



# Felix

Keeping the cat free since 1949

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## Union Council votes in favour of closing Weeks Hall

Hall may turn into childcare facilities for staff

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## Imperial students dive head first into RAG Week

Felix covers the charity events that have taken over campus

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How solar energy is evolving



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Steven Cowley: physics, fusion and hair



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Council votes to reduce rent of Acton halls



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# This week's issue...

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Felix Editor || Philippa Skett

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## What's on this week:

### Artsfest 2015

All week

Music, dance, and art events on campus all week. They are all free of charge, so take a break to enjoy some culture. See the roundup on page 43.

### Imperial Questions Live

Wednesday 18th February

Grill College staff and Union hacks – tough questions more than welcome. Submit your question and you could be in the audience live. You can also watch online.

<http://imperialcollege.tv/questions-live/>

## SKETT'S BOX OF SHAME

- Thanks to a diligent student who noticed the error in my editorial last week. WHAT AM I LIKE LOL?

If there's anything we've missed, or glaring errors to mention, let us know at [felix@imperial.ac.uk](mailto:felix@imperial.ac.uk).

# I'm too tired to think of a decent title here

This week Union Council made a lot of decisions that could potentially affect students in years to come. We passed a paper condemning the Counter Terrorism Bill, another outlining our intentions to lobby College to divest from fossil fuels, another stating our plans to save Pembroke Hall and yet another about the rent prices for accommodation.

However, all these decisions don't really mean anything unless those outside of Union Council listen to our views, which isn't always guaranteed to happen. Although we have agreed that Weeks Hall is inefficient in space use, and therefore if College were to close it we would be happy with this, we have disagreed with the closure of Pembroke Hall.

College could simply close down that hall too if need be, since Union Council doesn't have the remit to prevent that from happening. The Union Council's remit is actually pretty narrow: we can mandate and lobby other powerful people as much as we like, but at the end of the day, Union Council power simply lies with the fact that they are considered to represent the entirety of the student body and other people have to do what we want for us.

I get the impression from talking to people this week that many don't actually know what the Union Council is, so instead of being all whiney and opinionated this week, I thought I would give you a rundown of who makes up the Official Voice of the Students and what they do



THIS WEEK'S EDITORIAL

exactly.

Union Council is a group of about 30 students that have been elected into various other Union volunteering positions, like Faculty Union Presidents, Academic Affairs Officers, Management Group Chairs and the like. There are also representatives that are elected purely to sit on Council and represent their Faculty, and they are members of Council too. They all get one vote each, and decide to either accept or reject various papers and their proposals.

Anyone can take a paper proposing things to Council, we just vote on whether or not something in the paper has the backing of the Union Council. Proposals have to be specific too: they have to mandate Officer Trustees to do something, like lobby College on our behalf, or tell the Trustee Board what we agree or disagree on. For a body that is Officially The Student Voice, we are very co-dependant.

Fun *Felix* Fact: I sit on Council and get a vote as the PG Non Faculty Representative, not as *Felix* editor, meaning I represent part of the Business School. Its odd how these things work out.

Debra Humphris, who was present at the Union Council meeting on Tuesday, told the students there that College would listen to the decisions made about rent prices, although again we can't be certain they will until it is set in stone.

Only last term, when the Union Council did vote to condemn the bursary changes, the College changed them anyway.

Although Union Council isn't the only way students are represented, it seems to be the most effective in getting the views about students across. However, it can seem quite remote as a body; unless those lucky few students that represent their faculty talk to their students and gage their opinions and ideas, having a rep can be pretty pointless.

You can now see how your various representatives votes for you, as voting records are now public on the Union website. So, if you are interested in papers in the future, let your rep know how you feel about it. And, if they don't vote in a manner you agree with, feel free to get in touch with them and ask why. They Officially Represent the Student Voice after all, even if sometimes they seem to be shouting into the wind.

PHILIPPA SKETT  
FELIX EDITOR

## Have you filled out the *Felix* Sex Survey yet?

There's still time! Completely anonymous and secure: [www.felixonline.co.uk/sexsurvey](http://www.felixonline.co.uk/sexsurvey)

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# News

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## Students organise debate about Animal Testing

**PHILIPPA SKETT**  
FELIX EDITOR

The Animal Protection and Education Society (APES) ran a successful talk addressing animal testing last week, including a speaker from People for the Ethical Treatment on Animals (PETA).

The debate, titled “Animal Testing: Vital or Unnecessary?” was held in SAF last Tuesday, and featured four speakers who all had varying stances

on animal testing. The audience was jam packed with students and staff alike, all interested to hear the views of the speakers on animal testing in science.

The speakers included Maggie Dallman, the head of the Animal Welfare and Ethical Review Body at Imperial College, Dr Julia Baines, the the UK science advisor for PETA, Dr Brett Cochrane, the the Head of Science from the Dr Hadwen Trust; and Tom Holder, a representative from Speaking of Research.

Each speaker was given time to present their arguments, and then people were able to pose predetermined questions to the speakers. People were able to submit questions before online or to the club in person beforehand.

The speakers spoke about the current animal testing methods, the development of alternative methods. Maggie Dallman was also asked if there had been any changes to College protocol or practice since the British Union Against Vivisection (BUAV) “exposed” methods for animal testing in Imperial labs back in 2012.

Their accusations against Imperial for malpractice were unfounded. Dallman answered that basically nothing had changed, as nothing was being done incorrectly in the first place.

*Felix* spoke to Kayla Chiew, Chair of APES and Marielle Deconinck, who is the club’s Secretary. They started planning the event last term, and initially wanted a speaker from BUAV, but found it quite difficult to organise. However, apart from that, they were pleased with their event and how it went.

“We were really nervous at first about turnout because it was our first event, but we had 40 people sign up to come along and were very happy with the turnout!”



Maggie Dallman spoke at the event Photo: Kayla Chiew

APES is still in its first year, and this was their first event with outside speakers. APES currently has 29 members, and do not have a

definitive view on animal testing, but are keen to stimulate debate over a variety of topics concerning animal welfare.



Photo: Kayla Chiew

## Imperial win The Bhangra Showdown

**Kunal Wagle** reports as College team wins in Wembley Arena

Last week the team from Imperial College London won the Bhangra Showdown at Wembley Arena. The event, which was in its eighth year, was organised by seven committee members from the Imperial Punjabi Society. In previous years the competition has been held at the Hammersmith Apollo, and was being held in North London for the first time.

Nearly four thousand students had been expected to attend, who were treated to some exceptional performances from eight dance troupes. Imperial won the event, with Birmingham following in second and Brunel finishing in tied third place with King’s College London.

Profits from the event went towards three different charities: these included UK Friends of the Unique Home (Punjabi), which raises money

to provide homes for abandoned girls in Punjab, India, Variety: The Children’s Charity, a UK based charity that provides funding for children’s hospitals and youth clubs, and Medecins Sans Frontieres too.

Aman Dhanwal, co-captain of the winning Bhangra team, said “We are incredibly thrilled about our win. The performance was a culmination of months of hard work, training and dedication from the team and we are so happy our passion came across on stage. The team became a real family and deserves every bit of credit for how much they put in to achieve this, as captains we cannot thank them enough. A special mention goes to IC Punjabi Society who put on a truly amazing show and made this process one we will never forget. Lifting the TBS trophy has been a dream come true.”

## Downton Abbey Creator visits Imperial College

**STEPHEN BALL**  
NEWS REPORTER

Julian Fellowes, creator of Downton Abbey, visited Imperial College on Friday 6<sup>th</sup> February for a tour of research labs and met with College President, Professor Alice Gast. Their tour finished with a trip out on Jezebel, the RCSU’s fire engine mascot, who appeared in Downton Abbey last September.

Lord Fellowes and his wife visited South Kensington last Friday, where they visited the Royal British Legion Centre for Blast Injury Studies. The Centre is run as collaboration between military and civilian scientists into the reduction and treatment of injuries caused by blast waves, such as those produced by IEDs or landmines.

As part of the tour, Lord and Lady Fellowes met with various Masters and PhD students who are investigating how the loading and strains produced by blast waves affect cells and biological tissue.

The end of the visit culminated

on a trip out on Jezebel. The 1916 fire engine, driven by current 4<sup>th</sup> year student, Ellis Hudson, took the Fellowes for a drive through Kensington and Hyde Park. Despite the cold weather, Julian Fellowes described the ride as “[a] big finish to the morning – so thrilling. The clanging of the bell is something that brings out the child in all of us I think!”

Jezebel appeared in the latest

season of Downton Abbey, starring as the Downton Estate Fire Engine. Members of RCS Motor Club, the student society who look after Jezebel, were involved as extras on the show. A spokesman for the Club said that: “Lord Fellowes wasn’t there during the filming with Jezebel, so we are really glad that we got to introduce him to her today after her starring role in the show!”



Photo: Thomas Angus

# News

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News Editors || Carol Ann Cheah and Kunal Wagle

## Imperial bungee jumps into RAG week

**Philippa Skett** reports on this year's charity extravaganza, which included walking on fire, jumping from cranes and tunnelling.

This week saw two days of bungee jumping, one evening of fire walking, a lunchtime of pancake-tossing and just under 900 doughnuts; all in the name of Raising And Giving (RAG).

RAG Week 2015 has seemingly taken over campus, with students unable to go anywhere without the shocking pink and custard yellow RAG logo leaping out from screens, signs, buckets, banners and hoodies.

The week was organised by the RAG committee and other volunteers; over 30 students in total have come together to run the events throughout the week to raise money for three chosen charities.

On Monday and Tuesday, a large crane loomed precariously close to Queen's Tower, for the bungee-jumping pleasure of falling enthusiasts and onlookers. Students were able to purchase a ticket for £35, and were then required to raise a further £40 in sponsorship before throwing themselves from the crane parked between Queen's Lawn and the Sherfield Building.

Over 140 students and staff took part in the bungee jump, including some visiting from other London universities. George Butcher, a fourth year Mechanical Engineering student, told Felix afterwards how despite being a bit wary of heights, he was keen to give it a go.

"I've never plummeted towards the Earth before, but after trying it, would be keen to do it again. Sorry to everyone who heard me shout profanities across Queen's Lawn as I fell!"

The RAG Week Launch also took place during Monday lunchtime, which saw the RAG Chair and also Alice Gast give speeches about RAG and plans for the week.

Alice Gast said afterwards to Felix: "It's been wonderful to see students and staff from across the College community come together to support RAG."

"I've been very impressed by all those who've given their time and energy to raise money for good causes, particularly the RAG committee volunteers who've pulled together the week's events."

Senior College staff came together to make pancakes for students, whilst the Royal College of Science Union (RCSU) lent out their own candyfloss machine to RAG to produce yellow and pink candyfloss for students watching the bungee jump.

College staff have also been seen



**RAG Chair Ben Fernando takes donations and left, whilst people buy doughnuts and chocolate nearby (bottom). George Butcher swings from the sky**  
Photo: Ben Fernando. Right: Philippa Skett / Philip Kent (Steam Tunnels)



sporting custom made RAG hoodies around campus this week, with Vice Provost (Education) Debra Humphris sporting her bright pink number when she attended Union Council on Tuesday.

In fact, staff involvement with RAG seems to have reached an all time high this year; Professor Tom Welton, Dean of Faculty of Natural Sciences, was seen walking over hot coals for charity on Thursday evening too, raising £160 in the process.

The Firewalk, where participants walked across burning hot coals barefoot, is a new edition to RAG week, but proved popular. The coals, as the supervisor explained, was heated to around 600 degrees Fahrenheit (around 315 Celsius) – this being "twice" the temperature that skin melts at.

All participants were awarded a certificate for their efforts, and got to cross the coals twice following a

brief information session. The Dean of the Faculty of Natural Sciences, Tom Welton, said, "I was amazed, it was more painful standing on the cold stone than walking across the hot coals."

He continued, "I'd do it again – I'm glad I did it first and not last – standing in the queue and watching people do it would have." When asked if he had any comments on RAG this year, he concluded, "RAG is fab, it's great that it raises a lot of money, but the really important thing about it is people take the opportunity to think about other people".

Tunnel tours under the campus and trips up the Queen's Tower also were organised and ran by RAG.

Students could explore the disused tunnels that snake underneath campus and stretch to South Kensington and beyond, or, if they prefer heights but didn't fancy the bungee jump, could head to the top of

Queen's Tower instead.

On Thursday evening, RAG also ran their traditional Masquerade Valentines Ball, with a £4,000 bar tab. The Ball was held in Under the Bridge, a club in Fulham, which, as the name suggests, is indeed under a bridge.

Other clubs and societies have also got involved in raising money; the Science Fiction and Fantasy Society held a book sale with all proceeds being donated to RAG, the IC Dodgeball team ran a charity tournament, and many clubs also posed naked for the RAG charity calendar. Various departments have also run bake sales, with the proceeds going to RAG too.

Imperial RAG joined forces with the Royal College of Music (RCM), whose RAG Week coincided with Imperial's. The RCM hosted a poker night, which raised several hundred pounds, and saw students from both

colleges playing late into the night.

The Oxford RAG society has also teamed with Imperial RAG for the Megaraid this weekend, with students travelling up to Oxford to raise money there.

Felix spoke to Arran Sayers, the RAG Vice Chair (Operations) and the RAG Champion for CGCU, about how the team had come together and made the week possible.

"Everyone has put their heart and soul into helping out this week. "The Week has been a great success. I'm extremely happy with all that has happened and all the money that has been raised."

Sayers is also shaving his head at the end of the week for Alzheimer's Society, after his grandmother sadly died due to the disease.

Sayers is planning to shave his hair on Queen's Lawn during lunchtime, although he is quite nervous about it. "I'm worried I'm going to look a

# News

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From bottom photo going clockwise: A long shot down the tunnels under College, RCSU help with the candyfloss, Alice Gast and Muir Sanderson struggle to get to grips with pancakes, and Tom Welton takes to the fire walk Photo credit: Felix

bit like a bowling ball, or be at the receiving end of some Breaking Bad jokes.

“Plus I think I am going to miss my hair keeping me warm!”

Other charities RAG are donating to this year include Tiny Tickers, who endeavour to train professionals to detect heart conditions in young children, St Mungo’s Broadway who are committed to helping the homeless, and the Mines Advisory Group, who are dedicated to clearing land mines in war torn countries.

Felix spoke to Ben Fernando, a third year Physicist and current RAG Chair, about the planning and preparation for the week. He said things had gone very smoothly, although the RAG launch event on the Monday was the most difficult to organise.

“Co-ordinating things for then was pretty tough, especially as we had the bungee jump, the band playing and also the senior College staff making pancakes. We also needed plans to cover for bad weather, but luckily

for both days the weather stayed relatively dry.”

Fernando also wanted to run a zip line from the top of the Central Library down onto Queen’s Lawn, but apparently the scaffolding needed to set it up was too expensive.

Felix asked Fernando if Imperial RAG would ever consider joining forces with the Imperial College School of Medicine Student Union RAG team, who had their RAG Week last week, and he said it would be unlikely.

“We don’t really interact; we talk to ensure when we plan our events they don’t clash but that is about it.”

It doesn’t look like RAG will be introducing a pub crawl similar to the infamous Circle Line pub crawl any time soon either.

