need a voice to speak up when they have academic issues and, more importantly, to know that the Union will support them. As president, I promise to be that voice.

ICU has lost its' way as a good night out, in fact most people are just not inspired by Union events. It used to attract people from all over London and it still should! If elected, I will strive to make the Union a better night out.

There are many issues to address - from passive smoking to the pitfalls of a claim form, from beer prices to the bureaucracy minefield of ICU's constitution. Furthermore, I know the president isn't there to represent his/her views, but to represent all students. If elected, I will represent ALL students and their views to the best of my abilities.

What will you get from the NUS to make our membership worthwhile?

Imperial's not your typical university; it's not going to have the same needs etc as other universities. We need to shape what the NUS does and how it works with us to our own particular needs and not make it a waste of money for us.

Do you feel you're truly representative in your views of the student body, or do you think you're too closely associated with a clique?

I think this is probably the strongest point to my campaign. I'm someone that's met a lot of people at Imperial. I've played football and rugby and met a lot of sporty people and I'm also heavily involved in the musical side of Imperial. I sing in the choir and play in the IC Symphony Orchestra who I've organised and been on tours with.

A lot of people focus on the sports and forget about Imperial's excellent musical side, so I think I can represent both of their needs.

What do you think of the Beit Masterplan so far?

I think it's really good what Stephen Brown has done and that what we've done to daVinci's has made it more airy. I think it's taking a long time but when it's finished it'll be good.

Can you make dB's a credible venue and how?

I was speaking to a postgrad who said they used to have comedy nights in dB's that were packed out and I think it's something that needs to come back. I think the venue is alright at the moment, it just needs to be marketed better. If you get people to one or two of the Union's event they enjoy the events on offer; not much is required to change the venue.

Live! has described "an entrenched attitude that certain things are operational issues", which prevents elected officers getting things done. How would you tackle this to push through the changes you want to make?

As a person I like to talk to people face

to face. There is far too much bureaucracy at Imperial but I see the need for it - Imperial needs to be legally sound - but there's lots that can be changed. The room booking system is horrendous. It gets backlogged and backlogged and I think it would be great to get an online system.

Also, I think many candidates have policy-after-policy-after-policy when really you're there to represent the students' views and as President, you're not just there to push through loads of policies.

On what timescale can we expect your promises to be delivered?

I don't have proper policies, I just have who I am and what I'm about and what I want to happen, so I'd say straight away. As soon as I get in I'll be changing the Union for the better in the ways I set out in my manifesto.

Where do you stand on the Higher Education funding debate?

I'm not sure it's an entirely relevant question as the President is representing the students' views and I will

be fighting for their views regardless of mine. However, personally I think top-up Fees are terrible; I don't want students to be paying more money. I think we're suffering because the government wants so many people to get degrees.

What do you think about the Union's current regulations governing the student media?

I don't know the facts so I can't give a complete answer, but I think it's very sad our Union is preventing the student press from giving the students the news they would like to have. But at the same time, you can't slander people and you can't jump down the staffs' backs. Overall I'm more liberal on this; there should be more freedom of speech than there is.

Are you Ken or Boris?

Boris.

Political Hack or Corporate Sell-out?

I don't think I'm either. Definitely not a Political Hack, so the other one.

Jon Matthews



College will be going through a period of great change next year with a new Rector, we need a President with both the experience and ability to work with him in order to make sure these changes are right for students. I have experience and proven ability at every level of the Union from club officer to Union committees to Council and then as Deputy President (Finance and Services) last year.

With the College facing great changes, the Union needs to move forward too. We need officers prepared to lis-

ten to students and fight for their interests, not pursue individual agenda. I believe there are important things to be done this year, including:

- An open review of our NUS membership culminating in a free and open referendum.
- Negotiating a fair space agreement with College including more poster space for student activity.
- Getting discounts from local shops and businesses with only an IC card.
- Improve our training and service to all clubs and societies including cheaper prices for club bar nights.
- Working for funding for all FUs

to have a full time president over the summer.

• Making the Union more open and accessible with clearer communication; to serve our members, we must first listen to them.

• Aiming for Cask Marque Accreditation within the year.

You cannot elect a President on these few short words but my full manifesto is available at <http://votejonmatthews.blogspot.com>.

Vote Jon Matthews for the change we need and you deserve.

What will you get from the NUS to make our membership worthwhile?

I personally have reservations with regards to membership with the NUS. We're paying an astronomical amount of money. One of my big manifesto pledges is an open and clear review – as soon as my term starts – of what we're getting from the NUS and then to ask the question: is this worth it? Ultimately, this would lead to a referendum.

Do you feel you're truly representative in your views of the student body, or do you think you're too closely associated with a clique?

I'm not associated with any clique. I live in halls; that gives me a very broad spectra. I'm a member of ACC/RCC/SCC/RSM clubs and a Guilds one too.

Past associations shouldn't matter. You listen twice as much as you speak and provided you do that, that's how you represent people.

What do you think of the Beit Masterplan so far?

It's been fraught with difficulties right

from its inception. The first stage ran way behind. People are saying the second phase will be delivered on time but College can't deliver their projects on time. Pretty much no one can in the UK because you cannot – by law – charge penalties.

The Masterplan has got to be flexible. We can't operate a plan set four years ago and follow it religiously.

Can you make dB's a credible venue and how?

dB's is a difficult situation. The space is badly organised. We can't change it in Phase Two because the funding won't pay to renovate a commercial venue.

When dB's is packed, it's not a bad venue. It looks horrible, but we turn the lights out and it looks slightly less horrible. To make it a good venue, it's a long term project and we don't have the time or the money.

Live! has described "an entrenched attitude that certain things are operational issues", which prevents elected officers getting things done. How would you tackle this

to push through the changes you want to make?

The two words I most hated to hear when I was a Sabb last year were: "that's operational." The first thing I'd do is ban those words from being uttered.

Last year I didn't always follow the correct chain of command because [I had to communicate with a long list of people]. Instead I just sent an email to the person that needed to do it.

The rules are needed for problems of conduct, but for minor changes they need a less rigid interpretation.

On what timescale can we expect your promises to be delivered?

There are a lot of promises in my manifesto. Some are quite quick, others might take longer than a year. Change takes time. There are points in there that I want to start the change I'm not going to be able to complete; but I'm going to start everything. And that's the key: some things in there are changes in culture and those take time.

Where do you stand on the Higher Education funding debate?

Jennifer Morgan



As RCSU President this year and Welfare Officer last year, I've got a strong record of delivering for students and a wealth of experience. In all my roles in the Union I've focused on deliverable outcomes rather than bureaucratic processes, and if you elect me as President I'll continue to do so. This is what I want to achieve for you:

- Make the Union a place where you want to drink, eat and dance. I won't raise drink prices.
- Deliver the Union refurbishment on time and on budget, in an environ-

mentally friendly manner.

- Provide sexual health testing on campus.
- Simplify online club finances and give clubs more staff contact time.
- Reform the Union room booking system.
- Keep you and your property safe. Currently some main outer doors can be forced open in halls and this is unacceptable.
- Hold College to its promise to provide all first year students a place in halls.
- Push reform of the NUS to make it more effective and better value for

money.

- Make the voices of Imperial students heard on the national stage during the Education Funding review.
- Ensure the GSA has the support it needs to deliver for postgraduate students.

• Support Faculty Unions and the RSM because they fill a vital social and representative role.

Find out more by searching for my group on Facebook and even if you don't vote for me first, please think about giving me your second preference vote!

(Campaign supporter Alex Guite spoke on behalf of Jennifer Morgan due to family circumstances)

What will you get from the NUS to make our membership worthwhile?

That depends on whether the reforms go through at the next NUS Conference. If they do, she'll want to see whether they're just reforms on a piece of paper or whether they're actual institutional reforms. Then she'll be able to assess if it's worth £44k. If they don't, I get the impression she'd be looking at either a review or a referendum. She's certainly a sceptic.

Do you feel you're truly representative in your views of the student body, or do you think you're too closely associated with a clique?

A lot of Jen's Union experience comes through the RCSU, but she's also been involved in ICRadio and bowling. Plus she's still very much involved in and the Biology and BioChemistry DepSocs. I think she would say that, yes, she's been associated through the RCSU but

she's proved by being a Faculty Union President that she has a very wide experience of the whole Union.

What do you think of the Beit Masterplan so far?

Sorry, I haven't really spoken to Jen enough on that one.

Can you make dB's a credible venue and how?

It's twofold: it's about the redevelopment and making sure students have they're say on what we get out of this refurbishment. It's not simply good enough to look at the physical fabric of the building but also the entertainment offerings.

Live! has described "an entrenched attitude that certain things are operational issues", which prevents elected officers getting things done. How would you tackle this to push through the changes you want to make?

The thing she would rate most importantly is your management style and how consensual you are and often I get

the impression [the term] "operational" is used as a way of defending areas within the Union. I think Jen would say it's about the way you approach people; if you're aggressive people are going to be defensive and they're going to put up obstacles.

On what timescale can we expect your promises to be delivered?

Some of [her manifesto points] are clearly going to be works in progress such as the Union redevelopment, but some things she'll definitely want delivered in her term are: a sexual health testing clinic on campus; reforms of the Union room booking system; a resolution on security problems in halls; and to make sure students' views are heard on a the national stage in the 2009 [Top-up Fees] review.

Where do you stand on the Higher Education funding debate?

It's all about keeping the cap and I think she'd be in favour of variable funding for different institutions so research intensive places like Imperial get more money.

Does she believe in free education or just keeping the cap as it is?

I think she'd say free education is a nice ideal but she's realistic about the prospects of that and how you achieve it.

What do you think about the Union's current regulations governing the student media?

I think she would want to look again at the regulations again and what I do know is that she is a principle supporter of a free press. During my time as Broadsheet Editor she's allowed me to print whatever I wanted and I don't think the student media is going to get much interference from Jen. It's not really what she's interested in. I think you'd certainly get a very sympathetic ear from Jen.

Are you Ken or Boris?

She's Ken, no doubt about it

Political Hack or Corporate Sell-out?

I think um... I don't think I can answer that one.

UNION PRESIDENT

Luke Taylor


What will you get from the NUS to make our membership worthwhile?

I can't see much gained from the NUS so far apart from the obvious NUS Extra cards and legal advice on Constitutional changes we've had to make. But at the moment it's hard for me to say what we gain because I haven't had access to what the NUS provides.

When we go to the Annual Conference we need to make sure that the NUS' structure is shaped to something Council feels is a worthwhile structure.

Do you feel you're truly representative in your views of the student body, or do you think you're too closely associated with a clique?

I may well be closely associated with the sports side of things having been ACC Chair but I have also been involved in the welfare side of things as year rep in Aeronautics.

At the start of my campaign I spoke to many different people from all backgrounds to ascertain whether I had any support whatsoever. I found that the

My manifest is very simple; I intend to bring a new wave of common sense leadership to ICU, whilst ensuring that the correct procedures are in place to maintain an effective Union administration. Too often great plans, new clubs, events and initiatives are stifled by Union bureaucracy and individual incompetence, and I promise to instigate a more common sense, 'can-do' attitude to Student Politics than has been done in the past. There are no metrics I can promise you for this, but my approach in Chairing the

backing came from generally active students rather than just [sport clubs].

What do you think of the Beit Masterplan so far?

So far there have been successes and questions over whether it's value for money. I realise the first phase was mostly influenced by regulations over disability access and things like that and so there wasn't so much of a scope to give benefits to all students. With the phase two there are much more tangible benefits to all the students such as the new Student Activities Centre, the gym changes and new dance studio.

Can you make dB's a credible venue and how?

dB's is currently a very credible venue. A good night out isn't entirely dependant on the venue rather the quality of the entertainments and crowd. People get too hung up on the fact that the facilities aren't first class, yet on a Wednesday nights 500 people have a fantastic time.

When the opportunity does arrive to refurbish, we need to make sure we

ACC over the past two years, and being treasurer for the Rugby club has always been based on common sense and 'can-do' rather than endless rhetoric and pontificating.

Elect Luke Taylor as President and I will;

- Ensure that we get value for money from NUS. Initially a cynic and supporter of the No campaign in the referendum, I will fight to ensure that we receive the required support and services for our money!

- Continue my existing work with College on developing the Sporting opportunities available to students,

make use of the consultation period as much as we can to nail down what we want, first time around.

Live! has described "an entrenched attitude that certain things are operational issues", which prevents elected officers getting things done. How would you tackle this to push through the changes you want to make?

My manifesto reflects my 'can do' attitude to politics. My major change to the role would be to apply common sense rather than hide behind regulations.

It's important to have accountability but you mustn't hang someone out to dry if they make a genuine effort at something and it doesn't go quite as well as planned.

On what timescale can we expect your promises to be delivered?

I think the promises are for your term. You cannot go about changing the way things are done overnight.

You may make promises that ultimately aren't achievable but as long as you are doing the best you can, you

and making this task a much larger part of the remit of the DPCS than it currently is.

- Push through Phase 2 of the Union redevelopment, ensuring that environmental questions are answered, and that the facilities are fit for purpose, i.e. a Students Union, not an office block.

- Ensure proper representation for Postgraduate students after the farce that was the GSA this year.

Remember, Vote Taylor '08 for a Positive Change!

shouldn't be pulled up for not delivering on one of your manifesto points.

Where do you stand on the Higher Education funding debate?

It's madness to campaign for free education now. Personally I think it's important and sensible to keep the cap.

What do you think about the Union's current regulations governing the student media?

It's important the SSP is in place. I've not had extensive day-to-day dealings with it but as I see it, it's too unclear.

Maybe the relationship between the Sabb team and Felix hasn't been good enough to allow a reasonable conversation about what can and can't be printed, which is as I see it, why last week's Felix came to fruition.

Are you Ken or Boris?

I'm a Ken; he makes things happen.

Political Hack or Corporate Sell-out?

Pseudo-hack: I know the lingo but I'm not entrenched in the political games.

Voting open: www.imperialcollegeunion.org/vote

Greg Mead



I'm Greg and I've been working for Felix since my first year in 2004. I've edited music and nightlife sections for the past three years.

This year, I'm proud to say I've been involved in what I believe has been the most successful and consistent Felix during my time at Imperial but that being said, things can always be improved. My goal would be primarily to increase the student participation in the paper as at this time almost all the editors are in their final year so it is essential to attract new blood to maintain the current quality of articles.

Currently I believe medical students for one are under represented in Felix, and one of my campaign points will be to improve this, not only by printing and delivering more copies of Felix to the medical campuses but by creating a new section and editorial position for medics.

General student participation can be greatly improved if Felix taps more into the valuable list of contacts that has been built up over the years, who are more than willing to organise competitions, events and bar-nights for students throughout the term.

As a final point, every year the Felix

editor candidates promise to rebuild the website, I have real experience in this field and can actually make this happen. I will create a fully working site before the end of the summer, with student access to all past issues of Felix since 1949. Visit <http://votegreg.blogspot.com> for more details on these points.

Jovan Nedić



I'm Jovan, the current sports editor for Felix. I've seen Felix go through several reincarnations; from Dave Edwards' sensible year, to Rupert Neat's controversial, yet highly addictive issues, to Andy Sykes relaxed issues. This year I believe Tomo has managed to obtain a good mixture of all three, but I believe that it can still be improved. Cosmetically, very few changes will be made in order to maintain Felix's identity. However, in terms of content, changes will be made, with Coffee Break being brought back properly along with all it's comedy writers and more Page

3. Competitions and prizes will be returned to encourage student participation, particularly for the Sports League, crosswords and puzzles.

he serious side of Felix, however, will not be sidelined. The news will range from the hard hitting to the light hearted, comments will give the opportunity for people to express their views, but most importantly, I want students to think of Felix as the place to turn when no one listens to them about college problems.

My main aim however is with the internet.

- I want current issues to be online

before the next issue is released.

- I want to develop the website so that reviews can be easily stored and accessed

- I want to begin to digitally archive previous editions, beginning with the very first issue of Felix, so that people can see how students views have changed.

So if you like what you hear, vote for Jov.

FELIX EDITOR

DEPUTY PRESIDENT CLUBS & SOCIETIES

John James



I am studying Civil Engineering and am currently in my third year. I spend most of my time maintaining the RCS and RSM motorised mascots, after being Chairman of RCSMC for two years. I am a member of Choir, the University Royal Naval Unit, and in my time at Imperial I have been across the channel with Yacht Club, helped to found Cheese Society, and been Vice Chairman of RAG.

I have attended council since my first year and I have attended Clubs and Societies Board, Health and Safety Committee and Exec. Having taken a

year in industry, I am committed to working above and beyond forty hours a week and being Lord Mayor's Show Coordinator has shown that I am no stranger to big events.

If elected I will:

Hold a Refreshers' Fair in the spring term. This will give students a second chance to join summer clubs such as cricket, and also to reflect on which clubs they really want to be members of after the chaos of the first term.

Hold an Inter-Faculty Sports day. This will strengthen Faculty Union relations while promoting a healthy competitive rivalry. I will support Faculty

Union autonomy in providing sporting activities that their members can get involved in.

Introduce Fast-track finance training. An online finance test for club officers would unfreeze their budget without the need to attend finance training. Only Officers who fail the test would need to attend training.

For all twenty-five reasons to vote John James visit www.votejohnjames.com

Jess Marley



I'm Jess Marley, a final year Maths student from Cardiff! I have been elected as Netball Club Captain for the past 2 years and have represented the Union for the 1st team, and take an active role in the social side of the club. I was also a Re-App at Fisher Hall last year.

In my role as Netball Club Captain, I've gained valuable experience of how clubs and societies work and what Club Committees in particular need from their Sabbs and other Union officials. This has given me a great understanding of what general members of clubs and societies expect to gain from

the Union, whether they're students who take their club very seriously or just want a bit of fun and to socialise with new people. During this time I've built a solid working relationship with the members of the Sport Imperial team. I feel this relationship is very important because the role of DPCS requires strong links with the department to obtain maximum benefit to both parties.

As DPCS I intend to:

- Work for ALL members of ALL clubs and societies in OUR Union
- Improve the link between our Union and Sport Imperial

- Re-assess the way new clubs and societies are formed

- Give clubs and societies more opportunity to promote themselves

- Fight to retain free gym and swim facilities for all students

- Bring competence and consistency to our Union

For an organised, well managed and fun Union – VOTE JESS DPCS!!

Lily Topham



I've always been involved in a wide range of clubs, including ACC Dance, Dance Company, Medics Music and Choir. I've been on the committees of Medics Music and Dance Company for two years and been the chair of Artsoc and Dramsoc. This year I've also been the Social Clubs Committee Chair, looking after lots of other societies, as well as sitting on central Union committees such as the Clubs and Societies Board, Council and the Executive Committee.

During my time as a club officer and through working in the Student Ac-

tivities Centre for 4 years, I've come face-to-face with a lot of the things that frustrate clubs. I would develop an online room booking system for checking room availability and booking College rooms, making life much easier for clubs.

Club finances can still be a major source of confusion. I would ensure that club officers don't get their budgets frozen without warning and that they have adequate access to Finance Support staff. I would push for more part-time staff to help ensure that the online transaction pages are up-to-date and would have ongoing club training

throughout the year.

If elected, I would make changes that would have a real difference for the clubs and societies at Imperial, the students who put so much time and effort into running them and the students who participate in club activities. No gimmicks, just real, practical things.

I also promise to ensure there is a working bike pump attached to the Beit bicycle racks.

DEPUTY PRESIDENT FINANCE & SERVICES

Christian Carter



Elect me as DPFS and I will:

- Be available to you in SAC every Wednesday afternoon for club surgeries.
- Improve, update and modernise Finance training.
- Address the hygiene standards of Union Catering.
- Aim to replace equipment in the bars which is not fit for purpose.
- Keep drinks prices to a minimum.
- Introduce a tiered wage system for bar staff.
- Aim to lower ents prices to Union events.
- Introduce better communication

of the catering and bars opening times with the students.

- Give you a summer ball that you want.

To see my full manifesto go to <http://carter.for.dpfs.googlepages.com/>

Voting open: www.imperialcollegeunion.org/vote

DEPUTY PRESIDENT EDUCATION & WELFARE

Ryan Dee



Any person who runs for DPEW needs to really care about their fellow students' welfare. The role is about helping to remove the barriers, be they financial or emotional, which stop students doing their best while at Imperial. It is a role I would really love to take on, not for some power trip, but because I enjoy helping my peers.

I've had some difficult times while at Imperial and have benefited from the support of my fellow students and the welfare services the College and the Union have provided. There is always

room for improvement however. For example, we need personal tutors who have an interest in student welfare, who receive more training and who are proactive in making sure students feel comfortable to come to them with problems.

Money's always a worry for any student which is why I want to review the pricing of halls, make it easier for students to find appropriate jobs and look at improving uptake of bursary schemes. Promoting good health is important as well by, for example, improving bicycle facilities.

As president of I.Q. (the Union's

LGBT society) last year, I was able to be directly involved with students' welfare. It was great to see that I was helping to make other students' time at Imperial a happy one. I've enjoyed getting involved with our Union and I hope you will give me the opportunity to stay involved and to improve the quality of life for Imperial students. Vote Dee for DPEW.

Hannah Theodorou



Over the past four years I've become a familiar face around the union; I have driven Felix editors mad with my hazardous editing skills, worked with previous Union Presidents and DPEWs on 'Greening Imperial', culminating in a new Environmental Policy and an annual Green Week and helped organise events such as the 1st Ethical Careers Fair. I have also sat on Union Council and the Representation and Welfare Board in my role as Welfare Campaigns Officer.

As DPEW, I'd be an approachable

and friendly port of call for students. I'd like to:

- Work with college on training of personal tutors to make sure students are receiving a universally high level of support and advice.

- Involve more clubs and societies with the running of Welfare Campaigns including SHAG and Healthy Living weeks.

- Trial a new mums and dads scheme during freshers week, linking older students with younger ones so advice and resources are shared throughout the years and to help newer students integrate quickly.

- Improve links between year and departmental educational reps so that important issues filter up to the level of the Union and onto the College.

- Continue Kirsty's Welfare pages in Felix on academic and welfare issues including advice on finance, health, student life and the network of student support services that are available around college.

Next year, when not in college meetings, my door will be open for students to come in and share any ideas and concerns over a cup of tea!

RE-OPEN NOMINATIONS (Runs for all positions)

RON Weasley



So, I've just been disturbed from my slumber by those fools in the Union who beat me in the elections this time last year. They're expecting me to be RON again this year after the humiliation I endured losing to them?

Unfortunately, in paragraph 4, line 32 of the Student Stupidity Protocol it states: "All RON mascots are obliged to campaign whenever the Union sees fit, lest they suffer deformation of their personage." My red locks are far too precious! Alas, The Weasley is forced to return.

Anyway, this year's bunch of wan-

nabes are just as useless as last year's candidates. If you like any of them, take a long hard look at your life and consider rehab. If you don't like any of them vote RON in the elections – it makes sense, you probably just don't know it yet.

If you vote for The Weasley not only will I ensure Phase 2 of the Beit Redevelopment is delivered before my term has even started, I'll add three more phases to the Masterplan including: rocket boosters under Beit Quad so that it levitates 50m off the ground, the entire demolition of the West Basement with Australia as a replacement

and our very own star to ensure a regulated temperature of 18.89 degrees Celsius throughout the Union. All without breaking a sweat.

As for Felix: burn it all. Every student will be given an owl or flying squirrel which will tell them the horoscopes or whatever they want on request.

On a serious note: You can vote for RON if you don't think any candidate is suitable. RON runs against all the candidates and electing RON will restart that strand of elections only.

You've read the Sabb manifestos, now vote!
www.imperialcollegeunion.org/vote

Student Trustee & NUS Delegate Manifestos



STUDENT TRUSTEES (2 posts available)

Voting open: www.imperialcollegeunion.org/vote

What are Student Trustees and what are they for?

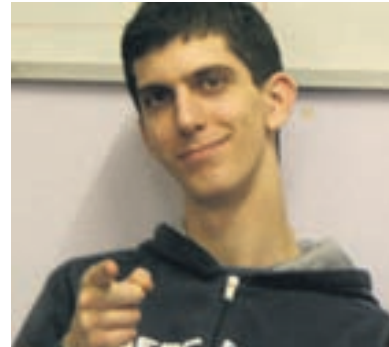
Student Trustees sit on the Trustee Board in order to represent students at the highest level of governance in the Union. The Trustee Board provides legal and financial oversight to the Union. They control the Union's overall strategy and ensure that the Union does not expose itself to legal misfortune, or do anything stupid. Student presence on this board is extremely important with the imminence of the Beit redevelopment masterplan.

Jaimie Henry



A little about me: I'm a first year Medical Student, and I'm involved with various Clubs and Societies including being Treasurer of MedDebate Soc and I also have show on ICRadio. The Trustee Board may seem a less exciting Union role, but it's no less important; I'd give it all the commitment and dedication it deserves to ensure good practice and student concerns are foremost in the mind of Trustees. I may be "fresh faced" to University politics, but that might not be a bad thing- it means honest and open representation of students is something I can guarantee.

Kadhim Shubber



The Trustee Board requires members that are hard working, strong-willed and most importantly that have a vision for the Union. I am all of these things and much more. My vision is that the Union should be transparent, financially sound and efficiently delivering what students want. As you can sense, I do not believe the Union is currently these things, as Student Trustee I will strive to bring credible and noticeable change to the Union, as well as making sure that students are better informed about the workings or indeed failings of the Union.

NUS DELEGATES (8 posts available)

Voting open: www.imperialcollegeunion.org/vote

What are NUS Delegates and what are they for?

ICU's Delegates to the NUS Annual Conference 2008 will be voting on the radical restructuring of the NUS that caused controversy last year. The students that are elected as delegates essentially act as puppets controlled by the ICU Council, and must vote as mandated by Council Policy. This is to ensure that ICU NUS Delegates act according to the will of the entire Imperial student body, not according to their pet interest.

However, at a time when the future of the NUS is hotly debated, the only outcome of the coming conference is likely to be the ratification or rejection of the restructuring; ICU is still uncertain as to whether it wishes to be affiliated with the national institution. Never before has the ICU delegation been more important to the NUS and to the Union

Luke Taylor and Salman Waqar failed to submit manifestos

Ashley Brown



The fact is, Imperial's delegates have to vote how they are told to vote, so you can't really pick us based on our beliefs. All our delegates have to vote for the reforms currently proposed to drag this creaking, ineffective and poor 1970s organisation into the 21st century. As editor of an award-winning news site last year, I'm in an excellent position to come back and tell you whether the NUS is worth our time or money, or if it's still as useless as it has been for the past decade. Send someone who'll tell you if we're wasting £44k.

Victoria Gibbs



I voted no to joining the NUS because I could not see that the £44,000 a year fee was justified. In fact, even after attending the NUS Extraordinary Conference last term, I am still dubious as to where the students of Imperial are benefitting.

However I really want to represent Imperial at conference because I think that we need to contribute to and get as much out of it as we can. I want to help Imperial students see results from Conference. This is a huge task but it starts by improving communication between the NUS delegates and the students.

Liz Hyde



Following some great comedy, but awful debate, at the NUS extraordinary conference last December, I voted and saw the passing of the Governance Review. I want to see this voted through again. I want to be there to vote it through. Imperial deserves better than the current NUS farce. Students deserve better. Without the governance review, this won't happen and it will continue to be a playground for aspiring socialist hacks and their 'free pet care for students' motions. The NUS should deal with student issues, not students creating them, so vote Liz for the sensible found at Imperial!

Chris Larvin



Each year we spend £44,000 of our subvention in affiliation fees to the NUS and it's very hard to quantify what benefits we receive from this considerable sum. It is important ICU gets value for money by attending conferences and giving input, where appropriate, on issues that affect Imperial students. The students at Imperial are often special cases in that they are studying science, technology and medicine that live and study in London. I don't care for anti-war or other Trot motions; I just care about the motions that affect Imperial students, so vote Chris for NUS delegate.

John Matthews



The NUS claims to speak for us, but they can only when we tell them what we want them to say. With guidance from Council on which way to vote, some may question what difference it makes who is elected to form the delegation. There are few motions on which delegates must vote a particular way, but many where a delegate can vote differently with just cause. We need to elect delegates that will maintain the interest of Imperial students and work to ensure that the NUS works for us and delivers what we need.

Jennifer Morgan



NUS Conference 2008 is the most important conference in a generation. Fundamental changes to the way the NUS works will be debated and if passed will represent a major reform of the organisation making it less likely that financial crisis and political irrelevance will prevent it from delivering for students. Imperial College Union has been one of over 40 Unions driving these reforms and I have been a strong supporter of this policy. For a delegate who will represent the views of Imperial students and report back on what happens in Blackpool VOTE JEN for NUS Delegate.

Kirsty Patterson



I have attended two NUS Conferences in the past year and am familiar with the procedures of the NUS. As a member of the NUS Working Group I am writing amendments for Conference based on research that I have undertaken. As a familiar face in the NUS I will gain support amongst other delegations to change the NUS into a union that is relevant to our needs and of greater benefit to our members in the future. I believe I am the Candidate with the most experience, the appropriate knowledge and the most influence. Mwu ha ha cough cough...

Camilla Royle



I'm a final year biology student who's also spent much of the last three years campaigning on various issues (anti-war/anti-fascist/women's lib/anti-climate change etc). I oppose the new NUS governance review because I think it diminishes many of the democratic structures that make it possible for ordinary students like me to go to conference in the first place. The way to improve the NUS is to get more students involved and run campaigns that people care about so we want to stay affiliated not to cut back on activism. Vote for me to represent this alternative point of view.

Rosie Smithells



The Union operates a 'whipped vote' – meaning the way delegates vote on important issues to Imperial Students has already been decided by NUS working group and ultimately Council – I'm a member of both.

Whilst at Imperial I have been a Re-app, a member of several clubs, ICU senior bar staff and RSM Treasurer; I'm in touch with student issues so can vote sensibly when the vote is 'free' and give real feedback on the conference.

I voted 'NO' to the NUS but feel if we must be a part of it then we should maximise the benefit for our students.



VOTE **JON MATTHEWS** FOR **PRESIDENT**

Manifesto: <http://votejonmatthews.blogspot.com>

AN ACCOUNTABLE UNION THAT LISTENS AND WORKS FOR YOU

The Union is **YOU**, the members. All too often it seems that this is forgotten, Sabbatical Officers serve you; you elect them and you can remove them, it is their job to do what you, the Union, need. I have seen the goings on of the Union from the inside and at the highest level and know where we are failing. There are many ways we can do things but the best way is to forget the politics and the personalities and just work together to do the right thing.

Next year will be critical for the College with a new Rector. The right president can achieve great steps forward for the Union by working with the new Rector from day one. We need to negotiate and compromise without losing our independence or alienating the very people we need to get agreement from. I have the experience of working with College and can make these changes. I have been a Sabbatical Officer and know how much the job entails, I know that give and take is required with College, and know that we can work together to improve things for you, their students and our members.

We need a President with genuine experience, we cannot afford to be left behind as College makes dramatic changes in the coming year.

You cannot elect a President on a few short words, please read my full manifesto or email me at jgm99@imperial.ac.uk for more information.

VOTE FOR GENUINE EXPERIENCE, ABSOLUTE DEDICATION AND PROVEN ABILITY

Vote online at imperialcollegeunion.org/vote from 00:00 Friday 23rd to 23:59 Tuesday 27th February.

If you elect me president I will:

Conduct an open review of NUS membership culminating in a referendum.

Review the prices charged to clubs for bar nights, there is scope for these to fall.

Work for Cask Marque accreditation as part of improving our Commercial Services.

Negotiate a fair space agreement with College including more poster space.

Work for improved pastoral care in College.

Open up the Union by helping cut through the bureaucracy and red-tape.

Improve feedback so the Union does what you need, when you need it.

Work for a Union without private agenda, I represent **YOUR**, not my interests.

Vote Jon Matthews for the change we need and you deserve.

12 Reasons to vote Jen for ICU President



I'm a final year biology student and have been involved with the Union for a while, last year as RCSU Welfare Officer and this as the RCSU President. I want to continue the work I've started to advance, extend and defend the rights of every student at Imperial.

1. Make the Union a place where you want to drink, eat and dance. I won't raise drink prices.
2. Deliver the Union refurbishment on time and on budget, in an environmentally friendly manner.
3. Provide sexual health testing on campus.
4. Simplify online club finances.
5. Give clubs more staff contact time.
6. Reform the Union room booking system.
7. Keep you and your property safe. Currently some main outer doors can be forced open in halls and this is unacceptable.
8. Hold College to its promise to provide all first year students a place in halls.
9. Push reform of the NUS to make it more effective and better value for money.
10. Make the voices of Imperial students heard on the national stage during the Education Funding review.
11. Ensure the GSA has the support it needs to deliver for postgraduate students.
12. Support Faculty Unions and the RSM because they fill a vital social and representative role.

Vote **Jen** at www.imperialcollegeunion.org/vote from **00:00 Friday 22nd until 23:59 Tuesday 26th Feb**

VOTE CAMILLA! Delegate to NUS conference



Opposition to NUS governance review- for a democratic, campaigning union that keeps its members involved

For free education- more action against fees and for bursaries to be paid in full

Opposition to fascism- No platform for the BNP on our campuses

No to ID cards for students

For a woman's right to choose on abortion



Student Respect at last year's conference

Vote online
00.01am 22nd to
23.59pm 26th Feb
www.union.ic.ac.uk/vote

Email:
camilla.royle@ic.ac.uk
Facebook: Camilla for
NUS delegate

Vote John James
deputy president clubs & societies

Vote online at
www.imperialcollegeunion.org/vote

Reason #1
A Refresher's Fair in the Spring Term

Reason #6
Fast Track Finance Training

Reason #19
More Flood Lights at Harlington

Reason #23
Display Club Photos in DaVincis

For more reasons to vote John James visit
www.votejohnjames.com

voting opens at 00:00:00 Friday 22nd Feb and closes at 23:50:00 Tuesday 26th Feb.
Meet the candidates at hustings on Monday 18th 12:00 in the JCR and
Thursday 21st at 18:30 in dB's.

Live!
live.cgcu.net

"A place where students
come to communicate"

Steve Herrmann
Editor, BBC News Interactive

Election news, gossip & results
on Imperial's award-winning news website

Imperial College
London

☆☆ SECOND ROUND RECRUITMENT ☆☆



Student Associates Scheme (SAS)

Support secondary school Maths, Physics or Chemistry in London

What does the scheme entail?

- ★ Undergraduates/Postgraduates undertaking a 3 week placement in June/July in a school/college
- ★ Working alongside experienced teachers and assisting in classroom teaching
- ★ Groups of up to 10 students can be placed in one school
- ★ Placements arranged by Exscitec



What are the benefits of the scheme?

- ✓ Receive a £600 tax free bursary for completing the 15 day placement
- ✓ Receive a free CRB Disclosure check
- ✓ Have something different for your CV
- ✓ Develop new transferable skills and communication experience
- ✓ Gain first hand experience of what a career in teaching involves

For more information or to apply contact Sarah Cooper:

sarah.cooper@exscitec.com

01730 235683

Links : www.tda.gov.uk / www.imperial.ac.uk/outreach / www.exscitec.com

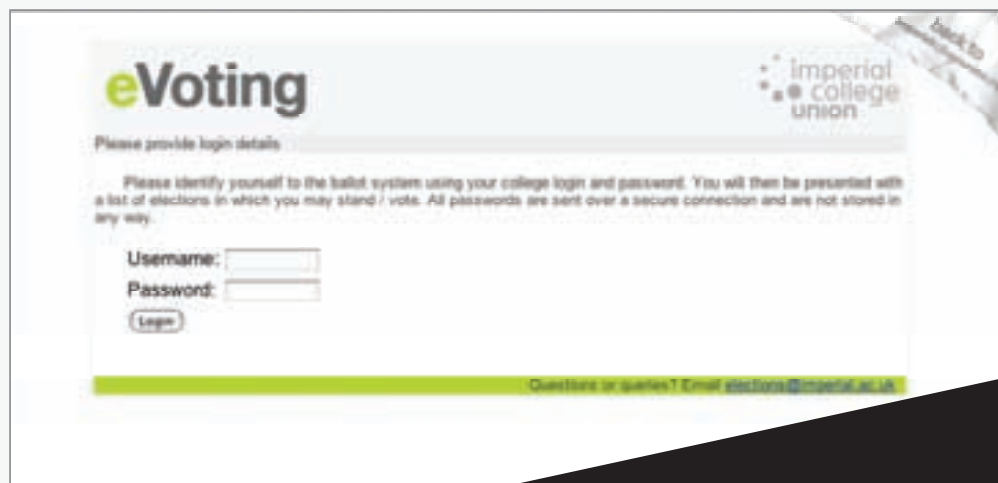
Pre-requisites : A- Levels in Maths, Physics or Chemistry



eVoting

is online and easy!

imperialcollegeunion.org/vote



sabb!
elections 08

VOTE!

Vote online for next year's Sabbatical Team,
NUS Delegates and Student Trustee

Voting Opens

Friday 22 February – 00.01

Voting Closes

Tuesday 26 February - 23.50

imperialcollegeunion.org/vote

imperial
college
union

President's Update

Sabbatical Elections – Voting Now Open

Isn't democracy empowering? You've met the candidates and read their manifestos and now it is decision time. Voting is now open on the Union website and will close at 23.50 on Tuesday. Check out the elections coverage in Felix and then decide who you would like to run your Union next year. Our 8 NUS delegate positions are also hotly contested so have a quick read of their views and vote to decide who Imperial College Union will be sending to join me in the Dickensian squalor of Blackpool Wintergardens for NUS Annual Conference 2008 from 1-3 April 2008.

Even if your chosen candidate doesn't win your vote still counts!

So by now you have probably been harassed by several different candidates and having made an informed decision about who would be the best set of people to lead our Union next year you want to get on with casting your vote. Voting online is a very easy process and can be done at imperialcollegeunion.org/vote.

All Union elections are run using the system of Single Transferable Vote (STV) as recommended by the Electoral Reform Society as being the most democratic way of counting votes. I will not bore you with the intricacies of STV but should you wish to learn more there is lots of material available on the internet.

When voting you will be asked to rank the candidates numerically with the candidate you put a "1" by being your favourite. If your preferred candidate is eliminated then your second preference is taken in to account and so on and so forth. What this means is that it is important to assess all the candidates and ask your self the question "if X doesn't win then who else do I think would be quite good?" Remember, these elections are so hotly contested that some of the posts could be decided by transferred votes so please remember to indicate who you would like to win if your chosen candidate should fail. Re-open Nominations (dear old RON) stands fully seconded in all Union elections so if you think that all or some of the candidates are not up to it then you are free to put RON in your rankings as you see fit.

Vote in ALL the elections and get 50p for a club of your choice

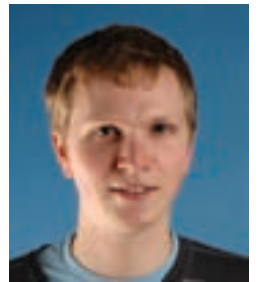
The Union is stronger with higher turnout in Officer elections so as an additional incentive for you to log on to the electronic ballot box you have the opportunity to raise a bit of extra money for your favourite society. If you vote in all the NUS Delegate, Student Trustee and Sabbatical Officer elections you get to allocate 50p to one of the Union's several hundred clubs. 50p might not sound a lot but it soon adds up if lots of you vote.

Officer and Faculty Union elections – Nominations Now Open

Nominations are now open for the following positions and will close at 0.01am on Monday 3 March.

Council Chair
RAG Chair
Community Action Group Chair
Equal Opportunities Officer
Welfare Campaigns Officer
Royal College of Science Union Officers
City and Guilds College Union Officers

The medics Faculty Union will be running their elections next term so if you are a student in the Faculty of Medicine look out for notice of the timetable later in the year. For more information about any of these positions email me at president@imperial.ac.uk and I will put you in touch with the relevant person.



Stephen Brown
President
president@imperial.ac.uk



Voting open now and runs until 23:50 Tuesday 26 Feb.

sabb!
elections 08

VOTE!

Administrative Assistant in the Chaplaincy

Casual Part-Time Work

6 hours/week/term time

£6.15/hour

For more information contact
Andrew Willson 020 75949600
www.imperial.ac.uk/chaplaincy





Comment, Opinion & Letters

Let us know your views: comment.felix@imperial.ac.uk

Letters may be edited for length and grammar purposes
Views on these pages are not representative of Felix



Gilead Amit

Sorry, but the computer ate my piece

I've never really had Computer Trouble. Granted, there have been times when I could have thrown the bloody thing out of the nearest window, followed it to the street with a large hammer and taken it apart, piece by blasted piece, but then again, haven't we all? Sure, I've sometimes been forced round in logical Mobius strips by nonsensical error messages urging me to perform impossible commands over and over again. Of course I've had hypertensive crises installing programs, uninstalling programs, reinstalling programs, re-booting software, and playing solitaire, but somehow it never really got to me. Until now.

I'm a fairly impatient person. I can take quite a lot of aggravation, but there comes a point when I go off like a 06:00 alarm clock in a neighbour's room. Not too many things have the power to make the vein in my forehead palpitate and turn burgundy, but it seems that the list is expanding. Until now, these nought-to-sixty transitions have been almost entirely the result of human interference. Irritating salesmen calling you during dinner, twisted media coverage of stories close to your heart and anyone with a handshake like a cold trout that's very, very dead. These special creatures, and a few others, really know how to pull my levers.

But now, it seems, there's something else on my list. For the last half hour I have been in a shaking white-hot rage unequalled since Pliny the Younger



Don't tell me you've never been tempted

looked across the Bay of Naples in AD 79 and briefly described what was happening to Pompeii. I wrote a full column just under two hours ago, and it has now vanished into the abyss of Vanished Documents.

Screw the Turing Test; this is the true yardstick to measure technological progress. If this deceptively sleek and annoyingly efficient pile of transistors can make steam come out of my ears, then artificial intelligence is not a myth. If this lump of metal and plastic,

forged together by Beelzebub himself in the heretofore undisclosed VIP-only eighth circle of Hell, can mess with my mind to this extent, I declare defeat.

Of course I've heard the disaster stories. Friends of mine have lost university applications through digital sadism, Mac-hiavellian torture has caused havoc in the workplaces of family members, and my grandparents continue to look on their new computer as a Satanic intruder into the quiet of their homes.

But I always expected that could happen. I saved everything compulsively (Ctrl+s). I copied things into e-mails and sent them to my gmail account (Ctrl+s). I read things out loud just in case they should get lost and I have to use key sentences (Ctrl+s) to help me write it out again. But now? With my disarmingly shiny new Sony laptop, a seemingly user-friendly Microsoft Vista, and the beguiling come-use-me interface of Office 2007, surely nothing can go wrong.

And that's when the bastard strikes. When I'm weak and helpless; sure that at last I have a device capable of responding to my every command, indulging my slightest whim. But no. No. You lower your guard for a second and WHAM. Document gone, software uninstalled, wireless multi-server hardware deprocessed (?). Sacrifices to the faceless God of Technology: Microsoft.

It wasn't a particularly brilliant comment piece; I'll admit that. But it had such potential. And now I'm supposed to smile, shrug it off, and write another five hundred brain-freezing, spleen-engorging, gut-wrenching, hair-pulling, vomit-inducing, sodding words. I won't do it. You can't make me do it. No. Way.

To be honest, this has been fairly cathartic. I can really see why columnists enjoy weekly torrents of abuse. I could make a habit of this. If my computer lets me keep the damned files for long enough.



Jellybean

Imperial: A fool's paradise?

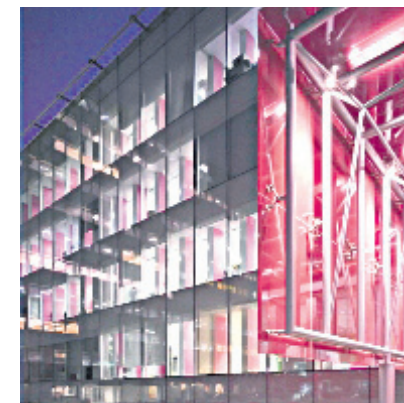
As any engineer will tell you, no matter how many calculations you do there is no substitute for experimentation. Mechanical engineers have the common sense, when designing containers for nuclear waste, to put them on trucks and drive them into the central reservation, put them on trucks and drive them into bridges, put them on trucks and, wait for it, drive whole trains into them just to see what will happen. For real. Civil engineers get the brunt of public (or at least my) mockery because it's harder to build a model stadium and test it out so you can realize that a little snow might break the roof, or that if you put

books in the library on an island you were supposed to have pdfs in it will sink into the lake. Oh, how I enjoy a good laugh at the expense of civil engineers. Testing is no doubt the only way to go, and you have got to enjoy being paid to fire dead chickens into a jet engine under the pretense of "engineering". Can we then continue calling things foolproof without genuine testing? Certainly not!

Now you will see the dilemma this creates for the market-leading companies wanting to prove themselves; how can they find genuine high-quality fools on whom to test out their products and can they legally do it without infringing on human rights? I know

that there are those who understandably stand firmly in the "I don't think we should kill the stupid people, just take away the obvious warnings (which now plague every surface I lay eyes on) and let the problem sort itself out" camp, but with people now suing their own pre-school children almost for sport, the shrewd manager is wary of doing anything out of the ordinary, least of all with someone who could conceivably manage to hang themselves with only a bottle of shampoo if left alone for 30 seconds.

But let's say they risk it. They have carefully constructed auditable trails of paperwork and small print to protect themselves and their children and their children's children to the nth generation and they are ready to bring in the fools. They still have a problem. In order to find these nutters they need an interview process. One that is able to weed out all the fake fools in it for the money and all the only partially stupid ones and leave the real cream of the crop ... or skin on the milk, or whatever the negative equivalent is. And they have to get them to apply. And then turn up. It's a logistical nightmare trying to offer a job to someone who would demonstrate that they weren't fit for it simply by accepting. Say you actually get them to the point of taking some form of test. Is "duck loins" a suitable answer to a simple maths question? Are they the words of a true fool, or a fake? I suppose the way forward would be to just funnel people off the street as they walk past and see if they get stuck in the revolving doors. Then



Bessemer building or giant pink penthouse?

the fool-proofing era would begin for sure, but it wouldn't take long before they needed an ISO standard for that thing. There is a standard for everything. E-v-e-rything. Maybe some form of institution to mould them to this standard would be needed. It would be a crazy and disturbing place; somewhere where the students were willing to challenge their core beliefs and the very nature of basic physical truths just to match up with the answers provided by the powers that be. I imagine to aid the degradation of the mind it would be strange architecturally too. I see some form of shiny blue cube, a pink penthouse, and a giant bean tin featuring. Thank goodness we are at Imperial and not being psychologically crafted to some standard by a bunch of whacked out power-crazed puppets of a morally corrupt culture ...

/// Thank goodness we're at Imperial and not being psychologically crafted into a standard bunch of whacked out power-crazed puppets... ///



The two-coloured Rubik's cube: Who do they think they're fooling?



A. Geek

A day in the life of a corporate sell-out

I had the misfortune of being in Canary Wharf the other day. Actually, that doesn't entirely explain it. I went to Canary Wharf the other day. I went to see A Bank. About A Job. I realise that as you flick through your Angry Geek scrapbook tonight and re-read past columns you may notice some intense frustration and anger towards those that hop on the Gravy Eurostar to the Cayman Islands. If I was the kind of guy who defended himself against things like hypocrisy, I'd probably tell you that the reason I went was that I felt honour-bound to see first-hand that which I hate so much, and that the fact that I didn't turn up to the following day's aptitude tests show this. But I could give a toss what you think, so I'm not going to.

In case you're interested, two things struck me about Canary Wharf and those that work there. First of all, it is completely cut off from reality in every way possible. Even within a single office building there are launderettes, gyms, banks, beds, bars, and the like. Canary Wharf itself isn't so much littered with high-risers as it is walled by them – they block out the unsightly smudges of London itself, unless you are so high up in one of them that the buildings and people just blend into part of the landscape below.

The second, and perhaps more worrying, thing I noticed is that no-one seems aware of this whatsoever. I stood outside the Reuters building for three quarters of an hour in the early evening, and I watched the traders, sellers, and support staff drink and make merry like they were in a Hollywood film. The reason they don't miss the world outside is because this *is* their world – but that doesn't bother them. They've grown used to it, and now it's all they need.

I don't know why this hit me in the



Mmm, I love the sight of skyscrapers and the smell of briefcases in the morning

// these people have learnt to live with it, and they feel none of the remorse or regret that I wished upon them whatsoever //

way it did, but there was something immediately jarring about it. I couldn't bear the thought of returning to the Wharf after having left it, because it made me feel cold inside: as if one of the enormous what-are-these-guys-compensating-for-anyway skyscrapers was harbouring the Eye of Sauron at its top. Yet despite all of my reservations, these people *have* learnt to live with it, and they feel none of the remorse or regret that I wished upon them whatsoever.

Back at University, I'm currently undertaking a project sufficiently large so as to make weekends more or less a nonentity, a phenomenon familiar to anyone reading this, I'm sure. Clearly, no Maths students read this anyways. It dawned on me the other day that the project was progressing in a depressing cycle. I would reach something that

hadn't been explained. I would ask a staff member, who would demonstrate the concept for me. I would take down what he said, and then move on to the next thing that hadn't been explained properly. It's not that I wasn't *learning* anything. After all, I learnt what he told me. But when you put phrases like, "fifth best in the world", "masters of science", or, you know, "engendering a sense of discovery and enlightenment amongst the most talented young individuals in the world", then the idea of using a Professor as an extremely slow alternative to Wikipedia seems not only to be taking the piss, but loading it into a piss-cannon and pissing it right back all over my face.

So. It's election time down at Imperial and people want you to be enthusiastic all over again. The first years might still care, but I sure as shit

couldn't. Not just because I've gone and stared into the abyss, and had the abyss stare back at me, but because *fuck me*, what's the point? What do you care if someone wants to make the blades of grass on the Beit Quad lawn greener? You couldn't give a shit, that's why people are so apathetic about their future – the present is too dull to keep their attention.

I'm not a fan of one of the candidates. So the plan this week is simply this – don't vote. Don't vote, and try and get their attention that way. It doesn't work if you vote a tit in. It doesn't work if you vote a minority in. The only way you'll ever get anyone to take any notice is if you break the system in the first place.

And while you're not voting – go and register for the London Mayoral Election. Because that's a community worth making an effort for.

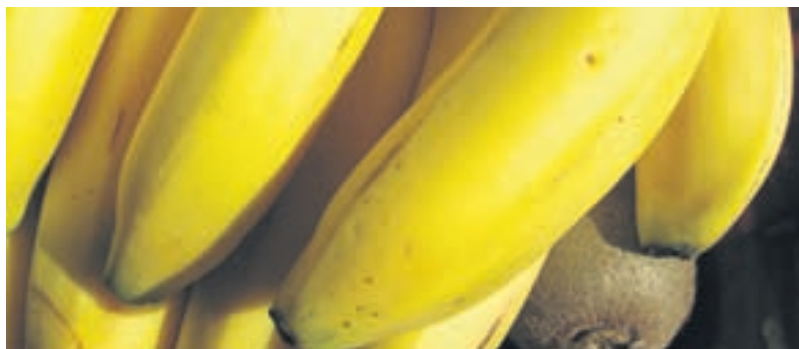


Matt the Hat

Un-Fair Trade

Hello all. If you've just joined us, do please take a seat. The week before last, Jonas Neubert, who I do believe is involved with the ICU Fair Trade Society, posted a rebuttal to an article I wrote the week before, where I damned Fair Trade for not tackling global poverty properly. Whilst I anticipated that this would generate some backlash, I was at least hoping my point wouldn't be lost entirely. For those who want a more in-depth argument by a seasoned economist, I'd encourage you to read the article *Grounds for Complaint* by Brink Lindsey, which covers more issues than I have space for.

Jonas alleges that Fair Trade is compatible with free market economics. From a consumer point of view this is largely true. However, he ignores the seller's perspective. Fair Trade ignores the market rate of coffee and gives its farmers an uncompetitive rate above what the market demands. Market prices fluctuate according to supply and demand. Low price is oversupply (buyers have the advantage); high price shows scarcity power (sellers have the advantage). One only needs to do some rudimentary research to find the supply of coffee beans in the past 10 years has been constantly outstripping consumption by a wide margin. This will drive the price down. And this is, un-



Fair Trade: just a method of donation cleverly disguised?

fortunately, entirely fair. It is a signal that acts to both curb supply and raise demand. It signals to farmers to stop making it and make other products instead. Third World farmers do often not have this option, due to fierce (and unfair) competition in other markets.

Fair Trade works a little like a donation on top of a product, which is where it gets its intrinsic extra value over other products. This doesn't really stop poverty any more than donating money directly to homeless people prevents homelessness. Short term, it helps. In the long term it just encourages them to get more donations. That means producing Fair Trade coffee and not finding a better living. I don't want farmers to become reliant on charity, guilt, and false economies.

This is not my primary worry, however. If it were just pure charity, then it would only affect Fair Trade farmers. My main worry is that whilst Fair Trade helps its own farmers, others who are independent are sliding further into poverty, due to their customers fleeing to more 'ethical' products. I would argue that non-Fair Trade farmers need the money more than they do. Fair Trade propaganda loves concentrating on how their farmers have better lives. It makes me want to scream out: at whose expense? By buying normal coffee, you're increasing demand for the product the poorest farmers make. I'd argue that either one would benefit someone. Fair Trade has no extra intrinsic value: it is just unabashed prejudice for their farmers over

others. In a lot of ways it ruins the very people they are supposed to help: the more people buy Fair Trade, the less non-Fair Trade coffee being bought, and the more non-Fair Trade farmers are put out business.

I do have a solution, and that involves giving every farmer a better chance at a new life. Currently they face stiff competition from Europe and the US because governments pay farmers to exist, and block Third World trade. We already have an advantage through better knowledge and access to capital. Let the costs add up and people will decide for themselves what is worth paying for. My guess is that Third World farmers will have a distinct advantage with low wages and land costs, giving them a deservedly thriving industry, independent of charity.

Meddling in market economics is something to be done with extreme caution, and can cause more problems than it fixes. I stand by my original point, that better economic mobility is the real solution, and it is one I believe could be within Fair Trade's remit. Directing Fair Trade premiums towards helping farmers start a new life, rather than sustain and reward an overcrowded industry, would be a move I'd generously applaud. Even better, you should send a strongly worded letter to your local MEP and let them know how you feel.



$$-\frac{\hbar^2}{2m} \frac{\partial^2 \psi}{\partial x^2} + \mathcal{V}(x)\psi(x) = E \mathcal{V}(x)$$

Science

Science Editor – Ed Henley

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Imperial's environmental army

What exactly does the Civil and Environmental Engineering Dept. "regiment" do for the environment?

Brian A. Giannakopoulos

Environmental and Water Resource Engineering (EWRE) at Imperial

Almost a decade into the 21st Century, the environment and its protection is a hotter topic than ever before. Public awareness of the need to provide our children with a decent place to live in has heaped much responsibility on the backs of politicians and policy-makers. As public concern for the environment continues to grow worldwide, priorities in political agendas are set to change.

In this battle against environmental damage and climate change, civil and environmental engineers are among the most valuable conscripts, equipped with the technical knowledge and skills needed to overcome challenging obstacles and achieve tangible results.

The job of the civil and, in particular, the environmental engineer is to apply science and engineering principles to improve the quality of air, water and land. Environmental engineering involves not only water and air pollution control, recycling, waste disposal and public health issues, but also a knowledge of environmental engineering law as well as studies on the environmental impact of proposed construction projects.

Civil and environmental engineers also design and construct energy-efficient buildings, reducing their dependence on mechanical heating and cooling, with their associated carbon emissions and health implications. Finally, these engineers are also responsible for studying and proposing transport policies and traffic management measures on land, water and in the air to reduce the impact of vehicles on the environment.

Imperial's civil and environmental engineers are "not soldiers, but elite troops", Professor Julian Bommer senior lecturer in Engineering Seismology at Imperial's Department of Civil and Environmental Engineering states proudly. Indeed, this prestigious department plays a leading role in both national and international research activities relating to the environment and also provides advice and guidance to UK and overseas governments as well as international agencies.

The department is home to the Environmental and Water Resource Engineering Section, or EWRE, the largest and one of the most active sections in the department. Together with the Centre for Environmental Control and Waste Management, it forms one of the premiere, multi-disciplined environmental groups in the UK and worldwide. "EWRE has a large and diverse portfolio of research activities and consults widely in the UK and overseas", notes Howard Wheeler, Head of the EWRE Section and Professor of Hydrology. "To help our understanding, we can think of the environment as being broken up into three main

"By improving energy efficiency, CO₂ emissions from buildings can be reduced by up to 20%"

branches" explains Professor Wheeler. The first branch, environmental science, concentrates on the natural environment and studies the impacts of human activity on ecosystems. Environmental engineering, the second branch, focuses on applying science and engineering principles to improve the quality of air, water and land while the third, engineering and the environment, is the meeting point of the first two and concentrates on sustainability and other topical issues such as low-carbon footprint and the "smart house". The 10 full-time members of staff, some 20 research assistants and 25 full-time post-graduate research students at EWRE are involved in all three branches and their work is as varied as the environment itself. Current and recent projects have been un-



Part of a Falaj system in Oman – an ancient system that taps in to shallow groundwater and feeds it to the surface. Some aflaj are more than 1500 years old; as a whole they've been deemed a World Heritage Site

dertaken not only in the UK, but also in countries as far afield as Botswana and Mauritius, amongst many others.

Keen to find out more, I went along one late Friday afternoon, and in an informal and relaxed interview, asked Professor Wheeler, a past president of the British Hydrological Society, to give me an overview of some of the work that members of EWRE have recently been involved with.

Organic and inorganic waste

Drs Chris Cheeseman and Stephen Smith are working in the areas of inorganic and organic waste respectively. In particular, Dr Cheeseman's research aims at converting inorganic waste (such as the waste produced by

construction materials) into something useful, as well as developing CO₂-capturing cement technology. This will provide a significant step towards tackling the adverse environmental impacts of cement – the cement industry currently produces about 5% of global man-made CO₂ emissions. At the other end, Dr Smith's research focuses on sewage sludge disposal and recycling. He has also recently been involved in an EU-funded project in Cyprus to generate energy from waste. His experiences from this project were shared with undergraduates, forming the basis of a Group Design Project in 2006.

Waste management

Professor Sue Grimes, the first woman to be appointed to a chair sponsored by the Royal Academy of Engineering, is also the College's first professor in Waste Management. Together with her research group, Professor Grimes has been involved in a wide range of projects in waste management involving the electronics, secondary metals and waste industries, as well as the Environment Agency and Local Authorities. She has also carried out research leading to the development of clean process technology for selective metal recovery from waste streams, material recovery from composites, methodologies for the analysis of toxic pollutants in wastes, and diverting waste from landfill, to name but a few.

Water and Wastewater Engineering

Professor Nigel Graham and Dr Michael Templeton work in the field of water and wastewater treatment and have participated in a wide range of projects both in developed and developing countries. Professor Graham has been working on developing water treatment plants using local and imported materials to provide safe, clean drinking water to refugee camps, while

Dr Templeton has been asked to conduct research in water and sanitation management for Nepal. "We also enjoy doing things on the hi-tech end" adds Professor Wheeler. Professor Graham is developing a 'smart-sensor' system which is able to detect leaks in water and wastewater distribution networks, while Dr Templeton is also involved with computational modeling of treatment processes. Professor Cedo Maksimovic, chief advisor to UNESCO's International Hydrological Programme VI on urban water management, has a broad research interest in the field of urban flooding and is currently developing LIDAR technology to digitally map areas contributing to major urban floods. Meanwhile Dr Adrian Butler, is the principal investigator on an EPSRC funded project modeling contaminant transport processes in landfill waste. In a recent project, Dr Butler used historical data from the 1840s to simulate flood events from the river Lament in Chichester and showed that existing climate models are still poor in predicting long-term changes – "the trends indicated by his simulations have bad implications for the future of South East England" Professor Wheeler adds.

Hydrology

Wheeler himself certainly has no shortage of research activities and projects in his portfolio. With his special interest in the hydrology of arid areas, he describes his work as scientific advisor in a water resources study in Saudi Arabia in the late 1990s aimed at improving the management of flash floods. He now provides technical support to governments and organizations through UNESCO's programme on hydrology. In recognition of his work on water resources in arid areas, Professor Wheeler was invited in 2006 to a banquet in Riyadh, to receive the prestigious Prince Sultan Bin Abdulaziz International Water Prize, which now



What a waste: wastewater treatment in Pleasant Grove, USA. I suppose the pleasant groves are at top right

proudly sits in his office.

Professor Wheeler certainly has a lot of experiences to share with undergraduate students in his early morning Hydrology lectures. Not only was he initiator of the £10 million Lowland Catchment Research Programme (LO-CAR) in the UK, but he's also a current consultant to the State of Nevada concerning safety assessment for a highly-debated \$10bn repository for high level radioactive waste at Yucca Mountain.

He's also involved with radioactive waste closer to home. In Britain, despite Labour's previous strong opposition to nuclear power, it is an energy source that now sits high on the 'clean energy' list, partly due to its low CO₂ emissions. "However, this does not mean that real decisions are being made", explains Professor Wheeler in a previous interview in LIVIC, the departmental newspaper. "Even if we don't build new power stations, we will still have to deal with the waste that has been generated. At the moment that waste is just lying around across Britain," he complains, "there is absolutely no policy. In the meantime, the UK engineering industry has also lost the expertise to build nuclear power facilities. Yet, we are certainly going to see a revival of the nuclear option", he predicts. "The UK government is moving forward once again with plans for deep disposal of nuclear waste, which is certainly a good sign", he adds with a smile.

Dynamic though the EWRE Section may be, it doesn't have a monopoly on environmental activities within the Civil and Environmental Engineering department. The Fluid Mechanics and



Energy inefficiency. Pretty, I'll grant you, and possibly a sign of a healthy economy, but not much good for the environment – how many of these buildings are naturally ventilated do you think?

Transport Sections also conduct cutting edge research on minimising the environmental impacts of the build environment.

Environmental Fluid Mechanics

Dr Gary Hunt, reader in Fluid Mechanics, and his research group are working in the area of natural ventilation of buildings. Winner of an award for

energy efficient buildings in the 2007 Australian Engineering Excellence Awards, Dr Hunt argues that the gains from naturally ventilated buildings significantly prevail over traditional alternatives such as air conditioning, while making a substantial contribution to the protection of the environment. "You can forget about not leaving your TVs on standby, when CO₂ emissions from buildings can be reduced by as

much as 20% just by improving their energy efficiency" explained Dr Hunt in an Environmental Fluid Mechanics lecture earlier this month. Indeed, it is estimated that naturally ventilated buildings typically consume less than a third of the energy used in a comparable air-conditioned building, making natural ventilation an attractive option for the future.

Centre for Transport Studies

The Centre for Transport Studies is also undertaking a wide range of research in environmental areas, including active involvement in the Grantham Institute for Climate Change. Another high-profile collaboration involves the development of a mobile environmental sensing system to monitor urban air pollution, aid in informing travellers and improving traffic management (www.message-project.org). Recent studies have included an evaluation of the impact of aviation on climate change and the development of an on-board vehicle emissions monitoring system. "Real world emission rates are substantially different from those seen on the standard regulatory tests" says Dr Robin North. "These techniques allow us to assess how actual traffic patterns and driver behaviour affect emissions from road transport".

In this ongoing battle against climate change, civil and environmental engineers can proudly boast of their unique role. In their absence, any decisions made by the 'powerful' of the world can only, at best, remain on paper, leaving targets unmet and desired results unachieved. The research currently being performed at Imperial strives to make the profession even more valuable to society by providing members of the engineering community around the world with cutting-edge knowledge. When this knowledge is used properly, it can achieve breathtaking results which rarely pass unnoticed.

For more information, see www.cv.imperial.ac.uk

Strictly come off it! A science dance-off?

Explaining their PhD research verbally isn't enough for this lot: they do it through dance. Tim Sands reports

Can scientists dance? While it is a question that has surely kept Nobel laureates awake at night for years, anyone who has ever witnessed the closing dinner at a scientific conference will know with some confidence that the answer is no. Now Christoph Campregher and Nilay Yapici of the Medical University of Vienna, offer further evidence in the form of the world's first "Dance your Ph.D." competition.

Twelve international teams of rhythmically inclined scientists travelled to Vienna for the intellectual hoedown. The goal of the contest was for the scientists to express their doctoral research in the language of dance for an audience of several hundred of their drunken colleagues. With the scientific specialities of the participants covering areas as diverse and abstract as the evolution of galaxies and gene regulation, this posed a serious test of the artistic imaginations of the teams. Thankfully, Science magazine was there with a video camera to record the extravaganza for later analysis.

Expert advice was on hand with judges including a professional dancer and a science communicator and with scientific rigour assured by the presence of Michel Breger, professor of astrophysics at the University of Vienna. The fourth judge, Karl Grammer, is a professor of anthropology and an expert on the evolution of dance. The author of such articles as "Charisma Cam: A prototype of an intelligent digital sensory organ for virtual humans", he is clearly no stranger to the more obscure parts of the interface of sci-

ence and the humanities, but even so he must surely have hoped some of the mutant dance offspring on display were on a rapid road to extinction.

Perhaps it is not fair to judge people who have spent years stuck in the lab on their physical prowess and the dancers cannot be faulted for the creativity and diversity evident in their choreography, but many of the performances could certainly do with a further few more years of intensive study. Some of the contestants did manage a display of vigorous physicality but grace and coordination were noticeably absent, replaced instead by the rigid hips and shoulders so characteristic of the geek in motion. Quite how some of the dancers arrived at their moves is also mysterious. For instance, Sven Ramelow's interpretation of "Single photon upconversion" more closely resembled an enraged beast attempting to escape from a sack than particle physics.

The most unfairly overlooked entrant was Josef Penninger, director of the Austrian Institute of Molecular Biotechnology. With impressive devotion to the mad scientist stereotype and apparently a total disregard for his scientific reputation, the wild-haired and football shirted Prof impressed with a piece featuring both a double cartwheel and strong elements of the chicken dance. Another notable loser was Simone Recchi whose high-energy recreation of the "Dynamical and chemical evolution of blue compact dwarf galaxies", looking rather like an over-caffeinated child at a wedding disco, came in only mid-table despite the rousing support of the crowd.

Overall winner Brian Stewart, a pal-



Mirrors mirrors on the ball: who's got the best research dance of all?

aeoanthropologist from the University of Oxford, was clearly in a league of his own with his exploration of the resource gathering strategies of prehistoric man. Remarkably he managed to incorporate rhythm, style and a great tune (a Herbie Hancock interpretation of African Pygmy music [*Watermelon Man* – Ed]) in a funky dance that was

almost educational. The fact that the buff boffin was also clad only in a shiny loincloth no doubt also helped.

Explaining a doctoral thesis verbally to the layman is difficult enough a task, but doing so without words must surely require an exceptional degree of skill and clarity of thinking. While the fancy footwork of this group of scientists is

unlikely to trouble **Strictly Come Dancing** on a Saturday night perhaps it is time for Imperial to consider dance interpretation as a viable alternative to the viva for examination of a Ph.D. thesis. Judge for yourself at <http://tinyurl.com/yuzn7c>. (Or, for those who prefer big urls, www.sciencemag.org/cgi/content/full/319/5865/905b)



Politics

Politics Editors – Li-Teck Lau and Kadhim Shubber

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Li-Teck Lau
Politics Editor

I spoke to an analyst from Chatham House, the London-based international relations think tank, the other week. Yes, I am name-dropping to some small extent. And no, it doesn't happen often. But she did remind me of a central point in all political theory. That is, politics is about power. News is what happens when people gain, lose and use their power. The best measure of this is who has lost and who has won. The actions in between aren't too important, and politics is certainly not about ideology.

Allow me to elaborate. The elections in Pakistan this week were generally regarded as 'free and fair' by the international community. Who lost? General Musharraf alongside the USA. Who won? Military leaders hiding in the foothills of Afghanistan. The US has invested a lot in building relations with the country on the door step of what it terms as 'extremism', but made the mistake of aligning itself too closely with one individual.

The attempt to keep him in power by sending Benazir Bhutto back after years of exile to share power after legitimising elections, preventing less reliable (with regards to military cooperation) candidates from abusing the political turmoil after the purging of prominent judicial figures, backfired spectacularly after her assassination.

The USA invaded Iraq in 2003. Who won? Energy companies. Who lost? Well, the rest of the world. Oil companies, such as Shell, have posted record profits this year owing to the high price of crude. Despite all of the safeguards that the democratic system of government was supposed to perform, the military might of the world's foremost superpower was put to use for the benefits of a small number of the powerful. The American economy may see reward in the long term, but today, it is only the so-called hawks who have seen proverbial green.

Myanmar has one of the most despotic governments in the world. Its use of force against its own population to keep power has been in the news for several months now. Similarly, in the Sudan, thousands are dying because of internal violence. The question is, again, who would win and who would lose in the case of regime change? In both cases, China stands to lose, as it is a significant investor and customer for energy resources. What is commonly referred to as the western alliance is, and have been relatively effectively, using human rights to further individualistic agendas. However, neither Myanmar nor the Sudan could claim the crown of 'worst country in the world'; that all-so-highly-sought-after accolade. Yet it is they who are the focus of international organisations such as the United Nations.

What is the lesson to take away from all of this? Firstly, know whose side you're on. Secondly, make sure you're on the winning team.

Fidel Castro resigns

Fidel Castro steps down as Cuban leader after almost 50 years as President

James Goldsack

The 81 year old Cuban President announced he would not "accept the post of President" if elected by the National Assembly when it convenes on 24th February. Fidel Castro, who has ruled Cuba since the revolution in 1959, made the announcement in an open letter entitled "Message from the Commander in Chief" published on the website of the Cuban Communist Party's newspaper Granma. Released in the middle of Monday night, it states that the leader does not "aspire" to be the next President of the Council of State and Commander in Chief. Cuban exiles in Miami celebrated but there were no such demonstrations in Cuba itself.

Cubans recently elected a parliament, due to meet for the first time this coming Sunday. One of the duties of this parliament is to elect a new Executive Council of State, the president of which will become the new President of Cuba for the next five-year term. Since July 2006, Fidel's younger brother Raul has been temporarily running the country; Fidel Castro underwent emergency intestinal surgery and has not been seen in public since, though videos of the leader have been released. So far, this transition has been smooth with little outward change. Raul Castro has kept the military loyal whilst weeding out corrupt officials to keep the people's trust. However, in a keynote speech last year, Raul Castro announced that "structural and conceptual" changes were needed to help save the collapsing economy. This has led to increased speculation of major economic changes to come, possibly a move away from the Communism seen in practice there today and towards a market-oriented economy. The Cuban economy has been in decline since the USSR collapsed at the end of the 1980s. The continued support from Venezuelan President Hugo Chavez in the form of millions of barrels of cheap oil has helped prevent the economy from collapsing sooner. This situation is not going to be helped by the departure from office of Fidel Castro, the last of the great Cold War leaders. The last thing Cuba needs is division and a power struggle for the leadership. However, most Cubans, despite being saddened by the news, appear optimistic and



Castro has visibly deteriorated due to his recent illness

hopeful for the future.

The resignation of Fidel Castro did not come as a complete shock to analysts as Mr. Castro's illness has been well documented. Despite the details of this being kept a state secret, it is believed to be diverticulitis, an inflam-

mation of the colon. In recent Cuban newspaper articles, the Cuban leader hinted that he may soon retire. Defending himself from claims he should have stepped down earlier, Mr. Castro said he had a duty to the Cuban people to prepare for his absence. However, talking about his current situation, he added "It would betray my conscience to take up a responsibility that requires mobility and total devotion that I am not in a physical condition to offer". Despite retiring from the Presidency, Fidel Castro will not give up on Communism or his revolutionary spirit. "I just want to carry on fighting like a soldier of ideas", he wrote in his open letter to the country. Mr. Castro promised to continue writing essays entitled Reflections of Comrade Fidel and to be "one more weapon in the arsenal [Cuba] can count on".

The world's longest ruling non-monarch head of state, Fidel Castro during his 49 years in power has helped transform Cuba. Before the successful revolution in 1959, the Castro brothers attempted to overthrow the authoritarian regime of Fulgencio Batista but failed, resulting in a 22 month prison sentence. After leaving prison, they escaped to Mexico where they be-

friendly idealist and revolutionary Ernesto "Che" Guevara de la Serna. In 1959, they succeeded in leading a guerrilla campaign to overthrow the government and Fidel took his place as the President of Cuba with his brother Raul as Defence Minister and first vice-president of the Council of State. Che Guevara went on to take many roles to help develop socialism within Cuba and the rest of the world.

Fidel Castro pursued the ideal for an egalitarian society and the Communist Party members set an example to all; Mr. Castro recently told reporters that his "primary duty is not to cling to any position" and various members of the government only accept the salary of a revolutionary soldier. Under Castro, both the healthcare and education systems have become world-leading and are both free for all – one main pinnacle of their socialist agenda. The new government in Cuba has helped free the people from an extremely oppressive authoritarian regime. However, many would claim that it has been replaced by a new but similar regime. To an extent this is correct but in recent years many political prisoners, often called "prisoners of conscience", have been released, including 4 last week-



Fidel Castro has been in charge of the communist state since the 60's

end. According to the Cuban Commission for Human Rights, there are now 20% fewer prisoners of conscience than there were two years ago. Castro and others in the regime of course have their enemies; there have been many failed assassination attempts, the United States of America attempted an invasion and there has been a harsh US embargo since 1962.

The future for Cuba is uncertain. There are two main contenders for the Presidency: Raul Castro and de facto Prime Minister Carlos Lage Davila. It is expected that Raul Castro will be elected; he appears to have Fidel's blessing. Of Raul, he said "[He] is younger than I, more energetic than I. He can count on much more time". Even if Raul Castro does become President of Cuba for the next 5 years, no one can predict how he will act as leader. "Behind me are others more radical than I", added Fidel Castro in 1997. However, Raul Castro has pledged to sign the United Nations conventions on human, political and economic rights later this year, showing a less oppressive style of governance than Fidel. Raul Castro has initiated debate over what changes the Cuban people want to see. Amongst students' complaints, low wages, lack of ability to travel and lack of free ac-

cess to internet are common. It is the student population, largely opposed to continued Communist rule that is the future of Cuba. There are indications that the regime is listening and adopting policies to help the people based upon these debates. Even if elected it is not certain that Raul Castro would accept the Presidency as in June 2007 he indicated that a collective leadership would most likely govern Cuba after Fidel.