Said Fernando, “I don’t think the pub crawl fits in with the image we want to promote, to be honest.”

Although the Week isn’t quite over yet, and there are still more events planned for later this term, the fundraising target from this

week is £10,000, a figure Fernando is comfortable they will reach.

On Monday alone RAG raised around £1700 in cash donations, and have collected almost £4000 donated through their website.

The committee have already turned their attention to next year’s RAG Week plans.

Fernando told us RAG is currently in talks with College over getting timetabled afternoons off so all students could take part, so watch this space!

## Every day I’m tunnelling’

Philip Kent takes Felix on a unique journey into Imperial’s tunnels.

For the first time in recent memory, a tour of Imperial’s famous underground tunnels were put on offer to the whole Imperial community. While previous tours have ran, one example being an Alumni trip, this tour organised by RAG was open to anyone with £25 to spare.

Naturally, I bought my place as soon as I was told about the sale, and on Tuesday lunchtime, down the tunnels I went. The party I was in entered through a oddly high up door deep in a Blackett plant room – the difference in heat was striking! The rather small tunnel was just about able to take a single

average-sized person – the walls were clad with large water, steam, and drainage pipes as well as conduits for ICT cabling.

The temperature varied wildly as we walked, crouched, and (in some places) crawled through the labyrinth of tunnels under Imperial. Occasionally we would stop to admire various pieces of interest around the network – such as ancient graffiti sprawled all across the walls from explorers past, the huge EDF heat and power facility under EEE (this generates the infamous steam), and the over 100 year old paddle fan under RCS1.

Our guide explained the purpose of the various services provided in the tunnels, which included extra-high voltage electricity for servicing the labs in ACE. One point of notice was the very long corridor underneath Exhibition Road over to South and Eastside.

Our guide told us the route was sealed years ago as part of a wider modernisation scheme to keep out squatters – the works included addition of swipecard protection to all the doors, and modern lighting. Through some of the oldest tunnels accessed through a boiling hot sub-basement in Biochemistry, we accessed the foundations of the

Queen’s Tower. Armed with sharpies, we added to the masses of graffiti on the concrete base. A few of us even climbed through the holes and stood directly in the centre of the tower – our guide explained that in the past a homeless man would regularly spend the night in the concrete cavern. We ended our tour shortly after, climbing up a ladder and popping out of a trapdoor onto the Queen’s Lawn, much to the bemusement of passers by. In reflection, it’s quite clear why students aren’t usually welcome down there – without the knowledge of someone who knows the area, it was easy to get

disorientated and lost. In some cases, faulty pipes leaked scalding hot high-pressure steam into the tunnel, and other parts were flooded. But by far the most dangerous part was the ladder to access the base of Queen’s Tower – visitors had to also avoid the boiling hot uninsulated pipe placed conveniently above the ladder. All in all it was a fantastic tour, travelling somewhere usually forbidden definitely gave the burst of adrenaline and excitement I expected. My thanks to both the Estates Division and RAG. I hope it continues again next year.

# News

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## Union Council vote to support closure of Weeks Hall in Princes Gardens

**Philippa Skett** reports from meeting that brands hall “an inefficient use of space”

Union Council voted this week to support the closure of Weeks hall in order to transform it into space that could be used for childcare provisions for academics.

The resolve was one of many from a paper that also included the suggestion to either close or keep Pembridge Hall open too. Union Council voted to support keeping it open, although Union Council cannot officially determine what College decides eventually to do with the properties.

It was explained by Tom Wheeler, Imperial College Union President that, as Weeks halls is a listed building, it is difficult to renovate, and internal structures cannot be modified easily.

He also said that Weeks, although containing 67 beds, has rooms with a much larger floor space, and as a whole, the hall is an “inefficient use of space.”

He suggested that the hall could be used instead for childcare facilities for academics, in a move to address the faltering number of women academics that remain at Imperial throughout their career.

Wheeler said during the meeting: “I am keen to fight tooth and nail to keep Pembridge hall, as I think it is essential for our accommodation portfolio, and we can also increase its capacity by using some of its excess annexe space.”

“I’m less passionate about Weeks. It could be put to better use.”

The students present at Council initially were split in their decision to keep Weeks, so as Council Chair, Paul Beaumont was allowed the casting vote. After choosing to vote in favour of keeping Weeks as accommodation and to mandate college for its renovation, a student present at the meeting challenged Beaumont, and asked for an explanation for his decision.

Ben Fernando, RAG Chair, then asked to rerun the vote after the student challenged the chair, and those present were forced to vote again. After this new vote, enough people changed their vote, and decided against mandating College to keep Weeks as a student hall.

Paul spoke to *Felix* after the meeting, and explained that he used his casting vote to support the ongoing use of Weeks Hall as accommodation because he thought

**“I’m less passionate about Weeks. It could be put to better use”**



**Weeks Hall, but for how much longer?.** Photo: Neville Miles

a significant enough proportion of Council had issues with the closure before the vote was rerun. However, he allowed the revote to go ahead when challenged, and explained that: “I don’t particularly like using casting votes to make democratic decisions.”

Wheeler also said to *Felix* after the decision was made: “We admit that a reduction of 60 bed spaces close to campus is a loss, however it was a mature decision taken by Union Council to focus the lobbying and campaigning resources of the Union on saving Pembridge, a hall that can be saved.”

However, those outside of the meeting were less than impressed with the news that Weeks may no longer be used as halls.

One person on twitter was not happy that the wardening and hall

**“It sounds bad for students who want to live cheaply and close to College.”**

senior team had allegedly not been informed of the plans to close Weeks. “Why did nobody mention this to the wardening or senior team of Weeks? Surely our voices, if any, should be heard.”

Said an academic from Imperial: “Devil is in the details, but it sounds bad for students who want to live cheaply and close to College.”

Said another *Felix* reader on our facebook group: “I’m really sad to hear this. It’s decisions like these that is a large part of the reason why Imperial doesn’t have the strong alumni network of other universities.”

Others said it was a sad decision, although one did describe it as “typical.” Another continued, “It does go along with Imperial’s accommodation strategy - the one

where they don’t care about us.”

Another student was unimpressed with the decision, stating on twitter: “How lovely for the 67 students who now have to live further away from campus.”

“Maybe it’ll turn out as useful as Garden [hall] has.”

Garden Hall, also situated in Princes Garden but relatively cheaper in price than other halls in Eastside and Southside, was closed in 2013. The hall was shut by the College despite students protesting against the closure.

There has recently been construction work on the building, and College Chaplaincy, the multi-faith centre for Imperial, was moved into Garden Hall after renovations were done on the East Basement of Beit where it was previously based.

# News

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## Union Council votes in favour of new rent proposals

**Philippa Skett** reports as Council reduce the rent for new halls in Acton

Students present at Union Council this week voted in favour of new rent proposals, which included lowering the suggested rates for the new student accommodation based in Acton.

The new hall, now named Woodward, will open next academic year; students will face a commute time upwards of thirty minutes to get to campus.

Students sitting on Council were asked to choose between three different proposals for future rent prices of all student halls, with one being the rent prices that are currently in place as suggested by College.

All proposals had to ensure that the average rent for a room across all halls is £166 a week for a 39-week contract, but two out of the three reflected a higher price in halls closer to campus to average out a lower price for rooms in Woodward.

College had previously suggested that hall prices in Acton would average £158 a week, but after discussions between Imperial College Union President Tom Wheeler and Muir Sanderson, the Chief Financial Officer of College, it was suggested by Imperial College Union that the cost be brought down to an average of around £120 instead.

This does not include the travel costs students will have to cover to get to and from the South Kensington campus.

However, for this average to come down to £120, other halls nearer to campus would have to see a rent hike as a result. This included increasing the average rent of a hall in Eastside to £215 from £191, and for Southside,

increasing it from £174 to £200. Wilson will see a slight decrease from £153 to £150 a week on average.

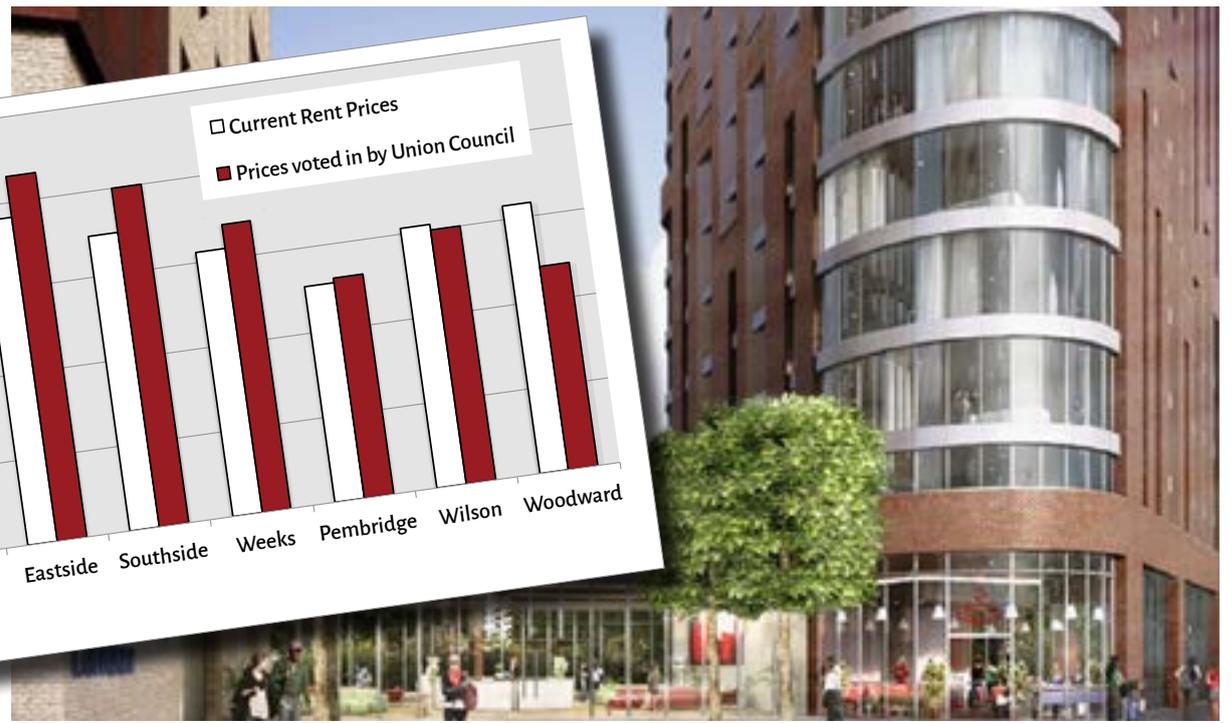
A union spokesperson was keen to highlight that this does mean there will be more affordable accommodation across the entire portfolio – although, since the average price of rent on the whole doesn't change from £166, it won't mean that accommodation has got any cheaper in general.

Wheeler also pointed out that these are just averages, and there are still major discrepancies between room prices even within the same hall. Some halls contain up to four price brackets, making hall pricing a complex topic.

He also pointed out that there is a preference for cheaper accommodation in general, but due to the nature of South Kensington, reducing the prices of halls near campus is difficult.

Debra Humphris, the Vice Provost (Education) was present at the meeting, and was keen to stress the College's commitment to "increasing transparency" when it comes to hall prices. Humphris commissioned the Residential Experience Review back in 2013, to investigate the quality of accommodation, and how accommodation can be improved.

She also warned however that there are no straightforward and easy



An artist's impression of Woodward Halls in Acton. Photo: Berkeley First  
The graph shows current and proposed rent prices for per week. Graph: Ben Howitt

answers when it comes to balancing rent and hall provisions: "We can't give you cheap [rooms] and also give you Eastside."

According to Wheeler, College currently has no data that shows whether students would prefer to live close to campus or pay less and live further away.

The Residential Experience Review, run by College at the end of 2013, did investigate whether students would like to pay less for rent or live closer, but as separate issues. Unsurprisingly, students answered that they would like to have both options, but there was no way to cast a preference between the two.

The paper covered a number of topics concerning rent prices and hall usage. It also included a breakdown of rent, showing the costs for cleaning, maintenance, facilities management, and wardening.

It was also hinted by Humphris that there may one day be halls at Imperial West too, although it is "still early days". Imperial West is the new campus based near White City, which is still under development. It will house new chemistry facilities.

Humphris stressed that they are committed to ensuring all first year students have the opportunity to live in halls. "If we are to achieve our first year guarantee, we need clear plans.

"It is still early days but we need to re-evaluate our portfolio. There is a large residential tower [at Imperial West] there, and that could also be used for accommodation for our staff."

Wheeler said to *Felix* after the meeting: "It is fantastic that as a result of our lobbying and campaigning we have secured lower rent for over 1,000 future students with the new approach to College accommodation.

"It is indicative of the improved relationship that we now have with College that we are being given these figures, let alone that we are engaging on these difficult decisions."

## Union Council condemns Counter-Terrorism Bill

**PHILIP KENT**  
DEPUTY EDITOR

Also at Council this week was a motion against the Counter Terrorism and Security Bill (CTSB), which is currently concluding its passage through the Houses of Parliament.

The paper, submitted by Jawaad Farooq and seconded by Nida Mahmud and Shamim Ahmed, argues that the bill "discourages the free expression and analysis of ideas." They note that, were the bill to pass, the Union would lose the ability to control what events it does

and does not allow to happen on campus – currently both the Union and College can veto speakers at an event before the room is booked. College Chairman, Baroness Eliza Manningham-Buller has previously condemned the bill in the House of Lords.

Concern was raised over whether the Union is actually able to do anything over the bill, as it will shortly receive Royal Assent. When the bill's provisions become statutory, both College and the Union would be in breach of the law if they chose to ignore it. The paper's supporters, however, argued that it doesn't stop the Union from campaigning against the bill.

They continued, saying that they didn't want to remove all measures to prevent controversial speakers from speaking at universities – highlighting the Union's existing "rigorous" checking procedures – the feeling was that banning everyone was not ideal as universities are a forum for debate. Tom Wheeler, Union President, said sources in College felt it was a "hostile takeover of the university sector by the government".

The bill itself is designed to impose a number of restrictions on people or organisations suspected to be affiliated with terrorism. The first part of the bill allows the Home Secretary to remove passports from

people who have travelled overseas to fight for terrorist organisations, whereas the third part forces internet service providers to store data to allow the authorities to identify a person by their IP address.

The PREVENT strategy, introduced in 2003, which will become statutory as part of the bill, aims to prevent radicalisation of potential terrorists. It is comprised of three sections aiming to challenge "the ideology that supports terrorism and those who promote it", protect "vulnerable people", and support "sectors and institutions where there are risks of radicalisation". It is in this third category that universities fall.

However, there have been

complaints about the perceived targeting of Muslims and Muslim organisations in projects associated with PREVENT, while others have criticised installation of "covert" CCTV in Muslim communities in Birmingham.

Overall, the paper passed by a margin of 26-3 after a number of minor modifications. Despite the recent passing of a policy to publicly list the voting record of Council members, Abigail de Bruin supported a move to keep the voting record as private to reduce the chance of members experiencing what she called a "personal attack" as a result of their vote.