International reaction to Fidel Castro's resignation has been mixed. US President George W. Bush called for free elections to be held saying "This should be a period of democratic transition for the people of Cuba" and pledged support and help. However, senior US state department official John Negroponte added that the 1962 embargo would probably not be lifted "any time soon". UK Prime Minister Gordon Brown says "we can only hope that a new path will open up... and there will be more democracy in [Cuba]". Spanish Latin America minister Trinidad Jimenez supports keeping links with the Cuban regime and believes Raul Castro "should start to put the reforms into action" to benefit the Cuban people. A spokesman for the EU agrees, adding "we reiterate

our willingness to engage with Cuba in constructive dialogue". UK Liberal Democrat foreign affairs spokesman Edward Davey said "it is important for the international community, especially America, to hold out the hand of friendship".

It appears at time of writing that the transition of power will be peaceful with the most likely candidate to succeed Fidel being Raul Castro. If this happens, Cuba can hopefully look forward to economic stability and a continuation of the socialist ideals put in place by his brother Fidel before him. Whatever the outcome of the elections on Sunday, the international community should take the opportunity to create stronger links with Cuba which can only serve to help the Cuban people, most of whom have not known of any other regime; over 70% of the population was born after the revolution. However, Cuba must push ahead further with social reforms, including ending the oppression of the opposition. There are signs that this will happen in the future. With the departure of one of the most important and enduring icons of the latter half of the 20th century comes not only the end of an era but the beginning of a new, promising time for Cuba.



Castro has throughout his life cultivated the image of a revolutionary.

Results of Pakistan's elections

Long after the death of Benazir Bhutto, Pakistan holds free elections that herald defeat for Musharraf

Kadhim Shubber

Pakistan has never been a nation with stable political leadership; current events represent the continuation of the struggle between Islamists, Secularists and the military that have plagued the Islamic Republic since its creation in 1947. Recent elections favoured secular groups such as the party of the late Benazir Bhutto (the PPP) and former Prime Minister Nawaz Sharif (the PML-N). The possibility of an alliance between these rival parties is a significant counter weight to the power of Pervez Musharraf. Hardline Islamic politicians have suffered heavy losses, this makes it likely that Pakistan's support in the war on terror will continue.

The elections have, in general, been carried out smoothly. There is no indication of vote rigging or tampering. In

addition, efforts by terrorists to disrupt voting was largely unsuccessful. However, there are reports that turnout amongst women was low, due to fear of violence.

The victory of secular parties can, in part, be interpreted as a protest vote against the assassination of Benazir Bhutto. However, many Pakistanis also resent the degradation of democratic institutions under the rule of Musharraf, the lawyer's protests last year is just one example. For the UK, this result is favourable in several ways. The success of democratic processes in Pakistan, such as elections, makes it easier for the UK to continue co-operating with Pakistan on issues such as terrorism. The accusation that the UK has supported dictatorship in Pakistan has been a source of embarrassment both internationally and at home. The UK will be glad to shake off the label of hypocrisy.

In addition the election victory continues the separation of the military from government that began with the retirement of Pervez Musharraf. As the military fulfils its role with the direction of an elected government it will be more confident in its fight against terrorism. With the decreased support of Islamic politicians the army will be firmer in its fight against the Taliban and extremists; with the knowledge that it has the support of the electorate.

With the proviso of continued stability, the outcome of the elections is favourable for the UK. For Pakistan, however, there is still much uncertainty ahead. It remains to be seen whether Musharraf will have his wings clipped or be forced out altogether. There is a big question mark over the leadership of the PPP and PML-N, will they shake off an image of corruption and credibly lead the nation?



Asif ali Zardari (Bhutto's widower) and former PM Nawaz Sharif

Dry Wit & Tonic



The state of Kosovo is born

After months of negotiations, Kosovo unilaterally declares independence from Serbia

Katya-yani Vyas

"The Kosovars are now independent" is how US president George Bush succinctly summarized the situation that has recently occurred in Serbia, and indeed they are. On Sunday the 17th of February 2008, in a historic session, Kosovo's parliament unanimously endorsed a declaration of independence from Serbia. The province, previously subject to ripples of anticipation, erupted into celebration, with fireworks being set off and scenes of intense happiness on the streets. So what is the significance of this and why has it come to be such an international situation?

Ethnically, the majority of Kosovo is Albanian as opposed to Serbian, a fact that leads many to believe that it has a right to self-determination, something that it has been seeking for many years. The repression under Slobodan Milosevic combined with the ethnic tension and armed unrest that escalated in the '90s supports this view, international opinion, however is extremely divided and worldwide debate concerning whether it can be legitimately recognized as a state has been ignited.

Kosovo can be safe in the knowledge that they have the backing of the

"Kosovo has a friend in America"

United States, George Bush declaring, in archetypal one-dimensional manner that Kosovo 'has a friend in America'. Serbia earlier withdrew its envoy to Washington in protest citing that Kosovo's declaration of independence violates international law. The new Government, headed by Prime minister Hashim Thaci has also however gained substantial backing within the EU, with the UK, France, Germany and Italy all pledging their support to the creation of a new democracy which respects the rights of all ethnic communities. Amongst the dissenters are Spain, China and most unfortunately for the Kosovar Government, Russia.

This opposing opinion of America and Russia has led some political ana-



The new state of Kosovo and its capital Pristina, in relation to its neighbours; celebrations extend from eastern Europe to allies in the US



lysts to predict a cold war type tension developing once again. This, however, is highly far-fetched, Russia is nowhere near powerful enough to cause the US any worry, to be quite frank they simply don't care about Russia anymore, they are not major trading partners and Russia cannot pose any kind of military threat, this disregard is characterized

by the fact that there was no formal disapproval of Russia's treatment of Britain or Ukraine. As long as Russia keeps supplying the EU with gas, there is not likely to be an escalation of the problem. The viability of new Kosovo, however, is something that needs to be considered carefully.

It is true that with support from America and basically the EU, she has a much-improved chance of surviving but again the stance of Russia is significant, the EU can easily protect Kosovo against Serbia but will hesitate in a direct political or economical confrontation with Russia. In addition Russia may see this as an opportunity to assert itself, by bullying this newly established state they are reminding everyone, especially the EU that they still harbour ambitions of being a great power. It would be more efficient and less confrontational than closing the British council in St Petersburg, possibly more traditional as well. So already Kosovo has encountered a problem...is it a problem, which can be overcome, or is the writing already on the wall for 'Little Albania'?

Only time can solve such a conundrum, but in the mean time the immediate repercussions in Europe, and around the world need to be assessed. Spain has shown indignation and unease in response to Kosovo's declaration, frustrated at the fact, as they consider it, that "the future of Kosovo has been decided in Washington and to some extent in Moscow, and not in

Europe." These were the words of the Spanish minister for Europe, Alberto Navarro. In addition to this view that the creation of Kosovo is blatant disregard of international law, there are also fears that the situation will ignite a separatist movement. These concerns are echoed across Europe, Russia in particular insisting that such a move should have been discussed with Serbia first. "We are talking here of the

"The road to stability will be rocky"

disruption of all the basic fundamentals of international law in Europe, which is a result of years of suffering and wars and strife," was the reaction of the Russian Foreign Minister Sergei Lavrov, "It would undermine the basics of security in Europe... It would inevitably result in a chain reaction in many parts of the world, including Europe and elsewhere." An opinion that correlates directly with that of Spain, which is already facing problems, regarding its Basque population, could Kosovo be the catalyst to a crazed worldwide frenzy of self-determination? More specifically, will Russia and Spain now more actively listen to the demands of their respective problem regions in Georgia and the Basque areas?

The UK foreign secretary, David

Miliband seems to think not, he describes the situation as being 'unique' and indicating that it should not set a precedent for other separatist movements in Europe. Mr. Miliband, employing a certain level of diplomacy, said that European nations had given "clear leadership" to Serbs and Kosovars, adding that there was a "future for co-operation" over the issue. What makes it unique, he explains, is that there has been a UN protectorate over Kosovo within the independent Serbia for nine years now and so the situation cannot be equated with Basque or any other issue that has been raised for that matter. To ease the concerns of the dissenters however, an EU statement has proclaimed that Kosovo does not set a precedent and leaves it up to each member state to decide on their future relations.

The road to stability will be rocky for Kosovo, but having now gained independence they are not likely to relinquish it lightly. What will become of the situation is difficult to assess, and many questions hang over the province like a dark cloud. Does Russia care enough to interfere dramatically? Will Serbia mount any kind of significant protest? Will Kosovo's declaration of independence be the trigger that unleashes a torrent of European ethnic minority unrest? These are all interesting questions, and will not be answered immediately. Kosovo has taken the first step; will she stumble and fall or carry on walking?



Presidents Fatmir Sejdiu of Kosovo and Boris Tadić of Serbia



Business

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Afonso Campos
Business Editor

There's one thing I absolutely must get out of the way as soon as possible – a deep and heartfelt (ok, not really) apology to all my utterly devoted readers. Yes, I mean all three of you. I know you have sorely missed not only this column, but also the more often than not disgracefully written articles. I will make a pact with you: from this week onwards, there will be enough Business in Felix to make you ill from the second you wake up to the moment you lie down to sleep in your unchanged sheets.

I shall not plague you much today. Actually, this is a lie. I will plague you bucketloads – if you are a damned hippy, that is. One of those who make it a life-long goal to hate every mildly successful businessman or every single multinational corporation known to man, be their headquarters in Mexico or somewhere in Albion. I have a problem with people who think and feel this way because it is fashionable to make a bold statement. The amount of filth they speak is directly proportional to that hanging from their disgusting dreadlocks. Their hatred of anything that does not involve copious quantities of acid or extra-marital group sexual intercourse or a combination of both is sickening.

Among these people, there is a somewhat schadenfreudistic mentality regarding entrepreneurs and the über wealthy. This does not seem to be limited to Birkenstock-wearing, tree-hugging idiots, though. It is almost as if this frame of mind plagues the majority of the population in the UK. People seem to enjoy it and take pleasure when others fail. There is the automatic assumption that if someone has the cojones to try something completely new and revolutionary, they are automatically arrogant. This an unbelievably preposterous train of thought. What these people fail to see is that it takes a lot to become a wildly successful entrepreneur. Any man or woman who has managed to create something, be it a product or service, from scratch deserves all the praise in the world. I have the utmost respect for those who have come from nothing and built empires from nothing and those who are able to successfully continue running those passed on to them.

Relatively poor shows like Dragon's Den seem to have actually helped this situation, albeit in a slightly demeaning fashion. They have spawned many a wannabe inventor/entrepreneur, but forgot to educate on the responsibility that comes with trying to reach their goal. They fail to comment on the very real risk some of these people face of losing their careers, money, and sometimes family.

Entrepreneurs push known boundaries and debunk widely spread myths about risk and reward. Learn how to love Richistan. Learn how to learn from it. Most importantly, learn how to transform the energy you spend being envious, into building and creating something real.

Supersonic China growth

An exploration of China's somewhat bipolar attitude towards its economic expansion

Daniel Wang

This summer, I spent a month in Beijing. Despite being a pretty frequent visitor to the city, each trip back is still an exciting experience; that same taxi ride, taking me from Beijing International Airport to my apartment, has looked so different every time. Where before I recall only an empty patch of land, or scaffolds just bursting upwards from their foundations, now stands a park, some public amenity, or, more often than not, a gleaming new tower bustling with people.

These "overnight skyscrapers" have become a symbol of China's seemingly unstoppable development. With GDP growth reported at 11.4% for 2007, having been cruising close to this figure for around a decade now, and a spectacular US trade surplus of \$232.5 billion in 2006, it is little wonder then that the global community have their eyes firmly fixed on China. The country is acutely aware of its nouveau riche status, still not yet fully accepted by its western peers. It undoubtedly possesses economic clout, but there are too many skeletons in its closet. The favourites of activists across the globe include the Tiananmen Square massacre, the oppression of Tibet, censorship of the press, and more recently the alleged support of the Sudanese government in Darfur; the list goes on.

Hence China's eagerness to dazzle at the 2008 Olympics. It hopes to draw the world's attention away from such troubling issues whilst at the same time showcasing its economic power. To gain the Olympic bid, Beijing had promised \$20 billion towards developing infrastructure alone, over five times the amount spent by Athens in 2004. This accounts for only half of the \$40 billion estimated Olympic related spending which includes a brand new airport terminal, drastic expansions to the city's tube network, new road links, and targets to drastically reduce pollution and improve air quality. Essentially the city is undergoing a dras-

tic facelift in a bid to transform Beijing into a modern capital to rival those found in the west.

With the Olympics less than a year away, cranes and scaffolding still dot the skyline, roads are dug up throughout the city, and the sound of machinery fills the smog-laden air. In any other country the situation would have looked desperate, but in China everything is right on schedule. When it comes to ambitious projects, China's track record is impressive. The \$22 billion Three Gorges dam was finished nine months early and the \$3.2 billion Qinghai-Tibet railway completed almost three years ahead. This is because manpower is one thing China is definitely not short of.

With lax laws on

just a fact of life. Heavily reminiscent of the days of the industrial revolution, only 13% of workers are part of a trade union and even then they have little voice. If they are not prepared to work to support their families, there are plenty waiting in line to replace them.

At the other end of the spectrum, however, are those who have flourished under China's burgeoning economy. As disposable incomes rise there is now a significant number who follow the latest fashions and shop at designer outlets, looking and acting every bit like their western

Yuan (around \$18,000 to \$36,000), now compose 49% of the urban population whilst only accounting for 19% of the population overall.

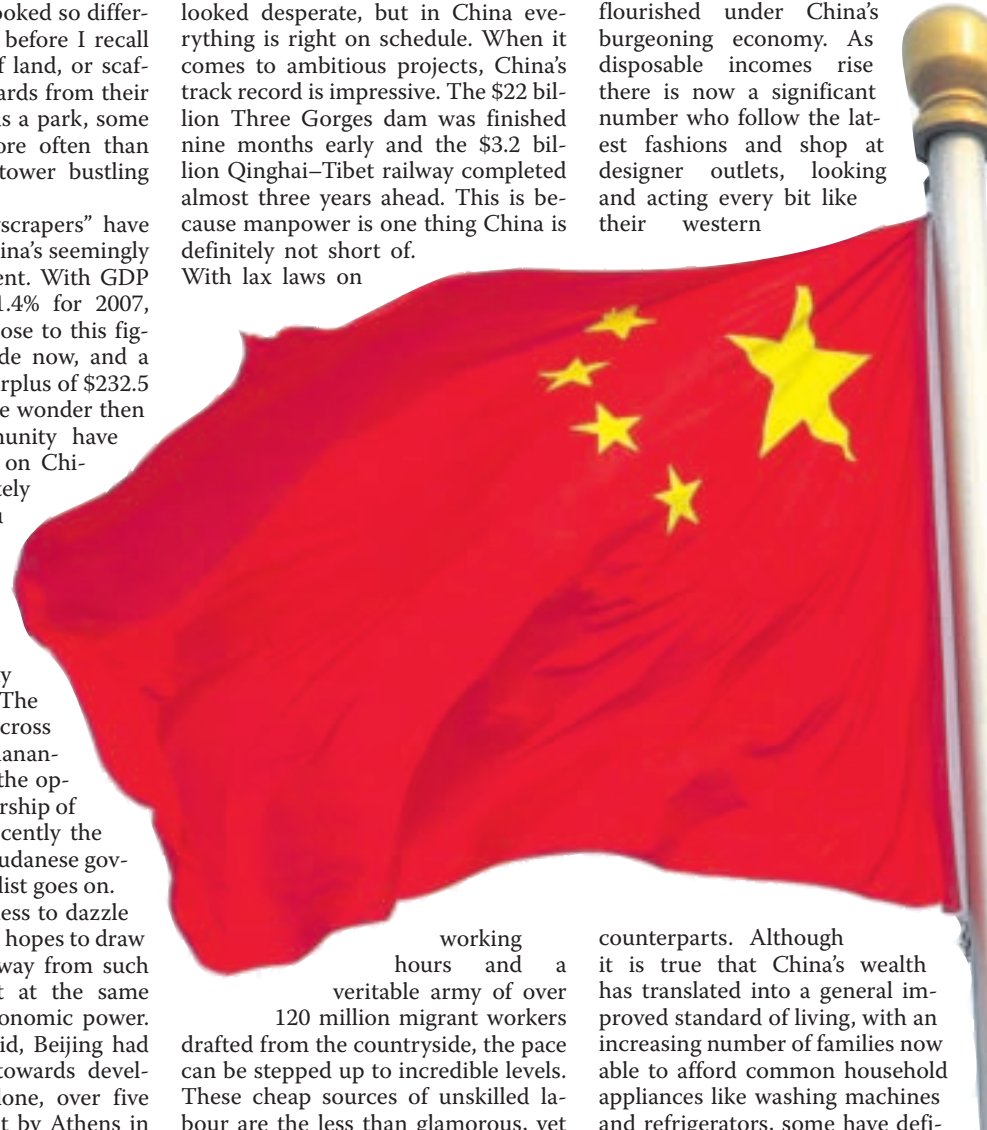
It is unsurprising then that, in a country with such social inequality, the government's lavish spending on the Olympics has received criticism. They argue the money could have been better spent on healthcare, the welfare system or education programs rather than on flashy showpieces which will only benefit the privileged few.

Amazingly, breeding a class of elite citizens, albeit temporarily, is exactly what China wants; as expressed in the sentiments of former CCP leader Deng Xiaoping, China is "letting some get rich first". While ethically debatable, there is good reason, at least economically, for China to advocate a two-tier system. The premise is to heavily concentrate resources on a select few, hence the disproportionate amount of urban spending, helping them rapidly gain affluence so that they can establish a foothold in the competitive global market. Once accomplished, it is hoped this empowered minority, using their significant purchasing power, will then be able to pull up the rest of the population, ultimately benefiting the country as a whole.

Such a grandiose plan is fraught with the risk of social instability and requires a tight rein, central organization, and extensive long term planning – something that is only possible in a single-party state like China, free from the need to pander to voters.

The idiom "business is business" is well known, but China's conduct is certainly pushing at its boundaries. China's willingness to distill morality away from its economic activities is frightening, but when it comes down to it, without this ruthlessness it would not be such a well-oiled machine.

One thing is for certain: springing up alongside the gleaming new cities is a huge market waiting to be tapped. This is the sweet coating that makes China's shortcomings such an easy pill to swallow. When there are such profits to be gained, even the most civilized of nations find it hard not to occasionally look the other way.



working hours and a veritable army of over 120 million migrant workers drafted from the countryside, the pace can be stepped up to incredible levels. These cheap sources of unskilled labour are the less than glamorous, yet vital, underbelly to the Chinese economic juggernaut. They are willing to live in basic temporary accommodation, often far from their families, and work continuously on 24-hour shifts with no weekend breaks. The jobs are dangerous and deaths are often swept under the carpet. But for many this is

counterparts. Although it is true that China's wealth has translated into a general improved standard of living, with an increasing number of families now able to afford common household appliances like washing machines and refrigerators, some have definitely felt the benefits more than others. The urban-rural divide remains prominent and it is primarily the city dwellers that are enjoying the luxuries associated with rising GDP. The middle classes, defined by the Chinese Academy of Social Sciences as having assets valued between 150,000 and 300,000



China's cranes propagate across the smoggy horizon like wild mushrooms



Emily Wilson
Arts Editor

A thrilling adventure in blue plaques and pointless trivia

Emily Wilson wanders the streets of South Kensington, looking for famous names

Well hello again, my little reader chums. I hope you all had a nice Valentine's Day, whether you spent it holding hands and skipping with a loved one or drunk out of your skull (as is only traditional). Bonus points to anybody who took their date out to something artsy. But do you know what?... You don't need a girlfriend/boyfriend to enjoy the Arts. Personally what I love about art galleries and museums is how you can go solo without looking too much like a social leper. It's an excellent opportunity for some quality me-time. You'll go home soothed and relaxed, and 87.5% less likely to bite your flatmate's head off.

However, you might want to wait until half-term's over before you brave any of the major museums. South Kensington station and the route to College become an assault course of pushchairs, yummy mummies and ankle biters. And don't even try and set foot in the Science Museum. Grrr... I hate half-term.

So this week I've been sticking to the arts of the outdoor variety. I've been on an exciting expedition to look at our local British Heritage blue plaques. There are literally hundreds dotted about this part of London. It took me hours to whittle down the list of which I wanted to look for and then find them all. This wasn't helped by my astounding inability to read a map and lack of any sense of direction.

You'd damned well better appreciate my labours. I try very hard for you. I am but a humble wench, serving you day and night... or something. In fact, this morning I bravely sacrificed going to a lecture so I could go to a press viewing at Tate Modern (see? An arts editor's life is never easy). It was my first press viewing, and hopefully not my last – it was good fun. Though there was no free coffee and danish, as one (well, me) would expect.

Don't forget we're always looking for people to go forth and review stuff, and go to these fancy press events. I've got some free tickets to a couple of Tate exhibitions that I'd gladly give to anybody who emails in. All I ask in return is a couple of hundred words. It's that easy!

Aside from those blue plaques, I've got many other delights ready and waiting for your reading pleasure. The relentless Rosie Grayburn has been offended by some portraits and wants to bitch about them to you. Then Lucy Harrold strikes again with another musical weekly – this time it's Les Mis. I've never seen it myself, but the gist I got from her article was: some crazed French people prattling about on a stage, with the added bonuses of bloody revolution and the occasional sing-song. Also, a nice, young man from Musical Theatre Soc. has provided me with an exciting preview of their upcoming production. I see all of their stuff, so I can vouch for their musical talents and witty sexual innuendoes. Go see them in action!

Sometimes it's nice to get outdoors, even in London. So I thought the good readers of *Felix Arts* might like to escape the usual stuffy galleries and museums and go for a bit of a stroll. And I've made it easy for you – I've found some cultural attractions that are all within easy walking distance of College, and seeing them won't cost you a penny. I'm talking about British Heritage blue plaques. These can be found on perfectly ordinary buildings to commemorate the not-so-ordinary people who lived there. London is dripping with them – you almost certain go past a couple on your daily commute. But did you ever stop to think about who these people are and what they did?

I decided to go on a Day Out and find some blue plaques around South Kensington. If you want to follow in my footsteps, you'll need: a map, a list of plaques to see, decent weather and a good pair of walking shoes. When I was looking up plaques I used the British Heritage website. This was a bit poo in that you can only search by name of the plaque-holder, and not location, but there are more helpful websites out there (GIYF!). You may want to look up your personal idols, or you may want to look up who's in your local area. Or, if you're stuck for inspiration, just follow my lead...

My first stop was 33 Thurloe Square, ex-home of Sir Henry Cole (1808-1882). There is a wing of the V&A named after this fellow, possibly because he was the museum's first director. But did you know he was also involved in the setting up of our beloved Imperial College? Before the Henry Cole wing was part of the V&A, Imperial had its Mathematics department there. Just south of South Ken tube, and next to a handy bus stop, is the



Which famous director has all this rubbish outside their old house? This article will tell you! Wow!

London home Hungarian composer and pianist Béla Bartók (1881-1945) at 7 Sydney Place. Bartók liked his folk music, and collected it (I bet his neighbours loved that). He was so keen on it, in fact, that he is considered one of the founders of ethnomusicology, which is the study of the social and cultural origins of music, and the kind of word you could throw into a conversation for smuggerly points.

If you get into blue plaque spotting (which is probably close to ornithology in the hierarchy of cool hobbies), you'll start to notice certain streets are a veritable treasure trove. One such location is Onslow Gardens. At number 5 is a plaque to James Anthony Froude (1818-1894), historian and "man of letters" (liked to complain a lot?). At

number 24 there's Andrew Bonar Law (1858-1923), Canada-born British prime minister. My companion on my blue plaque expedition took one look at number 24 and said "hee hee, 'Bon-er'!" - I hope my readers will be more mature. Then at number 38 we have W.E.H. Lecky (1838-1903). The W.E.H. stands for William Edward Hartpole, in case you wondered. Lecky, like Froude, was a historian.

If you're a bit peckish at this point, you might want to pause for a snack. There's a lot of walking to be done! On my trip I had a triple chocolate cookie from Ben's Cookies at South Ken station – purveyors of the greatest cookies I have ever eaten (triple chocolate is obviously the best, though my friend had a mere single milk chocolate – tsk,

novice). They are also my favourite pre-lecture pitstop, as they serve the bestest, cheapest coffee in South Kensington – get the Parisian blend rather than the Costa Rican. Anyway, this isn't very cultural so let's get back to it...

Next stop: Dennis Gabor (1900-1979) at 79 Queen's Gate. If you've ever lived in Evelyn Gardens (which all the best people have), you'll have walked past this plaque every day, and possibly thought "hmm, just what is holography?". Well, it's holograms. Dennis Gabor invented them. I think that's pretty cool. And the physicists and mathematicians out there might have heard of Gabor atoms (I looked these up on Wikipedia and I have no idea what it's on about – answers on a postcard please).



What famous person used to live here? Read the article to find out!



This is what we're looking for, readers: lovely shiny blue plaques!

Cromwell Road is a bit of a trek, I'm afraid, but you get the two-for-one offer of Sir Alfred Hitchcock (1899-1980) at 153 and Benjamin Britten (1913-1976) at 173. The iconic director that is Hitchcock requires little introduction, but somebody really needs to tidy up his ex-front garden, which resembles the contents of a skip. Despite being considered the best director of all time, did you know the poor guy never won an Oscar for his directing? Benjamin Britten is a well-known composer. He created, amongst rafts of other things, *The Young Person's Guide to the Orchestra* and *Winter Requiem*.

Back towards College we have T.S. Eliot (1888-1965), who lived at 3 Kensington Court Gardens. You will know him best as the poet who wrote *Old Possum's Book of Practical Cats*, now best known in the musical *Cats*, though he did write more serious poetry as well. It just so happens that Eliot also lived in my home town, and my house in primary school was named after him (we wore yellow PE kits, in case you wondered).

Another gold mine for plaques was Kensington Square, near Kensington High Street. It was here I discovered it's not just British Heritage that produce plaques. Another plaque-mounting organisation is The Heritage Foundation, which celebrates mostly comedians and TV stars. Their website isn't as comprehensive as British Heritage, but is still worth a look. I found a plaque for Joan Sims (1930-2001), *Carry On* star, placed by them. At 41 Kensington Square there's Sir Edward Burne-Jones (1833-1898), a Pre-Raphaelite artist and chum of William Morris, of whom I am a big fan. In fact, Morris had a bit of a crush on Mrs Georgiana Burne-Jones, but she rejected him. This didn't stop Edward having an affair with his Greek model, who then caused a spot of scandal by trying to publicly commit suicide. Ah... I love the eccentricities of artists, don't you? At 17 Kensington Square we've got Hubert Parry (1848-1918), composer of everybody's favourite song, *Jerusalem*, the lyrics of which were written by the poet William Blake. Over at number 17 there's a plaque for the philosopher and MP



Winston Churchill lived and died on Imperial's doorstep, sort of

John Stuart Mill (1806-1873). Apparently he was a precocious child, and spent his younger years reading Ancient Greek. He was the first member of parliament to call for women to be given the vote, which certainly deserves a pat on the back. Interesting facts: his godfather was Jeremy Bentham, whose body can be found in a box at UCL (the head attached to it is wax – they keep the real deal tucked away so students don't play with it), and Mill in turn was godfather to Bertrand Russell, who was a philosopher, political activist, mathematician, winner of a Nobel Prize in Literature, and all-round intellectual. See? You're learning things today!

Moving swiftly on, we come to Henry James (1843-1916), previous inhabitant of 34 De Vere Gardens. This dude

was an influential writer. You may have heard of *The Portrait of a Lady* and *The Wings of a Dove*, two of his novels. *The Turn of the Screw*, was turned into an opera by Benjamin Britten, who we visited earlier. Nearby at 2 Palace Gate we have Sir John Everett Millais (1829-1896), a Pre-Raphaelite chum of Sir Edward Burne-Jones (have you been paying attention?), and subject of the first article I ever wrote for *Felix*.

There are a few famous names on Hyde Park Gate. At number 9 there's Robert Baden-Powell (1857-1941), self-proclaimed Chief Scout of the world, and possible paedophile (I refer you to the whole Wikipedia article dedicated to "Robert Baden-Powell's sexual orientation"). At number 29 there's Enid Bagnold (1889-1981), who wrote *Na-*



Three plaques on one building? That gets you triple the points, hurrah!

tional Velvet. Nearby there's the controversial sculptor Sir Jacob Epstein (1880-1959). Sir Winston Churchill (1874-1965), possibly the most famous Briton of all time, lived and died at number 28. 22 Hyde Park Gate got me very excited because it has not one, not two, but THREE blue plaques. Sir Leslie Stephen (1832-1904), author and critic lived here. So did his children Vanessa Bell (1879-1961), painter and interior designer, and the great literary figure Virginia Woolf (1882-1941). Number 22 is also a beautiful building, which I would very much like to live in (please).

Never fear, reader, for the end is in sight! We're on to our last plaque! Possibly the closest of all to College, it's stuck on the side of Albert Hall Man-

sions. It's dedicated to Sir Malcolm Sargent (1895-1967), a conductor, organist and composer. He is possibly the best known of all English conductors, in fact. No prizes for guessing where he did most of his conducting. So there we are: a whistlestop tour of your local blue plaques. Even if you don't go looking for them yourself, I hope you've at least found my little tour educational. I bet you didn't realise there were so many famous faces lining the route to your lectures. And maybe, if you work hard like good little students, the grotty little flat full of empty beer bottles you call home will someday have its own blue plaque with your name on it.

For beaucoup de information, visit www.english-heritage.org.uk



The famous painting of Ophelia by Millais, another Imperial neighbour



Scouts: invented and fiddled by Robert Baden-Powell. These ones are earning their chocolate-eating badge

David Brent does Broadway in the Musical Theatre Soc Spring Show

Sebastian Junemann

"Eagles may soar high, but weasels don't get sucked into jet engines." – wise words indeed from the self-styled business guru, David Brent. That said, Ricky Gervais' character in his hit sitcom, *The Office* is not the first to generate such nuggets of wisdom. A shred of deviousness here and a dash of chicanery there had been staple features of the business of satire, long before Gervais was even a twinkle in his father's eye. The universal popularity of office-based comedy lies in the fact that we can all, whether we have experience in that environment or not, relate to the characters and situations portrayed; the schoolyard politics, over-zealous stereotypes and grating one-upmanship are inherently familiar.

Perhaps that's why in 1952, when Shepherd Mead published the satirical self-help book, *How To Succeed In Business Without Really Trying*, it became an instant best-seller. Drawn from his own experiences in the business world, the book's "advice" struck a chord with everyone from Wall Street to Broadway. Indeed, it inspired both the composer and writer of *Guys And Dolls*, Frank Loesser and Abe Burrows, to adapt it into a stage musical of the same name which, upon its debut in 1961, swept the awards board, netting seven Tonys (the theatrical equivalent to the Oscars) and a Pulitzer prize.

This Spring, ICU's Musical Theatre Society, MTSoc, takes on this iconic show. In a departure from recent years' more modern pieces (*Batboy*, *Little Shop of Horrors*, *A Slice of Saturday Night*, etc.) this more traditional musical brings a sense of freshness to the stage of the Union Concert Hall. The decades that have passed since its conception have only served to reinforce the plot and if anything, it's more relevant now than it ever was.

The show tells the story of a hopeless window washer, J. Pierrepont Finch, who comes across a book, *How To Succeed In Business*. He decides to leave his old life behind, following the book's simple tips to climb the corporate ladder. After getting his foot in the front door of the World Wide Wicket Company, Finch rapidly begins to make his move out of the mail-room and into the executive pool. Watching his career with eager interest are Rosemary Pilkington, a secretary who has her heart set on spending the rest of her life with an oblivious Finch, and Bud Frump, the president's nephew who is dismayed to see Finch succeed in getting promoted where his own schemes



This is what Musical Theatre Soc has to offer you: lots of lovely ladies, and the opportunity to have them carry you about like you're royalty

have failed.

As Finch tricks his way into promotion after promotion, the show's wide array of colourful characters provide rich satirical insight into the business world with musical numbers such as the very tongue-in-cheek 'A Secretary Is Not A Toy' and the simply manic 'Coffee Break'. Whether Finch's success is due to the ineptitude of his colleagues or the advice of the book (the dulcet tones of Professor Lord Robert Winston) is anyone's guess, but if watching his bizarre progress is any-

where near as fun as it has been playing the character myself, then you won't be disappointed.

J. Pierrepont Finch is a far cry from my last two appearances on that stage: Jimmy-Jack Cassie, the unwashed, drunken yet brilliant Irishman (Dramsoc's *Translations*) and Dr. Thomas Parker, the obsessive, insane, murderous veterinarian (Musical Theatre Soc's *Batboy*). As it becomes clear throughout the course of the show, Finch is as much of an idiot as the rest of the male workforce (the secretaries being the brains behind the business) and I've always enjoyed playing the fool. But Finch's real charm comes from his childlike naivety and dependence on the book he carries everywhere with him. Despite his tricks and deception, it's difficult not to wish him success.

After six years, this will almost certainly be my last Spring Show with MTSoc before I embark on my own career. Fitting, then, that this particular show is my swansong. After all, the majority of us come to Imperial College to improve our chances of succeeding in business before launching ourselves into a world we know nothing about. So, I urge you, make some time next week (or have your personal assistant do it for you) to come and see this excellent show. Who knows, you might learn a thing or two!

Fertility God enters the musical scene

Lord Robert Winston; fertility expert, Baron of Hammersmith, writer, director, presenter and generally all round nice guy, makes a cameo appearance in the show! The BAFTA award-winning recipient of 14 honorary degrees plays the voice of *How to Succeed*, the narrating book. The Professor's dulcet tones, soothing the ears of the nation on the BBC, will be soothing audience members' ears throughout the night in the UCH, Tuesday to Saturday next week.





Investigating Imperial's efforts to conserve the world's environment

Welcome to the Environmental Research pullout: Green'perial! We hope this Felix supplement will give you a good insight into Imperial's research in the areas of climate change, energy and the environment. Imperial's highest calibre scientists and engineers work at the forefront in these fields; many of them are advisors to the Government and international organisations on some of the biggest environmental challenges of the century.

If you take a look over to the right of this page, you'll see a rundown of the contents. Inside you'll find interviews with a number of Imperial's researchers hoping to make the environment a greener place; the centre spread covers environmentally-related projects happening in the departments around campus; there is a piece on the resurgence of coal as a viable energy source and finally, on the back page, the experts tell us about the environment's future and give you some pointers on how to get involved.

At the beginning of this academic year, Federica came up with the idea of an informative piece about Imperial's environmental research. Indeed, it occurred to us that even after 3 years of full-time study at Imperial, we were still quite clueless as to the kinds of environmental and sustainable research the College is engaged in. As we browsed a few websites, we became aware of the considerable extent of environmental work at Imperial

and decided to investigate further. The investigation has been a team effort since the beginning, and as the days went past we became more and more ambitious about the contents of the piece we wanted to write. Somewhere along the line, Brian, Roger and Vij joined forces with us. We hope you enjoy the fruits of our labour!

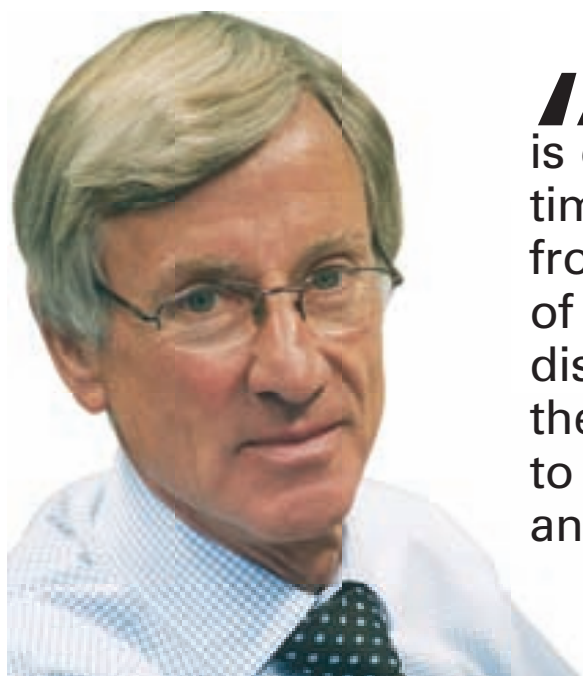
We would also like to say a great big thank you to Ed, Science Editor, and Tom, Editor-in-Chief, of the Felix team. Without them this pullout would not have seen the light of day. They supported and guided us throughout the project, and they also spent many hours putting everything together, giving it a journalistic touch, and crafting out the brilliant design that you can see here.

A special thank you goes to all the people we have interviewed or talked to. We found College's staff very approachable and all the people we met were

generally very enthusiastic about the whole idea of a special piece on environmental research. Unfortunately, we could not include all of the information provided to us due to lack of space, but most of it is there. A particularly difficult decision had to be made regarding Brian Giannakopoulos' piece on Civil and Environmental Engineering. We were painfully short of space, and as a result you will find Brian's highly informative article in the Science pages of this Felix issue.

Finally, we hope you will enjoy reading this pullout as much as we enjoyed putting it together! Well, ok, we'll be honest with you, there were frustrating moments, but as a whole the experience it was a hugely enjoyable one. The best part was undeniably the chance to meet so many of Imperial's staff and students who are all so passionate about their work.

Irini and Federica



// Humanity's impact on the environment is one of the most pressing issues of our time. The answers will only come, I believe, from scientific communities in which teams of scientists, engineers and medics of all disciplines work side by side, bringing their different expertise and techniques to approach each challenge from every angle. **//**

Sir Richard Sykes
Rector of Imperial College London



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Credits

Written by Irini Kyriacou and Federica Dalamel de Bournet, and assisted by Vij Dhayan and Roger Rouhana. Designed by Tom Roberts and edited by Edmund Henley. Centre spread photograph by Sean Gallagher.

The Grantham Institute: the facts

Simon Buckle is Director of Climate Policy at the Grantham Institute, the latest addition to the Walkway. Irini Kyriacou and Federica Dalamel de Bournet caught up with him to find out more about what it does

The Grantham Institute for Climate Change was launched in February 2007 after a £12 million donation over ten years by the Grantham Foundation for the Protection of the Environment.

What is the role of the Grantham Institute (GI)?

The GI's role is to develop cross-disciplinary research at Imperial on climate change, its impacts on humans and ecosystems and what we can do about it in terms of mitigation technologies and adaptation. The Institute also has as one of its core aims to translate the results of research into our responses to climate change, both in terms of technological and policy development. So that what we actually do about climate change has a sound basis in the research.

How did the Grantham Institute come about?

Imperial College has a long tradition of research in climate science across the different departments, but it has never really been joined up. And one thing about climate change is that it requires people working in different disciplines to come together to tackle some of the key questions.

Before the Grantham Institute was launched in early 2007, College (led by Sir Peter Knight) was developing its own initiative on climate. Then the Grantham Foundation for the Protection of the Environment came along and after some discussion offered to give £12 million over a period of 10 years, i.e. about £1 million a year, to be invested in climate research. The rest is history.

How is this money distributed each year?

It will fund PhDs, post-docs, and permanent positions around College and a small number at the Institute. Last year we funded 7 PhDs: in Physics (on photovoltaics and wind energy), in Life Sciences at Silwood (biosphere-atmosphere interactions and climate impacts on biodiversity), Earth Science and Engineering (carbon sequestration) and Civil Engineering (flood and drought risk assessment). Another set of PhD studentships has just been advertised, as have a number of lecturers and postdoc positions. [see <http://www3.imperial.ac.uk/climatechange/courses/phdstudentships>]

Can you explain to us in more detail what kind of research the GI is involved in?

We are still very new but we aim to develop cutting edge research across all areas at IC.

We have set out four main research themes: 1) Earth Systems Science: this looks at fundamental Earth processes, e.g. atmospheric physics, ocean modelling and how the biosphere affects the climate. For example, a new generation of ocean computational modelling is being

developed in the Department of Earth Science and Engineering.

2) Vulnerable Eco-systems and Human Welfare: this will focus on climate impacts on eco-systems and human welfare and what can be done to adapt to those impacts. For example, climate change will change the incidence of major diseases such as malaria in Africa. We need to be able to understand this process so that we can then make informed decisions to control the disease.

3) Sustainable Futures: this covers both mitigation technologies to reduce carbon emissions into the atmosphere (e.g. carbon capture and storage, photovoltaics, renewables etc) and also policy responses, e.g. how to drive the transformation to a low-carbon economy? Can we get effective international action on emission reduction?

4) Risk Extremes and Irreversible Change: A lot of the costs of climate change could come from extreme events, e.g. more severe storms. We need to understand these much better. We also need a better grasp of the risk of abrupt climate change, e.g. the melting of the Arctic ice-cap is taking place much faster than anyone predicted. And climate change also threatens extinction for a huge number of species. Some of these impacts would be irreversible.

There are lots of people around the College who are committed to doing high-quality research in these areas, so that is very encouraging.

I think what we need to do over the next few years is to use the Grantham Institute to build up the scale of resources working on climate related issues around the College. We want to make sure that IC makes a real contribution to this work and that the Institute makes an important contribution to the policy debate and the decisions that are made.

Just how worried should we be about global warming?

The UN framework aims to avoid dangerous man-made climate change, but we don't really know where that danger lies. But things are already happening now in the system that we can tell are due to climate change rather than natural climate variability. Al Gore might be trying to shock people, but there's no doubt that the climate CAN change over quite short time-scales, e.g. decades rather than centuries. I wouldn't like to say it's going to in the next X years, we just don't know enough. But the fact that there is that risk means that we really DO need to be cautious about letting greenhouse gases build up in the atmosphere. The problem is that we don't know where the dangerous points are.

Even without any abrupt change to the system, the rising



The Grantham Institute on the South Kensington campus, and bottom left: Dr Buckle

temperatures and changing patterns of rainfall could have huge impacts on water availability, agriculture, biodiversity, extreme events etc.

Do you have a message for the student body?

Climate change is a critical challenge for society and we need the expertise of the researchers and students of IC to really address it over the next few years.

We need people to understand the urgency of the problem. We have a window of 10-15 years to do something really serious about this problem, otherwise we are committed to have a level of CO₂ in the atmosphere which is worrying in terms of potential impacts.

Look out for special events hosted by the GI, we'll be developing our program over the next year. The Annual Lecture by our new Director, Professor Sir Brian Hoskins, will probably be in May. Brian is a world-class climate expert; he has chaired the Met Office Scientific Advisory Committee since 1995, he was elected as a Foreign Associate of the US National Academy of Sciences in 2002 and appointed as a Foreign Member of the Chinese Academy of Sciences in the same year. He was knighted in 2007 for his services to environmental science.

Many people who acknowledge the fact that climate change is happening are still not prepared to change their lifestyles to reduce carbon emissions. Why do you think that is?

That's partly why trying to understand the risks, and communicating them better, is so important. And a lot of people still don't understand what climate change is.

People say "Oh climate change, that's about the ozone hole!" They have inherently flawed notions of the problem. They hear things and they get worried about it, but they don't really understand it.

So you believe that individuals can make the change happen; it's not just the government's job and big policy makers?

Well you know, governments will act when people tell them that they are fed up with what is happening and what's been done before. Or when they are really convinced about the scale of the threat they face – and there's still some work to do there. Look what happened after WWII: the US put together a massive program of aid, the Marshall Plan, because they were worried that communism would destabilise Europe. There was a massive political and financial effort. I think you

need a similar scale of effort – political, scientific, technological and economic - on climate change.

Do you think the US has got the message now?

There has been some movement e.g. at the G8 meeting in Heigendamm in 2007. But the negotiations at Bali showed how difficult it still is to make progress. I think there is a fundamental scepticism that President Bush will commit to the scale of changes which are needed. People are waiting for the next president. Whether he or she will be radically better or not we need to wait to see, but other governments are not going to do a bad deal with the current administration. They are going to wait. And in the meantime there is a lot of progress at the individual State level, e.g. in California.

Are you optimistic about what Imperial can do in terms of climate change?

In terms of the expertise we can bring, I am very optimistic. We now have a chance of doing something really exciting and important across the whole College. But it is not just Imperial, lots of other people and institutions will have a role too, some of whom have been working on the area for a much longer time and on a larger scale. The appointment of Sir Brian Hoskins immediately means that we will be able to link more closely with Reading's extensive climate modelling expertise. We are also developing partnerships with other leading institutions both in the UK and overseas.

Grantham Family: Quick History

Jeremy Grantham was born in Yorkshire, and went to the University of Sheffield. He is a well-known investment manager and chairman of Boston-based investment firm, GMO.

His wife Hannelore is German and is the Director of the Grantham Foundation for the Environment. She is also a member of the Advisory Board of Oxfam America.

The Grantham Family established the Grantham Foundation for the Protection of the Environment in 1997. The Foundation supports natural resource conservation projects both in the US and internationally.

You can find out more at: <http://www3.imperial.ac.uk/climatechange/about/donors>

A cross-disciplinary department

Irini Kyriacou and Federica Dalamel de Bournet talk to Prof Nigel Bell and Dr Nick Voulvoulis about the Centre for Environmental Policy and how changes in science are catching up with changes in policy

The Centre for Environmental Policy (CEP) is a vibrant department situated in the heart of the Mechanical Engineering building, and also at Silwood Park. We met with Nigel Bell, Professor of Environmental Pollution and Director of the MSc in Environmental Technology, and then Dr Nick Voulvoulis, Senior Lecturer and expert in Waste and Wastewater Management. They kindly accepted to meet and talk to us about CEP's work.

The Centre is a unique interface between science and technology, and economics and policy. Scientists, economists and social and policy experts work towards gathering the scientific evidence necessary to implement new environmental policies, or, alternatively, support policies already in place. "We collect the evidence in order to change or develop [environmental] policy" explains Dr Voulvoulis. However, most policies are set in place before the scientific evidence is present. This is "because science does not move as fast as policy". The CEP is working towards inverting that trend.

As a result, the Centre actively collaborates with institutional bodies such as the Department for Environment, Food and Rural Affairs (Defra), Research Councils UK and the Environment Agency amongst others. Part of CEP's work involves obtaining information from medics, engineers and scientists across College to understand where the needs for new policies stand. Similarly, amending and modifying policies currently in place requires strong scientific evidence which the CEP gathers from Imperial's outstanding science and technology research.

As the name suggests, CEP's expertise touches all areas of the environment from energy to pollution, conservation of resources, food and environmental security, and poverty reduction. The excellence of Imperial's research, which is carried out in such an extensive range of subjects, makes it an especially suitable place for the CEP to carry out its mission.

The department also runs one of the most successful and innovative post-graduate MSc courses at Imperial, the MSc in Environmental Technology. It is currently the largest MSc on campus, with ca. 135 students enrolled every year. The nature of this course is highly interdisciplinary. Indeed, the course comprises modules as diverse as Ecology, Environmental Law, Risk Assessment, Environmental Economics, Environmental Pollution and Control, and Environmental Policy and Management. In the 2nd Term students choose an area of specialization such as Business and the Environment, Energy Policy, Water Management and many more, depending on their academic background and interests.

A significant number of MSc students remain within the Department to pursue a PhD. Currently the Centre is home to approximately 80 PhD students. The research projects are highly cross-disciplinary, and focus on current or potential upcoming environmental issues in the UK and world-wide. PhD projects are often jointly supervised by the CEP and one or more other departments.

Last but not least, the CEP houses the Imperial Centre for Energy Policy and Technology (ICEPT). The latter is an academic hub which focuses on the link between energy and the en-



The CEP is working to improve the UK's environmental policies and its countryside

vironment. Interdisciplinary research carried out (Bioenergy, Energy in Developing Countries, Hydrogen and Fuel Cell Energy, Decentralised Energy and Transition, Innovation and Policy) grants ICEPT with the necessary expertise to lead the Technology and Policy Assessment (TPA) function of the UK Energy Research Centre (UKERC). The UKERC is the UK's pre-eminent centre of research on sustainable energy systems; it was

established in 2004, following a recommendation by Sir David King, the UK Government's Chief Scientific Advisor in office at the time.

CEP's academics work together towards establishing trans-disciplinary expertise in the environmental field. The aim is to translate science into policy. The next step is to make sure policies are endorsed and respected by citizens.

Energy Futures Lab: what's it all about?

Vij Dhayan gives us the lowdown on the centre taking a holistic approach to the energy challenge

Developing a sustainable energy future involves providing clean, secure and affordable energy to a growing market. However, the growth of first-world economies, the emergence of new energy-guzzling nations, the depletion of fossil fuels, technological limitations, and complex climatic and geopolitical scenarios are making energy policies increasingly difficult to craft out.

The future of energy production and distribution is so intricate that an approach where technology, economics and politics are viewed independently will necessarily be ineffective. In fact, tackling the energy challenge will require a holistic approach, and this is exactly what the Energy Futures Lab of Imperial College is set to achieve.

Housed in Civil Engineering's Skempton Building, the Energy Futures Lab aims to tackle important energy questions by harnessing the expertise of various departments around the college. Imperial's mastery of engineering and scientific disciplines such as energy efficiency, nuclear energy and transport, coupled with input concerning economics, policy-making and risk from the Tanaka Business School, makes it an excellent motor for research and innovation in the field of energy policy.

This multidisciplinary approach is ideal, since it allows the Energy Futures Lab to combine the research performed within departments at Imperial to the United Kingdom Energy Research Centre (EKERC), the Carbon Trust and the government.

Importantly, the Lab acts as a bridge between the



The Energy Futures Lab is currently working with BP to research how cities can optimise the efficiency of their existing energy sources

university and industry, thus ensuring that the research carried out within Imperial's departments is relevant to the actual requirements of real life applications. This collaboration is seen through some of the research projects currently being carried out at the Lab.

The BP-Imperial Urban Energy Systems investigates various ways by which cities could optimise the use of resources such as power, heating and

water, or improve their transport systems. This is done by using complex modelling techniques onto which business and policy factors are grafted, and by comparing current and novel approaches used in managing big cities.

Another interesting endeavour of the Lab is the Shell-Imperial College Grand Challenge Programme on Clean Fossil Fuels, the main targets of which are to find ways of limiting the release of

greenhouse gases during the extraction of fossil fuels and the delivery of energy and by-products to consumers. This will be done through analysis of the supply chain and either limiting the amount of CO₂ produced or capturing what is released.

The Energy Futures Lab offers MSc courses in Sustainable Energy Futures and Environmental Technology, and cross-disciplinary PhD research themes.

Which research groups in your department are contributing to a greener future?

Hidden away in the depths of the departments around campus, many of Imperial's research groups are beavering away developing ways to make the world that we inhabit a cleaner and more sustainable place to live.

Spread across these two pages we've named many of the environmentally related research groups. If you'd like to find out more about each group, head to the links provided.

This list is not exhaustive and there are omissions; it should, however, hopefully give you a taste of the contributions Imperial's scientists are making to a greener future.

Civil & Environmental Engineering

Environmental and Water Resource Engineering – Prof Howard Wheeler
<http://www3.imperial.ac.uk/ewre>

Environmental Control and Waste Management – Prof Sue Grimes
<http://www3.imperial.ac.uk/cecwm>

Environmental Fluid Mechanics – Dr Gary Hunt
<http://www3.imperial.ac.uk/people/gary.hunt>

Centre for Transport Studies – Dr Robin North
<http://www.cts.cv.ic.ac.uk/>

Biological Sciences

Biology of Wood and Plant Fibre Materials: Applications to Biofuels – Dr Richard Murphy
www.bio.ic.ac.uk/research/rjmurphy/murphy.htm

Medicine

Epidemiology, Public Health and Primary Care (St Mary's Campus): Environmental Epidemiology and Biostatistics – Prof Paul Elliott
www.imperial.ac.uk/medicine/about/divisions/ephpc/eph/

Chemistry

Fuel Cells – Dr Antony Kucernak
www.ch.ic.ac.uk/kucernak/index.html

Solar Energy: Solar Hydrogen – Prof James Durrant and Prof David Klug (In collaboration with Energy Futures Lab)
www.imperial.ac.uk/energyfutureslab/research/solarhydrogen

Solar Cells: Photovoltaics – Prof James Durrant and Dr Saif Haque
www.electronicmaterials.ch.ic.ac.uk/

Ionic Liquids and Green Solvents – Prof Tom Welton
www3.imperial.ac.uk/people/t.welton

Green Chemistry – Dr Ed Marshall
www.ch.ic.ac.uk/marshall/

The Grantham Institute for Climate Change

Mathematics

Real time ocean modelling – Dr Dan Moore
www.imperial.ac.uk/amm

Chemical Engineering & Chemical Technology

Natural Resource Engineering:
– **Energy Engineering** – Prof Rafael Kandiyoti
www.imperial.ac.uk/chemicalengineering/research/researchthemes/researchfocusareas/enge
– **Environmental Engineering** – Prof David Stuckey
www.imperial.ac.uk/chemicalengineering/research/researchthemes/researchfocusareas/enve

Biological Engineering:
– **Biotechnology and Bioprocess Engineering** – Dr. Sakis Mantalaris
www.imperial.ac.uk/chemicalengineering/research/researchthemes/researchfocusareas/bbe

Physics

Space and Atmospheric:
– **Atmosphere and Climate Physics** – Prof Joanna Haigh, Prof Ralf Toumi
– **Earth Observation Physics** – Prof John Harries
– **Ocean-Atmosphere Interaction** – Dr Arnaud Czaja
www.imperial.ac.uk/spat

Plasma:
– **Laser Plasma Interactions** – Prof Roger Evans, Dr Robert Kingham
– **Tokamak Research** – Prof Tim Hender, Prof Malcolm Haines
www.imperial.ac.uk/research/plasma

Experimental Solid State:
– **Molecular Electronic Materials and Devices** – Prof. Jenny Nelson
– **Semiconductor Physics and Optoelectronics** – Prof Keith Barnham
<http://www.imperial.ac.uk/research/exss>

Aeronautics

Aeroacoustics – Dr Aimee Morgans
www.imperial.ac.uk/aeronautics/research/aeroacoustics

Wind-and-Tidal stream-turbines – Prof Michael Graham
<http://www3.imperial.ac.uk/vortexflows/research/windturbines>

Fundamental flow studies –
<http://www3.imperial.ac.uk/aeronautics/research/environmental>

Energy & Environment Office

Centre for Environmental Policy

Mechanical Engineering

Sustainable Energy – Prof Nick Cumpsty and many others
www.imperial.ac.uk/mechanicalengineering/research/thermofluids/sustainableenergy

Multiscale Flow Dynamics – Prof Peter Lindstedt
www.imperial.ac.uk/mechanicalengineering/research/thermofluids/multiscaleflowdynamics

Materials

Ceramics and Glass:
– **Materials for sustainable development and waste recycling** – Dr Aldo Boccaccini
www.imperial.ac.uk/people/a.boccaccini
– **Solid Oxide Fuel Cells** – Prof Atkinson and others
<http://www3.imperial.ac.uk/people/alan.atkinson>
– **Intermediate Temperature Solid Oxide Fuel Cells** – Prof John Kilner
www.imperial.ac.uk/people/j.kilner
– **Materials for New Energy Technologies** – Dr Stephen Skinner
www.imperial.ac.uk/people/j.skinner
– **Sustainability of Materials** – Dr Luc Vandeperre
www.imperial.ac.uk/people/l.vandeperre

Nanotechnology:
– **Nanocharacterisation** – Prof John Kilner and Prof David McComb
www.imperial.ac.uk/materials/research/nanotechnology/nanocharacterisation/phdjaspera

Energy Futures Lab

Earth Sciences & Engineering

Energy, Environment, Modelling & Minerals – Prof Nigel Brandon
www.cerespower.com and www.imperial.ac.uk/people/n.brandon

Computational Physics and Applied Modelling – Prof Christopher Pain
http://amcg.ese.ic.ac.uk/index.php?title=Main_Page

Energy, Minerals and Environmental Management – Prof Jane Plant, Prof Jan Cilliers

Geohazards and Geoengineering – Prof Sevket Durucan
www.imperial.ac.uk/earthscienceandengineering/research/geophysics/remotesensing/gisandgeohazards

Earth and Planets – Prof Philip Allen
www.imperial.ac.uk/pgprospectus/areasofstudy/atozlistofstudyareas/earthscienceandengineering/research/earthandplanetssection

Petroleum Geoscience and Engineering – Prof H.D. Johnson
<http://www3.imperial.ac.uk/pgprospectus/areasofstudy/atozlistofstudyareas/earthscienceandengineering/research/petroleumgeoscienceandengineeringsection>

Electrical & Electronic Engineering

Control and Power:
– **Power Electronics** – Prof Tim Green and many others
www.imperial.ac.uk/people/t.green

Power Systems:
– **Sustainable Generation Systems** – Dr Carlos Hernandez Aramburo
www.imperial.ac.uk/people/c.a.hernandez
– **Modelling of distributed and renewable energy sources** – Dr Bikash Pal
www.imperial.ac.uk/people/b.pal
– **Integrating wind power generation to power systems** – Dr Goran Strbac
www.imperial.ac.uk/people/g.strbac

Sustainable Energy – Dr Simos Evangelou
<http://www3.imperial.ac.uk/mechanicalengineering/research/thermofluids/sustainableenergy>

Optical and Semiconductor Devices – Prof Richard Syms
<http://www3.imperial.ac.uk/opticalandsemidev>

Translational research at Imperial

Dr Tariq Ali is Director of the Energy and Environment Office (EEO). Irini Kyriacou and Federica Dalamel de Bournet met with him to talk about his work, the role of the EEO and Scarlett Johansson

On a frosty clear January morning, we went along to the elegant Edwardian building at 58 Princes Gate which hosts the Energy and Environment Office (EEO). Climbing up a couple of flights of stairs, we found ourselves in Dr Tariq Ali's bright and airy office. We knew that the EEO has a central role in promoting and nurturing Imperial's environmental research, but little else. Fortunately Dr Ali was kind enough to tell us more.

How did you come to be the Director of the Energy and Environment Office?

I was in the Astrophysics group in the physics department, working away minding my own business. But I was vice-chairman of the National Organisation of Scientists in my spare time. At around 1998 Lord Oxburgh – the Rector at Imperial – and the Deputy Rector decided that, strategically, College could have a major impact in three key areas: Energy, Environment and Healthcare. We were all working in an interdisciplinary mode, and we felt we had a lot to offer and that we could be world leaders in some areas. In healthcare, it was slightly different so he set about doing that. However, what he asked me to do was to set up the Energy and Environment office, which was called the Environment Office at the time.

What did your job entail? How were the beginnings of the Environment Office?

I didn't have a job description as such, or a mission of statement but my job was to make interdisciplinary research happen – get projects together that were interdisciplinary, and work across the departments. At that time there were 20 departments and all sort of verticals per faculty structure. So the Environment Office was set up to focus on research, facilitate and initiate new projects – anything to do with the environment that was interdisciplinary. One thing we had at the time was a network which I had set up called the Environment Forum, which had about 250 researchers working on environmental projects.

What does EEO work on?

We work right across from basic research to translational research, and with industry partners all around the world. We act as the first point of contact and do a lot with the media – a lot of producers and journalists call me up. We also deal a lot with the investor community, people who want to invest in our technologies both at the R&D level but also at the spin-out level, or licencing our technologies.



A holistic approach is necessary to ensure safer and cleaner energy supplies for all

What are the links between industry and Imperial College in the environmental field?

Dialogue with companies and research councils, as well as other institutions is a significant part of what I do: building the bridges between the external drivers in environmental science and sustainability and us, to get an alignment. We did that quite successfully, and we've had a number of projects that kicked off. I also helped set up the Strategic Alliance with BP on the environment. It started in 2000 as totally focused on the environment, and resulted in 60 consultancy projects all around the environmental theme. Subsequently, they gave us millions of pounds for working on next-generation photovoltaics, solar energy, carbon capture and related issues both from the technology perspective and also the policy perspective. Shell has provided for the Future Fossils Programme, run by Professor Geoffrey Maitland in the Chemical Engineering department.

Any other exciting joint projects with Industry?

We've got the Urban Energy Systems Program which is a multimillion pound initiative. This is quite exciting because it's the first time anyone has attempted this. We went to BP and said: "By 2030 most of the world's population will be living in mega-cities. These are your customers, do you understand what the impact is going to be on you as a business on a wider global perspective?" They said "no". So we put together this programme (UESP) that is led by Professor David Fisk in Civil Engineering and Professor Nilay Shah of Process Systems Engineering in the Chemical Engineering department.

How supportive have College been with these initiatives?

When Sir Richard Sykes came along as the new Rector he was totally supportive and understood the strategic importance of energy in the environment.

Does the EEO have any links with governmental environment bodies?

I am on the Energy Minister's Renewables Advisory Board, and I have been for the last four years.



This is a major initiative in bioenergy and biomaterials led by Professor Richard Templar along with Dr Tariq Ali. The Porter Alliance brings together more than 100 scientists, engineers and policy makers from Imperial College and other leading UK institutions to help commercialise the technology. As the Business Development Manager, Mr Rafat Malik is responsible for making sure that there is an alignment between the research carried out and industry, thus making it possible to reach the product development stage. As Dr Ali puts it, "To make a difference we have got to get this technology out, there is no point in just publishing papers".

And Solar Energy?

We have big lead in solar energy. It turns out we could meet all of our domestic heating requirements from solar panels. We've got the next generation of solar panels which are going to be 10 or maybe 100 times cheaper. That's what Professor James Durrant at the Chemistry department is working on. So from an innovation perspective we have the lead in a lot of things. We don't have much geothermal or biomass, but then again we don't have much land for biomass. However, we mustn't think of the UK as geographically constrained because it's all about creating ideas and new technologies that will have a global impact.

Just how worried should we be about climate change?

I am just sceptical about political leadership or political institutions being able to do anything in trying to stabilise 450ppm CO₂. I am

nervous personally whether we are even going to make it. That is 2-3 degrees. And actually people think that if you hit 550ppm that's it; that it's kind of a vertical switch. But it's a distribution and there is still a 20% chance that we are going to get 5 degrees, so even if you stabilise at 550ppm you've got an uncertainty in our understanding. So the model predicts a 2-3 degree increase, but actually it could be 5



The AtlantiCC Alliance initials stand for Transatlantic Innovation and Commercialization Centre.

It is essentially a collaboration between three of the world's leading centres of excellence in sustainable energy; Oak Ridge National Lab, Georgia Institute of Technology and of course Imperial College. Oak Ridge, the largest Department of Energy National Lab in the United States has formed its only partnership outside the US with Imperial College. 'This is a real honour, a feather in our caps!', proudly boasts Dr Tariq Ali.

And their are tangible benefits too: Imperial researchers now have access to otherwise unavailable multimillion dollar infrastructure and equipment.

degrees which would be catastrophic. So how do you meet the aspirations of the developing world who quite rightly want to get out of poverty and decouple that from environmental impact? To have an increase in quality of life means provision of energy – you need to decouple that from emissions and decouple that from environmental impact. You can do it but it means configuring the engineering systems.

How is Imperial involved in tackling climate change?

We've got the Grantham Institute which is a major new effort. We have tremendous expertise in certain parts of biodiversity with Professor Georgina Mace (Biology), hydrology with Professor Harold Wheater in Civil Engineering, and in the Physics Department in terms of earth observation, and modelling and understanding of clouds. Professor Jo Haigh is fantastic and an expert in radiative transfer in the atmosphere and the roles of clouds which are big uncertainties in GCM models. There is a lot of expertise around College, and the Grantham Institute is going to be able to capture that and articulate it in a way that answers some of the bigger questions. Sir Brian Hoskins has been appointed as the first director. He is an outstanding scientist and we are very lucky to have someone of his calibre to come in as the director.

I've been getting more and more personally in-

involved in climate change. I am involved in a charity called Global Cool. You may have heard of it. Sienna Miller and big celebs are involved. I helped launch it about a year ago – I was on the platform giving a science talk and right up there with me were KT Tunstall and Josh Hartnett. Jesus, he is such a good looking bastard, it's awful! He is 6 foot 3 and I was standing next to him thinking 'this is terrible'. Luckily, when they were doing the photo shoot, somebody took pity on me and moved me to the other side, next to KT Tunstall! She's nice and very eloquent and very smart. Anyway Josh Hartnett was really sad because he had just split up with... what's her name... Scarlett Johansson. And I was thinking I've never even been in the same country as Scarlett Johansson, I don't think! Oh it's a funny old world.

Cromwell Road is one of the most polluted roads in England...

I wouldn't be surprised: do you remember that story published in a paper by one of our researchers – Dr Roy Colvile? He said that air pollution in terms of particulate matter going into your system [depends on] how closely you stand to the edge of the curb: one metre back and you massively reduce the amount of rubbish going into your lungs.x

What sets Imperial apart from other Universities?

The academics here are usually very easily motivated to work together, because of the culture of the place here. We are very pragmatic, very practical, we see challenges that may actually lead to new technology and commercial return, even though sometimes research may be purely a science curiosity driven enterprise. We are a very small campus in South Kensington, and it is not that far from Silwood and Wye, so it's easy to get people together. There is a cohesion about Imperial, and a motivation to actually do what it takes to get the job done. Really we should be proud of our university. We don't advertise ourselves or market ourselves as well as the Americans do and as well as some of the other places do. There is some fantastic work going on here.

You've told us a lot about the academics, so what about the student body?

Our students don't realise how good they are. Obviously you are very good in science but you are also very knowledgeable, there are so many talented musicians and sports people and writers and many other things. You can appreciate art, literature and culture and can contribute in so many ways.

You talk to people who study arts and have absolutely no clue about science, but so many people here that I have met are fantastic musicians as well as being good scientists.

People don't realise how talented the students here are, they are fantastic!

Global Cool is a charity which takes a ground-up approach on climate change by getting individuals to make a personal commitment to reducing their carbon footprint.

The founders of Global Cool believe in the power of individuals to tackle climate change, without ignoring corporate responsibility.

An exciting joint-project is currently underway with Vodafone: next time you are in a Vodafone store, take a minute to look around



Global Cool

and you might spot Sienna Miller on the mobile phone recycling bin! Vodafone gives approximately £10 per mobile phone recycled through this scheme to Global Cool.

The money goes towards funding projects in Zambia: old kerosene lamps are exchanged for solar powered white light LEDs, a change which make a massive difference to the livelihoods of people living in villages with absolutely no electricity.

Black is back: The return of coal

The future's bright, but it ain't orange – coal's making a comeback! Roger Rouhana tells us why coal *is* cool

If anyone had told me a few years ago that coal was to become trendy, I would have told them they were crazier than a naked guy riding a saddleless bike. Although it has never really gone away, coal is perceived by the public as a dirty resource that belongs to another, less advanced, time. It is indeed dirty but it's far from being relegated to the history books. Not only does it still provide a colossal portion of our energy supply – more than 50% of the United States' power stations run on coal – but it also has prospects which are bright and, if I may say, shiny.

Charleroi is a Belgian city, famous for its fries, its beer and a glorious past built on the back of a redoubtable and powerful coal industry. Now it's just one of those cities that has never recovered from the decline of coal related activities – the unemployment rate is one of the highest in Belgium, violence is everywhere and the future doesn't seem to hold anything pleasant in store. I've taken the example of Charleroi, but I could have taken the example of any number of cities in other European coal centres such as Northern France or South Wales, each of them having suffered a similar fate. Lack of efficiency, tough working conditions and competition from other energy sources (such as oil or nuclear power) and other continents, where labour was cheaper and where 'open air' mines often made it much cheaper to extract coal are the main reasons the coal industry in Western Europe declined so swiftly in the latter part of the last century. The perception of coal as an archaic energy source, produced by an industry that sustains poverty more than anything else is, to a great extent, biased by the trauma associated with this decline.

While thousands of jobs were lost in Europe when this labour intensive industry disappeared, coal continued to play a vital role in the development of another giant; China. For the last twenty years, the Chinese authorities have been using coal as a key component in their search for growth. More than 80% of Chinese electricity comes from coal – more than double the world average – and in 2005, around five coal power stations were opened every week. Of course, this single-minded focus on coal has costs, both human (around 5,500 Chinese miners die every year) and environmental (China's carbon emissions from coal use account for approximately 10% of the world's CO₂ emissions) but this focus also provides an invaluable boost to the economy,



Sparklingly clean with an (Olympic?) torch to guide him through the tunnels

allowing millions of people to leave poverty every year – lest we forget, in a country where more than 200 million individuals still live with less than a dollar a day.

China's insatiable need for energy is not the only reason making coal an essential element in tomorrow's energetic landscape. The explosion of the demand for energy is common to many other developing countries such as India, Brazil or Russia, adding pressure to dwindling energy resources. This plays an important part in the future development of coal – it enjoys a relatively high cost efficiency, up to 6 times less expensive than oil and gas. Moreover, coal resources are distributed much more evenly than the oil and gas resources: coal can be found on practically all continents, and in abundant quantities (pessimistic estimations give us more than 100 years of coal based on the present consumption standards), which could release many countries from the energetic dependence they have on others.

It seems clear that coal is here to stay, wheth-

er we invest more in green energies or not, and whether we invest more in nuclear power or not. Unless major breakthroughs in the energy domain are found, this polluting energy is to have a big stake in the future diversity of energy systems and the only thing to do about it is really to find reasonable and cost effective ways to control it and make it less ecologically harming.

In the wake of the Kyoto agreements, some Governments have taken action against carbon emissions; an example of one such initiative is the European Union Emission Trading Scheme (EU ETS) which demonstrates the European Union's leadership on climate change. This plan allows firms to buy and exchange 'pollution credits' between themselves, acting like a tax on pollution. After a difficult (and not very efficient) start, this scheme has proven to be very successful, and has had a significant impact. It's not universally lauded – many companies see it as a direct attack to their competitiveness as companies polluting outside Europe are not constrained by the EU ETS.

However, a positive effect of this plan has been to oblige companies to invest in ways to pollute less, notably in the research and development of greener ways of producing, therefore using fewer 'polluting credits'. In the steel industry, where carbon emissions could add more than 20% to the original costs, initiatives have been taken to reduce the energy consumption and investments have been made in carbon sequestration technologies.

Innovative technologies should therefore be the key to the control of what seems to be an inevitable increase in carbon use. Many heads of companies are hoping the Carbon Capture and Storage (CCS) technology will relieve their pain. CCS is, as the name suggests, a process that captures carbon dioxide from sources of significant emission (such as coal power plants) and stores it either in underground geological formations (such as depleted oil or gas fields) or directly in the ocean (A third way called mineral storage also exists, which involves reacting carbon with other minerals to produce carbonates, but this process is very cost and energy intensive).

Regrettably, despite seeming promising on the face of it, this technology has costs associated with it, which may be great. Some costs are financial: adding the necessary infrastructure onto new and existing plants has an economical cost, increasing the price of a plant by up to 90%. Despite it being less expensive to build new plants equipped with CSS kits than adding them to existing plants, without public incentives, firms wouldn't be very keen on taking such initiatives. Other potential costs are environmental: storing thousands of tons of carbon underground or even in the oceans may have undesirable effects, such as the acidification of the ocean, or dangerous leakages of carbon dioxide, which could be lethal to the surrounding environment. Finally, somewhat ironically, the CSS process dramatically increases energy consumption, by up to 50% in some cases.

Nevertheless, the overall savings for the atmosphere are tremendous as it is estimated that a plant equipped with a CSS system could reduce its carbon emissions by more than 90%. And such systems will play a central role – as Malcolm Wicks, the British Energy Minister, notes:

"Whatever the most fierce environmentalists may say and wish, the world is going to be burning lots of carbon, particularly loads and loads of coal, for 100, 200 years to come."

What can you do to get involved at Imperial?

If you're feeling inspired or you aspire to make the world a greener place, check out these courses on offer

Imperial offers plenty of postgraduate courses which can lead to environmentally related careers. If you're interested have a look at the list we've compiled below. Likewise, if you're an eager undergraduate, you might want to check out the UROP placements available in the departments around College which offer a selection of environmentally related summer placements.

This long list below reflects the breadth of environmental research at Imperial. There are further opportunities but we've limited ourselves to courses we judged to be most closely related to climate change, energy and the environment.

You can always find out more by going to each department's website, by contacting the researchers directly or through the department's postgraduate admissions representatives.

PhD

The breadth of Imperial's environmental research is massive and so are the number of PhD opportunities. If you'd like to find out more about PhDs at Imperial, head to www.imperial.ac.uk/employment/phdstudentships.

Masters of Science (MSc) & Masters of Research (MRes) Courses

Masters courses are offered throughout each department. The entry requirements differ for each course with some requiring a 2:1 undergraduate degree as a minimum. Others might involve an interview process as well. For specific details, check out the information related to the course you are interested in.

Interdepartmental

- MSc in Sustainable Energy Futures
- MSc Metals and Energy Finance
- MSc in Nuclear Science & Technology



Engineering

- MSc in Hydrology for Environmental Management
- MSc in Engineering Geology for Ground Models and Sustainable Development
- MSc in Environmental Engineering
- MSc in Soil Mechanics and Sustainable Development
- MSc in Transport and Sustainable Development
- MSc in Soil Mechanics and Environmental Geotechnics
- MSc in Concrete Structures and Sustainable Development
- MSc in Structural Steel Design and Sustainable Development
- MSc in Environmental Engineering and Business Management
- MSc in Environmental Engineering and Sustainable Development
- MSc in Transport
- MSc in Petroleum Geoscience
- MSc in Petroleum Engineering
- MSc in Petroleum Geophysics
- MSc in Hydrology and Sustainable Development

Natural Sciences

- MSc in Environmental Technology
- MRes in Green Chemistry: Energy and the Environment
- MRes Nanomaterials (Solar Cells research cluster)
- MSc in Conservation and Forest Protection
- MSc in Conservation Science
- MSc in Crop Protection
- MSc in Ecology, Evolution & Conservation
- MSc in Ecology, Evolution and Conservation Research
- MRes in Integrated Crop Pest and Disease Management

Medicine

- MSc in Modern Epidemiology
- MSc in Public Health

Tanaka Business School

- MSc in International Health Management

Brand New Green Chemistry MRes (The editors' choice)

If you fancy the idea of a multidisciplinary course in energy and the environment then take a closer look at the MRes in Green Chemistry.

The course includes core lecture modules in a wide range of disciplines such as: Renewable Energies, Green Reaction Media, Catalysis, Sustainable Chemical Engineering and Environmental Chemistry, Economics and Policy.

UROP (Undergraduate Research Opportunities Programme)

UROPs are summer programmes within research groups at Imperial. If you are an undergraduate, and you are interested in participating in some cutting-edge science projects for a few months then this is for you! The pay varies from one project to another, but you will receive a salary.

A number of the projects advertised for this summer involve environmentally-related research. To see a list of projects available this summer go to www.imperial.ac.uk/urop. If you miss the deadlines for UROP placements, a 'Last Minute Opportunities page' will be made available online at the same website address on 1st April.

Seminar hosted by the Energy and Environment Office

If you're not quite ready to consider a career tackling the world's environmental concerns, you may just want to find out about how the UK can take the initiative by attending George Osborne's (MP Shadow Chancellor of the Exchequer) seminar: "How the UK can take a global lead in Green Technology". The details are below:

Date – 27th February 2008

Time – 3:00pm

Venue – Sir Alexander Fleming Building Lecture Theatre G16.