# News

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News Editors ||| Carol Ann Cheah and Kunal Wagle

## Union shop to sell not for profit sanitary products

**PHILIPPA SKETT**  
FELIX EDITOR

Christopher Kaye, Deputy President (Welfare), achieved victory in Union Council this week when his paper on reducing the cost of female sanitary products was passed by those present.

The paper outlined his plans to reduce the cost of the sanitary products available in the Union Shop Extra on the Sherfield Walkway, which currently are sold at a price that includes a profit margin between 30% and 40%.

Kaye started looking into the issue a few months prior to the Council meeting, after receiving an email from a student concerning the availability of sanitary produce on campus. Said Kaye, "it was an issue I became very motivated about fixing."

"A big part of my manifesto was about engaging women in science so it just seemed right to me that basic

essentials for women should be sold at the lowest cost possible."

Kaye spoke to the Union Management Team who dictate the prices in the shop, and determined the financial implications reducing the profit margin may have. The management team was amenable to the idea, so long as the student body also supported it, so Kaye took the paper to Union Council, which met last Tuesday.

Council passed the paper, although not without debate. One member complained that if these 'essentials' are to be sold without a profit margin, others, "such as water", should be sold without a margin too. Kaye told the member that he should then just get it out the tap.

From March, the products will be approximately a third cheaper.

Felix spoke to Kaye, who told us "the battle continues - I want there to be more vending machines available 24 hours a day for students and staff alike."



Shop Extra on the Walkway will sell the discounted produce from March. Photo: Imperial College London

## Ukraine ceasefire deal reached at Minsk

**Cecile Borkhataria** discusses the result of 17 hours of talks

On Wednesday, the leaders of Russia, Ukraine, France and Germany met in Belarus's capital to discuss bringing peace to Ukraine after months of violence between Ukrainians and pro-Russian separatists. The agreed ceasefire will come into full effect on Sunday at midnight and will also involve withdrawing heavy weaponry from the frontlines of the conflict.

After the lengthy talks, Russian president Vladimir was the first leader to announce the ceasefire, adding "There is also a political statement. The first thing is constitutional reform that should take into consideration the legitimate rights of people who live in Donbass. There are also border issues. Finally there are a whole range of economic

and humanitarian issues."

Although German chancellor Angela Merkel said that the deal gave "a glimmer of hope", she acknowledged that all the leaders realise that "there is very, very much work still to do." Angela Merkel and the French president Francois Hollande have also asked the European Union to support the ceasefire.

The specifics of the agreement will involve the withdrawal of heavy weapons in a two week period, beginning on the 17<sup>th</sup> of February. Provisions will also be made to provide amnesty for prisoners involved with the conflict, and all foreign militia will also be removed from Ukrainian territory. Key to the ceasefire deal is the agreement that

all separatist forces will be withdrawn from the September ceasefire line.

Residents of Donetsk, a town that has suffered a great number of casualties as a result of shelling, have been cautious to greet the news with complete optimism. On Thursday, some rallied outside the rebel government's headquarters, declaring 'today is a holiday.' However, some rebels expressed their disappointment with the new agreement. 'Sputnik I Program', a nationalistic Russian publication, even labelled the agreement as a "betrayal of all that the rebels fought for".

The discussions in Minsk appeared to be a difficult, tense and drawn out affair. During the discussions, Putin's apparent frustration at the lack of

progress even led him to snap a pencil.

The discussions come after many casualties in the region, with estimates placing the number of deaths at a figure of over 5,300 people since April 2014. The battle between the Ukrainian forces and the pro-Russian separatists has escalated in recent weeks, with bloodshed rising rapidly.

Perhaps one of the biggest points of contention in the ceasefire is how Kiev will be able to achieve control of their borders once again, given that Russian volunteers and troops have allegedly crossed it to provide the rebel's with aid.

The border has been difficult to secure, and at present, many of the border crossings are controlled by rebels. The ceasefire agreement,

however, states that Kiev will only restore full control of the border by the end of this year.

US President Barack Obama has been put under pressure to provide military aid to Ukraine's forces, but a number of European believers feel that this would complicate the conflict and make matters worse. Meanwhile, Russia's economy is in freefall, following economic sanctions enacted by the West, despite the fact that Russian government officials continue to deny aiding separatists.

The long talks in Minsk highlighted the urgency in resolving the conflict. The talks followed a visit from Merkel and Hollande to Kiev and Moscow last week, in an attempt to resolve the conflict.

### Fat or muscle?

We are inviting healthy volunteers to take part in a research study comparing body fat and metabolism in young adults. It will involve a single visit to Chelsea & Westminster Hospital for 3-4 hours. You will have a full body Magnetic Resonance scan, which is safe, and does not involve x-rays. You will also be asked for a blood, and urine sample and a buccal swab taken from the inside of the mouth. This study is open to **people aged 19-27 years**; we would particularly welcome interest if you were born prematurely.

For more information please email James Parkinson, Research Associate, [jrcp@imperial.ac.uk](mailto:jrcp@imperial.ac.uk) or text 07814 296596

# Union Page

## The Big Elections 2015 - YOU can stand.. and we can help!



The elections are open to all students, Undergraduates and Postgraduates alike. You can nominate yourself for one or more of the positions available during our Nominations period 2 February - 1 March.

You might have a few queries or worries about taking part in our elections. Are you an International student and not sure if you can run because of your visa? Not sure if you can do it because you're a Postgraduate student? Worried you don't have enough experience? Don't worry - it's no problem for you to stand in our election. We're running a number of information sessions before and during the Nomination period so that you can learn more about making the most of your campaign.

You can also watch students like you who ran for election last year tell their story of what it's really like to run for a position and what to expect from the role.

For more information about The Big Elections 2015 go to:

[imperialcollegeunion.org/elections](http://imperialcollegeunion.org/elections)

## Free STI Clinic: Monday 23 February

Free STI testing at Imperial College Union, provided by the Terrence Higgins Trust and Earls Court Health & Wellbeing Centre.

Gonorrhoea, chlamydia and HIV tests will be available, as well as contraception and sexual health advice.

Appointments are free, but availability is limited.

Please email [sexualhealth@imperial.ac.uk](mailto:sexualhealth@imperial.ac.uk) to request a slot, including your preferred time.

## Student Volunteering Week



Student Volunteering Week is almost here! During the last week of February, we will be giving you the chance to see what you can gain and the difference you can make through volunteering. From inspiring school pupils on a trip to Imperial, to helping feed the homeless with Souprun, or trying out micro-volunteering - there's something for everyone, and something to suit even the busiest schedules.

To make your mark, sign up online at:

[imperialhub.org/svw](http://imperialhub.org/svw)



Imperial College London Chaplaincy

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[www.imperial.ac.uk/chaplaincy](http://www.imperial.ac.uk/chaplaincy)

# Features

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Features Editor || VACANT

## Getting close to Cowley

**Xuan Chen** interviews one of the country's most influential man about science, energy and how he maintains his hair

Professor Steven Cowley is the CEO of the United Kingdom Atomic Energy Authority and a part-time professor in plasma physics here at Imperial College. But that's not what catches the attention of an entire cohort of physics undergraduates every year – it's his lectures, where his charisma and confidence along with sheer passion for the subject captivates the young audience.

The fact that someone so important still has to make trips into Lecture Theatre One to teach undergraduate material to a bunch of unruly students is baffling to some.

Steve is preparing a presentation on a small laptop when I arrive at his office to interview him. The space, which he shares with three other academics, is modest, featuring a few desks and chairs along with a worn-out sofa in the corner and a slightly grubby plasma ball on the windowsill.

**Xuan Chen: So, tell us what you do, in a (toroidal) nutshell?**

Steven Cowley: I'm the CEO of the United Kingdom Energy Authority, and the Head of Association with EURATOM – the European Atomic Energy Community. This means that I lead research into fusion, and even though I'm a theoretical physicist, I run experiments, too. I still have some time to sit down and solve problems as a theoretical physicist. That's what I really enjoy, but that time gets shorter and shorter every day.

**XC: You have three fellowships (Royal Society, Royal Academy of Engineering, and Institute of Physics), and a Glazebrook medal for leadership in physics. Have I missed anything out?**

SC: No. Awards are very important, and it's lovely to receive them. I'm chuffed to receive awards, but more than anything else I want to see fusion happen in my lifetime. It is that important that we solve this problem.

**"There is nothing I like better than to sit with a problem in front of me which isn't solved."**

At the end of the day there is nothing I like better than to sit with a problem in front of me which isn't solved. And I have less and less time to do that. You don't choose a career in physics to become a celebrity. I do what I do because I want to see fusion solved in my lifetime, and fusion has immense challenges ahead of it.

One of the scientists I've been reading up on lately is Enrico Fermi, someone very influential in the first nuclear experiments. My thesis advisor had lectures from Fermi. Fermi was a godlike figure, but a very humble man, who liked nothing better than to solve equations, and to work with students.

That's the fun thing about physics – not being looked up to, because he's working with people. I'm working with some young people, who get there faster than I do now, and that's just great fun to be with. I enjoy physics for the social aspect: working together with other scientists to solve things together.

**XC: Exactly how important is fusion to our future?**

SC: Think of it this way: we have a world which is very unequal, at the moment. Some people live very well, and consume lots of energy. And, some people don't live very well, and consume very little energy.

If we want to solve this inequality, and bring billions of people up to the standard of living we enjoy, they are going to have to consume more energy – about a factor of two or three in the next forty years.

How we're going to supply that energy without completely messing up the atmosphere, I don't know, except if we can crack these hard scientific puzzles. In the long term, we have to think about solar, advanced fission reactions in breeder reactor, and fusion, the only ones which have enough capacity to sustain us.

Fusion is a very attractive energy source; it's clean, and sustainable (at least for the next 30 million years),

but is very hard to actually do. As a scientist, that's what's also makes it so attractive; if it were easy, it wouldn't be as much fun!

There are, throughout history, human quests where we try to conquer something, like flying. For hundreds of years people tried to fly and when the breakthrough happened, the whole world suddenly changed forever.

I think fusion is like that and for me, that was one of the great attractions; to be really involved with something that is really difficult that would really change the world. I saw that it would be helpful; I saw that it would be something that really has to be pursued, but also something I just thought that it would be fun. And it has been fun!

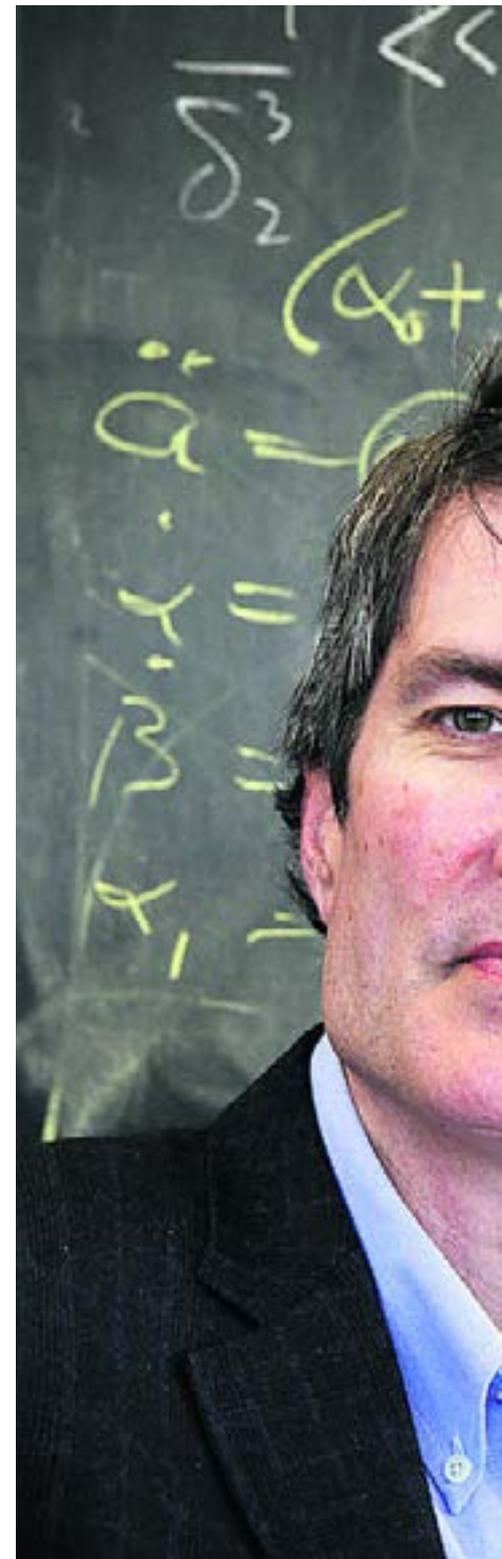
**XC: How did you get into fusion? Did you choose fusion or did fusion choose you?**

SC: I decided to go into fusion when I was in my final year of undergraduate studies. It was 1980 which was around the time of the first 'oil shocks'. Oil prices rose nearly 400% in a few months, and it was becoming clear that we don't have unlimited sources of fossil fuels, and we can't burn all of them anyway.

At that time, a lot of research was going into the tokamak and it was becoming clearer that fusion was something that is possible; it could be done! So I went to Princeton to do my PhD, as it was really carrying out the forefront of physics research at that time. After that, I carried out postdoctoral research back here at JET (Joint European Torus, Oxfordshire), then went back to the States for fifteen years. I came back to Imperial at around 2000.

**XC: What is your background? Were there any figures in your life who inspired you?**

SC: I grew up in Cambridgeshire and did my undergraduate degree at Oxford. At that time, I was a lazy,



**Professor Cowley, potentially the busiest man in the world, and the fandom is strong with this one. Photo: m...**

good-for-nothing student who didn't work very much. When I went to Princeton to do my PhD, however, I was suddenly surrounded by incredibly intelligent, hard-working people – at that time, everyone there was working on string theory.

We used to get up at eight, work on physics and solve problems until eleven at night, and then go to the bar. At 12:30 we would set our alarms and get back up at eight the next day to keep going. That's where I learnt to be a physicist. About 10% talent, and 90% hard work and dedication. If you're an undergraduate at Imperial, you have the talent already.