To register, please RSVP to eeo@imperial.ac.uk. For more information, head to: www.imperial.ac.uk/energyandenvironmentoffice/newsevents.

The experts' views on the future and development of renewable energies



Solar Energy

"Of all the renewable energy technologies, solar energy has the greatest potential as a world power source. The energy of solar irradiation incident upon the earth in one hour is equivalent to the world's entire annual energy consumption at present. For this reason, solar photovoltaic, the direct conversion of sunlight to electricity, is expected to play a significant role in future electricity supply."

– Dr Saif Haque, Department of Chemistry

Fuel Cells

"Fuel cells offer the potential for high efficiency and low emissions. However, engineering the right microstructures in the component layers, manufacturing them repeatably and making them cost-competitive requires an enormous range of skills. Fuel cell components frequently have to perform many functions simultaneously and finding the best compromise can only be done by working in a multi-disciplinary team."

– Dr David Hart, Center for Environmental Policy



Fuel Cells

"Fuel cells allow efficient conversion of chemical to electrical energy. In doing so we hope to produce efficient, inexpensive and stable catalysts, and to develop ionic conductors which function efficiently over a wide range of operating conditions. Getting a fuel cell to work well is all about adjusting the chemical, electrical and physical properties of multiple materials so that they all function in harmony"

– Dr Anthony Kucernak, Department of Chemistry

Biomass Derived Fuel

"The problem is to make fuel from plants in ways that are sustainable and to do this we are looking at low-energy, low-carbon ways of converting plant cell walls into alcohols and oils. Doing this will reduce land requirements, agricultural inputs and the costs of processing plant material into fuel."

– Prof Richard Templer, Porter Alliance, Hoffmann Chair in Chemistry



Wind & Tidal Turbines

"The increasing size and flexibility of the latest wind turbines and the need for offshore deployment have increased the critical importance of predicting blade dynamics accurately. Projects in the Aero department are investigating unsteady blade load control by rapid-acting flaps, interaction between blades and the tower and the effect of upstream wakes in a wind farm impinging downstream rotors."

– Prof J Michael Graham, Department of Aeronautics



Solar Energy

"Achieving efficient solar energy conversion places very tight constraints on the properties of the materials which are employed. Employing molecular materials allows us to exploit the power of synthetic chemistry to prepare molecules with a vast range of functionalities. The challenge is knowing what properties are key for efficient solar cells, and then to integrate these molecules into practical, low cost and stable devices!"

– Prof James Durrant, Department of Chemistry

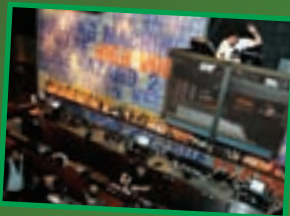
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FRIDAY 22

Green Week 08 Finale

Celebrate the end of green week at the Union with a host of great bands and DJs.

An exhibition of DJing, ethical fashion, and musical talent all to raise money for environmental charities.



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Film

Film Editor – Alex Casey

film.felix@imperial.ac.uk



Alex Casey
Film Editor

Given the pretty lacklustre turn out at the BAFTAs the other week, I found myself thinking this week about the one thing that won't be coming out this awards season; stars.

Now, don't get me wrong - this isn't necessarily a bad thing. Despite a fascinated interest in them - akin to what some depressingly morbid people refer to as car crash interest - I do find the Oscars a horribly anachronistic and awkward sight to behold. There would be a certain amount of disappointment if they fully welcomed in foreign filmmakers as then there would be nothing to complain about. The whole point of awards when the winners are taken care of is the pleasure of debate that they evoke from people.

However, it hasn't always been so. Between the birth of the Oscars (1928) and the 1960s, as narrative cinema ousted documentary and avant-garde cinema from the mainstream, Hollywood was born and the machine creaked into operation. Not content with providing monopoly filmmaking in the US, the machine sucked in European and British cinema as well to create the standard model almost as scientific as the quantum theory that was being developed at similar times.

This was how stars were formed. Under long (perhaps up to 7 years) contracts, they moulded people who would become household names - Greta Garbo, Bette Davis, Cary Grant, etc. This wasn't a system for whiners: your studio told you what to wear, when to go to bed and who you could marry. Human rights violation? Well, most of them did alright out of it.

These names made the Oscars. In a day when you know everything about a 'star' and think their best performance in the last year was in an Armani ad, the image rusts. Even the odd one who could lay claim to any sense of mystery is compromised by the lack of any sense of 'Hollywood Community' that was as much a part of the dream. Knowing that Marlene Dietrich and Rita Hayworth would be rubbing shoulders is a much more idyllic thought than thinking of George Clooney running away from Paris Hilton.

As for the films, as I've already lambasted the arbitrariness of the whole process of awards shows - I could even go further and shoot myself in the foot by questioning the need for critics - I can concede that in a system where most films being churned out are all-but-identical, the few that get noticed probably had something different, even if it was just an angry Jack Warner blackmailing the voting Academy.

This is not in any way an interesting, unique or integrity-laden column. I apologise. It is simply the musing of a cinephile who fancied a slight *divertissement* from a pretty boring week for film. I don't normally subscribe to the rose-tinted view of the so-called Golden Age that people hollowly praise as another example of how the world has gone to shit. They certainly don't make them like they used to. They make them better. But without Rita and Marilyn.

Rambo: Beyond First Blood

With Rocky having thrown his final punch, Sylvester Stallone jumps back into the shoes of bloodthirsty Rambo. For cynics and superfans alike, Felix goes in for the kill

Rambo ★★★★★

Director: Sylvester Stallone
Writer: Art Monterastelli,
Sylvester Stallone
Cast: Sylvester Stallone,
Julie Benz,
Matthew Marsden

Stefan Carpanu

So heroes never die, do they? Well, I suppose this bombastic statement refers to more than actual beating heart and pulse, but whatever might be said about other heroes, death seems to stay away from Rambo - in a manner of speaking.

You may have heard of him before, when he turned a whole town upside down after being spitefully arrested; or when he went back into Vietnam to save some POWs and ended up slaughtering a lot of despicable Vietnamese soldiers; or when he travelled to Afghanistan to save the life of his friend and mentor. But seeing Sylvester Stallone have his way with the Burmese army, twenty plus years since his first venture into the pure evil of this world, is a view to be relished by any action-fan, as it sets new standards in both despicable villainy and righteous retribution of pain and suffering.

In the beginning of this very slick looking jungle film, John Rambo seems to have contented himself with the serene life of a snake catcher somewhere near the border of Burma, where - we are told - a most terrible genocide is taking place. Having been bluntly informed of the purpose of this film in the first minute, we move on to its scope when a couple of army-sadists play the Burmese version of the hundred metres sprint, sending the unfortunate locals running through crop fields ridden with mines and the bets are on for who blows up first. Fast forward to good old Rambo, who resides in a small camp where entertainment consists of a young lad doing a one-on-one with a cobra.

To break the monotony of the day, a couple of naïve Americans rock up needing Rambo to take them by boat into Burma, where they want to help the locals. With John's sense of justice still dormant at this point of the film, he initially refuses to help them, but is eventually persuaded by the sole woman of the group, whose eloquent speech about time and being seems to hit a chord with him. An exciting boat ride later (during which we are offered a glimpse of what is to come), the aid workers barely get to "make a difference" before the Burmese army storms



Stallone attempting to silence his critics

in, bombarding everything in its way and taking the survivors captive. When Rambo finds out about this tragic turn of events (probably thinking to himself "I told you so"), he agrees to take a group of mercenaries on a rescue mission - and the action begins.

The film itself sins a lot, not only in terms of

its ethically-charged content, but also through its almost laughable dialogues and generally uninventive script. It's hard to keep a straight face when Rambo utters things such as "live for nothing, or die for something" and actually manages to motivate his fellow fighters - it's just bloody cheesy. But at

ninety minutes running time and the rather rare occurrences of such chit-chats, it ends up being quite bearable, especially in view of the majestic payoff at the end of the film.

The fact is that, overall, the movie looks pretty fancy: either 61-year-old Stallone has developed his flair in directing, or he's got a good cinematographer. The jungle ap-

pears lively and shines beautifully, reminiscent of Herzog's (so often mentioned of late) *Aguirre* or *Fitzcarraldo*, and I can but wonder whether it's just one of those things which have intrinsic beauty that you simply cannot miss whenever you point the camera at them.

As far as violence is concerned, I don't believe to have ever seen a film as viciously bloody as this one. The body count of three per minute probably says it all and anyone would have a hard job arguing that so much aggressiveness and bloodshed is justifiable. But then again, you know what you're going into when entering the cinema to watch *Rambo* and Stallone does have an actual reasoning behind the excessiveness of it all - in that he acknowledges the need to exaggerate nowadays in order for anyone to take note. Some will concede that the message the film bears is worth it - others undoubtedly won't - but in the end, there is little uncertainty as to what this movie is about and why it ever came to be.

Stallone knows how to demonise "the enemy" to the maximum extent possible and I doubt there have been many foes that behave so horrendously throughout the history of film. There is no grey in the world around Rambo, but there is - or at least should be - a lot of grey in Rambo. Stallone does not offer much real insight into the man's troubled soul, although it's quite clear that today's protagonist is no longer the same version of the frustrated, misplaced protagonist of *First Blood*. This leaves Rambo rather barren for a spiritual quest, so all that remains is an exercise in vengeance, which works on its own as far as it does not try to philosophize.

Fundamentally, in the same manner in which Rocky found a more poetic last stint, *Rambo* redefined its own violent lyricism into the epitome of what the series is all about: universal justice.

That is, if there can be such a thing as violent lyricism.



Rambo realises there's no shame in drawing a state pension

Aronofsky and his Avant-Garde

Derided by critics upon its release, *The Fountain* was claimed to be a dent in the crown that Darren Aronofsky had built himself. On reappraisal however, there's a definite case to be made for its merits

Matty Hoban

Ambition in film is the path most fraught with danger; it can be divisive, awe-inspiring at best and deadly obtuse at worst. Aronofsky's *The Fountain* is a film that understands its own ambition, yet refuses to be understood in terms of its ambition. Whilst being ambitious almost to the point of avant-garde, it has at its core the fear of loss and immortality.

Critics reacted negatively to *The Fountain*. This put me off this movie, along with the fact that a director renowned for ultra-realism is making a fantasy film for a studio that oppresses ambitious filmmakers (Warner Brothers) unless they are cheap (Tim Burton). The tempestuous history behind *The Fountain*'s production is another story which only serves to make the film more of a curiosity rather than a profound work. However, I believe it is worthy of return and admiration.

Hugh Jackman is Tommy Creo, a medical researcher who is trying to find a cure for brain cancer, a condition that his wife Izzy (played by Rachel Weisz) suffers from. Interlocked with this simple story are another two storylines, one that sees the immortal soul of Tommy Creo in a bubble in outer space with a tree (that represents the soul of Izzy), heading into the centre of a nebula, and the other centring the

book that Izzy is writing. Too book itself, called *The Fountain*, is set in Conquistador era Spain and Central America where Hugh Jackman's conquistador is in search of The Tree of Life to save Spain (and Queen Isabella) from the Spanish Inquisition and each story intertwines with one another whilst Jackman's intense performance (surprising I know) draws everything together convincingly. It also creates more questions than answers, but then this is brilliant – you cannot separate yourself from the film because your interpretation is also intertwined with the story; deconstructionism, the critic's best friend, becomes inept as each element is connected irreducibly.

Aronofsky has only made three feature-length movies to date, and never has one director said so much in such a small oeuvre. π was about a traumatised mathematician attempting to work out the laws governing the stock market who ends up seeing recurring patterns everywhere until he is driven to ending this insight with a drill. In my opinion, π is a parallel film to *The Fountain*, although where the former has a black and white, rational insight into nature that only serves to self-destruction, the latter is ultimately a film in the Romantic tradition. Both films utilise a multitude of shots cut together quickly either in close-up, bordering on intrusive, or widely expansive; this



No, not enough gold yet

all gives an unsettling and visceral feel that you are never fully connected to the characters, yet you share in their feelings almost to the point of exploitation of the viewer. *Requiem For A Dream*'s finale is a tortuous resolution to a film that is a great example of this. Aronofsky consistently says that humans are fragile and we as an audience cannot disconnect from this.

However, in this bleak world-view, *The Fountain* for all its visceral impact, extracts comfort. Tommy and Izzy's love is incredibly real (unlike the love driven by vanity that seems to imbue *Requiem*), the greatest gesture of realism Aronofsky has given us. The Tree of Life not only embodies the hope in finding a cure for Izzy but it begins to symbolise in his eternal soul Izzy her-

self, who gives him not only hope but life also.

In the end, in both Izzy's book and the eternal soul, Tommy is reborn within Izzy, not resolving the film but merely beatifying it. Like I said, for all Aronofsky's unrelenting realism, sometimes reality is just too real to extract beauty from, and like many a Romantic before him, he has dug deeper.

IC Film Festival without any Sci-Fi

The very best of the Imperial College auteurs step up to the challenge of the FilmSoc Short Film Festival

Alex Casey
Film Editor

Wednesday night saw the second annual FilmSoc Short Film Festival take place in the Union Concert Hall which saw 8 very different films from budding student directors take centre stage. On entering I must admit that I was a bit dubious about what to expect and, with the winning prize being a 2 day course in introductory direction run by Raindance, a bit envious too perhaps, yet must concede that, despite a couple of disappointing technical hitches, I came away feeling very entertained and impressed.

Having heard word of the high standard set by last year's inaugural event but not having seen it for myself, I wasn't really sure what to expect, and the correct response to this in hindsight would have to be that there isn't a typical entry. The eight couldn't have been more different; from a geometric claymation shape-off to a potential murder mystery, or a Nietzsche inspired tale of fate to a Biblical breakfast plague. This certainly wasn't just another Romeo & Juliet adaptation cut down and rehashed in 7 minutes, but a great breadth of directorial skills in a developing infancy that did a lot to inspire admiration of the filmmaking process.

Perhaps the best technically, in my opinion, was *Shadowman*, a 4 minute piece by Hardy D. Saleh about a teacher leaving school but with the foreboding impression of someone following

him. The pacing of this was certainly handled in a way that belied its amateur credentials with great employment of music and camera positioning to create an effect taken for granted in so many feature films.

In terms of narrative storytelling ability, I'd give it to David Looney's *Faith In The Eight* which opened on Nietzsche's quote: "God is dead". Instead of God's determination, the characters at various points use a Magic 8 ball to determine the course their lives will take, similar to the methodology of Luke Rhinehart's *The Dice Man* novel, and at various points the ball must make its way from one owner to the next, a situation easily mishandled, especially in the early days of silent cinema.

On the humour side of the scales, I would have to admit that, despite not warming to it at the start, I was charmed by Soumen Sen and Sophia Paget's *Bready and Milk in the Carnage of the Croissants* by the time it had got into its 13 minute stride. Whilst the scene length seemed to be at points decided by how long the score of popular songs were without editing, the tale of the rampaging four croissants of the apocalypse and the resistance of Bready and Milky, two unlikely superheroes, was more than enough to raise a chuckle. Is it all a metaphor for the British staple diet getting bogged down amongst foreign delicacies? Who cares, it was worth a good giggle.

The almost Lynchian beginning of Alistair Turnbull's entry, *Three in the Hand* is also worth of note amongst



Victoria Sanderson, FilmSoc President, joined by the winners and judge, Oli Harbottle (far left)

the competition for its splendid spookiness, although I'm glad it didn't go down the road of the unspoken love between a man and his spade as I had strangely envisioned from the opening minute or so.

The winner, however, was none of these but a short about the horrors of war, *Pourquoi Nécessite Notre Cri de Cirque? (Why Must Our Circus Cry?)*, by Sushil Kumar. As much as I would have liked to have disagreed with the

winner for no other reason than to add praise to another of the worthy candidates, I am glad this won. With its interesting use of photo montage to begin, apparent archive war footage and almost subliminal insertion of a still frame depicting a woman sat reading under a tree at the beginning of each act, it was the avant-garde of the bunch. Not only this, but I have a sneaking suspicion that the subtitled version of a letter at the end of the film

was not quite a literal translation which would explain the audience's comical reaction. Sadly, my French is rusty so feel free to email me if you know better on this point.

For those I haven't mentioned, I apologise, and was still very impressed at the level of artistic skill on show given Imperial's perception as a cultural void. Even more impressive, in addition, was the absence of any sci-fi. Who said this college was a one-trick pony?



Music

Music Editors – Peter Sinclair and Susan Yu

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Peter Sinclair
Music Editor

I sometimes pride myself on having a pretentious, inaccessible taste in music, but this week I think it has backfired. A convoluted set of circumstances has just led me to discover The Moldy Peaches (it wasn't Juno), a band who I'm now totally in love with after a 48 hour extreme-listening session. Pretty impressive for a band with one studio album to their name. My friends back home used to bone on about them and I never gave them a second thought because in general they listen to shit, but now I regret it. Sorry Hannah and Lara. It's just got me thinking – how much music have I written off just because they have been *NME* poster boys, or I didn't like the name, or they were recommended to me someone whose jeans were just that bit too skinny? Probably loads, but then at the same time, most *NME* poster boys, most bands with shit names, and most bands recommended to me by people with skinny jeans are indeed quite shit. So I didn't doubt myself for long. I'll take The Moldy Peaches as the exception that proves the rule.

Take for example this weeks PYTs, Pete and the Pirates, whom, you will notice, our resolute and fearless reviewers have diligently reviewed for you. Earning themselves an unenviable 2 stars, they are the embodiment, and thus categorical evidence, of my point in paragraph one. A bad band with an even worse name. Or the other way round. Why have we bothered reviewing it, you ask? Two reasons. I answer. Reviews which totally destroy bands tend to be funnier, and there is a noticeable lack of the word 'swashbuckling' in the press these days, especially the Music Media. We're bring it back, baby!

Also in this weeks copy, Iambic²'s latest release on Laridae, a free internet based label specialising in ambient, chill-out and all things electric. Free music? That's right. All of their releases from all of their artists are available in full for FREE on their website www.laridae.at. With illegal downloads of everything but the kitchen sink available on sketchy Russian websites, labels like this could well become a big feature in the hazy future of the music industry.

What's more, we've got a live review from big fat rapper Guilty Simpson, the latest MC to emerge from Toronto/Atlanta-based underground hip-hop label Stones Throw. This label is pretty much the Buckingham Palace of hip-hop, home to the royal family of funky fresh beats. From J Dilla, to Madlib, to MF Doom. Oh man, so good. We expect large things from this large man.

And an absolute motherfucking shitload of singles! This and oh, so much more. I don't want to give any more away as there's proper articles to your right. So just shut up and read the reviews, OK?

If you fancy becoming a Music Felix editor, drop us an email at music.felix@gmail.com and get yourself added to the mailing list. Free CDs and gigs all the time, you can't go wrong really.

OJ...Homer...Guilty Simpson

Rising star of Detroit hip-hop, Guilty Simpson, paid a visit to Cargo last Saturday. The crack team of *Felix Music* reviewers were there to bear witness and shake their asses

Guilty Simpson
Cargo
16th February, 2008
★★★★☆

Detroit's fastest rising alternative hip-hopper, Guilty Simpson, made his way down to Cargo last Saturday on the third leg of his UK and European tour. The tour comes in advance of his album, 'Ode to the Ghetto', set for release on March 24th through Stones Throw Records. Guilty has built up a bit of a reputation in the last few years, appearing on J Dilla and Madlibs left-field masterpiece 'Champion Sound' in 2003, as well as various guest spots with Dabrye, Black Milk and Dilla himself. With all this to his name, it was only a matter of time until Guilty Simpson broke out on his own.

The venue, Cargo, couldn't have been a better choice. Even before the MCs took the stage, the Dilla beats were reverberating around the brick tunnel arches. Around 10pm, the DJ kicked it up a notch after being given a bottle of Courvoisier on the house. The classic hip-hop fans in the crowd approved.

First to hit the stage was old skooler Percee P, delivering a clean cut, no-frills opener to get the mouths salivating. Although his lyricism was pretty good and blazing out a couple of hot shit acapella verses during the set, I was left feeling a bit underwhelmed all in all. His delivery was clean, but a bit too polished for the gritty underground sound that makes Stones Throw artists stand out. I'd heard a bit of his music before, but somehow expected more from his live show. All in all though it wasn't a bad set – his experience was plain to see and he worked the crowd pretty well, softening us up for the main event.

So then Guilty stepped up, the main feature of the night, and expectations in the room were high. Filling up the stage with his 6-foot brick shithouse frame, if there's one thing this boy has,



Guilty Simpson at Cargo last Saturday. Photography by James Houghton

it's stage presence. Without hesitation he launched straight into tracks from his album, with the aggressive delivery that's fast becoming his calling card. Apparently honed in the Detroit battling scene, his poise and tone could be said to be remnants of his early days. As the night went on though, his performance seemed to lack the variety I was expecting, the kind of variety you normally get from the more underground side of hip-hop. I mean, it wasn't bad, but there was definitely a lack of the

kind of off-the-wall wit, both in the lyrics and in the performance, that you normally get from Stones Throw artists. Almost all verses that I could hear seemed to revolve around the same kind of 'Guns, Gangsters and Ghetto' themes that fixates the mainstream. Maybe I was just expecting great things – Madlib and Dilla both make appearances in the production of the beats which really can't be faulted, but there was something in the MC side of things which just didn't match up to

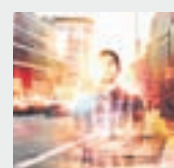
the (possibly overly) hyped expectations I had.

It wasn't all bad though. As I said, the beats were undoubtedly great, and when Guilty got in the zone he could be pretty mesmerising. If he loosened up a bit, he could put on a good show.

After a brief stop in Sheffield, Guilty is heading across the Channel to continue the tour, so tell all your European friends to check him out if they can. But, you know...don't stress the point.

Peter Sinclair

Continuing the Unintentional Detroit Theme – Eliot Lipp



Eliot Lipp
The Outside
Mush Records
★★★★☆

'The Outside' is the latest LP from the L.A. based electro/hip-hop producer Eliot Lipp released on Mush Records. For those who don't know, Lipp's discography spans over the past four years, with his first LP 'S/T' being released on Eastern Developments, which is owned by Scott Herren (one part of Prefuse 73). On first listen to 'The Outside', Herren's influence on Lipp's music from both a technical and musical standpoint is very obvious, with certain songs having a strong Prefuse 73 vibe to them. However as the album

progresses, the hypnotic intertwining layers of analogue synthesis and chilled electro glitch-hop beats create an almost building sensation. But nothing really happens. It's like that point on a Friday night when you're getting ready to go out, you've donned the dancing shoes and slapped on the Old Spice – nothing can stop you now! Then the phone rings; it's all your friends telling you they're no longer going out, so you spend the Friday night alone, crying into that beer you cracked open an hour ago to get into the mood.

To cheer you up, variety is something this album does not lack in, and makes up for the somewhat minimal sense of direction. From the chilled twisting bass line of 'Opening Ceremony' (which is seems to be one of the stand-out tunes on the album), to the industrial feel of 'The Machine and the Wind', you can really tell that Lipp takes influences from many different styles and incorporates them with his trademark minimal electro lead synth

lines. As a fan of Prefuse 73, I couldn't but help notice the similarities that this album has to parts of 'One Word Extinguisher', this is not necessarily a bad point, but if you're a pretentious muso who gets kicks from only listening to original artists stay away, as this album will, in places, let you down.



Eliot Lipp

For the more average listener, one who doesn't insist on listening to Squarepusher's latest million beats per second ring-modulated funk bass noise (which I am actually a fan of) and claiming it to be the best thing since... well, his last album, I'd recommend this LP as simply something to chill to. Lipp's lack of overall theme, complex beats, emotional builds and direction is made up by the perfectly blended monophonic tones of his Korg MS-20 synthesiser and his minimal, kicked back Los Angeles beats. Personally, I find great comfort in the fact people are still making albums like this, keeping the old dirt filled electro vibe going but adding a new age IDM edge to spice things up. Think original Detroit techno, modernised and turned into hip hop; then you'll have something which vaguely resembles this album.

Guy Andrews

Eliot Lipp's 'The Outside' is out on April 8th on Mush Records

Fresh for 2008: Iambic² & The Pirates



Iambic²
As The Snow Fell
Laridae
★★★★☆

As *The Snow Fell* ploughs out from the sonic ice sheets of London-based artist Iambic² aka Guy Andrews, immersing you in a cocoon of carefully crafted synths and crackling samples that will leave your eyes glistening.

It heralds the first release of the year from netlabel Laridae which forms part of the internet inspired explosion of creative freedom, releasing and distributing all tracks for free in MP3 format to download via the web.

Breaking with 'Storm's Theme' an uneasy, bare-bones piano composition leads you in before searing strings clear the ground for what is to come. Andrews lists a host of influences on his music, from ambient to jazz, and it shows, pitched amongst the desolate post-rock landscapes reminiscent of Explosions In the Sky, fragments of Tortoise reside and Boards of Canada samples simmer on the horizon.

Unfortunately at times the album can be accused of melodramatics and doesn't always ring true, demonstrated by titles such as 'When Father Cries' – moments that are perhaps best suited as a cue for Kleenex in 'gritty' ITV dramas, where a gruff middle aged detective remembers how, as a rosy cheeked little boy, his favourite teddy bear was

brutally ripped from his grasp by a shady looking man.

Minor crimes aside, all can be forgiven by the beauty of tracks such as 'This Day Goes Nowhere', enveloping you in the lazy chords of an icy beach, before moving on through the Sigur Ros style 'December's Shadows' and the shimmering glockenspiels of 'Beside You'.

The twelve minute long 'Sleep Cycle' is Andrews' testament to the ambient genre trailing through the reverberating bowels of a synthesiser's subconscious, it's a treat for those with a sweet tooth for unadulterated sound. We're taken back to earth by the impulsive 'Dust Below The Ground', one of only two tracks to feature Andrews' vocals. It is reminiscent of a warm campfire version of Capitol K's 'Island Row' album.

Concluding with the ambient tones of 'It Snowed When We Died', you'll be left with a feeling of total bliss – suspended above a luminescent glacier protruding out from an overactive imagination. This album will leave you with the tingling numbness of a painkiller induced coma (which is in no way a bad thing).

If you are looking for a something new amongst the ironically crammed field of expansive soundscapes, you won't find it here, and taking from such a range of influences leads to the inevitable dilution of individual components. But showing an undoubted mastery of texture and avoiding the all too frequent tunnel-vision of electronic artists, we can hope to hear much more from Iambic². Plus like all the best things in life, 'As The Snow Fell' is free, so go and download it!

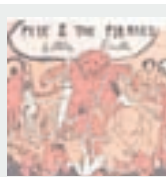
Steven Burgess



Guy Andrews AKA Iambic². Photography by Steve Hogarty



Yo ho ho. Pete and his crew get rowdy at the photoshoot



Pete & The Pirates
Little Deaths
Stolen Records
★★★★☆

If there is one thing the music scene does not need right now, it's another generic indie five-piece. Unfortunately for them, Pete and the Pirates fit the mould right down to their quirkily designed T-shirts. I brace myself for half-an-hour of abrasive guitar twanging, predictable melodies and same-old lyrics about getting pissed up in some obscure town just North of Sawbridgeworth, vocalised through half-sung, half-shouted wails, a sound only achieved when one's too tight jeans have restricted a healthy blood flow to the diaphragm. Cautiously, I pressed play. But, lo-fi and behold! (Sorry, I couldn't help myself). Far from the aurally offensive noise expected from Pete and his swashbuckling band of Pirates, one is greeted with a warm pleasantness comparable to an afternoon spent with

your mate and his Nan. To draw comparisons with something less obscure, the Pirates have a dreamy quality about them reminiscent of The Shins and TV on the Radio-esque quirky but well developed harmonies.

A quick look at their Myspace confirms they are probably Nice Chaps, with a penchant for facial hair and normal jeans. So far so... okay. Pioneering on through the album is done with relative ease; every song presents itself as a simple three minute, lo-fi and catchy indie-pop package received with head nodding gratification. The climax of the album definitely comes at the end with the faster paced, probably-will-be-dancing-to-at-Metro-next-week 'Bright Lights', which leaves a nice taste in your, urm, ears and dare I say it, a thirst for more. Not a 'been lost out at sea for a week' thirst mind, but more of a, 'small jog to the bus stop' dryness.

Overall, *Little Deaths* offers its listener a pleasant ramble through fairly conventional indie-pop with some kooky Pirate-isms along the way. Not life-changing by any means, but who says that is the aim? Let's be nice and hope they don't just become another drop in the ever tumultuous ocean that is the indie music scene.

Francesca Wetherilt

IC Radio Presents: Single Column

The lovely people at IC Radio, limitless as they are in both eloquence and generosity, have donated a load of single reviews.

The Clocks
Old Valve Radio
★★★★☆

This is a genuinely awesome track. It's The Clocks' first release since joining Island Records in 2007, so the band are not too well known yet, but if their other songs are as good as 'Old Valve Radio' then they certainly have something to offer to British music (and their debut album is likely to be very popular). The track is likely to get particular attention from student radio stations because of the huge general student obsession with the indie-pop genre, which it fits into perfectly. It has a great upbeat sound, lively vocals with cheerful lyrics, a guitar solo and a very memorable tune. These guys are going to be big, and probably in time to play at 2008's music festivals. Check out their website, clocksband.com, or listen out for this track on IC Radio.

Chris Birkett

Cage The Elephant
In One Ear
★★★★☆

This first release, from Kentucky band Cage the Elephant, evokes the essence of traditional rock music; confident and brash vocals snarl over a thudding drum beat, fused with a groovy bass line. The track explodes with an aggressive and raw nature throughout, with a fizzing lead guitar adequately complimenting the vocals. The lyrics will no doubt polarize listeners due to their simple nature, but suit the style of the track effectively.

The chorus proclaims that criticism goes "In one ear, and right out the other". However, on the basis of this impressive and catchy single, the same cannot be said about Cage the Elephant's music.

Nat Roocroft

Vincent Vincent and the Villains
Pretty Girl
★★★★☆

This track will make good light-hearted listening if you like the Libertines, who they bear a striking resemblance to. The vocals are different, which makes a refreshing change, but there is little progression throughout the song and the chorus is not especially memorable.

Chris Birkett

Turncoat
Wasted On You
★★★★☆

The Smiths, Pulp and The Beatles have all influenced Turncoat's records, they say in their biography. Although there are a few nice quirks, like the backing vocals reiterating lyrics for obvious emphasis, this does essentially mean that we've heard a lot of very similar bands before. It's a good track though, with interesting melodies and a good beat.

Chris Birkett

Oh go on then, more singles for your (re)viewing pleasure

XX Teens
How To Reduce The Chances Of Being A Terror Victim
★★★★☆

Every day, free papers are pushed into our hands and ideas into our minds. How can you leave the house when thousands of terrorists have plans for your head? Luckily for you, XX Teens are here to the rescue with their latest track 'How To Reduce The Chances Of Being A Terror Victim'. With lyrics taken straight from 'The Complete Terrorism Survival Guide' this song lists 26 ways to increase the likelihood of making it to the end of the week in one piece.

Urgent drums open the song and repeat as the clearly spoken instructions flow with a regular rhythm. A few crunchy guitar chords punctuate the

song and are joined halfway through by electronic sounding cowbells.

The lyrics aren't the band's own creation and the casual tone of voice was no doubt chosen to highlight the absurdity of the statements, and to show that by following the suggested plan you are in fact assuming the role of a terror victim. The problem is that it just doesn't really work as a song. The message is nothing new and the novelty of the lyrics is all this song has to offer. I'm sure they meant it to feel repetitive and sterile to emphasise the point they are trying to make, but it ends up sounding dull after a few listens. It lacks the energy and creativity of their earlier singles, such as 'B-54' and 'Darlin'. Let's hope that when they finally get round to making their first album we see a return to their more promising and exciting song writing abilities.

James Houghton (Not ICRadio)

Vampire Weekend
A-Punk
★★★★☆

A Benny Hill riff dances cheekily across the strings, punctuated by remedial staccato drums, and a New-yorker's aching wail arches across each phrase.

Suddenly, rich flutes and ambient organ-fuzz wash and soothe your ears, the tom-toms build and the same young man has cooed you into his bed.

This Midsummer Night's Dream crashes into a snatch of yelping 'Hey hey hey's, but before long the jerking recedes and you're back in the ethereal faerie chorus, with cutesy lyrics exhibiting all the band's worldliness and post-modern pop culture obsessions. And you're so damn chirpy that you've bought their debut album.

Thomas Hampton (Not ICRadio)

Mark Ronson
Just
★★★★☆

Not content with simply being a highly sought-after producer, Mark Ronson presents us his interpretation of the classic Radiohead hit 'Just', having already tackled The Smiths, The Zutons and Kaiser Chiefs on his double platinum album 'Version'. Vocals come courtesy of Alex Greenwald (lead singer of Phantom Planet, who were responsible for The OC theme tune). Whilst this is an interesting spin on a classic, its weaknesses lie in the song sounding too much like the original, particularly Greenwood's vocals. The saxophones on the song are great however. A satisfactory, radio-friendly cover.

Mit Shan (ICRadio)



London Fashion Week, Fall 2008

With its group of highly touted newcomers and burgeoning fashion scene, London is definitely the city to watch: move over Paris, Milan & New York. A report on the Fall '08 London catwalks by David J Paw

Gareth Pugh continued to define and shape his unique vision with a hard-hitting collection of dark and formidable looks that drew influences from 19th century samurai armour and *The Wizard of Oz*, all merged with the designer's east London club kid aesthetic. Perhaps his strongest commercial collection to date, Pugh managed to pull it off without losing any of the magic that has come to define his highly anticipated shows.

Over at **Roksanda Ilincic**, things were all about redefining proportions. Favouring volume and an architectural style reminiscent of Cristóbal Balenciaga, it was only appropriate that Ilincic would cite Oscar Niemeyer's structural innovations after a jaunt to Brazil as an influence on this collection. Ilincic contrasted the rush of fluid, languid toga dresses rendered in vibrant block colour with structured shoulders, and clearly has a knack for taking the simplest shapes and transforming them into something utterly unearthly. Her talent and technique are advancing with every season.

Christopher Kane's multifaceted fall 2008 show continued his ongoing fascination for all things body-conscious with sculptural bodice-style dresses that formed a base for sheer layers in black and neutrals. Added depth

came in the form of knit dresses and oversized sequin detailing that shimmered like waves in a late afternoon sun. Many commented that this was the most sellable collection of Kane's career. Regardless of this, with his ability and level-headedness, Kane's future seems assured.

This season's London wild card came in the form of **Vivienne Westwood's** Red Label show, a shouty affair that had Lily Donaldson and company parading down the runway in reworked British classics channelling vivacious secretaries, eccentrics and other King's Road workaday gals. Hair was dishevelled and eyes deep-set, as tartans and pinstripes clashed excitably with leather. Quintessential British prints were, again, a strong theme. Surely the blue houndstooth check will be a ubiquitous fixture in the glossies come fall.

The clothes were everything you'd expect from Westwood, but what about the message? Models held placards and wore strategically placed political statements—but ironically, the impassioned political undercurrent that made it such an exciting show also undermined the collection's message. It felt like open warfare as opposed to the backhanded commentary provided by, say, a Hussein Chalayan spectacle, and as a statement was about as subtle as a Sherman tank rolling into Downing Street. Understatement and the ability to speak plainly are both strengths



fashion possesses—but given the current climate of unrest one has to wonder how to appropriately respond, and Westwood is clearly contemplating this.

Giles Deacon's show on Wednesday evening was a dark and breathtaking spectacle. Citing the *Masque of the Red Death* as his main influence, a short story which details the decadence inside a castle as death blooms on the outside, an assortment of death divas and macabre femme fatales wowed all in attendance. Opening with a series of trademark voluminous pieces that shouldn't have worked but oddly did, he trod his way through bleached-bone shifts and organic, animated B-movie skirts with lives of their own, finally climaxing with dramatic chiffon and satin dresses seeped in rich ruby reds and dramatic billowing capes. While Deacon's London peers have toned down their avant-garde tendencies as of late, Deacon's collections have lost none of their profligacy, or desirability.

The **House of Holland** show was a breath of fresh air in a week packed with all things dark and gothic. What can be said about it? The show's look was typical Holland and Deyn—complete with acid bright colours and suffocatingly hip skinny jeans. Incorporating a signature tartan, along with a humorously concocted house coat of arms, Holland sealed the deal for himself, and there is enough in the collec-



(Left to right, then top to bottom; you try describing a way round those photos!) **Christopher Kane, Roksanda Ilincic, Vivienne Westwood, Giles Deacon, Christopher Kane, House of Holland.**



(Left to right) Todd Lynn, Erdem, Marios Schwab, Jaeger

tion to keep the East London pack and coolhunters happy this season. Clearly Holland knows his limits—but with the city as his oyster, he doesn't have to rush to push beyond them.

Todd Lynn's precisely tailored collection of flowing, high-waisted trousers cut to perfection and smart, mannish jackets also included more feminine concessions such as a jacket dress belted at the waist to give the illusion of separates, and a ruched gunmetal grey

skirt paired with a casual blue vest. Working with a spare palette of cornflower blue, grey and stark white, Lynn produced perhaps the most effortlessly debonair collection of the week.