My father was a scientist; he taught engineering at Cambridge, so I grew up in a family in which engineering was very, very important. So even though I'm a theoretical physicist, I

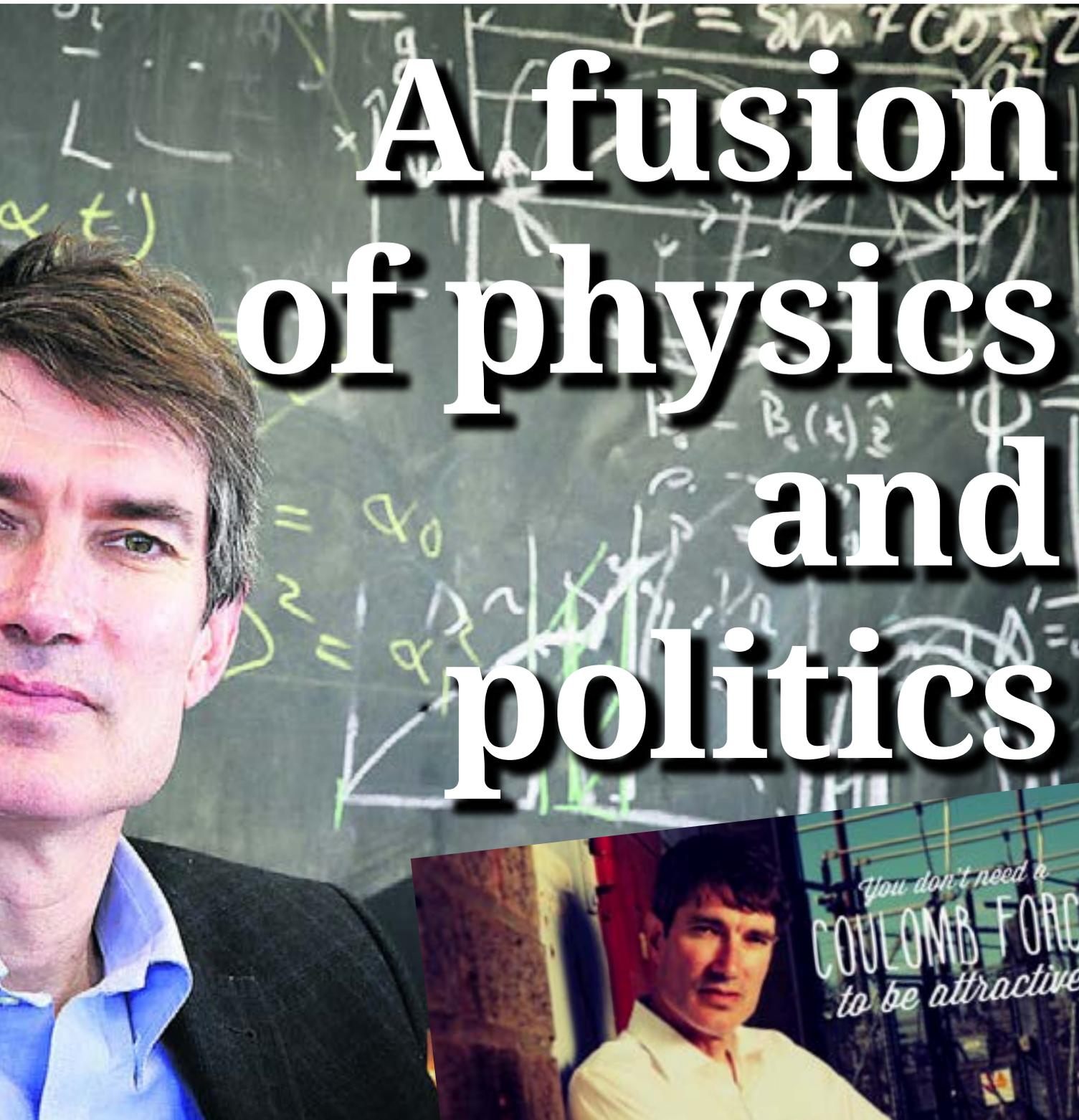
**"I was a lazy, good-for-nothing student who didn't work very much."**

# Features

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Features Editor || VACANT

# A fusion of physics and politics



in the world, pauses to use a blackboard. inset: main: Oxford Mail, inset: anonymous.

enjoy the practical side of physics.

Another very influential figure was Shaun Wiley, one of the mathematicians who cracked the Enigma code, who was also my maths teacher in high school. I think he had a big influence on me when I was seventeen or eighteen.

He taught me to appreciate the satisfaction of solving puzzles, and the privilege of being paid to do something you love.

**XC: You also sit on the Prime Minister's Council for Science and Technology. How influential are scientists in policy making?**

SC: It is very interesting to see how politicians interact with scientists. The Prime Minister is a very serious man. He takes notes at every meeting,

**"It is very interesting to see how politicians interact with scientists."**

and is interested in getting the best out of British science. Everybody recognises and is proud of our science and technology base. They definitely hold scientists in very high regard.

**XC: Despite all this, you still have to teach the undergraduate course in Electromagnetism, as required by a professor. How important is teaching to you?**

SC: I like teaching, because even though what I teach is not at the very frontier of what we know, it puts me

in contact with students. Famously, Richard Feynman turned down a position at the Institute of Advanced Study at Princeton because it had no teaching. He proclaimed that teaching is what keeps you in contact with young people and young people are the ones who are going to solve the next problems. As you get older as a scientist, you realise that you're not going to crack certain problems, but it would be really nice to see a young person crack this problem. When you're teaching, you're meeting people like yourself from the next generation. Some people, in my class, I'd like to think are the ones

**"Don't kid yourself you understand something if you don't."**

producing the next breakthroughs. I probably don't get as much time as I'd like for interacting with students.

**XC: Gentleman's Quarterly (GQ) ranks you in the top 100 influential men in the country, ahead of Alexander Lebedev, Richard Branson, Danny Alexander, and Brian Cox. I also understand that you have two sons – as an influential man, how do you hope to influence them in their futures?**

SC: I think your children have to find their own way – it's a dangerous thing to expect them to live up to their parents. They should decide what they should do with their own lives. You want your children to enjoy the things that you enjoy, but actually they will enjoy the things they enjoy. And that may not be physics, nor science – it could be anything. I think my sons are going to do different things than me. Being a good parent is about valuing what your children value.

**XC: Okay – I have some general questions now, from other students who are also interested in you and your work. First of all – how do you keep your hair so luscious?**

SC: (laughs) I don't think it's luscious. It's going grey, like everyone else's. But if I had to say, it's probably due to my consumption of sweets.

**XC: Are there noticeable differences in attitude towards scientists in the UK and the US?**

SC: A bit. The American attitude believing that science can change the future in a big way is a lot stronger in the States than in Europe. Here people worry that things may lead to more pollution or troubles. I like the American can-do attitude, and the pioneer spirit. But to be honest, I'm an Englishman – I feel more at home in London.

**XC: How much coffee do you drink?**

SC: Too much. I drink until my head hurts.

**XC: What advice would you give to young scientists?**

SC: The most important thing – don't kid yourself you understand something if you don't.

**XC: Some of your second year fans made this picture of you (inset). Do you have anything to say?**

SC: No comment. There are embarrassing pictures of me out there and that particular photo took ages. The photographer was very fussy and forced me to pose next to the electrical plant!



# Solar power is expanding: meet the third generation

Joshua Emden on the story behind this ever evolving technology and what's in store for the future in solar technology

In the last few years, the solar photovoltaic (PV) industry has experienced a boom like never before. In 2013, installed global PV capacity increased by just under 40%, from 102GW in peak conditions, or GWp, in 2012 to 139GWp in 2013. Accessing the economies of scale associated with this huge ramp up in production, prices are falling below the milestone \$1/Wp, according to an Imperial College London/Grantham Institute report last November. Some countries are starting to reach "grid parity" – a term which essentially describes the potential for solar power to compete with conventional (fossil fuel) generation in electricity markets without the need for subsidies.

When people talk excitedly about this success, they are almost entirely referring to crystalline silicon-based Photovoltaic solar power (c-Si PV). Last year the International Energy Agency estimated that c-Si's market share of all PV technologies had grown to around 90%, with the remaining 9% constituting almost entirely of what's known as Thin-Film PV, a more flexible, less energy intensive alternative seen as the second generation of PV technologies. In fact, apart from a brief concern over stability of silicon supply chains in 2009 which allowed Thin-Film PV to take around a 15% wedge of the market, c-Si has almost always been the vastly dominant solar technology.

Perhaps on the back of this success, there have been a wave of new technologies, the so-called third generation solar technologies, which are hoping to capitalise on the enthusiasm felt in current solar markets by exploiting some of the problems seen with traditional PV.

Indeed, despite its current hegemony, c-Si PV is by no means a perfect technology. Its recent and historical success is arguably rooted in policy commitments.

For example, Germany's the revolutionary Feed-in Tariff for silicon-based PV in 2000 encouraged industry standardisation, an increasingly secure supply chain and global market acceptance. Of course, this should not be used to undermine c-Si PV's success but, crucially, and fascinatingly, this does mean there is room for improvement, as is always the case with new tech.

**"There have been a new wave of technologies, the so-called third generation solar."**

## What's all the fuss about?

One of the biggest problems faced by c-Si cells is that they are limited to a maximum theoretical efficiency (i.e. the maximum amount of the sunlight that hits a solar panel that can be converted into electricity) of around 33% with solar efficiency tables in recent years consistently recording them at around the 25% mark. This limit, known as the Shockley-Queisser limit after its discoverers, essentially exists due to the fact that sunlight reaches the Earth at many different wavelengths, only some of which can be absorbed by silicon cells to generate electricity.

By contrast, using combinations of different semiconductors such as gallium arsenide and germanium, so-called 'multi-junction' (MJ) cells can expand the range of wavelengths absorbed by the cell overall, generating more electricity. To do this requires sunlight to be highly concentrated via parabolic mirrors or lenses onto the cell area and, as recent laboratory tests by the Fraunhofer ISE in Freiburg have recorded, can produce staggering efficiencies of 46%.

In actual fact, some of these Concentrator Photovoltaic (CPV) systems using MJ cells are already operational with one in Arizona producing electricity with cell efficiencies of around 36%. Further modelling by Illinois State University of potential future CPV locations in the Southwest USA has shown that any project which is situated in an area with direct sunlight greater than 5.4 kWh/m<sup>2</sup> – the amount of sunlight you might expect from a holiday in Southern Italy as a very rough idea – can have a higher Internal Rate of Return than equivalent c-Si PV projects.

## Not all Sunshine and Roses

Necessarily with every new technology, CPV has its drawbacks. Unlike conventional c-Si PV which can produce electricity in normal daylight even with cloud cover (although obviously not as efficiently), CPV systems can only function properly with direct sunlight, or Direct Normal Irradiance (DNI), that hits modules



**330nm-thick film of organometal halide perovskite fabricated on a glass sheet. This film is the active element of Perovskite 20% efficient solar cells.** Photo credit: TheGuardian

at the right angle so that light can be concentrated in the right direction, namely, onto the small and highly efficient MJ cell area. As a result, CPV systems often need highly accurate solar trackers to make sure they are always receiving as much direct light from the sun as possible.

**"CPV systems can only function with direct sunlight."**

This in turn pushes up both economic and energy costs, although studies from the University of California, Berkeley find that energy costs are still generally regarded as competitive with conventional PV.

So it is not for everyone. CPV can only really be deployed at utility-scale

# Science

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Science Editor | James Bezer & Lauren Ratcliffe

and would not be appropriate in the UK where (alas) we tend not to receive much direct sunlight, nor would it be suitable for many countries in Northern Europe or Canada. On the other hand, places like the Atacama desert in Chile, the Southwest USA as already mentioned, vast swathes of Africa, parts of China and most of Australia could be ideal locations for CPV with their near-constant supplies of sunlight.

Currently, CPV is only taking baby steps into the market with analyst house IHS predicting that only around 800MWp will be installed in the US by 2020 compared to around 7,000MWp in China alone if it is to meet targets set by its 13th Five-Year Plan. Nevertheless, CPV systems have huge potential with MJ cells that have a scarily high theoretical maximum efficiency of 86%. Already for CPV, China has comfortably the largest projects in the world with two 55+MWp plants in Qinghai province alone.

## Solar does Yoga

CPV and c-Si PV are both very flat and modular. Exploring alternatives,

some of the more creative emerging technologies, such as Perovskite cells and organic solar dyes employ more flexible designs and applications for solar PV.

Starting with Perovskite, as a technology which received lots of initial attention in the '90s, interest in the technology has increased particularly in the last few years, with *Nature* calling Perovskite solar cell growth 'one-to-watch' in 2014. In part, this interest has come from a rapid increase in efficiency from 3.8% in 2009 to around 20% now, coupled with potentially much less intensive and cheaper manufacturing processes than c-Si. Although this efficiency is obviously low when compared to CPV, studies by Oxford Energy have suggested that Perovskite cells could compete with current Thin-Film technologies that have comparable efficiencies of 19-20%. Whilst this is certainly beneficial to overall competitiveness, Perovskite's real trump card comes in its flexibility of application. With an emphasis on diversity, Perovskite cells can be coloured in translucent glass, integrated into buildings (so-called Building Integrated PV)

and windows and even used as cheap lasers according to research by the University of Cambridge. In this sense, the PV market has the potential to be opened up to whole new sectors including those that involve aesthetic and stylistic decisions about materials such as the construction industry.

Going even further, organic solar dyes have the potential to be printed out onto thin polymers producing reams of solar film at low cost and low environmental impact. As may be expected, the efficiencies of these kinds of films are typically too low to be competitive with conventional solar markets. But – and this is perhaps the whole point of these technologies – if such innovative designs can capture the public imagination, maybe they will not have to. Already there has been the controversial project to build 'solar roads' in USA, which some even (wrongly) thought was a hoax when it sought crowdfunding. With this new wave of PV technologies then, there is genuine intrigue as applications of the technology are starting to move well beyond the realms of traditional power generation.

## Future Potential and a Bright New Dawn

Perhaps the most interesting aspect of these third generation PV technologies is that they do not have many aspects in common. Where CPV seeks to become the ultra-efficient successor of c-Si PV in power generation, Perovskite and organic solar dyes explore different markets and designs altogether.

Hopefully this means, if and when these technologies become commercialised, they will not have to compete as each will fill a different market nichem from industry to design.

In the meantime, whilst c-Si reigns supreme, it is difficult to predict when said commercialisation may happen. Policy will inevitably play its part, and indeed these technologies can take encouragement from the fact that this was really how the solar market started in the first place.

Whether these technologies can take a meaningful slice out of c-Si market share remains to be seen; naturally, there is still a long way to go. But the horizon is starting to look a whole lot brighter.

**"Perovskite cells could compete with current Thin-Film technology."**

**"The horizon is starting to look a whole lot brighter."**



Westlands solar park in Fresno County in the Central Valley of California. Photo credit: Proehl Studios/Corbis

# Making light work of ammonia

Andrew Crawford on an eco-friendly way to make fertilisers

Every nitrogen atom in every chemical used by people originates from nitrogen gas ( $N_2$ ) in the atmosphere, and this plethora of different uses is all accessed from one molecule: ammonia.

The production of ammonia from  $N_2$  is a fundamental chemical transformation called nitrogen fixation. Plants need nitrogen to grow, and the major anthropogenic use of ammonia is to produce the fertilisers essential to boosting crop yields, in order to feed the world's growing population.

As well as being important, nitrogen fixation is also extremely difficult, because  $N_2$  is very, very unreactive. In  $N_2$  the two nitrogen atoms are connected by a strong triple bond, which must be broken to form ammonia.

Unlike other molecules with triple bonds, it is the very first stage of breaking the  $N_2$  triple bond which is the hardest part, limiting the possible approaches significantly. In fact,  $N_2$  is so stubbornly unreactive in almost every measurable way it is used as an inert gas in food preservation, incandescent light bulbs, and aviation fuel tanks.

Consequently, all current nitrogen fixation happens with a huge energy cost. Man-made ammonia via the Haber-Bosch process uses massive temperatures and pressures (400°C and 250 atmospheres) to drive the reaction. This one process uses nearly 2% of the entire global energy supply.

In nature, enzymes called nitrogenases have evolved over billions of years to catalyse the conversion at ambient temperature and pressure. This sounds better, but still needs a vast amount of energy (in the form of ATP) to work. A perfect nitrogen fixer would work efficiently at mild conditions, or be coupled to some plentiful renewable energy source, but has eluded all attempts at identification.