Erdem Moralioglu's show displayed a wealth of promise. Daring, progressive looks and increasingly ambitious techniques were interspersed with trenches and other wardrobe staples. Even these basics were beyond the norm—couture-like flower details add-

ed excitement. It was obvious in each of the piece's details that Moralioglu had thrown himself into the collection. A series of graphic floral architectural dresses each looked totally different to the ones preceding it, and were unique in their conception and detail.

Every so often there comes a collection that deserves a massive double take. And every so often there is a designer so devoted to his art and the process of creation that you begin to

feel guilty for wallowing in ill-thought-out indulgences like ruffles and sportswear. **Marios Schwab** is one such designer. His collection early in the week felt more like a study and a showcase of ideas rather than a typical fashion show, and developed on the concept of a tight, stretched dress pulled down to the ankles. The "silhouette of the season" has already been explored several times by the London pack, but never with the same mastery as Schwab. He

riffed on this thoroughly, as if taking us through his personal thought process. Showing very few commercial pieces, the collection showed the silhouette in lamé and with puffy neon add-ons. He cut sections out of the front to expose the models' legs. Regular body-con looks seem pedestrian in comparison.

More or less everyone wanted a seat at **Jaeger's** first show in its 125-year history. To be truthful, expectations were not exactly high for the show. Despite its upper-high street standing in the British commercial fashion hierarchy, it suffers from a lack of mass market appeal that Topshop and H&M enjoy, while also being relatively devoid of the elite caché of its designer-label competitors.

These preconceptions were suspended when model Suvi Koponen opened the proceedings in an animated black and brown goat-hair cape worn over a more predictable gold-buttoned black skirt/jacket combo. Hair was tucked in tightly beneath a trailing black scarf. What followed was perhaps just about as adventurous as high street can get. Major trends were nailed (high waists, flared legs) and the Jaeger woman was given a major youth injection—silk jackets with oversize bows gleefully followed massive hooded jackets, and classic British prints like plaid sharply contrasted the python print found on skirts, dresses and leggings. With British Vogue's Lucinda Chambers and Stephen Jones batting for your team, it would be hard to go too far astray, but the house exceeded expectations and for that it deserves recognition.

The Super Super (super!) Fall show '08 at LFW

The funnest show of LFW. The good, the bad, the ugly, the beautiful, the jolie-laide by Sarah-Jane Skeete

The bastard child of Super Super, a magazine so hip and current it may as well be delivered by ninjas every hour (look I'm referencing the Mighty Boosh, I'm The Guardian, I'm so relevant to young people. Facebook, Facebook!), it was always going to be a self-consciously unconventional catwalk show.

The show started with an insane woman wearing a feather headdress, neon pink bumbag and graffitied leggings dance-walking up and down the stage singing. Whilst amusing at first, I was soon thinking to myself, not for the last time that night, when is it going to end?

The first designer on the catwalk, Scott Ramsay-Kyle, showed a mostly uninspiring collection. The exception being the interesting plays with volume on a series of skirts constructed in a graduated bubble style. Dress after dress walked up the catwalk looking

like American Apparel t-shirt dresses with multicoloured streams of vomit stuck on, resembling my primary school collages in clothing form.

Emma Bell, the following designer on the catwalk, showed a supercute confectionery themed collection. With the colours sugary & artificial, junk-food patterning, and shiny fabrics reminiscent of candy wrapping. The sugary theme enveloped the entire catwalk. There were twee hair pieces; skewered mini hamburgers, drink umbrellas, oversized bows, sitting atop teased out, candyfloss spun hair. The models' faces were embellished with make-up of artificial brights; glitter painted eyelids, green & blue lipstick.

When Dharma Taylor's collection came down the catwalk you could feel shame emanating from the models. That's really what you want a collection to do, make the models question the validity of their careers. "Why do I do this? Am I really walking up and down

a catwalk wearing a leather pig's head and a pair of sweatpants with a penis drawn on? I'm in a grassy meadow, I'm in a grassy meadow." I blame nu-rave for this aberration of a show.

After the bass-thumping of Dharma Taylor, the delicate, ethereal atmosphere of Thomas Sels was refreshing. Unfortunately, the atmosphere of the show wasn't so much led by the clothing, as the only thing stopping the clothing looking like dross. The most interesting thing about it was the way the models walked the catwalk as if in a slow-motion relay race. The first model slowly drifted out, stopped after a few paces, and waited for the touch of the model behind before floating forwards a few steps further.

Next "artist" Niyi rapped, I kid you not, a song about eggs. Poached eggs, scrambled eggs, eggs eggs eggs, for what seemed like the rest of my life. The beats were strong, but that was only enough to carry it for about 30

seconds before I started wishing for oblivion.

Super Super had an electric atmosphere, it was a different breed to some of the other overly sombre fashion

events. It was fashion for a young generation. Plus, free Krispy Kremes. Not that I ate any, because I don't eat wheat, but they looked as if they would taste delicious.



Thomas Sels



Thomas Sels



Emma Bell



Emma Bell



Emma Bell



Dharma Taylor



Dharma Taylor



Games

Games Editors – Azfarul Islam and Sebastian Nordgren

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Azfarul "Az" Islam
Games Editor

Felicitations everyone! You're probably wondering why there was no Gaming section last week and for those of you who missed their fix: I apologise. I was rather busy then and couldn't make time, so yeah.

Anyway, we're back in full action for this week with a gander at one of the premier action games you'll be playing this year in the form of one Devil May Cry 4.

The Devil May Cry series has long been a herald for pure action in the 3rd dimension, introducing all manner of manoeuvres and tactics, some only endemic to 2D games of old. It set forth simple colours to indicate health, magic and experience, placed the emphasis on facing enemies that offered stiff resistance and then gave your character enough prowess to make them feel like they were gods in their own rights.

Also, the gun-sword combination comes across as ridiculously cool, allowing shooter fans and close-quarters brawlers alike to find a mode of play. The boss fights in particular were salient in that they did the 'boss' moniker proud. Excruciatingly difficult with multiple encounters, these demons made you pull off every trick in the book to just survive. Winning was quite a gratifying blessing. My favourite boss in DMC to date stands as Nelo Angelo. Being humanoid in size, he seemed less impressive from the other massive characters you fought. However, he makes up by being enigmatic, having an actual backstory and being capable of wiping your ass off his boots within a matter of seconds. He was harder, faster and yes, much stronger than you despite being (spoiler warning... for a near-decade old spoiler...) a former shadow of your twin brother.

'twas rather brilliant indeed. Devil May Cry 2, despite all the hype and rather exciting trailers turned out to be a less polished, far tamer affair: solid as an action game, shoddy as a Devil May Cry game. Fortunately, Devil May Cry 3 redeemed itself by being the veritable Nelo Angelo: better than the first in every way (sans the atmosphere, methinks).

Besides our prime focus on Devil May Cry 4, Sebb picks up his flamethrower and sprays all the n00bs of gaming with hot burning death. Alex is back offering more musings on the brilliant Ninja Gaiden (the other awesome action game) and Andrew Lyle makes his debut for the Games section by giving us his thoughts on the new Halo, from an entirely different perspective, if you get my point.

Byte looks at two action-heavy games: hack-and-slasher Achilles and a brilliant Flash adaptation of Unreal Tournament.

As always your input is always welcome at games.felix@imperial.ac.uk.

Good news: we may be setting up a Steam community so stay tuned!



Demons weep, devils cry

Azfarul Islam finds the devil within and realises that it only wants to be loved



Review

The most difficult thing about taking a look at *Devil May Cry 4* is trying to avoid any discourse about the previous games.

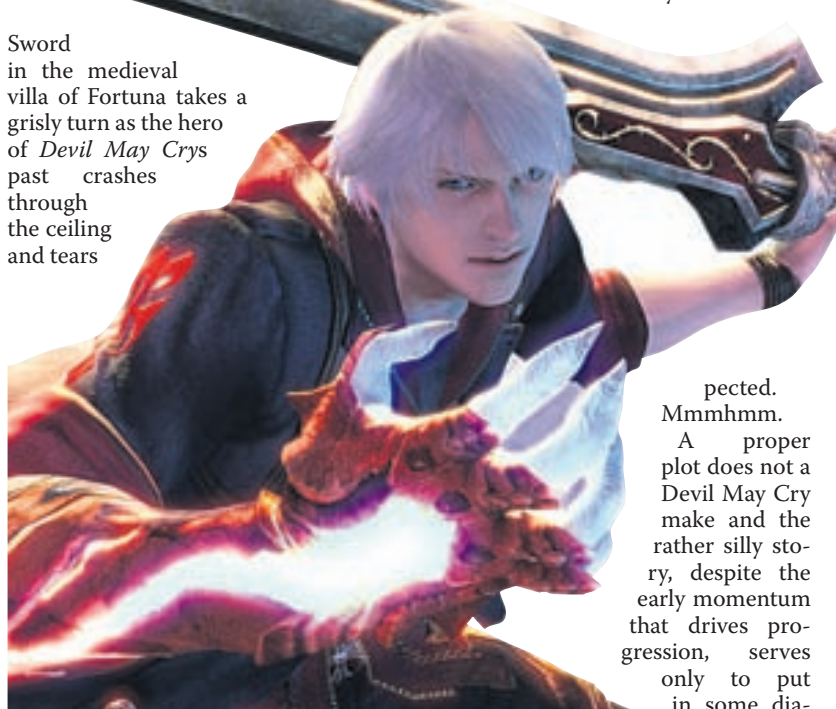
Tell you what, I'll save that for the editorial you see on your left-hand-side and immediately slash and Stinger my way into the fourth iteration of the game that redefined the action genre.

Unfortunately, DMC4 cannot lay claim to such a lofty goal. That, it can't.

However, it knows the heritage that courses through its veins leaving but one option and that's to get the party started.

A rather innocuous introduction scene regarding the Order of the

Sword in the medieval villa of Fortuna takes a grisly turn as the hero of *Devil May Cry* past crashes through the ceiling and tears



through the cultists with reckless abandon. He even shoots the feeble old head priest in the, well, head. Now, we all know that *Dante* is an iconoclastic badass but a villain he is not and this shocking behaviour sets a basic tempo for the story. Of course, all that is completely derailed when you realise that after the deliciously choreographed cutscene ends, you've assumed control of a similarly silver-coiffed warrior named *Nero*.

Nero seems to be just as lackadaisical as our former-hero-turned-murderer-or-is-he-really and the cheese he spouts is worthy of the thickest *Quattro Formaggio* pizza you can order. Ah, it's already invoked nostalgia. It seems that Nero's only impetus is a rather pretty girl named Kyrie (despite all linguistic logic, pronounced "Ki-ree-ey") and later on, when she is abducted, Nero may find himself in an unlikely alliance with Dante. Yeah, totally unex-

pected. Mmmhmm. A proper plot does not a Devil May Cry make and the rather silly story, despite the early momentum that drives progression, serves only to put in some dialogue in the otherwise gorgeous cut-scenes. And by Sparda, are these brimming with unfettered creative prowess or what? Carrying on the insanity of Devil May Cry 3, the move to the visual fidelity of High-Def only makes the experience *Sweet* and it's definitely got *Smokin' Sick Style* to match.

And this is where Devil May Cry simply erupts into brilliance. It offers a luxuriously mercurial, tractable fighting system where you have every opportunity to unleash your own eye candy. Nero's addition can only augment this and indeed, he does so with spellbinding panache. His arcane *Devil Bringer* offers a whole new variant of organic combat that allows you to dictate the range and keeps the orb counter constantly ticking.

In a single flourish, you may cleave upwards with the Red Queen (see *Devil Arms*) and then continue rising as you slash at your foe without mercy. Just as it falls happily to the ground to writhe and die in peace, you snatch it up with the Devil Bringer and continue your unique brand of pain therapy. You can slam them into the ground, whirl them till they're dizzy and hurl them into their on-rushing allies. It's rather glorious and once again does what a DMC does best: offer you a cogent feeling of empowerment. And you will remain creatively challenged as you fight of hordes of daemons since the game still retains the ever-rewarding Style rankings that tick from an embarrassing D to a coveted SSS. Yup, 'just S' still isn't good enough: that's how DMC rolls. The only reason this works so well is that the controls are pitched with poise. They come across as rather intrinsic; finely-tuned and tightly-responsive. This means that most, if not all, failures to make the enemy submit boil down to personal skills, co-ordination and creativity.

You're able to exchange points in order to buy a multitude of tiered attacks that offer a smorgasbord of va-

riety. This means that you can truly customise your character towards a combat bias that you prefer. There is no right combination here since all offer interesting balances and it's really upto one's own tastes and experimentation desires. In a prescient move on Capcom's part, you're able to refund all previously bought skills and then rebuy as you see fit anytime you want to. The only disturbing thing about this is that you no longer use the iconic Red Orbs for upgrades; this crimson demon blood is relegated to arcane items only. Now, you need to attain Proud Hearts that are only awarded after fac-



Ole! Dante is still as suave as ever



The newbie's attempt at ass-grabbing Dante will probably be met with a sword cleaved through his skull

ing a Boss character. It's a little annoying, but fortunately the encounters can often make it more than worth your time.

Devil May Cry has also been characterised by particularly memorable and deliciously difficult boss battles. Similarly, each fracas here boasts visually arresting design and resilient yet gratifying combat. Now, maybe it's just that I've played a lot of the demo and/or I've played Devil May Cry 3 quite a bit but I didn't find the first boss – the fiery demon Berial – particularly challenging. In retrospect, DMC3's Cerberus handed my ass back to me more times than I can bear to reveal. It's a little annoying at first but the game does pick up in challenge (with some annoyingly uneven spikes) later on.

To help those along, the game continues presenting certain Hidden Missions. These are intense, focused extra levels that adhere to a somewhat strict objective for victory and as a result, harken back to the difficulty heights of old. Granted, while some are quite exciting, the remainder can be just frustrating beyond belief.

Now, this isn't all about Nero hogging the sinister limelight since Dante is about Devil May Cry as much as the games are about him. It's not too long after you start getting cosy with Nero that the original badass comes back in action, replete with leather chaps and more deliciously corny one-liners that you can shake an entire Kellogg's factory at. Since he's no longer the main focus, it's almost like his very presence is a blessing and that's why he compensates with an assload of new armaments that can only be the result of the designer downing more than one's fair share of saké.

While you may end up running back to the sword Rebellion for nostalgia's sake there's no denying that Messrs' *Lucifer* and *Gilgamesh* and a certain *Miss Pandora's Box* (all the names of his new weapons) offer some exciting new options wherein the word insane is often juxtaposed with understatement. While it may seem a little anachronistic, he also retains his major 'Styles' from DMC3 which can be interchanged with the correct D-pad directions. Mid-combo weapon switching is pretty damn cool but switching Styles? Depending on your preferences you might as well stick to a particular augmentation, only switching when it's safe to move your thumb off of the Analog Stick. However, the option is commended for being present either way.

Yeah. I really, really like this game.

And why not? Besides all these qualities, the game is a true embodiment of best qualities of the first and third iterations and that is what fans have pretty much desired since the trailers teased

us two years prior. It's atmospheric and visuals come across as stunning, sharp and all manner of other positive superlatives.

But alas, all is not as shiny as the reflections off of the windows in this game. While the game invariably desires to recall the greatest moments in the series, it also often flounders when it fails to reach them. It may be in sub-

jective view but I fail to see characters as colourful and personable as Arkham/Jester, Vergil and Trish (who makes a short-lived return). Similarly the plot in the last game comes across as much more focused and with a stronger (only comparatively) emphasis on character development. Of course, that could be just the horrible, horrible memories of the putrid animated series, but there



Nero lays the smackdown on the re-imagined *Frosts* (circa DMC); they're easier but somewhat cheaper



cient damage and snuffed out the crimson flames, it becomes possible to either lift the great demon into the air and then slam him downwards or send him flying with a massive uppercut. As you'll notice further on, your *Devil Bringer* actions differ from enemy to enemy so it's sometimes handier to pick up one type of foe that can be hurled into into others to create some breathing space. Remember: the game is about creating your own epic niche in combat.



is something lacking about the overall impetus to your journey that the other games possessed. The constant flaunting of the opposite sex in various positions of, erm, unrest are similarly grating. And the ultimate fail is simply that DMC4 doesn't represent a paradigm shift that the Resident Evil series' experienced with its fourth official version. There is quite a bit of backtracking when playing as Dante which reeks of the developer taking shortcuts as well as some suspect puzzle portions that get very old very quickly. Just furthering the misery are an unwieldy camera inherited from its forebears and a surprisingly long install on the PlayStation 3 hard-drive, although the series' recap was rather enjoyable.

But who gives a damn.

Devil May Cry has always been about grabbing the Devil by the balls and then swinging him around in ways that makes nunchuk masters blush with embarrassment. Devil May Cry 4 is cheesy, it's hard, it's gorgeous and above all the else, the gameplay is still unmatched in terms of unabridged, uncompromised and unrestrained style that's as deep and downright satisfying as it appears to spellbound onlookers. And it's damn good to be wielding your old friends Ebony and Ivory yet again.

Devil Arms

Alastor



Ebony and Ivory

Nothing beats the trusty old combination of the electricity imbued *Alastor* and the rapid-fire handguns *Ebony & Ivory*. However, being characterised by insane weapons, *Devil May Cry* always affords you plenty of interesting choices.



Cerberus

The tri-headed flails/nunchuks *Cerberus* and the, well, guitar *Nevan* were unique additions to Devil May Cry 3. The former allows a great deal of freeform combos with attacks imbued by the element of ice. *Nevan* stands as more of an enigma. It's a rather difficult weapon to use in that you play it rather than attack directly. There are some particularly brilliant moves when using the Swordmaster style. Weirdly, it allows you to summon electrified bats that deal damage. Er...



Nevan

Nero's Arsenal

Nero's personal combination of the *Red Queen* (left) and *Blue Rose* are quite potent. The *Red Queen* can be revved up like a motorbike in order to build up energy that is unleashed in a whirlwind of fierce flames. The ability to Instant Rev (IR) in between combos is a tough skill to master. While the *Blue Rose* (below) shoots rather slowly, it makes do with stopping power.



Byte

Achilles



<http://www.onemorelevel.com/game/achilles>

For those of you who found *God of War's* epic plot and adventuring aspects something of a fly in your soup of action, then *Achilles* is your answer. Mainly because it's free. And fun. Mostly fun.

The basic premise is to traverse levels of increasing degrees of difficulty all the while mauling your enemies in various ways. It may be somewhat brainless but there's this sickeningly visceral thrill of jabbing a spear into someone's face *at point blank range*.

The challenges get tougher, relying on you to find a balance between blocking and attacking. Despite being a simple Flash game, there appears to be a few shades of depth to the combat as you are able to pick up spears and choose between hurling them like javelins or using them to skewer objects. Without a spear you always have access to a short sword and the trusty soles of your boots for those "This is Sparta!" moments that this game undoubtedly tries to recreate. The bosses are fun and the gameplay in general has you pushing constantly forward.

Azfarul Islam

Unreal Flash



http://www.onemorelevel.com/game/unreal_flash

Right, so I'm hardly the greatest UT fan out there, but there's no denying that this 2D can be surprisingly addicting.

Employing the same airy physics and destructive weaponry of its full-time brethren, the Flash iteration of the game does its forebears proud. The game is still relatively crazy, if not as fast paced.

The controls are even the same (in a certain way): aim with the mouse, use WASD to move (and jump) and use the number keys to select weapons. The game presents plenty of options for your preferred play types so expect to get further distracted in lectures.

Azfarul Islam

Flamebait: Gaming wusses

Sebastian Nordgren thinks y'all should toughen up and play like men, ya pansies

The next generation is growing up to be wusses – physically and mentally. From birth, children are placed in padded cribs and live their whole life above the safety net of a Health & Safety obsessed society. In an age when everyone's life expectancy is higher than ever, we're all sicker than before – with allergies, diabetes, obesity and a slew of mental illnesses being the norm rather than the exception. And with political correctness the buzzword of the day, even our opinions are placed in a safe little space where no opinion is mocked; no matter how absurd. In short, life lacks a fail state. While some of you may believe that this type of opinion shouldn't be found in the Games section, you're wrong. For lo and behold, the point: games are too damned easy.

Remember playing a Japanese shoot-'em-up at the arcade, and dying on the first level every single time? Remember playing *Doom* on Nightmare and trying to kill an imp with your fists? Remember dying in *EverQuest* and having to do a corpse run while stripped of all your gear? Hell, remember playing *Mario* and trying to make that one jump over a flaming pit of lava that required perfect timing? Odds are high that you don't. These days if your health doesn't regenerate automagically, you'll resurrect mere seconds from where you died with no penalty at all. And slowly, skill is no longer required as the formerly inevitable fail state of a brutal death is removed.



In *NG* you shred to survive while the same thing in *GH* doesn't work because it only has five frickin' buttons

Personally, I blame *Halo* – its regenerating health and shield was the first step towards games becoming easy. Since then, we've all grown accustomed to being treated as incompetent, and there's a string of games to prove it. *StarCraft* set the bar for difficulty in strategy games, with multiplayer games that could last under 5 minutes if you weren't prepared – now we have *Supreme Commander*, where games only end when a player manages to build nukes at Tech Level 172, 3 hours into the game. *EverQuest's* corpse runs against *World of Warcraft's* ghostly corpse stroll; *Doom's* cyberdemons against *BioShock's* Big Daddies (with a resurrection chamber 10 ft away, of course); and the titular villain from

Diablo II against *Oblivion's*... er... really camp 60's guy?

Gimmicky games like *Guitar Hero* or anything made for the Wii just go further to prove that, collectively, we are starting to suck at games; and worse yet, we're quite happy about it. *Wii Sports* can be played undefeatably by waving your hands back and forth like a hyperactive toddler – try doing that in a game of *Quake 3* and then come back and tell me I'm wrong. Games used to be about the challenge – about pushing yourself to beat one more level, get one more item and be the best you can be. The games that are described as difficult today – *Ninja Gaiden*, *N. Ikaruga* – used to be par for the course. Whatever happened to the

thrill of failure?

And despite all this, despite being treated like we're not up for a challenge, more people call themselves gamers than ever before. This wouldn't bother me if it weren't for the fact that I do remember beating *Super Mario* in one sitting; killing that cyberdemon in *Doom* that had killed me a dozen times before; and getting past that last guard in *Thief*.

And you know what? It felt damned good – better than any feeling I've got from any singleplayer game in many, many years. All that frustration and pent-up rage from failing over and over again made the pay-off all the sweeter. So I ask you: is there no place for a challenge anymore?

Hey, the fight ain't over yet

Andrew "Lyle" Lyle agrees that the best things come in small packages



Ever since the 'end' of the *Halo* story signaled by *Halo 3*, speculation has been high as to whether another game would be made. In *Halo Wars*, we seem to have our answer, though this time it leaves the tried and tested FPS genre, moving instead to become a real time strategy game. Ironically though, whilst the original games were made for both console and PC, it seems that this incarnation will be solely for the 360, with the control system being "one of the things Ensemble spent the most amount of time on". (Apparently the only controls required are the analog stick and the face buttons.) Any rumors that a PC version may have been appearing were further trounced by a statement from

Microsoft to IGN earlier this month saying "Halo Wars is being developed from the bottom up for the Xbox 360 and its control scheme to ensure that we deliver a groundbreaking console RTS experience. Given that, we have no plans to develop 'Halo Wars' for Windows Vista at this time." ... perhaps they decided that in a PC vs 360 multi-player match, the PC gamer may have a rather substantial advantage, but given the nature of the RTS genre, it still seems a rather strange decision...

Anyway, back to the game itself. In *Halo Wars*, the player takes control of the UNSC (United Nations Space Command) forces in their first encounter with the Covenant after the loss of the first planet, Harvest to the afore-

mentioned alien bad guys. Whilst no clear details have yet emerged (the game's release date being touted as June 27th by Amazon and Play.com) I would assume that the game would follow a similar formula to the successful *Command and Conquer* franchise, giving the player a solid single player campaign with UNSC taking the role of GDI, the Covenant as Nod, and perhaps even a possible role of the Flood as Scrin. However, since the game is supposed to take place before the events of *Halo: Combat Evolved*, the UNSC wouldn't actually know about the Flood, which would throw that theory out of whack, yet there is nothing to say that the Covenant had not already encountered the Flood – and they would make an rather interesting addition to a multiplayer side of the game. In terms of units, the

old favourites such as Warthogs, Banshees and Scorpions will all be present along with a few new additions such as the Hawk Helicopter and Wolverine Rocket Tank. Having watched the demos and trailers, I would surmise that standard defense structures would also be available, along with a plethora of air craft and infantry types ranging from the standard UNSC troops to the commando style Master Chief in full Mjolnir armour – though whether he would be able to take out an entire armada as per normal is subject to debate. All in all, it looks to be shaping up as a rather fantastic game and another reason perhaps to purchase a 360 over a PS3, but this is, after all, only a preview and I'm sure once we get hold of a copy we'll be able to bring you a full on review detailing the ins and outs of this sexy looking game.



Here cometh the reaper man

Alex Stubble sneaks in his musings of an old classic, then flips out and kills all



When somebody thinks of ninjas, one of two major archetypes pops into their head. Sometimes it's the timid, stealthy ninjas that can't cleave their way into an action game even if they were up against a small army of potted plants. Other times, however, people imagine the brutish killing machines that are capable of using a combination of speed, shurikens and crazy sword skills to solve any problem they may come across. Ryu Hayabusa of Ninja Gaiden fame is one such ninja.

Ninja Gaiden's style of stealth is shown in the first chapter of the game that sees you infiltrating a rogue ninja fortress to look for information, and by infiltrating I mean strolling down corridors killing any living being that dares draw breath near you. Fighting ninja after ninja in the first chapter, the basics of combat in the game become important to learn as well as the crucial differences in the game when compared to other 3D action games have to be noticed before you get killed in a shiny storm of katanas and shurikens.

Unlike other action mainstays like Dynasty Warriors or Devil May Cry, combat in Ninja Gaiden doesn't focus on long, flowing combos or snazzy aerial attacks to keep yourself safe from the grunts cursing below but instead on a complex system of evading enemy attacks while trying to capitalize on weaknesses in your opponents' movements (a little tricky when there's often 4+ enemies at your throat at any one time). This strangely defensive style of combat isn't one to catch an onlooker's eye immediately but the poetic nature of the dance of death in Ninja Gaiden does offer its own merits.

The evasive nature of combat is not entirely Ryu Hayabusa's fault, but the foes you meet play a large part in having to defend yourself. Gone are the days when the combo was something reserved for player characters and bosses, as even the lowliest enemy is capable of going toe-to-toe with our favourite ninja and battering through his defences with a series of block-breaking attacks in quick succession. The enemies' relentless assault does not end with having combos of equal

length to you, but they continue on with a plentiful supply of throws so they can skip the block-breaking step on the road to attacking you. All things considered, there is not really a lot that you can do that the majority of opponents cannot. Blocking? Dodging? Ranged attacks? Basically, the average opponent isn't far off being some kind of weird bot, with the added effect of it being 1 v many most of the time.

Although combat is usually defensive, select weapons in the weapon list are capable of supporting an offensive playing style, most notably the Dablahro (large beserker sword) and the Lunar (staff) can keep you alive even while attacking opponents thanks to their long-range sweeping attacks. Other weapons such as the faithful Dragon Sword and the Vigoorian Flails also promote their own schools of battle, with the Dragon Sword emphasizing high movement speeds as many of its attacks come with their own sweeping dashes attached while the Flails work on a combination of relatively long combos backed up with some incredibly fast, high damage hits to help isolate opponents. The game rarely forces you into using a par-

ticular weapon in an encounter so it gives you the freedom to choose a weapon and master it without having to worry about suddenly meeting an opponent that renders your new-found skills ineffective.

The game also comes complete with a small, but diverse set of ranged weapons to help add that little bit of spice into the already over-seasoned combats. Broadly speaking the ranged weapons are either arrows, which can only be fired while standing still and can be aimed in first person view for more precise shots, and the shurikens which can be thrown at almost any time. While the bow may be a powerful, it is rather cumbersome and so takes a great deal of moderation to use effectively. Shurikens on the other hand do very little damage and for the most part are simply an extra little thing to worry about in combat, but they become a necessity in later combats as a simple way to stun an opponent in either self-defense or to prevent blocking for an upcoming combo.

Other than

the combat, the game is fairly standard fare. The story is interesting enough, the character designs are well done and the setting is pretty well thought out such that you never feel out of place even while running down an urban street fighting military troopers in full ninja garb. The interfaces in the game are easy to navigate and the overall game is highly polished and streamlined. The learning curve of the game is also very well plotted out, with players usually struggling to beat every new enemy but always having victory in sight.

But screw minor details, this game lives and dies by its combat, and it's hard to get sweeter than this. It is my personal recommendation that any fans of the 3D platforming action genre at least give this game a try (PS3 owners can download a demo). Look out for either Ninja Gaiden Black on the Xbox Classic or Ninja Gaiden Sigma on the PS3. Classic? Revolutionary? I don't

know but what I do know is that there isn't a better game out there for sheer ninja face-smashery.



Gaiden

Gaiden signifies a side story of sorts, so I thought it would be appropriate to discuss some of the more interesting (subjective), yet less known aspects about Devil May Cry.



You all know Resident Evil 4 is one of the finest action-adventure games to have hit the GameCube and PlayStation 2. What a lot of you don't know is that RE4 *would* have been released about sevenish years ago. Instead, development took a rather different route.

There was always an intention for a Hispanic setting since the development team were sent to Spain in order to study the architecture. The basic character designs were drawn then, explaining why both Leon and Dante need fringe cuts, badly.



However, the team apparently encountered a strange glitch that caused enemies to be effectively juggled as you fired at them in quick succession. Instead of trying to solve the problem, they ran with it.

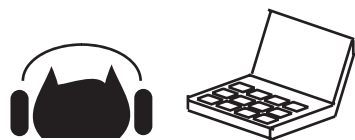
The gameplay also took on a more acrobatic, physical route as emphasis was placed on combat over exploration.

With a late design decision to introduce mission-based gameplay over exploration, the *Devil May Cry* you all know and love came into being.



However, the story doesn't end there. In a strange twist of events, the template for Devil May Cry (which was RE4's to begin with, in all fairness) now became that of the official Resident Evil 4. The symbiosis is quite interesting. From the Hunter-like Blades to the humungous castle to the essentially on-rails escapade at the climax of the game, both games share much.





Technology

Technology Editor – James Finnerty

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James Finnerty
Technology Editor

Welcome to another weekly instalment of the Tech section. Once again we've had a good amount of news this week so let's dive right in.

By the time this hits print the US navy should have shot down the falling spy satellite allowing it to burn up in the atmosphere instead of crashing to earth. A 1400 mile long section of the Pacific has been cleared and planes and shipping have been ordered to stay away as assumedly this is where the missile will ditch if anything goes wrong. Some debris from the satellite may fall on Canada. Accidental or not I'll let the conspiracy theorists resolve this one.

Mesh PC's have begun to offer the first of AMD's Phenom 3-core processors in some of its machines. The intention of these models is to offer something in the large price gap between the majority of dual and quad core machines. Maybe this will give AMD a bit of an edge in a market that is constantly being taken away from them by Intel.

A Ukrainian hacker has found a loop-hole in American insider trading laws that may allow him to keep his ill-gotten gains. Oleksander Dorozhko used information gained from a hack into IMS Health's system to bet that their share price would drop. He was correct and made a tidy \$250,000. The loop-hole is that in US law to be an insider trader you must actually be involved in the company you're trading on and since Oleks is not it seems he could be onto something.

According to some "ground-breaking" research at Northampton University some people are addicted to mobile gadgets. It's always interesting when someone comes along and officially states the obvious but there are some new interesting bits of information. They claim the problem is not the addiction but the fact people are getting fired for constantly checking their texts during work. I don't think this is addiction to the devices as you could just as easily chat via emails which I doubt your boss will want to stop you using. There is no real way to stop this happening short of removing all sources of communication within offices as you have to remember most people are, in fact, social.

Scientists have unveiled plans to test new hazardous chemicals on cells produced in a lab as opposed to testing on lab animals. Expanding on this, and getting a bit more techy, they want to use machines to perform the tests as they do the work far faster; allowing for a broader range of tests.

Silicon Valley is going green with most companies hoping to make the move to solar power to take advantage of the wonderful weather they have over there. Before they all go and install it they want to drive the technology forward to get the most of it. So maybe we might get to see some drastic improvements in the validity of solar power in the coming decade.

Anyway I'll let you get on with our nice big Loudspeaker article and a top-up on the whole HD-DVD thing.

Electrostatic Loudspeakers?

Richard Lai reminds you of this forgotten, but superior, speaker technology



I think you would be more likely to get your wife to approve this than a set of 6-foot tall monsters

Nowadays, there is no doubt that consumers are increasingly aware of high-definition video, mainly due to the ongoing battle between Blu-ray and HD DVD – the two next-gen HD video formats. However, it is uncommon to hear about high definition audio: the market is flooded by low-grade digital music, as well as low-resolution loudspeakers that can still sell because consumers believe the wattage is the main feature. Should you care?

To answer this, imagine you are sitting in front of a jazz band: somewhere on the left you can feel the plucking and hear the delicate reverb of the guitar strings, and right in front of you come the saxophones and the trumpets tickling your ear canals, along with the trombones that gently shake your entire body, and the piano with tones that comfortably fade away. This is what you should look out for in a concert – there is no way you can reproduce the same sensation back at home, unless you have the money to hire the band plus the ownership of the same concert hall and making it your home. This is where the challenge is: can you bring a similar sensation back to your actual home?

If you are one of those who have taken up the challenge, you are then known as an audiophile. Most audiophiles swear by analogue playback, which include the use of vacuum tube amplifiers with vinyl record players, and most refuse to go digital wherever possible due to their belief in the lack of warmth (or even soul, as said by many

audiophiles) in digital formats and devices, even though current technology proves otherwise. Ignoring all the digital audio devices, the audiophiles' absolute latest favourite technology would probably be the superior yet less-known electrostatic loudspeakers (ESLs) – essentially flat panel speakers, definitely nothing close to your ordinary speakers. I wouldn't be surprised if you have not heard of this technology before, but trust me, they are way better than what most of us are using right now.

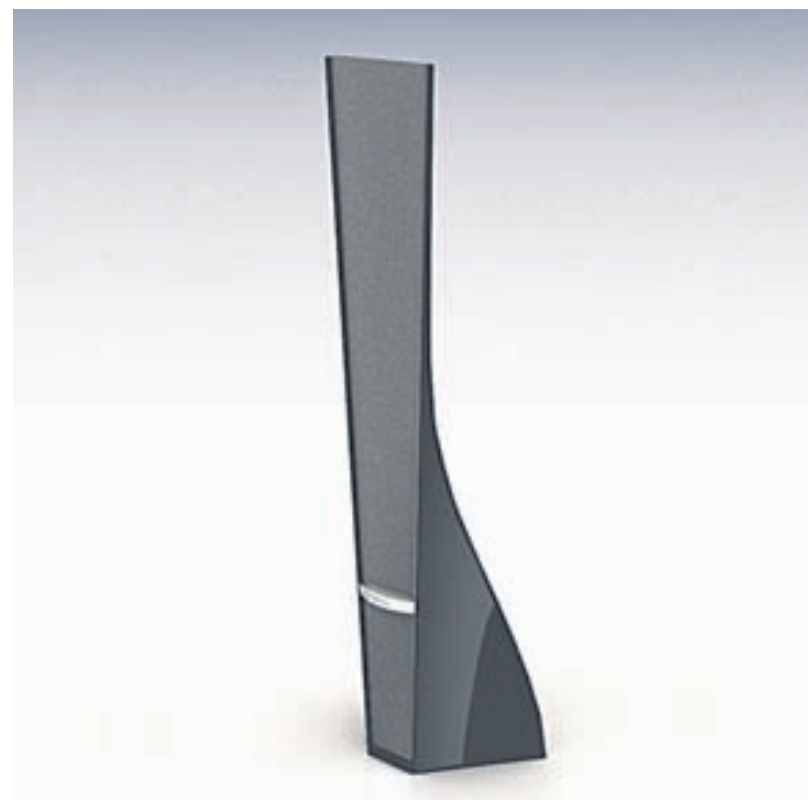
So what is wrong with our everyday magnetic coil speakers? Well, placing one in your hand, you would immediately notice its heavy weight due to the magnet and metallic coil (usually hidden). This actually kills any delicate signals – such as the tiny reverb of the piano – in a well-recorded soundtrack. Unlike the average consumer, any experienced audiophiles would be able to spot these tiny missing details. There is then the coil-driven motion of the driver: to reproduce sound, the inner coil and the diaphragm constantly are pushed in and out to change the air pressure around it. Such large movements will easily distort the sound, and on top of that, a large diffraction is also introduced to the sound waves due to the shape of the cone, therefore allowing the sound quality and volume to deteriorate very quickly over a short distance. This is why audiophiles always have to carefully find the so-called "sweet spot" before they can sit down for three hours or so of music.

Looking at a bigger picture, a complete speaker requires a cabinet – usu-

ally wooden – to go with the magnetic coil drivers. This is to prevent destructive interference by the sound waves produced from the back of the drivers, as well as making the bass punchier. However, this often adds unnecessary flavour to the reproduced sound, which defeats the whole objective of hi-fi, or high fidelity, meaning close-to-original

reproduction. Some people may like this additional flavour, but the veterans are strictly allergic to it.

To understand how ESLs defeat such problems, we should look at the general structure of them: originally designed by Quad Electroacoustics of UK in 1955, these flat panel speakers consist of a polarised plastic diaphragm



Nakamichi HD-A ESL



Martin Logan Summit

(usually Mylar – the same material in your earphones) sandwiched between two grid electrodes (known as stators), with an electric field of usually about 5kV and a low current going through the diaphragm for modulation. The most common ESLs these days are usually around 1.5m tall and 0.3m wide, with their deepness depending on their attached subwoofer, if any.