A new development addressing this has recently been reported by Kanatzidis and co-workers, inspired by a 'crazy idea' and a biomimetic approach. They copied the mixture of elements doing the work in nitrogenase (iron, molybdenum and sulphur), and prepared a chalcogel; a high surface area network that models a 'solid state' nitrogenase.

The clusters of atoms in the chalcogel strongly absorb light, and crucially, are able to absorb in the ultraviolet region. This causes high energy excitations in the clusters, and Kanatzidis found that this energy could be harnessed to break the  $N_2$  bond, leading to ammonia formation.

There are a couple of really great things about this work. Firstly, the concept works extremely well from an energy point of view. A system which works at ambient conditions, and uses an abundant, renewable energy source to pay the high cost of splitting  $N_2$  has a lot to be said for it.

Secondly, the chalcogels did not lose their activity over time, a highly desirable property when designing

**"Making ammonia uses nearly 2% of global energy supply."**



Ammonia is crucial for producing fertilisers. Photo: Wikimedia Commons

a catalyst. The whole process also uses water as the solvent, making it greener than a ChemDraw logo.

As well as these good things, however, there are also drawbacks. The  $N_2$  splitting works well, but the actual ammonia formation uses sacrificial chemical sources of  $H^+$  and  $e^-$  (essential components of  $N_2$  fixation), and is not as elegant as current routes.

The real trouble, though, is the rate of the process. At just about a thousand times slower than

**"Fertilisers, as well as plants, could be derived from energy from the sun."**

nitrogenase, this system would have difficulty delivering the 200,000,000 tonnes of ammonia we use annually.

The authors are confident that further work will deliver significant improvement in this area (improvement, in fact, they say has already started). So watch this space, and let this current report be an interesting proof of concept, en route to an appealing scenario where our fertilisers, as well as the plants, are derived from energy from the sun.

DOI: [abs/10.1021/ja512491v](https://doi.org/10.1021/ja512491v)



Found in grapes and other fruits, in vitro tests of resveratrol have shown positive effects on cell health. Photo: Wikimedia Commons

## Resveratrol: hope or hype?

Resveratrol is a protective compound produced by plants when they are under stress. It is mostly found in black grapes (and thus red wine) but it is also found in foods such as blueberries, raspberries, dark chocolate and peanuts.

Resveratrol is an antioxidant, a compound that prevents the formation of free radicals in the body, which have been linked to cancer. Its potential health effects have made it the subject of a huge amount of research in recent years, with many studies on cells and in animals showing promising findings.

In vitro, it has been observed that it suppresses the proliferation of tumour cells, by penetrating the cell and helps DNA repair from free-radical damage that may otherwise lead to a tumour. It has been found to inhibit the formation of inflammatory factors and reduce cholesterol levels, suggesting it could have a role in preventing heart disease.

These potential benefits have led some to suggest the consumption of red wine may be behind the "French-

Paradox": how French people have low incidence of cardiovascular diseases while consuming large amounts of saturated fats. Red wine, though, contains far lower concentrations of resveratrol than have been given to human volunteers in some small-scale clinical trials.

And what should also not be neglected is that most of the trials for the beneficial effects for resveratrol have been tested mostly in animals, and the experimentation in humans is limited.

Unfortunately, resveratrol may not be as perfect as considered, since resveratrol supplements have been found to cause pancreas abnormalities in fetuses when consumed by pregnant monkeys, in experimental trials.

And also despite all these potential benefits, this does not mean that drinking excess red wine can offer these health effects. As the ancient Greeks said "pan metron ariston", meaning all in moderation, we should not forget that red wine contains alcohol so can cause liver disease and also increase the risk for heart disease.

NEFELI MARIA SKOUFU PAPOUTSAKI

# Games

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## Next Gen Console: Your Table + Friends

Sanchit Sharma on why you should jump on-board for XCOM

**X**COM: *The Board Game* is a fast-paced, fairly light, co-operative board game about defending Earth from an alien threat. For those of you that don't know board games, co-operative board games are those where the players work together, against the game – fitting, considering the theme! The thing that really sets it apart from every other board game on the market today is that it is played with an app (which only one player needs to have), which controls the enemy AI and several other mundane tasks such as tracking income and teaching people how to play the game.

Each of the four players takes on a role: Commander, Central Officer, Squad Leader or Chief Scientist – if there are fewer than four one or more people will have to double up on roles. A game turn is split up into two phases, the timed and the resolution phase. During the timed phase, the accompanying app will tell the Central Officer what is going on in the world and the other players must react, often forcing them to make difficult decisions in very short periods of time. During the resolution phase, the players will see the effects of their decisions – a lot of the game happens here, but you can't recover from a bad timed phase with a good resolution phase.

The game is very easy to pick up and understand, and it captures the feel of the XCOM video games perfectly. The simple rules make the decisions easy to understand, but the choices themselves are often very difficult. The designers hit the nail on the head with this, it not only represents the video games very well but it also translates into a really

interesting gaming experience on the tabletop. For example, one of the events is a crisis – this means that the Commander must draw the top two crisis cards and choose one to happen. There is nearly never a good decision here, and inevitably the chosen crisis will make a big impact on at least one player, which is exactly how a decision in a game of XCOM should be.

The timed phase is great – you can pause for short periods of time if you need to, not completing alien tasks quickly enough will cost you time on your own tasks, and the AI is actually quite strong. However, the resolution phase uses a push your luck mechanic that, whilst it does mimic the feel of the game, feels out of place in a co-operative game. It's quite possible to do everything right in the timed phase and then lose the game due to bad luck in the reverse is, thankfully, much less likely. Overall though, the tech and combat mechanics are well designed and the game proceeds very smoothly.

The component quality is high (though, sadly, the miniatures are unpainted and as such it can be difficult to tell which soldiers are which), with thick tokens and well-made cards. There are three different sizes of cards, which is understandable as they each need to fit different roles, but would be very annoying if you wanted to sleeve them. However, the game also has a pretty bad insert and doesn't really come with enough bags for all the parts.

Now, for those of you that have played co-operative board games before, you may have heard a few



Photo: mobile-zocker.de

**"This is a board game all about making difficult decisions very quickly."**

complaints about them. The most common are the alpha player syndrome (where one person tells everyone else what to do), and the idea that the game often plays you, instead of the other way around (i.e. there is always an obvious decision to make). XCOM deals with both of these problems very well. An alpha player cannot emerge in the timed phase as there simply isn't the time to show other people what information each player has, though in the resolution phase the opportunity is still there. As for the second problem, XCOM has always been a game of hard decisions. Sometimes a decision is obvious, but this is quite rare. This is a board game all about making difficult decisions very quickly, so this issue doesn't really manifest like it does in other co-operative board games. It should be noted, however, that

this is a much easier game than most other co-operative board games. Having played it three times, once solo and twice with four players, I managed to beat both the easy and medium difficulty levels. Compare this to *Ghost Stories*, where in the first five or six times playing the game on easy we all died horribly.

Finally, the big question is the app. It's never been done in a board game before, so does it work? My response is a very confident yes – not only does it reduce the complexity of the game significantly, but it has images and music in the background that add to the feel and tension of the game. They put a bit too much faith into the app in my opinion, as it really would have been helpful to include an actual rulebook in the game and a few notes on how certain things are calculated. However, the decision to require this app was a sensible one. It's made the game significantly better.

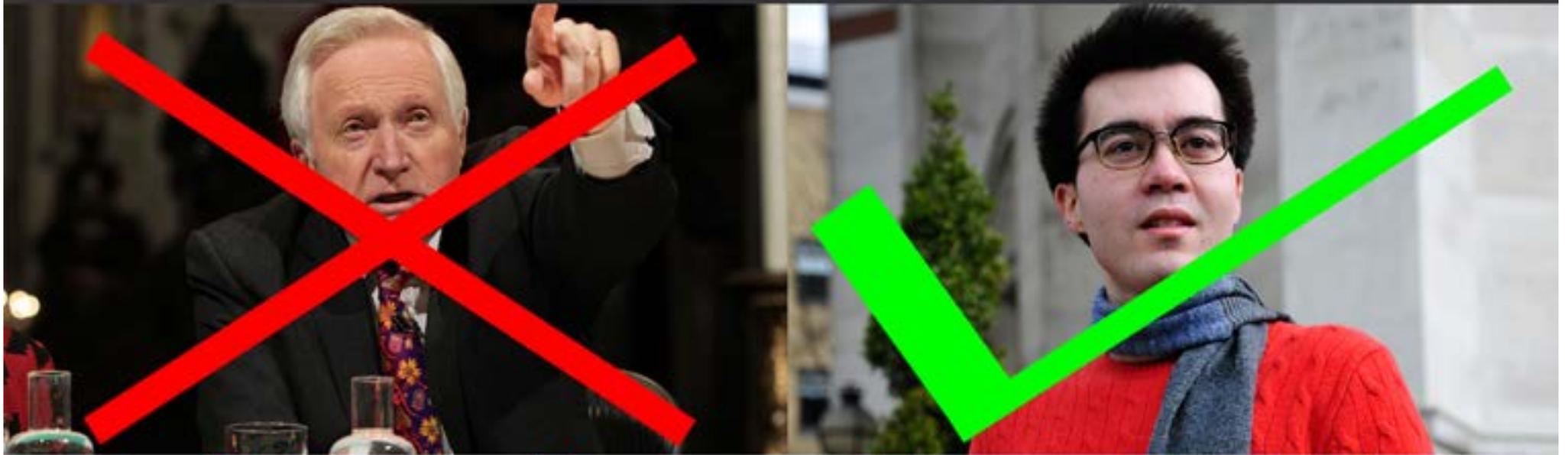
Overall XCOM: TBG is a very well designed and produced game. It fits the look and feel of the video games very well, and constantly leaves the players on the edge of their seats. It has issues, but it's such a big leap forward in co-operative board games that I'm going to struggle to find a reason to play any other in the near future.

If you're interested in trying this game out, come meet up with Tabletop Gaming Society! We do everything tabletop, from *Magic the Gathering*, to board games, to roleplaying games. We meet for board games every Monday at 18:00 in Huxley 711c. You can also email any of the committee for details. Come say hello!

**"I'm going to struggle to find a reason to play any other in the near future."**



Photo: themittani.com



David Dimble-Lim

Thomas Lim-bleby

The Presenter  
The Panelists



Tom Wheeler



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# Music

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Music Editors || Grace Rahman & Amna Askari

## Surrender to The War On Drugs

Ayonija Sundararajan sings the praises of these unassuming rockers

Following the release of their third studio album *Lost in a Dream*, Philadelphia's **The War on Drugs** have experienced cathartic success. With *Lost in a Dream* being named the best alternative record of 2014 by iTunes, these guys have catapulted from having an indie cult fan base to well-deserved mainstream success.

The band was formed as a collaborative project between the God of the twangy guitar and face of Pantene, Kurt Vile, and current frontman and lead songwriter, Adam Granduciel. The release of their first album, *Wagonwheel Blues*, saw Vile's departure from the band to pursue his solo career.

With Granduciel in charge, the band's second album, *Slave Ambient*, experienced further critical acclaim and demonstrated to the audience, more deeply, the band's signature hazy sound. *Lost in a Dream* however, is a world apart from these two records. Born from a period of deep depression and a whirlwind break up, *The War on Drugs*' third album is a piece of art that bears Granduciel's heart and soul in every lyric.

*Lost in a Dream* is utterly, the most perfect road trip summer record; whether it be through the baking heat in a dodgy convertible down Route 66 or the winding backstreets of a derelict European village, this psychedelic country-rock masterpiece will not disappoint.

There's nothing boring about the *motorik* rhythm of this record. Granduciel has a knack for layering his songs with a hazy harmonica and blazing guitars, not to mention his Springsteen-esque voice, so that it all blends into one; a texture-filled bliss.



If you like your frontmen pained and little bit greasy, Granduciel's the one for you. Photo: Alison Toon

Anyone who deems the album boring or repetitive is frankly wrong. Yes, that's right, your opinion is wrong, and not giving this album a second chance is self-sabotage.

Almost a year after the release of the album, *The War on Drugs* continue to tour with each show proving more popular than the last. Having experienced great success across their tour last year and their performance at KOKO receiving excellent reviews, the band sought out to return to the UK.

One show at London's **O2 Academy Brixton** proved insufficient; a sold out show meant the addition of a second date at the popular venue,

highlighting the explosive success of the band. Having been to their KOKO show last June, I can vouch for these guys being great live performers who intricately re-created every riff, drum roll and harmonica blare to perfection. Moreover, seamless transitions between each song meant that at some points I found it hard to believe that these guys were playing live. Their performance was effortless.

It was evident that they were well rehearsed, but in no way did they come off as stiff. The radiant venue served as the perfect host for Granduciel's band, and I can't wait for their upcoming gig at Brixton this

**"Lost in a dream is utterly, the most perfect road trip summer record."**

**"Live performers who intricately re-created every riff, drum roll and harmonica blare to perfection"**

month.

Up until now, former band member Kurt Vile has somewhat overshadowed the band's success, bringing Granduciel's talent into question. Granduciel himself played in **The Violators**, adding to the pressure of breaking out from Vile's shadow. Yet following the release of *Lost in a Dream*, it's safe to say that these guys can stand tall and proud, shoulder to (somewhat unkempt, greasy haired) shoulder, not just alongside Vile, but any great musician out there.

*The War on Drugs* play the **O2 Academy Brixton** on Tuesday 24<sup>th</sup> of February. Tickets are still available.



She can do no wrong. Photo: i-D

## Gig of the week - Neneh Cherry

Arriving just in time to catch the last two songs of **Rosie Lowe**'s all-female and surprisingly groove filled set, quick progress was made elbowing through a sizable but docile crowd of irritatingly trendy thirty-somethings. While a listless Rosie helped roadies pack up, we attempted (to no avail) to spot 6Music DJs in the crowd; who, along with stay at home mothers and Shoreditch metrosexuals, seemed like the target audience for this event.

Any misgivings **Neneh**'s opening stark rendition of 'Across the Water' may have instilled in me were swiftly banished by the floor-shaking performance of *Blank Project*'s title track. While the the choice of opener was dubious at best, one thing is clear - to do this album justice, it has to be heard live, and ideally with **RocketNumberNine**'s Ben and Tom Page in support. Thumping percussion and metallic synths were delivered with just the right amount of distortion, and

**Neneh**'s classics were given an appropriate twist without causing the traditionalist in me to cry heresy.

"Neneh Cherry is my spirit animal" sighed my companion; mere hours, she later admitted, after desperately scrabbling for excuses to not attend. Closing with 'Buffalo Stance', and joined onstage by a hilariously energetic girl pulled from the crowd, Neneh's exhortations finally had an effect, and the previously half-hearted crowd bounced along to (let's be honest) the only song they'd come to hear.

Ben and Tom's rework of the classic, while fitting for the occasion, bore little resemblance to the original, and insistant flashing projections of the track's name were needed to help the crowd to recognise the track's introduction. Through all of this, though, Neneh's vocals - clear as ever, cut through the mix unchanged, despite the years.

CEM HURRELL

# Music

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## The Grammys - Kanye not

Grace Rahman watched the Grammys so you don't have to

If you were too busy watching **Kasabian** make a confusing appearance at the last Sunday's BAFTAs, here are our top 5 WTF moments of the 57<sup>th</sup> Grammy Awards. There were some great moments musically, like **Rihanna**, **Kanye West** and **Paul McCartney's** first live performance of 'FourFiveSeconds', and some not so great (**Ed Sheeran** ruining **ELO's** legendary 'Mr Blue Sky' anyone?). It's hard to comment solely on the music and arguably this isn't what the show's about. Fashion bloggers bitched well into the night about Rihanna's fucking weird dress and **Madonna's** arse, so here's a round up of the slightly more musically themed water-cooler moments.

### What's a Beck?

Who took away the same number of Grammys as leader of the free world, **Beyoncé**? This guy. Looking like a withered Ed Sheeran, **Beck** walked off with Best Rock Album and (controversially) Album of the Year. You probably know his track 'Loser'; the opening sounds a bit like the *Breaking Bad* theme and he moans the chorus: "Soy un perdedor/I'm a loser baby/So why don't you kill me?" He's released a ridiculous twelve studio albums since the 90s, collaborated with everyone from **Pearl Jam** to **Pink** and once released a record as sheet music only. Seriously.

Despite sounding like a bit of mug, he looked pretty astonished to be up there, and said at an after party that he had expected Beyoncé to win. Many expressed confusion on Twitter – who was he, where had he come from and how he managed to triumph over Queen Bey, who dropped a critically acclaimed visual album with zero notice? The girl who didn't know who Paul McCartney was must have been totally flummoxed. Kanye also had opinions on the matter, but we'll get to that.

### Oh, Kanye

It could have been 2009 all over again. People had pointed out in the rehearsals that Kimye were seated right by the podium, but Kanye West became the most tweeted about star on Sunday night (despite not winning anything) by hopping onstage as Beck (who? – see above) waved his Album of the Year trophy in poor Bey's face. But then, oh how we collectively sighed in relief as we realised, it was just him playing a little trick! He wasn't going to go full "I'm-a let

**Who took away the same number of Grammys as leader of the free world, Beyoncé?**



Don't worry guys, they're friends now. Photo: NARAS/Getty Images

you finish but..." at all! Oh Kanye, how you've grown. Then just when we thought he'd found his sense of humour after all the incidents of late (Barack Obama calling him a jackass and that **Zane Lowe** interview) Yeezy ruins it all by mouthing off about Beck at an after party. "If they want real artists to keep coming back, they need to stop playing with us," he said, adding, "[Beck] should have given his award to Beyoncé." Yikes.

### Prince knows what's up

Introducing Album of the Year was the Purple One himself. He's been pretty quiet since those surprise London shows and being on *New Girl*, so this really was exciting. It clearly wasn't for him though, and he mooched onstage looking as unimpressed as we all probably should be at an awards ceremony with all the pomp and irrelevance to music as the Grammys. Any awarding body that gives Best Metal Performance to a band it had given Best Comedy

**"God love you Sia, but everyone knows what you look like."**

Album to a few years previously, probably doesn't respect all the genres. Anyway, dressed in a peach suit that some likened to an orange prison jumpsuit, he introduced the category by referencing the recent shootings of unarmed black youths by police, saying, "Like books and black lives, albums still mater". Go **Prince**.

### Chill out Sia

God I love you, **Sia**, but everyone knows what you look like. Having only started to perform facing away from the audience relatively recently, pictures of her face do exist on the internet. We get it, it's more of a performance art thing, and she's amazing, having written Beyoncé's 'Pretty Hurts', Rihanna's 'Diamonds' and providing the vocals on **Flo Rida's** 'Wild Ones' that make it slightly better than truly awful. She did her usual thing at the Grammys, bringing along tiny dancing muse **Maddie Ziegler** and bizarrely, star of

Bridesmaids and SNL regular **Kristen Wiig**. Perhaps even weirder than Wiig's inclusion was the fact that her dancing was totally on point.

### World forgives Sam Smith

Less than a month after **Sam Smith** was ordered give writing credit to **Tom Petty** for 'Stay With Me', due to its striking similarities to 'Won't back down' (seriously, have a listen) he bags the Grammy for Record of the Year. Record of the year in terms of, record that must've been played enough times this year to annoy even Smith, but presumably not Petty, who got an undisclosed but presumably sweet settled-out-of-court sum. Reminiscent of 2011, aka the year of **Adele**, a Brit took home the most awards, including best song, best pop vocal album and best new artist, beating the loveable **Bastille**. And like Adele, he thanked the ex who inspired it all.

Who needs a man when you've got an arm full of Grammys?

# Television

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## How *Adventure Time* saved Cartoon Network

**TOM RIVLIN**  
SECTION WRITER

It's safe to say that *Adventure Time (AT)*, the hit eleven-minute cartoon about Jake the dog, Finn the human, and their crazy adventures, has been a huge success for its studio/host channel, Cartoon Network (CN). Now in its sixth season, the show has amassed a huge audience of children providing consistently high ratings, and succeeded in fostering a 'cult favourite' status among many adults. There's not a nerdy shop around without *AT* kitsch of some kind, and college students worldwide have posters of it hanging in their rooms. In short, nerds, parents, students and stoners all love *Adventure Time!*

In fact, it's been more than just a success to the channel, it's been a life saver. Before *AT*, CN was actually struggling a bit. It got so bad that a few years ago, in an attempt to compete with Nickelodeon and the Disney Channel, they started investing in live-action programming! Most of it was rubbish, but they were too scared to take risks on creating new animated content, which is often expensive to produce.

That is until *AT* came along. *AT* was the success they needed to boost their confidence in their animation division, and it shows. *AT* has blossomed into an animation 'renaissance' of sorts for the channel, and to a small extent the Western animation world in general. CN has done an excellent job of capitalising on the success of the show in the best way possible for everyone: by recognising talent.

*AT*'s creator, Pendleton Ward (a name so whimsical its owner couldn't be anything but a children's cartoon creator), surprised many last year by announcing he had already quit the show halfway through season five. The reason this was surprising is that no one noticed! There was no obvious dip in quality after he left. And the reason for that is that the show has amassed not just a huge audience, but a large talent pool. The show isn't just one man; it's built on the work of incredibly talented animators, storyboard artists, writers, directors, and more. The executives at CN must have realised this, because they've greenlit three shows by creators whose main credit is *AT*. Here's a guide to some of them.



Photo: Pendleton Ward/YouTube

### Bravest Warriors

The first show to come from a former *AT* person, *Bravest Warriors* has nothing to do with CN, but an online-only studio/YouTube channel called Animation Domination. Debuting in 2012, it's an animated short series (five minutes per episode) from Ward himself, with a more sci-fi aesthetic, and slightly older characters. It's still got all of *AT*'s charm and whimsy (mostly thanks to the heart-wrenchingly adorable Catbug), and has been met with critical acclaim. Despite each episode's brevity, there's a surprisingly complicated plot going on beneath the surface, and I don't know about you but I'm excited to see where it goes!



Photo: Pendleton Ward/ YouTube



Photo: Rebecca Sugar/CN

### Steven Universe

The first show CN itself picked up from an *AT* personality, *Steven Universe* is an eleven-minute animated series created in 2013 by former *AT* writer Rebecca Sugar. (As far as I can tell, yes, this name of pure whimsy is really hers.) If you thought *AT* was charming, you are not prepared for the pure, undiluted charm Sugar pours into *Steven Universe*. Steven himself is charming, his interactions with other characters are charming, the aesthetics are all charming... you get the picture.

But amazingly, alongside the charm is a surprisingly heartfelt story about loss and the value of life and family, with wonderful morals so simple that kids will absorb them easily, and profound enough to still mean something to cynical grown-ups like us. It also has a refreshingly feminist narrative, not despite its male protagonist, but because of him. Steven learns the value of good female role models (or rather, he has an innate sense of this from the start) through his guardians, the Crystal Gems, and hopefully he imparts some of that insight to the kids at home.



Photo: Rebecca Sugar/CN



Photo: Patrick McHale/CN

### Over the Garden Wall

*Over the Garden Wall* was a ten-episode miniseries aired on CN last year, created by former *AT* writer, creative director, and boring-name-haver Patrick McHale. It can best be described as a weird bastard mix of the Brothers Grimm, L. Frank Baum, and Mark Twain, with sources like Walt Disney and even Dante thrown in for good measure. Simply put, this series was a masterwork. Its miniseries format lent itself to being very tightly written, with a strong beginning, middle and end, and it needs to be watched about five times to get everything out of it. It lingered in my mind for weeks afterwards, too.

Like with all fiction, it would be nothing without great characters, and maybe I was just projecting, but I loved the fusspot/complainer Wirt and his younger brother, the endlessly optimistic Greg, who both became immediately likable as they wandered through the Unknown. Also, I won't lie, I teared up a bit (ok, a lot) at the end.



Photo: Patrick McHale/CN



Photo: Natasha Allegri/YouTube

### And Still More...

For completeness, there are two more shows to mention here: Animation Domination's *Bee and PuppyCat*, and CN's *Clarence*, both from former *AT* staff. But even then, this isn't the whole story. CN has been very good lately at finding new talent through development programmes of various sorts (*Over the Garden Wall* was based on a short film McHale made in 2013 as part of CN's shorts development program). The fact that a lot of their new shows are from young, inspired creators is a testament to a channel taking risks, and those risks paying off for the channel and the audience. So, jaded twentysomething millennials, remember the 'golden age' of CN studios cartoons in the late 90s/early 00s, with stuff like *Dexter's Laboratory*, *Samurai Jack*, and *The Powerpuff Girls*? Well, it's back.



Photo: Skylar Page/CN



Photo: Cartoon Network

# Where is the love? Space oddity



Photo: Ira Sachs/Sony Pictures Classics

## JOHN PARK SECTION EDITOR

### LOVE IS STRANGE

**Director:** Ira Sachs  
**Screenplay:** Ira Sachs, Mauricio Zacharias  
**Cast:** John Lithgow, Alfred Molina



A love story that tells things from the point of view of an elderly couple is quite a rare occurrence, and something told in relation to an elderly homosexual couple is rarer still. We start our journey with Ben (John Lithgow) and George (Alfred Molina) getting married in New York City. They have been together for decades now, but only now are they legally allowed to have their union recognised by the state. It is a joyous occasion that calls for friends and family to gather for the celebration. But even this happy state does not last long, as life has a funny way of balancing everything out.

George is fired from his teaching job at a conservative school, after the institution decides that it would not be acceptable to have a married gay teacher teaching their students, and this leads to financial difficulties for the couple. Vacating their home is the least of their worries, as Ben and George find themselves having to live apart in separate housing. Ben goes to live with his nephew Elliot (Darren E. Burrows), whereas their kind gay police officer friends (Cheyenne Jackson and Manny Perez) offer up a room for George.

It is not the most ideal situation but they both have to make do. Ben is unwittingly thrown into the middle of Elliot's family drama, one that involves his nephew's wife Kate (Marisa Tomei) and their teenage son Joey (Charlie Tahan). George too, struggles with living under the same roof with the two young men, who are very socially active, having loud parties and gatherings almost every night. But even in the midst of all this, *Love is Strange* refuses to venture into the more dramatic territory. Things just happen, quietly and calmly, just like how every day passes for the rest of us, there is nothing seemingly extraordinary for Ben and George. Director Ira Sachs keeps

everything grounded in that you will not be seeing any grand, showy performances here.

But it is in the quiet, small, tender moments that the outstanding cast elevates the film to excellence. A particularly touching moment involves the brief reunion of the main pair, having not been together for too long. The film also stays away from getting overly political and preachy in tone – although there is plenty of space in the script for it to do so. For instance, the firing of George for his personal life is a plot strand that could have been overextended, but a simple voiceover of George reading a letter of thanks and apology to the school's parents sums everything up nicely without any unnecessary tears and drama.

The ending however comes as a bit of a shock. For a film that maintained a slow, steady pace throughout its running time, there is an unexpected time jump in which a lot seems to have happened. There are important questions that are never answered, and the final few minutes are guilty of taking some easy, 'cheat' routes to get a fast, neat ending. Regardless, a relatively weak final act should not interfere with enjoying the rest of the beautifully structured narrative.



Photo: Ira Sachs/Sony Pictures Classics



Photo: Andy &amp; Lana Wachowski/Warner Bros. Pictures

## JOHN PARK SECTION EDITOR

### JUPITER ASCENDING

**Director:** Andy Wachowski, Lana Wachowski  
**Screenplay:** Andy Wachowski, Lana Wachowski  
**Cast:** Channing Tatum, Mila Kunis



The Wachowski siblings have sure had their ups and downs in terms of the films that have and have not connected with audiences worldwide. *The Matrix* franchise was something that made them an internationally recognised surname, although the films that have followed since have not been able to replicate the success their iconic sci-fi trilogy brought them. Their credibility's downward spiral continues with *Jupiter Ascending*, a preposterous, tiresome space opera that plays very little to the filmmakers' strengths and instead turns into a chaotic, jumbled mess of a movie that is currently not making a whole load of money across the globe.

With a \$176 million production budget (including the nine months of post-production the film went through, pushing its release date back by almost a year), it is easy to see where all that money went. The endless supply of flashy computer graphics portraying space warfare are of course supposed to be the main selling point of the film, promising plenty of action appealing to a wide demographic of viewers. Sadly with *Jupiter Ascending*, there is such a senseless bombardment of laser beams, missiles, explosions and

rapid editing that even the scenes that should have been remotely enjoyable turn into a string of incomprehensible, mind-numbing shots.

Not helping in the slightest is the convoluted plot that fails to develop a single character right. Jupiter Jones (Mila Kunis) is an ordinary cleaner living in America who is nonetheless destined for great things. People who clearly know a thing or two start calling her "your majesty" and bees start to randomly swarming around her, because bees recognise an individual of royalty. Yes, really.

She gets tossed into a petty family squabble between three siblings taking place in space. She is to play an important role in a plot of schemes and betrayals that do not make any sense, and none of the potential villains (Eddie Redmayne and Douglas Booth, both overplaying their campy tone, and Tuppence Middleton) really rises to the potential to become anyone particularly memorable, phasing in and out then suddenly never to be heard from and seen again later.

Even worse is how Jupiter Jones and Caine (Channing Tatum), a genetically engineered ex-hunter, connect on a romantic level. Jupiter has no shame in quite literally throwing herself onto Caine, whilst the audience can only cringe at the hearing of the Wachowskis' poor scripting.

The characterisations of the leads remain baffling and unclear, and half the time Jupiter is too busy falling off buildings and other high places to be contributing in any way to the plot. Caine is of course there to save her, pretty much all the time, often miraculously finding out exactly where she is.

When moving forward with the film slowly, the visuals are easier to take in and marvel at. The various spaceships and planets we are introduced to, are impeccably designed, the residents stemming from all sorts of weird and wonderful species living in them too, are also colourfully decorated from head to toe. The film however cannot resist the temptation to just blow everything up the first chance it gets, forgetting to focus on everything else that is important to make a coherent film.