The stretched diaphragm already solves the weight problem with its 2-20µm thickness. Also, unlike the coil drivers it has very delicate move-

ment that you can hardly notice by eye. These two properties allow the production of a very refined sound with very little distortion, waltzed by a natural and comfortable bass. Specifically, most should notice the bass part of the piano, drum and guitar lasting a little bit longer, rather than suddenly stopping when coming out from normal speakers, as if you are punched by it.

Also, since the diaphragm is stretched over a large flat surface area, the sound waves produced have very little diffraction: imagine you are standing about 5 metres away from an ESL, listening to some guitar performance in a room, and now go right up to it with your ear touching the ESL (don't worry, it won't hurt), where you should hear almost the same volume and quality as you did 5 metres away. This is definitely something that you don't get from ordinary speakers.

Another great feature is the lack of a speaker cabinet – the average ESL is just a 2-inch thick open panel, which gives us a double-sided (or dipole) sounding, meaning greater transparency, as well as no additional flavour. All this adds up to high fidelity, as if the live band is in the room, and you can really feel the instruments being blown or plucked right in front of you. To go with the music, the ESL's slowness is also a bonus eye candy if done properly.

Now you may ask: so if ESLs are so great, how come it is not in the mainstream market? The popular answer would be because of the cost: a typical, mid-range ESL system would be around \$3000 these days, mainly due to manufacturing difficulty, where the diaphragm-stretching process and as-

sembly still have to be done by hand. Most notably though is their large size by nature, as the ESL panels require a certain amount of surface area in order to produce sound efficiently. This is particularly important for bass, where most ESLs fall short at, and therefore they are often coupled with a subwoofer at the bottom, forming a hybrid ESL system.

The second problem – and usually the most commonly forgotten one – is that the ESLs must be placed away from the back wall – usually about 1 metre – to avoid severe interference caused by the reflection from the wall (remember, the ESL produces sound on both sides!). More space is taken up by the powerful amplifiers (at least 200W) in order to drive the ESLs, and of course these cost money too, especially if they are vacuum tube amplifiers, which are known to give a richer sound compared to digital ones. Leaving these behind, we finally have the reliability problem: ESLs are still considered as unreliable due to the high possibility of shorting when the air is humid, although there are several ways of preventing such event from happening such as implementation of coating on the membrane and stators.

To sum up, ESLs really are superior, with hardly any problems that most traditional loudspeakers have, provided that you have plenty of room, money and a fairly dry environment. If you are looking for a system that can bring a live concert into your room, where you can both hear and feel the instruments being played, this 53-year-old technology is the way forward. Remember: hearing is believing, so do check out the ESLs when you have the chance!



Martin Logan Clarity

Finally the victor is crowned

Andrew Lyle reports from the front-line of Sony vs. Toshiba as the war ends

I'm not entirely sure any of you will remember the Betamax vs VHS format war that took place for almost a decade from 1975 - I certainly don't, but looking back on it, I found it quite interesting to compare it with the past two years of battling between HD-DVD and Blu-Ray in which there now seems to be a winner. Just in case anyone is wondering, VHS won the previous format war, which is probably a good thing as Betamax tapes were limited to only 60 minutes playback! Imagine a childhood without movies...

Anyway, on first appearances, Betamax and Blu-Ray were rather similar - both had more complex and costly hardware, both had supposedly better audio and video quality and both times Sony refused to release the format to the porn industry! This time however, Sony have increased the capacity of their format to many times that of HD-DVD and made the technology more widespread, allowing many more developers to build hardware to run Blu-Ray discs and crucially, they also put the drive into their latest games console the PlayStation 3. This move, whilst being extremely risky seems to have paid off for them, as it helped to put Blu-Ray drives in more homes than the competitor. After all, people are much more likely to purchase a £300 games console which happens to have a built in high-def drive than a similarly priced stand-alone player - I know I would.

Looking at HD-DVD and VHS, the marketing and widespread availabil-

ity that eventually helped to win the last war for the latter seemed to be somewhat lacking in the former, with a few companies releasing drives in their PCs, a number of manufacturers building standalone boxes and of course not forgetting Microsoft's half-hearted HD-DVD drive add-on for its Xbox 360.

So now, after almost two years it would seem that the next generation video format has finally been decided. Following Warner Bros. choice of the Blu-Ray format earlier this year, other companies have slowly been drifting towards the same side with the final nail in the coffin for HD-DVD being the news from Wal-Mart, Best Buy

and Netflix that they would no longer be stocking the format. As a result, Toshiba announced earlier this week that they would "no longer develop, manufacture and market HD DVD players and recorders".

Now I must say that I actually feel rather sorry for Toshiba - in the first round they backed Betamax and lost; in the second they seemingly tried to walk the path of VHS by attempting to flood the market with their cheap(er), porn-friendly format... which also lost. However, on the bright side upon announcing that it was abandoning HD-DVD, Toshiba's stock rose considerably; consumers now also have a clear choice about which format to

purchase, but unfortunately with Sony at the wheel, I am still left with the dilemma of where to get my high-def porn from? Well, if certain companies have their way, in the future, all our audio-visual needs will be sated by downloads and legal ones at that - not that I would ever endorse the illegal acquisition of files, or porn for that matter, as I'm sure one could find far more exhilarating ways to achieve the same result... but I digress. For now, with trials of "super-fast" broadband just beginning, I think it is safe to say that your investment in Blu-Ray will be a safe one and the only 'proper' way to get high definition content onto your brand spanking, shiny new HD telly.



Thousands will have to succumb to the charms of the Blu-ray Disc

Headlines we couldn't fit in

Microsoft delay Vista update

Sony sell PS3 chip plant to Toshiba

HD DVD equipment cheap on eBay

£99 eee-pc competitor announced

Finland censors anti-censors

Heathrow hit by software glitch

Government loses criminal DNA data

Brain-controlled game controller announced

iTunes has been cracked

Wikileaks.org taken down

Google phones make debut

BBC programmes to go on iTunes

iPod shuffle gets a price drop



The Democratic Republic of Congo

Taking an impromptu trip into the Democratic Republic of Congo last summer, 4th Year Medic **Ammar Waraich** runs into some adventure and a spot or two of bother. What was he thinking?! Part 1 of 2

I had been in Rwanda for a good few days when I decided to matatu myself over to the lake town of Gisenyi overlooking the calm waters of Lake Kivu. This town was supposedly the Costa del Sol of Rwanda where the rich and famous came to enjoy watersports in front of expensive lakeside houses. When I got there, it was pretty dead to be honest and there certainly wasn't anyone rich in sight!

I was aimlessly wandering around, sticking out like the sores of mzungu thumbs with my gigantic lopsided green rucksack, a variety of bright bags, and sporting a pink shirt. There really was not much to do here having spent the whole afternoon making rudimentary chat in English with the curious residents, eventually ending up alone by the lake watching it become the same colour as the sky.

I had no further ideas or bookings but instead I had a bit of a secret agenda. Ever since landing more than two bor-

“A few steps away from the smooth roads and relative safety of Gisenyi, the town Goma was an utter moonscape”

ders away, I had been toying with the idea of seeking adventure in the Democratic Republic of Congo and perhaps I forgot to mention this, but Gisenyi was also the border town to the Congo. My conversation with the locals all day had been about this and that while I pretended to myself that I wasn't looking for information on the situation across the border and that I wasn't actually going to go there. It's akin to making chat with your boss while pretending you are not interested in a promotion. Alas, I so shamelessly was. The muezzin sang out the call to the dusk prayers, and praying for the best I ven-



The marvellous lava landscape

tured towards the border on foot.

Once the somewhat difficult border-crossing had been bargained through in dollars, I felt a sense of false pride overcome me. I was a student, used to the safety of South Kensington, and here I found myself in the Congo with little information and no plans. My excitement became even more elated when I saw convoys of the United Nations, Medicine Sans Frontier, NATO and various armed military personnel cruise past me as I literally walked it into the Congo alone on the night of the 29th August 2007.

It is truly fascinating how much of a difference a man made border can make. A few steps away from the smooth roads and relative safety of Gisenyi, the town Goma was an utter moonscape, with layers of uneven lava forming the town's surface. Shielding myself from clouds of dust, I started at the basics first. Rooms were full everywhere because of the UN presence but about an hour into my endeavour, I chanced upon the oddly named 'Shu Shu Guesthouse – The Cheapest Rooms in Goma'. They too were full, but here it was with visiting locals. I pleaded with them for help but at this late time they couldn't really offer much. In desperation I asked them if they would let me sleep on the floor of the reception that we were sitting in. For a price of \$10, they agreed. At this point I remembered that I had not really thought about money. Well I had \$400, I thought naively, and if I needed

person had fallen in and died about a month ago.

Well nothing comes without an inherent risk I thought. It was a bit arrogant, but you can't be so close to such excellent adventure and shun it because of someone else's bad luck.

However he had to take a few MSF doctors to see the Silverback Gorillas of the Zaire basin first and this for me meant either a 2 day wait or a \$290 trip with them. I therefore agreed to this trip also but because of my poor financial situation, agreeing to wire him the payment when I got back to Rwanda. I was surprised he was okay with this and spent the rest of the day walking around Goma, admiring the marvellous lava landscape.

When we returned Kennedy told me that there was now a problem. Some rebels had suddenly come to occupy the slopes of Nyiragongo so we would not be able to climb directly. So the next few days I explored the surrounding regions, visiting green volcanic lakes, pygmy villages of men with 30 wives and 60 children, and other local sites on motorbike. I also tried my best to hobnob with some of the other foreigners at expensive hotels, meeting a few doctors, one diplomat and a few journalists.

The most interesting guy by far though was a New York Times photographer who had some amazing shots chronicling a pygmy genocide taking place in central Congo that no one outside had any idea of. He also had some riveting tales from his time covering the Rwandan genocide and he went on to describe some horrific stories from places I had just visited to my disbelief.

Anyway, one morning I was back at Goma, still waiting for the go ahead from Kennedy when I woke up to the sound of helicopters flying overhead and heavy machinery. I had a breakfast of UHT milk and white bread before getting dressed to take a peek at the hullabaloo outside.

Now, I get excited by the smallest of things as I am sure you have noticed, but the shock of seeing the entire city suddenly swarming with the presidential guard and the army when the day before it had been as dead as a goat was quite something! A transformation had taken place that day and things were going down but I was clueless. I got

my stuff together, paid the dingy 'hotel' and legged it to Kennedy's for some answers.

Apparently, some rebels had decided to make an advance on to Goma and the Congolese army was amassing here in huge numbers to try and quell this rebellion. The UN was also getting involved, providing the ill equipped army with tanks, weapons and helicopters. I knew I shouldn't have felt this way but I got incredibly excited seeing the machinations of the military, the aggregates of soldiers marching and the possibility of history unfolding in front of me.

Well, I got up to a lot of fun stuff here that got me into the thick of things, but I will talk about that next week. It seemed the rebels were a force to reckon with as only a year ago they actually had managed to take over Goma and the UN had to drive them out to regain control.

“but warned me that another curious person had fallen in and died about a month ago. Well nothing comes without an inherent risk I thought.”

The subsequent day Kennedy came to me and told me how he felt the situation was going to get a lot worse very soon and that the fighting was probably going to come into Goma once again. He advised me to leave the Congo as soon as possible. Kennedy, as I said, was generally a bit of a comic but this time he was being very serious. To make matters worse I could not go back the way I came he said because of the fighting so would need to escape using a boat. It left the very next morning across Lake Kivu for the border crossing at Bukavu.

This seemed immediately not to be



Lake Kivu changes colour at dusk



Buildings submerged in ash and lava on the streets of Goma

anymore I would go to the ATM.

On the way back from the one of the few squat toilets Shu Shu offered, I noticed a dark red glow crowning the north of the city. It was the brooding Nyiragongo volcano responsible for Goma's current state, still alive and kicking. Well for that night at least I went to sleep soundly.

Waking up when the receptionist turned up for work, I saw Goma in daylight for the first time and was dumbfounded. For as far as the eye could see the landscape was hilly contours of black and curly hardened lava. Nyiragongo's impact on Goma's history was evident; it had erupted three times in recent history and as a result most buildings used their second or third floor as the entrance. I decided then that no matter what it took, I just had to go up that mysterious volcano's side and take a quick gander into the bubbling crater. I just did not know how yet.

The guesthouse luckily did though and put me in touch with a local pioneer of tourism by the name of Kennedy, a tall, funny and hearty guy, lacking any formalities, whose mannerisms made me feel like he was old school friend.

He was a firm believer in a vast untapped tourism market in Congo, setting up his own firm 'Hakuna Matata Tours' to capitalise on it. He took me to his house to show me the tent he and I would use for the 2 day return trip but warned me that another curious



A large family in a pygmy village

overly problematic but Kennedy went on to insist that I pay him for the Gorilla trip there and then, as the recent instability meant the he needed the cash for himself and his family.

This now became problematic because if I paid him I would be left with no more than \$7 in my pocket at such a vulnerable time. It was probably the most uncomfortable situation I have ever been in.

“the shock of seeing the entire city suddenly swarming with the presidential guard and the army when the day before it had been as dead as a goat was quite something!”

At times of such crises I tend to solve problems in the short term hoping for longer term success so I essentially shot myself in the foot and paid him. He promised me that he would try and help me get on that boat tomorrow, but without money for the ticket and for bribes, things looked a bit dubious.

So during the remaining day of panic, I went to the few banks Goma had but my card would not be accepted anywhere, nor could I access any funds. The only option was a Western Union money transfer but most of these were already closed for the day and as time went on, I was starting to get very worried.

As unlucky as I usually am, sometimes fate feels really sorry for me and helps me out, and that afternoon was one such exception. After losing all hope and feeling severely stressed, I was going back to my accommodation despondent, considering I could no longer even afford that, when I saw one final Western Union branch. I got a feeling that this had to be it and thankfully, mercifully, it was. They were open for another 35 minutes and also had an



Getting to Bukavu on an overcrowded boat

international phone line. Eureka!

At once, I called home to the safety of my parents and siblings. My dad picked up the phone, and I remember suddenly being overcome with emotion. In my juvenile efforts to find adventure, I had got myself so wrapped up in a completely avoidable situation and now had to explain myself to my parents who were as of yet unaware of my escapades.

I remember thinking to myself then the reason my parents were such amazing people. Not only had they made countless sacrifice for my education and upbringing but when I did silly things like this and got myself into stupid situations, they were complete-

ly supportive until the problem was solved, leaving their valuable advice for later.

My dad, who is perhaps the most volatile person in the family after me, efficiently dispatched my brother to the closest Western Union in Birmingham with a few hundred pounds to wire over while my sister and mum both then had a small chat with me to cheer me up. Literally tens of minutes before closing time \$600 in crisp notes were gracefully handed over to me. I thought about why everything I do must be such a close shave, with no answer.

Come the next morning, Kennedy took my lopsided rucksack and me to



A village elder engages me in some local boardgames

as close to the port on motorbike as possible and said goodbye. He was a good man who was making tremendous effort for his family. I could see my parents having done the same for me when I used to be a kid and I didn't blame him for whatever had happened. I also said goodbye, vowing to come back to climb Nyiragongo one day. He said I should only come back when I have a wife and children. Funny guy; it was quite a sad parting.

Thinking away, I strolled to the port, where I found people to be crowding around rather densely. The crowd got thicker and thicker as I pushed my way close to the lake and as the elusive boat finally came into sight, so did something unexpected, my final hurdle.

The boat was completely full from top to bottom with people literally hanging on to the edges, and the crowd I had just pushed my way through were other hopefuls like me looking to get out of Goma. To prevent any further entry from the unruly crowd, the port had deployed armed men who were pointing machine guns to the floor to stop any unwanted incursion. Without Kennedy, and not being able to speak French or Swahili, I found myself in this final pickle of a situation.

I had the bright idea of trying to capture this scene on camera and as I got my D70s out, one guard's eyes caught mine and as he raised his gun and shouted, it became pretty clear that photography was not allowed.

I needed to be on that boat, but so did all of the others around me. After about a minute of analysis I had the inspiration to use the single language everyone understands – the dollar. I thought about what a reasonable amount would be and as a result produced with \$15.

I pushed with all my might to the front of the line and literally waved the wad of notes at the gunmen and the officials running the service. At this late point it occurred to me what they could have done to a powerless individual like me to get a hold of the rest of my cash and belongings, but over years of travel I have realised that people in foreign countries are not as bad as movies will have you believe.

The green notes caught a few eyes and instantly I was escorted past the crowd and the gunmen to the entrance

of the boat where the one guy who knew English dealt with me. “40 dollars” he said. “25” said I. “Agreed” came the reply.

It wasn't too steep considering the state of things. My bag was taken from me and stowed away safely. I was led to the VIP section and got to sit there in shade while the boat chugged away slowly from the lakeside.

I once again got my camera out to capture the moment, getting one shot of the burgeoning boat before everyone in that photo shouted me down at the top of their voice. There must be a cultural reason for this I thought.

As I got to Bukavu five hours later, I pondered over all that had happened. I felt like the most insignificant visitor to the Congo, yet one who was lucky and unlucky enough to witness a proportion of its problems first hand. I suppose I came in looking for adventure and I got it, but in the process fell in love with the raw excitement offered by this relatively lawless country. There is vast potential to make a difference here and I aim to return someday.

“and literally waved the wad of notes at the gunmen and the officials”

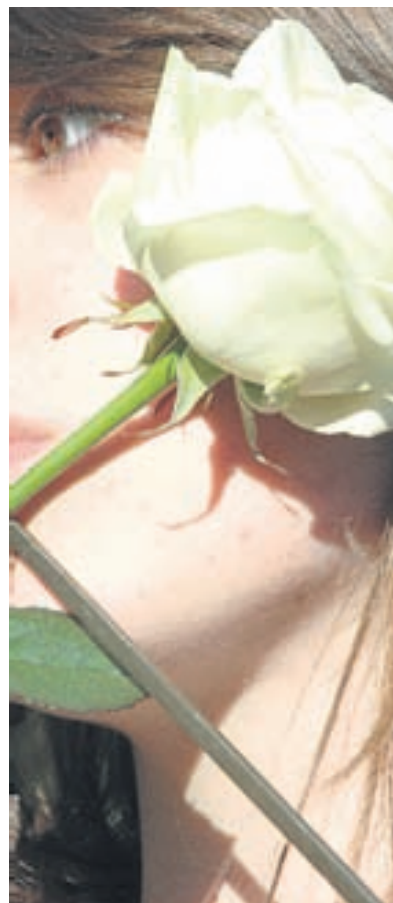
Upon getting to Bukavu, I boarded the first taxi I saw and headed to Cyanguru in Rwanda. Just one final \$10 bribe freed me as I came face to face with the dense jungles of South Rwanda. Where now? I thought.

“The Congolese are stupid” Kennedy had once said to me, “they can't see that they are themselves ripping their own country apart”, and most of his friends I met agreed. To understand the Democratic Republic of Congo, one obviously needs to live there and let it absorb them. So far, I have just talked about what happened to me but this is just one half of my trip there. Next week I will try and cover the other half, detailing what Congo has to offer, my crude attempts to learn some things and my resulting limited understanding.



Needy McNeedy: distinguishing woes since 1666

Needy's back dousing you with her wisdom and spaffing everywhere. E-mail: agony.felix@imperial.ac.uk



Looking at the state of the student body, it becomes clear to me that you're all painfully in need of some good advice. You've got two options: you could get depressed and turn to drugs, or you could email me on agony.felix@imperial.ac.uk. I promise that I won't be mean to you, or if I am, then you definitely deserve it.

Dear Needy Mc Needy

Due to an addiction to clothes and coffee, I'm running out of money! It's only half way through the term and already I've discovered that I'll no longer be able to finance any drinks or social events. Is it really possible to live on a fiver a day?

BrokePerson

Dear BrokePerson,

I've tried living on £5 per day. I find it impossible, although someone suggested you can buy a sandwich from the JCR for 65p. After some market research I discovered that this is actually true (ham and mustard anyone?) although it is a sandwich in the loosest sense of the word, and not one you'd really want to eat. Going out should be

easier; try entering some of the night-life competitions (you're virtually guaranteed a prize – Greg might even buy you a drink for texting him) or, if you can stomach none of the above suggestions, find a rich but socially inept person looking for some friends.

Needy xxx

Dear Needy Mc Needy

I'm really shy but have a hopeless crush on one of the girls in my course. She sits near the front of the lecture theatre and has the most beautiful brown glossy hair I've ever seen. I can't concentrate anymore, I just stare at her beautiful neck. I think I'm in love. I've tried talking to her before but I go bright red and can't seem to get the words out. How do I tell her how I feel?

Lovestruck

Dear Lovestruck,

Firstly, please make sure that at all times you aren't gazing at her in a way as to make anyone but those who frequent the SciFi library painfully aware that you like her. If you've already been doing this, I propose that you don't tell her and save both you and her the em-

barrassment of your rejection. She'll thank you for it one day. If, however, she doesn't already know of your love, then buy some of that green make up (make up? I mean lotion. MALE LOTION.) from Boots which is specifically designed to cover up blushing. Or just swallow your pride and ask her for a drink. And when she says yes, don't take her to the Union.

Needy xxx

Dear Needy McNeedy

I'm a final year student and I'm worried about getting a job next year. Everyone else seems to have their careers lined up in front of them, all my friends are going to work for investment banks and the only thing I've got lined up this summer is cleaning my mum's windows at home. How can I find the job of my dreams with minimum effort?

ProspectiveJobSeekersAllowanceRecipient

Dear ProspectiveJobSeekersAllowanceRecipient

Repeat the mantra after me: I will have an Imperial degree, I will get a job. I'm sure you're not alone in realising its

not that easy; employers aren't going to drag you out of bed by the right leg and push you towards a desk. Oh no, it turns out you've actually got to go and ask to be given a life of commuting and drudgery. Unfortunately for you, sabb nominations are over now, so you can't put off the inevitable by spending a year debating the finer points of the Union Constitution. Never mind.

Needy xxx

Dear Needy McNeedy

I'm addicted to celebrity gossip sites. They're just so much easier to read than textbooks. It's ruining my degree. How can I give them up?

TheInternetIsForCoolKidsToo

Dear TheInternetIsForCoolKidsToo Give them up? What are you talking about? This is probably the best life experience you can hope for. If anything, give up your degree, which is probably in something completely pointless like the geophysical topography of the outer hemisphere of mars. Being literate in pop culture is a rare skill at Imperial, make the most of it.

Needy xxx

H to the o, r, o, sizzle copes – it's the Horoscopes



Aquarius

This week you don't want to pay for your education but you want everyone else at different universities doing 'mickie

mouse' courses to pay for their degrees. Well-fucking-done you snobby pigfuckers – I hope you get David Cameron and Boris Johnson and all those cunts elected so that you can enjoy your fetid existence together knowing that you had the chance to do something good...



Pisces

...but you fucking blew it. RIP Good Will, 1833-2008.

On a lighter note, you find out that in this world, it is not what you know, but who you know. You die alone.



Aries

You are probably wondering why the Horoscopes are being all negative this week. Well, I'm tired of you all,

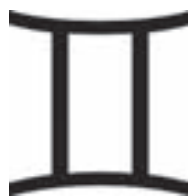
really mega-fucking tired. I want you to feel positive about something this week. Embrace humanity; tell someone you think they look beautiful and just enjoy the smile on their face. Talk about your favourite book, ANYTHING.



Taurus

So a family walk into a talent agent's office. The father says to the agent, "We've got a new act. Let us show

you." The dad then starts fucking his son in the ass whilst the mother shits in her daughter's mouth whilst singing 'Jerusalem'. The daughter then pisses on the floor, the dog then pisses on the floor, the mother then begins to drink all of the piss. This all causes...



Gemini

... the son to shit on his dad's dick whilst sucking off the dog. The father then wheels out his wheel-chair ridden

daughter and then pushes over the wheel-chair so the girl spills out onto the floor. The family then begin to beat the disabled daughter helplessly lying on the floor with baseball bats with nails in. The dog is then forced to fuck the disabled, bloody and helpless girl. They...



Cancer

... finish up by all shitting on the floor and rolling round in it. They then pause, get up and take a bow. The talent

agent catches his breath not understanding what just took place, whether it is real or purely imagined. The talent agent said, "Erm, what are you going to call the act?" The family in unison reply, "The Aristocrats."



Leo

This week you find out you were adopted. You then trace back your biological mother. She is called

Sloppykunt McShit and born in Sunderland, apparently you have 12 biological siblings all with names like Shitstain, Assblast and Dickcrumbs. You decide to go see your real mother. Upon meeting her at the train station she then begins to beat the shit out of you.



Virgo

Whilst she is beating the shit out of you, she sets he 12 semi-feral children upon you. They sniff out your wallet and then

begin ripping it from all its contents like a pack of hyenas would tear down a carcass in a matter of seconds. You begin to question the good will of your new-found biological family, especially when they start pulling out your hair claiming that they needed new clothes.



Libra

Lately you have been having doubts in your own ability to interact with other human beings. You think the solution is

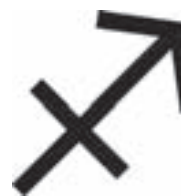
during conversation is when the conversation no longer is about you, you set yourself on fire and then running around flailing. You try this out unfortunately on the same day you wear a shell-suit. This puts you in a very bad mood.



Scorpio

This week when you rest your head on your pillow at night, there is a bleeding, sharp, pulsing sensation behind

your right eye. You feel like blood is going to gush from your nose and whenever you move your head, a rattling sensation overcomes you. The pain is unbearable so you decide to chop your ears off to release the tension. You do a Charlie Chaplin dance: awesome-a-saurus.



Sagittarius

Tridents. Wonderful things aren't they. Almost like a pitchfork but with extra points of death on the end. I like to

thrust them into rotting cow carcasses. The smell of the pungent fetid aroma wafts up your nose as you spit roast the unlucky animal. Guilty as charged: next stop, beef burger packaging and then the barbecue grill. Watch the coals. The spider rises at dawn. Tango down.

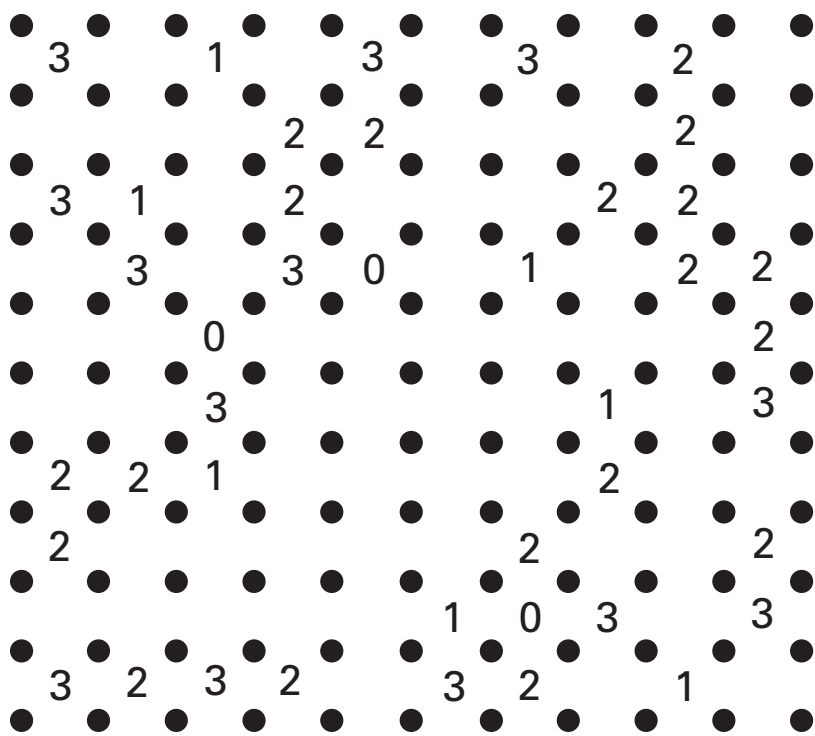


Capricorn

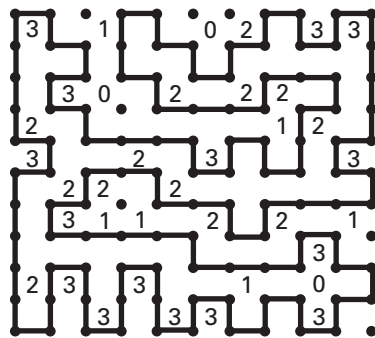
The office is surprisingly busy for a Thursday afternoon. There's a bit of a barney going on but we're

all pretty cool peeps down here, so they'll be no arguing. If you're reading this Chris, you're reading about the moment in time when I started writing about you. I won't mention how I looked you up and down though.

Slitherlink 1,397



1,396 solution



The winner of Slitherlink 1,396 was **Hringur Gretarsson**. Congratulations-of-ultimate-super-win to you! Pat yourself on the back and get on with this week's now. We'll give a prize out in the summer. The more entries, the better your chances.

How to play:

Crudely speaking, Slitherlink is similar to Minesweeper mixed with a dash of Sudoku. The object of the game is to draw

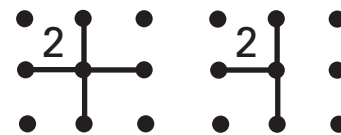
lines between the dots to create one long, and most importantly, looping line. It should have no start or finish; just like an elastic band.

Each number indicates how many lines should be drawn around it, for example:



Cells which don't contain a number can be surrounded by any number of lines.

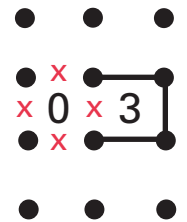
Remember, the line must form a loop, so the line cannot branch. The following situations are not allowed:



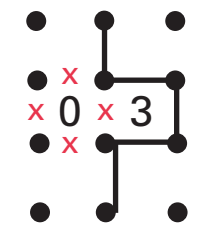
Squares are not allowed either. There are never cells containing the number 4 in Slitherlink.

So, where do you start? The most

common place to start on a Slitherlink grid is by drawing crosses around any zeros. Drawing crosses is purely done to so that you know where there can't possibly be a line. So, take the pattern below as an example. Begin by drawing crosses, then by filling in some lines:

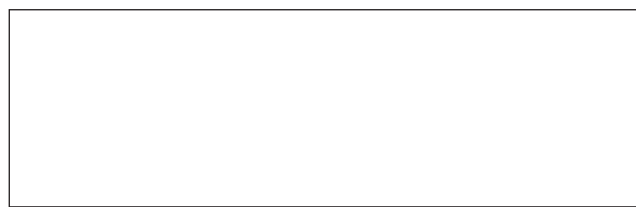


Now the lines can only continue in the following directions:



Wordoku 1,397

			I		E			
				E			T	
F		A	T			M	L	I
I			U					E
	F	L		I		N	T	
	N				L			A
L	U	F			T	A		N
N				F				
		E			I			



1,396 Solution

A	C	O	T	H	K	W	R	P
K	T	W	P	O	R	H	C	A
P	R	H	C	W	A	O	K	T
R	O	T	H	A	W	K	P	C
C	W	K	O	T	P	R	A	H
H	P	A	K	R	C	T	O	W
T	K	R	A	C	H	P	W	O
O	A	P	W	K	T	C	H	R
W	H	C	R	P	O	A	T	K

Wordoku is identical to Sudoku; we've just replaced numbers with letters. Once you've completed the puzzle, there is a hidden phrase to find. Email answers to sudoku.felix@imperial.ac.uk.

The winner of Wordoku 1,396 is **Sofia Vatti**. Two on the bounce. The hidden phrase was: PATCHWORK. Keep those entries coming in.



This week's texts:

"Sanjay Bilakhia, where is the money to feed our children Pinky, Po and Veejay? We're running out of cottage cheese!"

"Whoever texts the catfone is a bit of a weirdo to be honest. The average IQ of these people must be about 44. Collectively."

"Gilbert Dougherty is a 20 year old pregnant irishman with a fetish 4 underage witches. Show me your wand!"

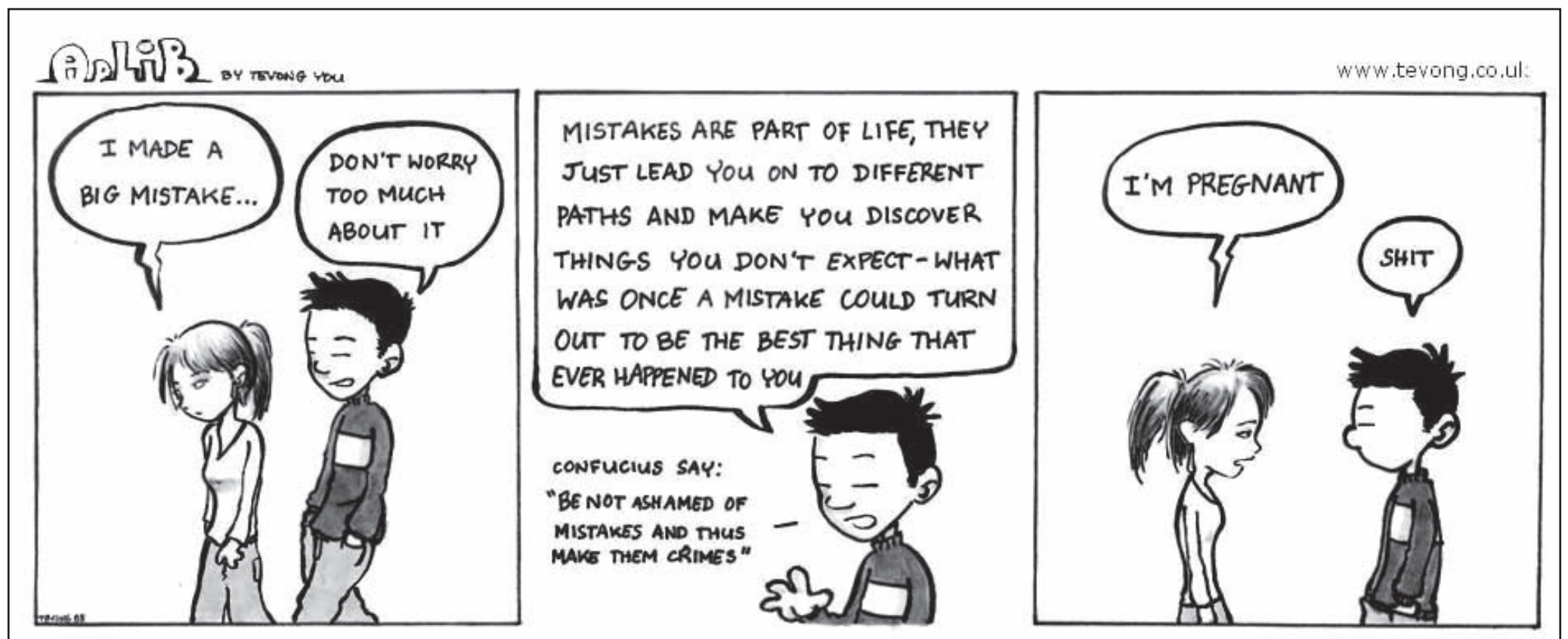
"Oh hai, how you doin' Felix?"

"Halp. I'm trapped in the phone and I'm having to use iron filings and a magnet to communicate with you."

07980 148 785

TEXT US! OR WE WON'T FEED THE CAT!

Adlib by Tevong You



Konnichiwa, watashi wa...

Fumiyo Nakagawa reports on the 3rd annual Japanese speech contest which took place this month

On the 2nd of February, Imperial College were proud to be the hosts of the final round of the third Japanese speech contest for university students. This prestigious event, sponsored by the likes of Toshiba and Japan Airlines, had been hosted by SOAS for the first two years, and we were very honoured to have held it here this year.

The first round involved a series of telephone interviews (all in Japanese, obviously!) and the potential candidates had to persuade the judges that they had what it took to compete in the finals. The 12 finalists were from all over the UK, including Warwick, Oxford and Nottingham, and three of Imperial's finest, Faizal Farokh, Ro-

han Nanda, and Handoo Seo. Their speech titles were "Do video games have a bad influence on youth?", "Non-Japanese people's impression of Japan" and "Life's Magic". All were inspiring and fresh, and spoken in such beautiful Japanese that it was hard to believe they aren't studying for degrees in it!

This competition was split into two categories; the first category was for the six students who studied Japanese as their main degree subject, and the second category for those studying it as an optional course. It involved a 15-minute speech, which they had to prepare for and know inside out. This was their chance for all their hard work to pay off. The event, which was held in LT1 of the Chemical Engineering building, was absolutely packed.

It was great to see so many people interested in the language and culture.

After much deliberation and many tough decisions, the judges had to choose the winners, and in the second category, to our delight, Handoo was placed first, and Faizal second, both claiming prizes which consisted of a Toshiba laptop, and a digital camera (plus 500 quid!!), respectively. So huge congratulations to both of them and we wish them the best of luck in their future endeavours.

The extremely generous prizes didn't end there – the winner and runner-up for the first category (students from Leeds and SOAS) received air tickets to Japan and a digital camera too!

The end of the day was a happy one for all competitors and spectators, as we had a raffle, and a seemingly endless supply of sushi, tempura, and wine! The success of the day was thanks to the huge amount of organisation and effort put in by the Japanese teachers from the humanities department, as well as the students who helped out on the day – namely the level four students, and those from the Japanese society (they weren't there for the free sushi and booze...).