Photo: Andy &amp; Lana Wachowski/Warner Bros. Pictures

# Welfare

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Welfare Editors || Diba Esbati &amp; Chanon Wongsatayanont

## Mental illnesses, visualised

Chanon Wongsatayanont recommends relatable comics online

One of the most enduring issues about mental illnesses is getting people to understand them. Sure, everyone has heard about it from the media, but what they're associated with is far from accurate. Violence and mental illness are rarely correlated, and it only appears that way because of the news whenever exceptional cases occur.

In actual fact, mental illnesses only affect the way you look at the world, how it appears and what you feel you should do. It might be dark and meaningless, chaotic and fragile or so nonsensical that you can't seem to fit in. It may come in episodes, crippling the sufferer like migraines, or it can tint everything they do and see, becoming integrated as a part of their lives.

As this is a matter of perspective, mental illnesses are hard to understand, which makes it seem scary and volatile. We, the welfare section editors, have taken a stab at explaining what mental illnesses are like last term, but for something so personal, perhaps art will speak louder than words.

So this week, here are some webcomics and illustrations of what mental illnesses are like. They aren't horror stories, more like heartfelt attempts to capture the strange indescribable feelings that come with mental illnesses. Sufferers would feel that they're understood, and friends of sufferers would better understand the people they're supporting.

### Hyperbole and a Half

Starting off light with perhaps the most popular comic on depression, Allie Brosh managed to turn her unique humour on her own

experience with depression in 'Adventures in Depression' or 'Depression Part Two'.

If any of you have read *hyperbole and a half* before, you'd be familiar with the weird and manic way her brain works. She used this very same brain to give a very personal analysis of her own depression.

Funny at times, Brosh vividly portrays the escalation of depression, complete with the sense of hopelessness, crippling exhaustion and self-hatred. But most uniquely, she showed how an episode of depression can be lifted by the most unlikely situations and in the least Hollywood-like kind of way. This reminder can come as a relief to people who thought that depression should be beaten in the most conclusive way possible.

### Depression comix

In this series of webcomics, the author known only as Clay gives a more somber representation of depression. Updated weekly, *depression comix* deals with the daily struggles of depression sufferers and those they care about. The style is completely in black and white, drawn with heavy lines and a lot of shading.

What strikes me the most about this webcomic is how many scenarios it presents. It doesn't just go into the head of sufferers, it also looks at the perspectives of their friends and partners across a wide range of relationships, often being awfully frank about how they feel.

The honesty makes some of the scenarios hit hard, especially when it comes to how depression hurts those you love more than it hurts you. These can be cautionary tales



Clay's depression comix goes for uncomfortably relatable feelings. Image: Clay



Anxiety is one of Toby Allen's 'Real Monsters', its clock is always running out of time. Image: Toby Allen

so sufferers and their friends can be more aware in the future.

### Better, drawn

The name of this series of comics comes from the phrase "sometimes things can be said better when they're drawn". This is a collection of comics by various artists who suffer from long-term mental and physical illnesses, including anxiety, obsessive-compulsive disorder (OCD), eating disorder and even post-traumatic stress disorder (PTSD).

The best thing about this collection is just the sheer variety from so many perspectives. Some have positive outlooks and effective coping mechanisms, others are more negative.

It brings home the fact that there are a whole lot of people out there suffering from mental illnesses and that people cope with them in different ways. This sense of

community is valuable so the sufferers can feel some company through the isolating experience.

### Real Monsters

This isn't a comic but it's so interesting I have to include it to the list. The artist, Toby Allen, imagined mental illnesses to be caused by different types of mythical spirits. They would lurk around, find a victim and then prey on their insecurities, feeding off those terrible feelings.

Their designs reflect what these mental illnesses mean to the artist, like how social anxiety monster hides behind an immense shell.

According to Allen, "The artwork is not at all intended to make light of these conditions but instead is intended to give these intangible mental illnesses some substance and make them appear more manageable as physical entities."

## Mental health helplines and resources

If you are concerned about your own mental health, or that of a loved one, there are people out there you can talk to who can give you advice, or will be there to listen.

### Helplines

If you are distressed and need someone to talk to:

**Samaritans (24 hr helpline):**

Phone: 08457 90 90 90  
[www.samaritans.org.uk](http://www.samaritans.org.uk)

**Anxiety Help:**

**Anxiety UK**

Phone: 08444 775 774  
(Mon-Fri 09:30 - 17:30)  
[www.anxietyuk.org.uk](http://www.anxietyuk.org.uk)

**No Panic**

Phone: 0808 800 2222  
(daily, 10:00 - 22:00)  
[www.nopanic.org.uk](http://www.nopanic.org.uk)

**Eating Disorders:**

**Beat**

Phone: 0845 634 1414  
(Mon-Thurs, 13:30 - 16:30)

**Addiction:**

**Alcoholics Anonymous**

Phone: 0845 769 7555  
(24 hour helpline)  
[www.alcoholics-anonymous.org.uk](http://www.alcoholics-anonymous.org.uk)

**Narcotics Anonymous**

Phone: 0300 999 1212  
[www.ukna.org](http://www.ukna.org)

**College Resources**

**Student Counselling Service**

Phone: 020 7594 9637  
e-mail: [counselling@ic.ac.uk](mailto:counselling@ic.ac.uk)

**Imperial College Health Centre**

Telephone: 020 7584 6301  
e-mail: [healthcentre@ic.ac.uk](mailto:healthcentre@ic.ac.uk)

You can also go to your academic or personal tutor regarding pastoral issues, especially if you think your mental health might be affecting your academic performance.



Marvel at Brosh's manic insights and MS Paint skills in *Hyperbole and a Half*. Image: Allie Brosh



**Nominations close**

**1 March**

We're running a number of information sessions about the elections and campaigning to help you when you stand.

You'll find all the details about our sessions and how to stand on the Union website at

**[imperialcollegeunion.org/elections](http://imperialcollegeunion.org/elections)**

[imperialcollegeunion.org/elections](http://imperialcollegeunion.org/elections)



# FRIDAY 13 FEBRUARY



GET TOGETHER

VALENTINE'S DAY  
VS  
FRIDAY THE 13TH  
PARTY

FRIDAY 13 FEBRUARY  
20:00 - 02:00  
IN ALL UNION BARS



EVERY  
FRIDAY  
FROM  
17:30

Every Friday we will be transforming Reynolds into a cocktail lounge with a chilled atmosphere, relaxed music and a new venue layout. Come on down and let our newly trained mixologists whip you up some classic cocktails, plus our very own creations and specialities!

[imperialcollegeunion.org/reynolds](http://imperialcollegeunion.org/reynolds)



## COMING UP!

Date	Event	Time	Location
Friday 13	Valentine's Day vs Friday the 13th PARTY	20:00 - 02:00	FiveSixEight & Metric
Friday 13	Reynolds Cocktail Club	17:30 - 00:00	Reynolds
Every Tuesday	Super Quiz	20:00 - 22:00	FiveSixEight
Every Tuesday	Reynolds Film Club	19:00 - 22:00	Reynolds
Every Wednesday	CSP Wednesday	19:00 - 01:00	FiveSixEight & Metric
Every Wednesday	Sports Night	19:00 - 00:00	Reynolds

[imperialcollegeunion.org/whats-on](http://imperialcollegeunion.org/whats-on)



IC HOCKEY PRESENTS

GATTS  
VALENTINE

WELFARE

1974-75	W. A. BROWN	1981-82	J. C. BROWN
1975-76	W. A. BROWN	1982-83	K. B. BROWN
1976-77	W. A. BROWN	1983-84	J. C. BROWN
1977-78	W. A. BROWN	1984-85	J. C. BROWN
1978-79	W. A. BROWN	1985-86	J. C. BROWN
1979-80	W. A. BROWN	1986-87	J. C. BROWN
1980-81	W. A. BROWN	1987-88	J. C. BROWN
1981-82	W. A. BROWN	1988-89	J. C. BROWN
1982-83	W. A. BROWN	1989-90	J. C. BROWN
1983-84	W. A. BROWN	1990-91	J. C. BROWN
1984-85	W. A. BROWN	1991-92	J. C. BROWN
1985-86	W. A. BROWN	1992-93	J. C. BROWN
1986-87	W. A. BROWN	1993-94	J. C. BROWN
1987-88	W. A. BROWN	1994-95	J. C. BROWN
1988-89	W. A. BROWN	1995-96	J. C. BROWN
1989-90	W. A. BROWN	1996-97	J. C. BROWN
1990-91	W. A. BROWN	1997-98	J. C. BROWN
1991-92	W. A. BROWN	1998-99	J. C. BROWN
1992-93	W. A. BROWN	1999-00	J. C. BROWN
1993-94	W. A. BROWN	2000-01	J. C. BROWN
1994-95	W. A. BROWN	2001-02	J. C. BROWN
1995-96	W. A. BROWN	2002-03	J. C. BROWN
1996-97	W. A. BROWN	2003-04	J. C. BROWN
1997-98	W. A. BROWN	2004-05	J. C. BROWN
1998-99	W. A. BROWN	2005-06	J. C. BROWN
1999-00	W. A. BROWN	2006-07	J. C. BROWN
2000-01	W. A. BROWN	2007-08	J. C. BROWN
2001-02	W. A. BROWN	2008-09	J. C. BROWN
2002-03	W. A. BROWN	2009-10	J. C. BROWN
2003-04	W. A. BROWN	2010-11	J. C. BROWN
2004-05	W. A. BROWN	2011-12	J. C. BROWN
2005-06	W. A. BROWN	2012-13	J. C. BROWN
2006-07	W. A. BROWN	2013-14	J. C. BROWN
2007-08	W. A. BROWN	2014-15	J. C. BROWN
2008-09	W. A. BROWN	2015-16	J. C. BROWN
2009-10	W. A. BROWN	2016-17	J. C. BROWN
2010-11	W. A. BROWN	2017-18	J. C. BROWN
2011-12	W. A. BROWN	2018-19	J. C. BROWN
2012-13	W. A. BROWN	2019-20	J. C. BROWN
2013-14	W. A. BROWN	2020-21	J. C. BROWN





## STRUGGLING FINANCIALLY?

**Experiencing an unexpected cash shortfall and struggling to make ends meet?**

**Yes?**

**If so, we may be able to help.  
Visit the Student Finance website :**

[www.imperial.ac.uk/studentfinance/currentstudents/supportfund](http://www.imperial.ac.uk/studentfinance/currentstudents/supportfund)



# Arts

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Arts Editors || Fred Fyles & Kamil McClelland

## Little Light – a family affair

Max Falkenberg visits the new Orange Tree Theatre show

There's something very familiar about watching siblings argue. Whether you're brother or sister, older or younger, at some point in your relationship a certain degree of sibling rivalry seems inevitable. So, for a change, it was rather refreshing to see *Little Light* open on what felt like a reasonably normal concept: two sisters, seeing each other once a year to tell little bits about their little lives, and occasionally losing it.

That doesn't mean *Little Light* started as a particularly exciting play. Set on the seaside away from the peering eyes of neighbours, Alison and her husband Teddy live in a somewhat muted, dysfunctional state. An argument about Teddy having ripped out the stairs to replace them with a ladder dominates the first few minutes of the play. There is a clear, loving relationship on show, but something's missing in their lives. Teddy recalls the conversations he's had with Alison, their trip to Venice, and the travesty of Teddy not having cooked the lamb for lunch. Alison insists that he's making most of it up; she's controlling and particular, but otherwise unremarkable.

The auditorium is intimate and quiet. Set in the round, it feels very much like the dining room the play is set in, but there is a distinctly unsettling feeling going around. It's all a bit slow to get going, and while that can sometimes be used to a show's advantage, it does feel a little too dragged out on this occasion.

With the entry of Clarissa, Alison's sister, the play seems to find some energy. Played by Yolanda Kettle, there's a certain charisma in her performance which draws the audience in. Pregnant, and covered in mud from running through the rain, Clarissa's arrival sparks Alison into life. Although the casting leaves their relationship a little unclear, their initial discussion has all the hallmarks of a frayed sibling relationship. Anger at having arrived early and furious that Clarissa has brought her uninvited boyfriend, Alison's behaviour becomes increasingly irrational. With an insistence on tradition and complete control over her husband and sister, the play finally gives us a clue as to what's going on:

"I wanted to ask you if this year could be different."

Although it was the first play Alison Birch wrote, this is her fourth major production. With its clear emphasis on family and tradition, Birch places a distinct importance on secrets. Simon, Clarissa's boyfriend arrives, many years her senior but with a degree of denial about the difficulties



Lorna Brown as Alison in *Little Light* at The Orange Tree Theatre. Photo: Richard Davenport

of handling family conflict. Alison's furious, and Simon is clearly unaware of the unspoken traditions of this yearly meeting. As the play develops, his relationship with his pregnant wife and Alison's need for control build into a state of extreme tension. Although little happens for the first three quarters of the play, the power behind the language and the emotion grows spectacularly. What felt a little dull to start now leaves you teetering on a cliff's edge.

With sharp, biting dialogue and epic, poetic monologues, the lack of understanding on the part of the audience seems trivial. We want to know more, we want to hear more but most of all, we want a release of the tension. Birch's mastery of emotion is spectacular and I can only praise the depths of the characters she offers us.

Yolanda Kettle and Paul Hickey as Clarissa and Simon stand out against the performances of Lorna Brown as Alison and Paul Rattray as Teddy. What feels muted and unpleasant in Alison never seems to lift and by the end, her actions don't particularly interest us. Simon in contrast is

refreshingly normal. The audience both empathise and understand his situation within the play, and in many cases Simon's observations of Alison and Teddy are shared by the audience.

The overall result is impressive, but as a whole the show certainly falls down in places. Its slow start and Alison's overly monotonous behaviour can be tedious. But in the context of the madness that unfolds, our focus is well held by the tension built throughout.

As a complete performance, Birch can be proud of her script transmission onto stage; perfectly suited to the round and an interesting insight into the vision of artistic director Paul Miller, *Little Light* is an emotionally tense and well thought out journey. Examining the nature of family and the pain of losing someone dear to you, this show provokes thought and even in its sadness, leaves an audience satisfied at the end.

*Little Light* is on until the 7<sup>th</sup> March. Tickets from £10

**"Birch's mastery of emotion is spectacular and I praise the depths of the characters she offers us."**

**"Little Light is an emotionally tense and well thought out journey."**

### Editorial: The Pioneers Issue

FRED FYLES  
KAMIL MCCLELLAND  
SECTION EDITORS

What does it mean to be a pioneer? To become the first person to explore a new area, to be alone, searching through uncharted territory. In the arts world there is no shortage of pioneers; from those who trial new artistic techniques, to those who push the boundaries of music, pretty much every great work of art redefines the art form, making the artist a pioneer of the future.

In this issue of *Felix Arts* we will be looking at pioneers, from the small to the great. We start off with Max's visit to **Orange Tree Theatre** to see Alison Birch's play *Little Light*, a simmering examination of family tensions and resentment; Max then takes us through a guide to some of London's greatest small venues, which are constantly putting on some of the most experimental pieces of art.

We then take a trip back in time, as Jingjie heads to the **Barbican Centre** to check out *6 Characters in Search of an Author*, a piece of metatheatrical originating from the 1920s by pioneer Luigi Pirandello. Joshua then visits the **ArcoLa Theatre**, where he is impressed by *Singing Stones*, a theatrical exploration of the place women had in the Arab Spring.