Finally, I would like to take this opportunity to advise those interested in learning Japanese to contact the humanities department or send an e-mail to the Japanese society at japanese@ic.ac.uk. We look forward to seeing more new faces soon; sayonara!



"Do video games have a bad influence on youths?" was second placed Faizal Farokh's topic for the speech competition



Handoo Seo, winner of the second category, giving his speech

Relationships and religion

Imperial's Muslim and Christian societies used last week to talk love. Tosin Ajayi has all the gossip

During Valentine's week there were two intriguing events held within 24 hours of each other. Understanding the Opposite Sex, held by the Every Nation Christian Society, and Islam and Romance, held by the Muslim Medics Society. Topics that neither religion is well known for addressing.

Understanding the Opposite Sex was a light, fun affair, with all the female attendees being given roses upon entrance (note, might wanna do something about the thorns next time). All attendees were given a card and asked to recount their most embarrassing moment of misunderstanding, then two male and female volunteers from the audience were quizzed on what the sexes found most difficult to understand about each other. The pick of the answers had to be when one of the guys said he didn't understand why women talk so much and one of the women actually agreed with him.

The speaker for the evening, Wolfgang Eckleben, the pastor of Every Nation Church London, was engaging and raised a few laughs from the audience, one audience member is known to have asked afterwards: "Why does he keep going on about his wife?" If you've got it, flaunt it I guess.

His case was one that the majority present agreed with, even though he took passages from the Bible (notably Matthew 19: 4 - 6) as his starting point, suggesting that the differences between men and women were deliberate and put there by God, who nevertheless expects us to "join together as one". He went on to describe similar-

ties between men and women, mainly our needs for belonging and intimacy.

He then got onto what it seemed many had come for: the differences. One highlight was when he described a theory that linked testosterone to a disconnection between the two halves of the male brain, which also shrinks the right side of the brain. He went through the way the differences affect communication, crisis management and even sexual turn-ons. His aim seemed to be to give each sex an insight into the way the other thought, and his conclusion was to get the most out of relationships, be a lover (someone who seeks to give to the other person) as opposed to a luster (someone who's just after what he/she can get, usually sex). The Q&A indicated that what he had said had been well received, with many students wanting more detail on how he would suggest they go about implementing his principles. It appeared he'd painted an attractive picture of what a relationship should be like.

Islam and Romance was aimed mainly at Muslims, the idea being to provide guidance. The speakers were three Muslim students, and the scope was to look at relationships between the bounds of a marriage. The talk took the form of looking mainly at the life of Prophet Muhammad and his relationships with two of his wives; Khadejah, his first wife who was with him at the beginning of his life's mission, and Aisha, his youngest wife.

A key quote that kicked off the talk was "your relationship with your wife reflects on your relationship with Allah" and a lot of the principles mentioned were in that vein, with such

Qu'ran verses as "Be dutiful to your Lord, who created you from a single person and from him he created his wife". The picture was one of Devotion to Allah first and foremost, and then to your wife. One such story was of an army general, who asked Muhammad who he loved most, expecting that Muhammad would say him. Muhammad

surprised him by saying his wife.

The picture that was drawn of the marriage relationship was a sweet, almost beautiful one, especially when Muhammad's dealings with his wives were recounted. What emerged was a loving picture of righteousness, summarised in the conclusion that the relationship is to be "built on steadfast-

ness, playfulness, hearts united, always bringing a smile, laughter & tranquility". A side of Islam that doesn't get much airtime.

So, Valentine's week with the Christians and the Muslims. On this evidence, they should talk a lot more about relationships; it appears they have much worth saying.



Watch or shampoo advert? You decide

Rhythm, brains and then hysteria

Emma Thompson celebrates Dance Company winning a haul of cups at the Edinburgh dance-off

Heading up to Edinburgh to the annual Dance-Off hosted by Edinburgh University, Dance Company were understandably optimistic, having won the Contemporary category twice in a row as well as the Jazz category last year. However, no-one could have predicted the absolute obliteration of the competition from around the country that took place to see them winning a total of 5 cups, placing in all categories entered, proving that Imperial has talent as well as brains.

Our sexy Tappers picked up a well deserved 1st place, with a dance choreographed by Francesca Garrard that the judges described as "very polished [with a] great sense of style". Next up, in the Contemporary category, competition was fierce, and our pyjama-clad dancers just missed out with their piece by Alvaro Feito Boirac, despite their "excellent performance quality", to a deserving Edinburgh and Sunderland to gain a joint third place with Bangor.

Our beautiful Ballerinas picked up another 1st, with a dance choreographed by Claire Stanley and Elisa Bellomo with what the judges called "excellent choreography [with a] lovely artistic quality". To complete the hat trick, our neon wearing "high energy" jazz dancers star-jumped their way through Hildur Einarsdóttir's chore-

ography to Dance Company's second win in a row in this category. As an added bonus, the cherry on a very big cake, dancers Elisa Bellomo and Pernelle Nunez won the Best Dancer and Judges' Awards respectively for their performances in the Ballet, Jazz and Contemporary pieces; high praise indeed for a competition involving 100's

of individual dancers. This brought celebrations to near hysteria level, and excitement did not dim until well into the next morning after a night of cocktails and dancing. The only cloud on our huge silver lining is the thought of how we can possibly better our performance next year!

You can watch Dance Company

perform some of their winning pieces at International Night on the 7th of March, or come along to the JCR on Sundays and join in.

Log on to our website at <http://www.union.ic.ac.uk/rcc/dance-company/> for further details on how to get involved



The Ballerinas elegantly pretending to be a forest



Dance Company celebrate winning a total of 5 cups

dB's to the Great Hall: the growth of Afrogala

Tosin Ajayi gives a review of the Afro-Caribbean society's 9th Afrogala held a fortnight ago

There aren't many times you get to say the words "There's nowhere else I'd rather be right now" and mean it. At 7.50pm, 9th February 2008, 5 minutes into Afrogala presents PULSE, was one of them (started 15-minutes late, but that's good compared to the track record). As the pyrotechnics went off, the sell-out crowd in the Great Hall was left in no doubt that this year, the show was going to be on another level.

As the MC opened up, recounting how he'd received a facebook message all the way back in November inviting people to audition for the show, those who'd gotten used to an amateur performance where the sound cuts out halfway through most acts realised how much hard work and preparation had gone into it this time.

And the uncharacteristic (for Africans) preparation process paid off in a big way, as a rap performance followed by a fashion show, musical number and comedy sketch wowed the audience.

Although there was not a single act that could be described as being bad, the less said about the Nzinga Dancers the better. One performance that really stood out was given by EQHO, a dance crew from Warwick University, who put on a great show at the packed after-party.

There were two comedy sketches, one an African twist on Cinderella titled 'Fatimarella', which had the boisterous audience rolling about in the aisles, and the second was a comedic take on a Nigerian Folktale called Oluronbi, done in the style of a children's storyteller narrating the story, a popular African norm. Virtue and Vice, a Fashion show built around the seven deadly sins, presented some very unique and creative outfits modelled by a selection of great-looking students.

An African dance, a staple of Afrogala, made inventive and energetic use of the Great Hall aisles to begin with and ended up with around 20 female dancers on stage dancing to a medley that went from the Coming to America

soundtrack through to Yahooze, a current West African hit song.

As with any great show, full credit cannot just be given to the performers, the audience played a big role in making it as successful as it was, and this was one of the best audiences anyone could hope for. Made up mainly of Africans (majority Nigerian), with a smattering of bemused-looking Caucasians, every single movement on stage was encouraged and all performers seemed to have some family or friends in the crowd who would yell out when they showed up, despite it being highly embarrassing.

This reporter thinks the great crowd was the result of a strategic masterstroke by Events co-ordinator Damilola Soyode & Society President Damilola Jaiyeola by deciding to feed the audience about an hour before the show started. With the Jollof rice, plantain & Chicken flowing round their systems, they were happy; and a well-fed African is a generous one.

If there was one problem with the event, it would be that for an event hosted by the Afro-Caribbean society, there was very little Caribbean about it, either on stage or in the audience. The only representation seemed to be Miss Jamaica UK (an Imperial medic no less) showing up about halfway through to present some awards to those who'd made a significant contribution to the ACS. But that's nit-picking a wonderful show.

So the 9th Afrogala, the annual cultural showcase of the Afro-Caribbean Society which had its humble beginnings in dB's; had started as a way of creating funds for the then fledgling Afro-Caribbean Society; had one act, a hired Caribbean steel drum band, which was supplemented by an open mic session; and now has about twenty acts, mostly Imperial students, came to an end.

It was all summed up by a veteran of many Afrogalas, "We used to be amateur, this is something else." I can't wait to see what they cook up for their 10th Anniversary.



The events ranged from a fashion show to rap performances, a musical and a number of comedy sketches

Imperial College
London

imperial
college
union

sport Imperial

Varsity 2008

The **Big** Clash

Wednesday 27 February

Imperial Medicals vs Imperial College

JPR Williams Cup Match

at Richmond Athletic Association Ground

19.30 kick off



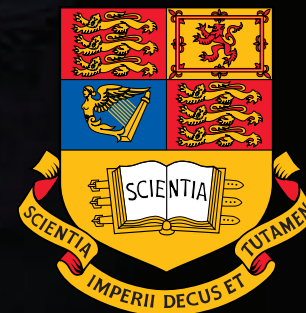
More rugby, football, hockey and lacrosse
at Harlington from 12.00

Waterpolo, badminton, netball, basketball
and squash at Ethos from 12.00

Tickets £6.50 / £7.50 / £10

Available online from www.imperialcollegeunion.org

For more info visit www.imperial.ac.uk/sports



Don't forget to exchange your confirmation email for your Varsity 2008 paper ticket before the match! You can exchange at the Union Reception, South Kensington Campus
Reynolds Gym, Charing Cross Campus
Silwood Gym, Silwood park Campus
Hammersmith Gym, Hammersmith Campus
Swimming pool, St Mary's Campus

Pre-game hype: Bottle Match 2008

The Royal School of Mines is out for revenge after last year's defeat to the Camborne School of Mines

Jovan Nedić
Sports Editor

The Bottle Match is an annual event between the Royal School of Mines (RSM) and the Camborne School of Mines (CSM). The Bottle Match has been taking place for 106 years making it the second oldest varsity match in Britain!

Students from the rival schools go head to head in rugby (men's and women's), hockey (men's and women's), football, golf and squash. The rugby match is the clash which wins the much coveted 3ft Bass-Charrington beer bottle stolen in true RSM fashion by students in 1946.

For a decade it had lived behind The Union Bar, however last year, Camborne managed to win it back. The game itself was a dogged event, with neither side really pulling away from the other. Camborne took the early lead through a try and kept it to the end of the game. RSM fought valiantly, but through all

their efforts, they could only manage one converted penalty. In the dying seconds of the match, RSM had the chance with another penalty to win the game and hold onto the Bottle for another year.

However the wind blew the ball just wide of the posts and for the first time in 10 years, Camborne had won The Bottle Match.

The determined Miner's travel down to Camborne today with the ultimate goal being to bring back the Bottle to its rightful place behind The Union Bar. Across the board, the RSM sides are looking for revenge over CSM.

In true RSM style, the day is bound to be full of drinking, banter and above all, intense rivalry. Hopefully the 5 hour journey will be worth it, and if not, then everyone is sure to have a great time. Next week, *Felix Sport* will have a complete up of the days' events,

and, hopefully, a picture of the victorious RSM captain with the Bottle in his hands.



Fierce competition for the ball in last years Bottle Match

Versus The Big Clash: Varsity 2008

You're going to need to pump iron just to watch this one. Varsity 2008 is coming: Wednesday 27th February



Clash of the titans: a scrum from last year's rugby Varsity match

Jovan Nedić
Sports Editor

On Wednesday 27th February, London is overtaken by the sounds of mutual hatred between the Imperial Medicals and Imperial College. This show down of colossal magnitude will see 23 Imperial College teams take on the Imperial College Medics in an array of sports from rugby to water polo, culminating in the JPR Williams Cup held at Richmond Rugby Ground.

During the day, football, hockey, lacrosse and rugby will be played at Harlington Sports Ground, whilst back at Ethos there will be badminton, basketball, netball, squash and water polo matches. The day is rounded off in the evening with the Imperial Men's 1st XV rugby playing against the Imperial Medicals 1st XV for the JPR Williams Cup.

The event has grown every year, with water polo being introduced this year. Imperial have dominated in the football and hockey, with the medicals keeping a stronghold on the rugby and netball games. The rest of the matches are definitely up for grabs from either side, but that's not to say that there might be some upsets along the way.

For the last two years, the JPR Williams Cup, named after John Peter Rhys Williams, a former Wales and British Lions full back, as well as St. Mary's Old Boy, has been decided in the

last 15 minutes of the game, with the medicals pulling away and ending up the eventual winners. This year looks like it will be another epic battle; with Imperial having an outstanding season and gaining promotion to the Premier-

ship, the Medicals have had less luck, and have only just begun to find their feet.

The main event promises to be the greatest encounter yet. Will Imperial College manage to turn the tide, or will the Medicals walk away victorious yet again? We'll just have to wait and see.

Tickets are still available to buy on-line, however due to lack of viewing areas in Ethos, no spectators can attend. There are three types of tickets available for the outdoor events:

£10 – includes transport and entry from South Kensington to Harlington then on to Richmond for the JPR Williams game and then back to South Kensington again. You will also receive free entry to the Union after-party. £6.50 – JPR Williams Rugby advance match ticket only or £7.50 on the door.

Look out for the Varsity pull-out which will have a report on all the games, due out on the 7th March 2008.



Tickets are still available and can be bought on-line at <http://www.imperialcollegeunion.org/shop-home/varsity-day-2008-600/product.html>

Volleyball girls in finals!

Dear Felix Sports Editor,
The following text was found on scrap paper lying on a First-GreatWestern train service this Wednesday. From the variations in handwriting it appears that some fellow students of yours composed it one bit at a time. Being somewhat nicer and saucier than our usual dose of free papers to litter, I thought I may forward this to you.

Yours faithfully,
Rolling stock cleaning dept. rep – Paddington railway station.

“Once upon a time...

IC Women's volleyball team travelled to Plymouth and discovered that ...

It was going to take another 20 minutes to get to the toilet! But then the team setter discovered that ...

She had forgotten to put pants on ...

The team became worried that the combination of Plymouth, no pants on and the existence of only two toilets to serve the 7 girls on the team before the match and the over-inflated balls we took with us might cause a difficulty in getting our gear on fast!

...
After solving those multiple difficulties the team settled into their hyperactive warm up, intimidating the opposition with the chanting of one-two-three IC! ...

But who can lose a game when the reward is chocolate! ...

We got our chocolate... along with jacket potato + cheese, eclairs, beer and more chocolate :-)

One-woo-three-IC
Lunch will be for free!
One-two-three-Marjon
We took you on & won”

The IC Volleyball Girls



The girls warm up before their 3-1 win over Marjon

All the pre- and post-match nutrition you could need

Holly Plumley
Energia Fitness Instructor

Preparing your body for a match whether it is varsity rugby, football or underwater wrestling is extremely important as it can enhance and increase your performance. The physical demands of match-play will rely heavily on your carbohydrate stores and so good nutritional practices should be an essential part of self-preparation in your sport.

Players who eat well during the training week are likely to have adequate carbohydrate stores to last them through a match. Do this by increasing your intake of carbohydrates such as cereal, bread, honey, jam, potatoes, rice, pasta etc for a few days prior to the match and try to spread your food and drink over 5-6 smaller portioned meals a day. Avoid the intake of high fats such as cheese, rich sauces, takeaways, crisps and chocolate. Also try to increase the amount of fluids you take such as water, sports drinks (4-8% carbohydrate), cordial and juices. As your muscle stores water as well as glycogen. You should avoid alcohol 24-48 hours before a match.

Eat a high carbohydrate meal the night before the match such as:

- Pasta with a tomato based or low fat sauce with a small amount of lean meat, chicken or fish if desired.

- Stir-fry with lots of rice, noodles or couscous. – Homemade not from your local takeaway!

- Small serving of very lean meat, chicken or fish with plenty of potatoes and vegetable/salad.

Approximately 4-5 hours before the match eat a suitable pre-match meal. Choose something that is easily digest-

ible and also something you have eaten before consisting of carbohydrates and fluids. Examples are cereals, fruit, bread, muffins, crumpets, pancakes with honey, jam or syrup, pasta or rice with a low fat topping. Small snacks such as fruit, bread or a meal replacement drink can be consumed up to 2 hours before the match kick off.

Fluid intake should not be underestimated as dehydration will impair skill and judgement and makes exercise seem harder than it actually is. You need to start each game hydrated and work at drinking fluid regularly throughout the game e.g. breaks in play, time outs etc. Avoid excess caffeine before the match as it may lead to dehydration and cause stomach cramps.

Recovery is just as important as the preparation and will ensure you can be fully ready for your next training session. Recovery should start immediately after the final whistle blows by replacing your carbohydrate stores with fluids and food such as sports drinks, cordials, fruits – watermelon, pineapple, white bread sandwiches and some cereal bars.

Sensible intake of alcohol after a match will not impair future performances but be aware that drinking alcohol before following a suitable recovery plan can compromise recovery and drinking excessive alcohol can decrease attempts to improve body composition.

To complete a full recovery, eat a proper meal containing carbohydrate-rich foods such as potatoes, pasta, rice, noodles etc with some protein such as chicken, meat or fish. Remember that fast foods such as chicken kebab and chips may taste good but are high in fat – even with the salad, so not at all useful for your recovery.

Good luck to all teams for next week's varsity matches!



Pasta and a tomato base



Stir-fry with noodles

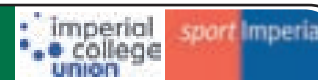


Small serving of lean meat



Fixtures and Results

in association with Sports Partnership



Friday 15th February

Basketball – ULU

ICU Men's 1st	N/A
SOAS Men's 1st	N/A

Saturday 16th February

Football – ULU

LSE Men's 1st	2
ICU Men's 1st	2

Royal Holloway Men's 1st	0
ICU Mens' 2nd	3

ICU Men's 3rd	3
Royal Holloway Men's 3rd	0

ICU Men's 4th	Cancelled
UCL Men's 6th	Cancelled

Royal Holloway Men's 4th	1
ICU Men's 5th	4

King's Medicals Men's 5th	N/A
ICU Men's 6th	N/A

RSM Men's 1st	1
ICU Men's 7th	4

Sunday 17th February

ICU Women's 1st	0
University College London Women's 1st	1

Hockey – ULU

ICU Men's 1st	4
UCL Men's 1st	2

ICU Men's 2nd	2
St. Barts Men's 3rd	1

ICU Women's 1st	5
UCL Women's 1st	4

Lacrosse – ULU

ICU Mixed 1st	19
UCL Mixed 2nd	1

Rugby – ULU

ICU Men's 1st	WALKOVER TO IMPERIAL
St. Barts Men's 1st	

SOAS Men's 1st	21
ICU Men's 2nd	93

King's Medicals Women's 1st	WALKOVER TO IMPERIAL
ICU Women's 1st	

Monday 18th February

ICU 1st	N/A
Goldsmith's 1st	N/A

Royal Holloway 4th	N/A
ICU 2nd	N/A

King's Medicals 5th	28
ICU 3rd	5

Squash

University College London Men's 1st	0
ICU Men's 1st	5

ICU Men's 2nd	N/A
London School of Economics Men's 2nd	N/A

Water Polo – ULU

ICU 1st	10
Imperial Medicals 1st	7

Wednesday 20th February

ICU Women's 1st	135
University of Kent Women's 1st	96

Football

ICU Men's 4th (ULU)	4
Royal Holloway Men's 4th (ULU)	0

ICU Men's 6th (ULU)	0
LSE Men's 6th (ULU)	8

ICU Men's 7th (ULU)	4
SOAS Men's 2nd (ULU)	1

University of Gloucestershire Women's 2nd	3
ICU Women's 1st	4

Hockey

University of Gloucestershire Men's 1st	2
ICU Men's 1st	3

ICU Men's 2nd (ULU)	1
University College London Men's 2nd (ULU)	2

ICU Men's 3rd (ULU)	N/A
RUMS Men's 2nd (ULU)	N/A

ICU Men's 4th (ULU)	5
Royal School of Mines Men's 3rd (ULU)	1

University College London Women's 1st (ULU)	4
ICU Women's 1st (ULU)	2

King's Medicals Women's 3rd (ULU)	1
ICU Women's 2nd (ULU)	1

Netball

ICU 1st	38
University of Essex 1st	45

Rugby Union

Bucks' Chiltern Men's 1st	3
ICU Men's 1st	47

ICU Men's 2nd	17
St. George's Hospital Men's 1st	7

ICU Women's 1st	10
University of Kent Women's 1st	17

Squash

ICU Men's 1st	5
University of Surrey Men's 1st	0

ICU Men's 2nd	10
Queen Mary Men's 2nd	0

ICU Women's 1st	3
St. John & St. Mark Women's 1st	1

Saturday 23rd February

ICU Men's 1st vs UCL Men's 2nd	
King's Men's 3rd vs IC Men's 4th	

St. Bart's Men's 2nd vs ICU Men's 5th	
ICU Men's 6th vs Queen Mary Men's 4th	

Sunday 24th February

ICU Men's 1st vs LSE Men's 1st	
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St George's Hospital Mixed vs ICU Mixed	
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Monday 25th February

ICU Men's 1st vs Queen Mary Men's 1st	
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ICU 3rd vs RUMS 4th	
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Preparing for Varsity: the sportsman's itinerary



Andy Mitchell
Energia Fitness Instructor

The biggest sporting event at Imperial is upon us again. It's time for the Imperial teams to face up to the Medics and see who comes out on top. With five days to go, all of you taking part have hopefully already been preparing yourselves. If you haven't do not panic there is still lots you can do over the next few days to get ready.

Building up to Varsity

To fully benefit from all of the training sessions over the last few weeks your body will need more than just a good days rest on Tuesday prior to the next day's games. Over the next five days ensure you consider the following tips to reach Wednesdays match in optimal physical shape.

Tapering training sessions:

Prior to any big match or sporting competition you want to be reducing your volume of training. This is what we call tapering your sessions. If you haven't been tapering your training sessions already then start right away.

The idea of tapering is to allow your body plenty of rest to recover from any training prior to the big match but still keep it at its optimal fitness levels. The volume of the sessions should be low but the quality high, focusing on the speed of movements. Any heavy resistance workouts or long aerobic sessions should have been done and dusted a couple of weeks ago.

If you have been training hard all week I suggest you take the whole weekend off and have a light training session on Monday. Follow this with a mobility session on Tuesday, and then again on Wednesday morning prior to your match (allow at least 4-5 hours rest between this session and commencing your warm-up). The idea of these sessions is to keep the muscles loose and the nervous system ready for the physical activity ahead. An hour session focusing on low intensity footwork and hand/eye coordination drills followed by gentle mobility exercises is perfect.

Rest and Recovery:

You want to be ensuring that you have plenty of rest over the coming days to recharge your batteries and help heal any niggling injuries you may have. As I have mentioned in a previous article the optimal time for your body to repair itself physically is from 1.00am to 3.00am. To gain the most from this window you need to be in a deep sleep and to do this will take 2-3 hours. Therefore aim to be in bed by 10.30pm at the latest. I realise this may create problems with your social lives for a few days but you'll be surprised with how good you feel and how well rested you are when you wake up!

Along with plenty of rest ensure that you are drinking plenty of water. Remember a 1% drop in hydration levels equals a 10% drop in performance! Over the coming days really focus on the amount of water you are consuming. Aim for your body weight in kg

multiplied by 0.033 for the amount of water you should be drinking in litres a day. This amount though does not include water loss from sweating during exercise so you will need to take into account this loss and add it on to your daily requirement.

Along with plenty of bed rest and good hydration levels examine what you are eating. Take a look at Holly's article for ideas on pre-match nutrition. Finally avoid too much alcohol consumption over the next few days. Ideally cut out all alcohol completely, though I realise this may be hard for some of you!

On The Day

Aim to get up around 7.00am so that you have plenty of time to prepare yourself for the day's big match. Hopefully you would have had a great night's sleep having got to bed before 10.30pm.

Start the day with a big breakfast. This is one of the times where having a cooked breakfast will be beneficial to you as you will need a lot of calories for the day ahead. Some of you may find that you have quite a lot of nerves or excitable energy and so it is a good idea to eat throughout the day to keep energy levels up. Also it is often a good idea to eat more in the morning as you may find that as the match gets closer nerves suppress your appetite. There is nothing worse than trying to force food down when you are not hungry when you need some extra energy.

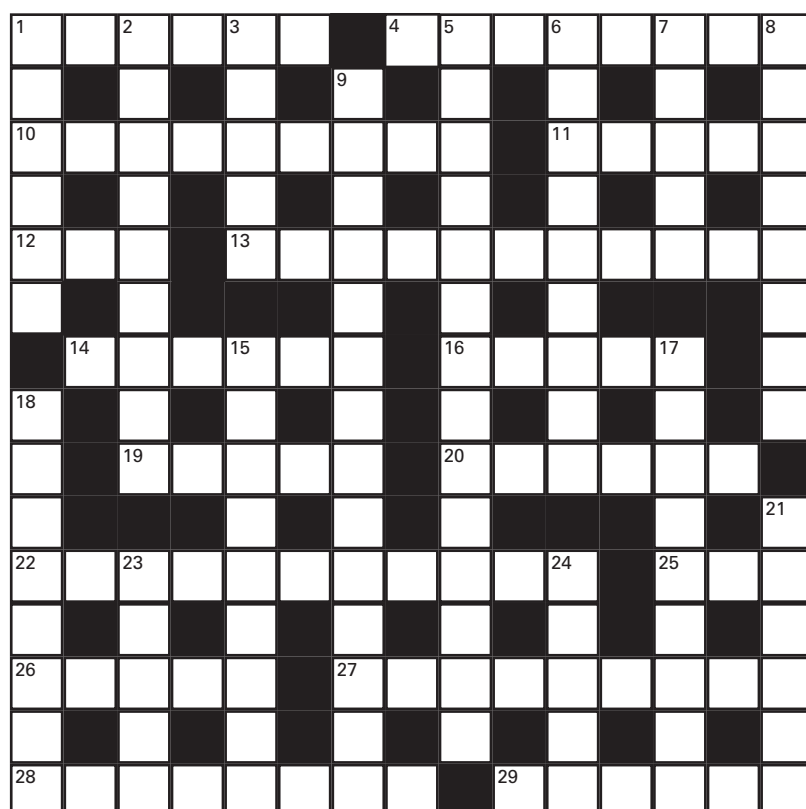
Again focus on your hydration levels and keep sipping water throughout the day. If you do decide to perform the mobility session in the morning make sure it is early enough to give yourself plenty of time to eat again and rest for the match. Finally, remember to give yourself a good hour before the start of the match to warm up. A quick five minute jog is not the best way to get you prepared to compete at your optimal performance level.

Sports league

Team	P	W	D	L	F	A	Diff	%	FI
1 IC Squash Men's 1st	12	12	0	0	60	0	60	100	60
2 IC Rugby Union Men's 1st	14	12	0	2	384	128	256	86	52
3 IC Netball 1st	12	11	0	1	559	327	232	92	51
4 IC Tennis Men's 2nd	11	10	0	1	84	26	58	91	46
5 IC Tennis Women's 1st	11	9	1	1	76	33	43	82	43
6 IC Volleyball Women's 1st	8	8	0	0	23	7	16	100	40
7 IC Hockey Men's 1st	12	9	1	2	41	22	19	75	39
8 IC Fencing Women's 1st	9	8	0	1	1183	893	290	89	36
9 ICSM Netball 2nd	9	7	0	2	289	160	129	78	27
10 IC Rugby Union Men's 2nd	12	7	2	3	278	176	102	58	27
11 IC Football Men's 1st	10	4	5	1	17	7	10	40	26
12 IC Squash Men's 2nd	10	7	0	3	30	19	11	70	23
13 IC Football Women's 1st	8	4	3	1	11	7	4	50	22
14 IC Fencing Men's 2nd	6	5	0	1	761	660	101	83	21
15 ICSM Hockey Women's 1st	10	6	1	3	54	20	34	60	20
16 IC Waterpolo Men's 1st	3	3	0	0	31	10	21	100	15
17 IC Volleyball Men's 1st	10	6	0	4	12	9	3	60	14
18 ICSM Hockey Men's 2nd	10	6	0	4	28	24	4	60	14
19 ICSM Football Men's 1st	8	3	3	2	13	12	1	38	13
20 ICSM Badminton Women's 1st	6	4	0	2	31	17	14	67	12
21 IC Squash Men's 3rd	6	4	0	2	8	4	4	67	12
22 IC Table Tennis Women's 1st	6	4	0	2	17	11	6	67	12
23 ICSM Netball 1st	10	5	1	4	334	354	-20	50	11
24 IC Hockey Men's 2nd	10	5	1	4	50	23	27	50	11
25 IC Hockey Men's 3rd	10	5	1	4	18	17	1	50	11
26 IC Squash Women's 1st	10	5	1	4	12	16	-4	50	11
27 IC Badminton Men's 1st	11	6	0	5	48	40	8	55	10
28 IC Lacrosse Women's 1st	9	5	0	4	79	67	12	56	9
29 IC Netball 2nd	9	5	0	4	277	209	68	56	9
30 IC Table Tennis Men's 1st	9	5	0	4	91	62	29	56	9
31 IC Hockey Women's 1st	10	4	2	4	35	32	3	40	8
32 IC Basketball Men's 1st	5	3	0	2	319	313	6	60	7
33 ICSM Hockey Women's 2nd	10	3	3	4	30	42	-12	30	5
34 ICSM Hockey Men's 3rd	5	2	1	2	18	9	9	40	4
35 IC Rugby Union Women's 1st	4	2	0	2	89	57	32	50	2
36 IC Badminton Men's 2nd	10	4	1	5	37	43	-6	40	2
37 ICSM Hockey Men's 1st	10	4	1	5	22	35	-13	40	2
38 ICSM Rugby Union Men's 3rd	11	5	0	6	267	228	39	45	1
39 IC Fencing Men's 1st	7	3	0	4	817	798	19	43	-1
40 IC Hockey Women's 2nd	10	3	2	5	13	39	-26	30	-1
41 IC Rugby Union Men's 3rd	12	5	0	7	184	176	8	42	-3
42 ICSM Rugby Union Men's 1st	12	5	0	7	199	292	-93	42	-3
43 ICSM Hockey Women's 3rd	10	4	0	6	18	24	-6	40	-4
44 IC Hockey Men's 4th	9	3	0	6	13	22	-9	33	-9
45 ICSM Netball 3rd	9	3	0	6	178	223	-45	33	-9
46 ICSM Football Men's 2nd	5	0	1	4	9	17	-8	0	-14
47 IC Tennis Men's 1st	10	2	1	7	36	64	-28	20	-16
48 ICSM Badminton Men's 1st	10	2	1	7	29	51	-22	20	-16
49 ICSM Rugby Men's 2nd	14	4	0	10	222	382	-160	29	-20
50 IC Badminton Women's 1st	9	1	1	7	25	47	-22	11	-21
51 IC Football Men's 3rd	10	1	1	8	14	35	-21	10	-25
52 IC Football Men's 2nd	10	0	1	9	11	35	-24	0	-34

Crossword No. 1,397

Answers to: sudoku.felix@imperial.ac.uk



ACROSS

- 1 A section of a British farm (6)
- 4 Ever abed, he decomposed and was mourned (8)
- 10 Punished; no sex for Edward (9)
- 11 Baby's need for drink is all-important (5)
- 12 Luxurious, decadent West (3)
- 13 Expansion of an unusual cult (11)
- 14 Assess the journal (6)
- 16 Robbery in the isthmus of Panama (5)
- 19 Implied historian's head (5)
- 20 A sanction on a Greek city-dweller (6)
- 22 Nine battles of a degenerate sport (5,6)
- 25 Destroy the heart of Denmark (3)
- 26 Innocent spillage of water (5)
- 27 Heartless teen tells depraved stories (9)
- 28 Strangle at top speed (8)
- 29 Fires around Nathaniel as he grabs something to eat (6)

DOWN

- 1 Heartless embrace when I transformed into what I changed into (6)
- 2 Demeaning a cellar (9)
- 3 Take care of a broken-up box (5)
- 5 Sheds light on the gateway (3,2,3,6)
- 6 In effect, I've become quite efficient (9)
- 7 Drowned frogman turns to writing operas (5)
- 8 Explode if you notate incorrectly in Germany (8)
- 9 Recuticleared (7,7)
- 15 Unpleasant weather in Attlee's innards (9)
- 17 Give a scarring shock to a flea (9)
- 18 Search high and low for the last cymbal (8)
- 21 A hundred lifts cause problems (6)
- 23 Put Reginald on the litter of thorny bushes (5)
- 24 Deans in a convertible car (5)



The winner of last week's crossword was team **DAPPAU**. Congratulations! The number of correct entries is beginning to scare me...

Enoch

Solution to Crossword 1,396





Mission Report – Operation Green Emerald

Timothy Harford-cross

January is known for many things, cold days, exams, sales and other horrific things that cause pain and misery. Back in the days of yore during this darkest of months the RSM hockey club decided to raise spirits by encouraging King Richard to invent the hockey crusades, now abbreviated to simply The Crusades.

The first 'tour' back in medieval times saw hockey players from all mining faculties across the nation unite under Richard Lionheart (an avid hockey player) against Saladin in Syria. Saladin's devilish reverse stick skills fooled even the wisest of opponents. Since then the bloodshed has been replaced with beer and as a consequence we all get home safely! Oddly enough, the hockey skill hasn't much changed.

Last year's great success in Operation Market Garden meant that the threat had been subdued in Holland and full attention could be given to the ever-aggressive Ireland. The unsuspecting citizens of Belfast wouldn't have a clue what hit them, leaving us to reign supreme in all the British Isles.

Our journey began at a mind-boggling 5am after a pre-hockey tour bar night to generate good feeling among the troops. Our first casualty of war was Sangy Sangy Sangy Sang-eee-Sang-eee-Sang, who had failed to get up after what could only be described as a sickening blow to the liver. Soon to follow was Melmin who through quick-witted thinking and skill re-

trieved the contents of her stomach in her coat hood.

Undeterred by these early setbacks we set off by the cover of darkness across the Irish sea, setting up camp at Paddy's Palace, carefully selected for its proximity to the water (well beer) supply of Queen's College Union.

There was need for much preparation before a full assault on the City could be made. A platoon, led by resident Chef/Lieutenant Spam-a-Lot, went out in search of supplies and then prepared a meal fit for kings with help from the Chinese Consultant Wiltshire (for the rice). While spirits were high a trip to the range (Bowling Alley) was made to hone the skills for the next day's exploits. Jemima Holes' taking out of a turkey was awarded by an instant promotion to Corporal and Wankin known more for his err intelligence role in this operation was consigned to non-automatic weapons.

After more split pins than Fish's nether regions a recon exercise to the Union was made. We were surprised to enter unhindered at the main gates and like a Trojan Horse we slipped through and found ourselves in an Art Deco underground lair. We found that this conquest may not be so difficult as pints were £1.60 and soon found ourselves on the inebriated side of bladdered. We fled before our cover was blown, only to find the next day that the union had been closed down due to having run out of beer. Special Ops team Velvet and Fish went on to the garage for further recon, unfortunately



The fixtures are likely to be a bit less friendly than this pair

straying into an unprotected zone, Fish was stalked home while Velvet was licked by a man.

At the crack of noon on Saturday, the Battlegroup split, half recruiting freedom fighters on a black cab tour of Belfast, half collecting ammunitions from the stores in the centre. At 1400 hours we reconvened at our first battleground and a manic battle commenced on the uneven terrain of crazy golf. Sangy Sangy etc nearly took out a civilian from a pot shot across the river. Gayve has an awesome kill count, yet cried over getting his iron rations (malt

loaf) mixed up with a plum loaf. Tim-maaaaay had to deal with cocky young upstart, Slushie and played a kamikaze roll of aiming for his ball to teach him a thing or two (you're not in the air force now, boy).

Franpiss, one of the not-so-very-quick-witted recruits almost lost her kit by failing to realise that running might help and simply saying "some one stop him", *dramatic pause* "he has my bag" was enough.

After this great success, we quickly moved on and took on Ireland in a full frontal attack, and no I'm not talking

about Man Hands getting her baps out (that was later), but hockey. The Belfast Harlequins, a ferocious team of crazy Celts came to field of battle but at the sight of the RSM three defected immediately pledging there allegiance to us. With this, our heads were high and hearts were proud and we bore down against the locals. Urinal did a brilliant job at controlling the game yet failed to time the second half, after approximately an hour, both teams collapsed, well, Little Miss Dislocation did and we stretched her off. Btw: the score was 5-3 to us. Rear Guard gunner Velvet got the Victoria Cross for his bravery and Gayve got dishonourably discharged for kicking the keeper. A surrendering Irish force lead us to the bar and allowed us to collect supplies. Replenished with victory/beer we returned to camp.

Sergent Meat Head led the onslaught onto Eglantine, the final target of the invasion, a menacing £6 for a jug of cocktail (Molotov or otherwise) bombarded our table, but that did not deter us, Tampon soaking up most of the fire. Chaplain Jeboobs kept the faith but was not in time to stop the morally objectionable Air Strike by Lt. Spam-a-lot and Little Miss Dislocation.

As Major General, I would just like to add: very well done chaps, the operation was a complete success and has given paddy something to think about. I think that this has given us all good experience and you are my top trumps. Now don't just go and forget the lesson we've learned, SAY NO TO STEVE.