Emiel, our resident opera buff, then takes us on a guide through the nuances of the **ENO's** production of *The Mastersingers of Nuremberg*, and along the way explores the legacy of Richard Wagner, whose work pushed opera to the limit, both thematically and physically.

The original pioneers of photography are celebrated in the **Science Museum's** exhibition *Drawn by the Light*. A collaboration with the Royal Photographic Society, the exhibition certainly impressed Jingjie when she visited.

From one obsession with another, we then head back to the **Barbican**, whose latest exhibition *Magnificent Obsessions* looks at the personal collection of artists such as Andy Warhol and Damien Hirst, allowing us an insight into their working processes. We finish off with the **Photographers' Gallery**, where their two new exhibitions look at the early pioneers of photojournalism who documented human rights abuses, and the work of Charlotte Dumas, whose photos of prairie horses are surprisingly moving.

So that concludes another week from *Felix Arts*, where we are always trying to tread new ground, bringing a touch of creativity onto campus. If you want to join us in this quest, feel free to drop us a line!

# Arts

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Arts Editors || Fred Fyles & Kamil McClelland

## London's best small theatres - Part II

Max Falkenburg returns for the second part of his theatre guide

### Battersea Arts Centre

There's something wrong with the **Battersea Arts Centre**. Although the management would have you believe its decrepit shell is from a beautiful Grade II listed former town hall, its insides leave a lot to be desired.

However, what it lacks in a permanent purpose built modern stage, is made up for by the incredible versatility of the spaces

so many other venues could only dream of.

The BAC's direction and creative edge is at the forefront of British theatre. Under the leadership of David Jubb, the theatre emphasises the spirit of radicalism and has supported a number of key contemporary artists in recent years, making it where to go to for the best in experimental theatre.

Next: *Missing*, by the Gecko Company

4<sup>th</sup> - 21<sup>st</sup> March

Although it's not really my sort of thing, the Gecko company are the people to see for physical dance theatre. A journey into the depths of the human psyche, *Missing* will likely be just as nuts as what you'd usually expect from the BAC.



Battersea Arts Centre, Battersea Photo: Ewan Munro



Orange Tree Theatre, Richmond Photo: Colin Bell

The **Orange Tree's** auditorium is set in the round. Although some shows suffer as a result, the intimacy of a set surrounded by the audience can do wonders for a show. With no audience member more than a few metres from the action, the subtlety and tone of the actor's performances can have nuances often invisible. Is that always a good thing? Probably not, but it's a perspective you won't see everywhere

else.

With Paul Miller as the new artistic director, 2015 will likely see a change in focus after 42 years with Sam Walters at the helm. Having worked on numerous productions at renowned theatres, Miller's tenure at Sheffield's **Crucible** saw widespread critical acclaim which will likely continue at Orange Tree, heightening its reputation to the very top of the London theatre scene.

Next: *Play Mas*

11<sup>th</sup> March - 11<sup>th</sup> April

Winning best play at the **Royal Court** in 1974, this is the first major revival of Mustapha Matura's *Play Mas*. Set in the Port of Spain in the 1950's, Matura's wickedly funny script and sharp, entertaining dialogue make this my must-see show for March.

### The Park Theatre

As one of London's newest theatres, **Park Theatre** opened its doors to widespread critical acclaim in May 2013, and since then has gone from strength to strength. Built from the shell of an old office block, the theatre's two purpose-built spaces make Park one of the most welcoming and versatile venues in North London.

With the backing of a number of

major players in the industry, Park is in a unique position: It is highly regarded in the theatre community and many talk of it as being one of the best new theatres in London, but very few people have actually had a chance to get to know it. It's new enough to be exciting but not so old that you already know what you're getting. Take it from me, Park Theatre is certain to be one to watch over the next few years.

Next: *The Glass Protégé*

14<sup>th</sup> April - 9<sup>th</sup> May

Fresh from a 6 week run in Chicago, the show explores sexuality in 1949 Hollywood. Suppressed by taboos, actor Patrick Glass embarks on a scandalous affair which threatens his career. I warn you, there'll be an awful lot of people getting naked in this show.



The interior of Park Theatre, Finsbury Photo: Park Theatre



The Tricycle Theatre, Kilburn Photo: Tricycle Theatre

The **Tricycle Theatre** is one of those venues that even non-theatre types hear about. Founded in the 1980's on Kilburn High Road, and branding itself as a local venue with an international vision, the Tricycle is something of an oddity.

From the outside, the bar and lounge have all the characteristics that you'd usually find in your run of the mill Odeon. But the true surprise is hidden away in the auditorium.

With all the character of a top of the range circus and a regular audience to match, a spectacular red frame built from scaffolding forms the core of the seating area. Under Artistic Director Indhu Rubasingham, the Tricycle has built a reputation for its collaborative work nationally and internationally. Presenting six main productions a year with impeccable reviews across the board, the Tricycle might not take itself too seriously but the critics certainly do.

What to see next: Anything!

Seriously, if you really have nothing particular in mind, the Tricycle will almost always impress, regardless of the show.

They have a number of pieces coming up over the next few months; for anyone interested, I would recommend heading over to their website and checking out what catches your fancy.

### The Tricycle Theatre

# Arts

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Arts Editors || Fred Fyles & Kamil McClelland

## Some metatheatres most remarkable

Jingjie Cheng finds this 1920s play as relevant as ever

Despite reading the synopsis beforehand, I was entirely unprepared for *Six Characters in Search of a Story*, an intense piece of metatheatres that turns all convention on its head. Written in 1921 by Luigi Pirandello and first performed in the same year to mixed reviews, I can only imagine how startling it must have been for audiences then, given how radical it still is.

Right from the beginning, it is clear that we are watching a play about plays. A costume lady works away at her sewing machine while a scenic painter paints the set. Actors walk around the stage rehearsing lines and the director storms in, his instructions brisk. They are rehearsing for a Pirandello play and there is an absurdist touch to the way the actors are made to repeatedly rehearse a particularly inane scene. Beneath the playful, self-deprecating humour, however ("We are reduced to staging Pirandello!"), there is a serious question about the point of theatre and how far removed it is from reality.

This idea is dramatically expanded upon the entrance of a group of six characters who claim they have been abandoned by their author and are now seeking an alternative author to finish their story. Initially unwelcoming, the director is increasingly drawn into their tragedy as they recount a tale of incest and guilt. He agrees to help them finish their story, but insists on his own



Théâtre de la Ville – Paris, *Six Characters in Search of an Author*. Photo: JL Fernandez

actors learning their roles in order to stage it themselves. Disputes soon arise as the actors re-enact their story with comical exaggeration, inadvertently trivialising the raw guilt and shame of the characters as the father unwittingly makes love to his stepdaughter.

But how do the characters themselves feel genuine emotion, if they were birthed from an author's imagination? Fiction and reality here is fluid, just as how time can stall and replay, the passions buried and resurfaced again and again. The characters insist that their suffering is real, and any attempt to replicate it would be mockery. But is that not all of theatre – dramatic representations of real life? Or is it the other way round, as Shakespeare writes – all the world's a stage, and all the men and women merely players?

The director, who was able to so precisely control the piece he was originally staging, realises that he is rapidly losing control over the six characters and their story. His attempts to regain control are thwarted by their passions which take increasingly free rein as the story progresses.

There is also a question of determinism here; if the characters' stories are unfinished, how do they know what exactly should happen next? Have their fates been sealed from the start? The director and actors can only look on in horror as the characters march unstoppage

towards their inevitable tragic ends. The scenes are appropriately accompanied by eerie, bone-chilling music that sets the surreal feel of the whole play.

Originally written in Italian, this production was in French with English subtitles. The cast delivers an electrifying performance, and there is clever use of the stage and sets. A makeshift stage is wheeled on and we observe the very process of adapting 'reality' for stage – the physical representation of the metatheatres it is.

Shadows are used to great effect, representing the almost mythical character of Madam Pace, who forced the stepdaughter into prostitution, as well as the burden of the tragedy on each forlorn character at the end of the play. A section of the stage juts out into the audience, and it is here that the director sits as he watches the characters take their story into their own hands further upstage, joining the audience as a spectator himself.

Director Emmanuel Demarcy-Mota's production is remarkably faithful to the text, but at the same time it takes advantage of modern staging techniques that make the experience an immersive one. No doubt the story is bizarre, yet the questions it raises are as relevant to theatre today as they ever were.

*Six Characters in Search of an Author* was on at the Barbican Centre until 7<sup>th</sup> February

## Singing Stones – the Women's Spring

JOSHUA JACOB  
ARTS WRITER

The *Singing Stones* is a new play that explores the role of women in the Arab Spring. On the stage, as the audience are finding their seats, a young woman is sitting before a backdrop of rubble and broken furniture, on an otherwise bare stage. She is smiling contentedly whilst playing with some scraps of cloth, and needle and thread. How can I begin to understand this image in front of me, and the world it's associated with: the world of Alia Alzougbi, of countless children, with countless mothers and fathers, a world of revolution and conflict. A distant land to which I am a voyeur, following it's ebb and flow through international news. Kay Adshead –

the writer and director of this first staging of the play – has found a way.

The audience's apathy is undermined throughout the show. At the start of the play Alia Alzougbi, who reminds me of a lonely child, isolated but for the phantoms of her imagination, verbalises her disillusionment with her country's ruling class through puppetry. She engages the audience with humour, but underlying her jokes there is a desperate young lady vying for our attention and trying to find a voice. The play offers anecdotes of the Arab Spring in Egypt, Tunisia, Libya and Syria, as well as Camberwell in South London. In every scene the women are railing against the denial of their freedom of speech and their incapacity to make change in the Arab world. The words of the characters on stage describe the

brutality that the protesters were subjected to, the repugnant designs of dictators, the victimisation of children in war, and how the women in the Arab Spring dealt with these issues.

The acting was sometimes unconvincing, but otherwise fulfilled its function, and at points Alia Alzougbi was exceptional. The simplicity of the set worked well, as it didn't distract the audience, while the size of the theatre allowed for an intimate viewing experience.

The script is infused with powerful imagery and mesmerising poetry, which leaves no question of the playwright's artistic understanding of the play's deeply political subject. Feminist issues are intrinsic to the play, but do not distract from the stories themselves. It seems that the author is challenging not only the

**"The script is infused with powerful imagery and enthralling poetry."**

**"The play lucidly shows us the plight of women and children in the Arab Spring."**

inequality of power between men and women, but also the inequality between women in the Western and Arab worlds. The play doesn't aggressively argue a political point, but instead lucidly shows us the plight of women and children in the Arab Spring, and in its penultimate scene conscientiously dissects the difficulties of respectfully communicating this bloody conflict on the stage.

*The Singing Stones* is being performed at the Arcola Theatre until the 28<sup>th</sup> of February.

Also, the Theatre is working towards being the first carbon neutral theatre in the world. So when you see the production and find your conscience being challenged, at least you won't need to worry so much about how far the polar ice caps have receded in the process.

# The Mastersingers of Nuremburg – spectacular in every way

Emiel de Lange examines whether the ENO can grapple with Wagner's masterpiece



Nicky Spence as David and Andrew Shore as Sixtus Beckmesser in Wagner's *The Mastersingers of Nuremburg* at the London Coliseum. Photo: Tristram Kenton

Hyperbole has never been my enemy, and I won't shy from it now; Wagner's *The Mastersingers of Nuremburg* is one of the pinnacles of Western art. But works of such scope and breadth of vision are notoriously difficult, and expensive, to perform. Opera houses must offer enlarged orchestras, vast crowds of singer-actors, numerous sets, and the scores demand almost superhuman abilities from the principle cast. With this production, the **English National Opera** has created something that delivers all this, and fully lives up to the mind-blowing depths of Wagner's vision.

Briefly sketched, our comic story concerns a wandering knight, Walther, who must win a song contest in order to marry the lovely Eva. Eva's father is a member of the Mastersingers Guild (a true historical guild), and has initiated the competition on condition that the singer be judged according to the rules of the guild. Walther is not a member of the guild and has no knowledge of its strict rules and traditions. Furthermore, he is up against the scheming town clerk Beckmesser, who is desperate to win and who holds the role of 'marker' for the guild, although he lacks talent.

Luckily, the benevolent cobbler Hans Sachs, also a mastersinger, recognises the love between Eva and Walther and is willing to help them succeed. Against this backdrop of medieval Nuremburg, with its artistic guilds, Wagner spins a masterful web of verse & music that explores the value, purpose & social role of art. The masterstroke is the use of art to discuss art and in doing so Wagner's score is both daringly modern and firmly rooted in operatic tradition – as is the song performed by Walther and written under Sachs's instruction. The score cleverly performs the dual function of simultaneously

illustrating and commenting on the various musical philosophies of the characters. It is musically innovative in the manner expected of Wagner: a continuous unending texture of motifs bound together with the most expressive harmony imaginable. Yet, Wagner uses old devices that he dismissed in his writings and abandoned in his other work for their contrivance: rhymed verse, quintets, arias – opera by numbers – and even a short ballet in the third act. The resulting music is so expressive that it can somehow encompass antithetical states simultaneously, or carry the full and undivided force of love,

rapture or anxiety, depending on the stage action. On top of all this, *The Mastersingers* is surprisingly hilarious! The plot is full of antitheses. The rigid traditionalism of the Mastersinger's Guild is at odds with Walther's free & spontaneous expression through song. Their sophisticated and exclusive art battles against the coarse music of the illiterate, which has broad appeal among Nuremburg's public. What Wagner tells us and demonstrates for us, through his mediator Hans Sachs, is that art should take a middle ground between these oppositions. It should speak directly to people

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of any background, yet not lose its ability to explore nuanced and difficult topics with sophistication. Art should be innovative and strive to find new means of expression if it is to stay relevant, but must honour its cultural predecessors if it is to be intelligible. *The Mastersingers* both espoused this philosophy and embodied it with great success; within a year it was performed all over Germany and became a symbol for the unification of the country. In modern Britain, it is hard to imagine how an opera – a form seen as elitist – could have such relevance. Although I doubt it will change this fact, the ENO's new production should enjoy broad appeal, and handles the finer points with tact. History has tainted *The Mastersingers'* reputation, and presented problems for directors. Having been appropriated by the Nazi party, Sachs' final monologue has been dressed in rather sinister clothes. After celebrating the value of the guild's traditions and the German cultural heritage, Sachs warns of foreign influence: "What is German and true none would know, if it did not live in the honour of German masters."

Throughout the 20<sup>th</sup> Century, many directors, particularly in America, have decided to cut this scene or intervene in other ways,

fearing its nationalistic tone. It is however, important to understand that these words would have sounded very different in 19<sup>th</sup> Century Germany than they do to us in a post-Nazi Europe. A more sympathetic interpretation of the monologue might be suggested. As we have discussed, Wagner often writes on the importance of art as a communication between people of shared cultural & linguistic heritage. He believed that German art could only provide all its riches to German people, who would share in a rich set of cultural contexts necessary to fully understand it. This applies to any group of people, and while not entirely innocent, this view is certainly far less sinister than those circulated in the early 20<sup>th</sup> Century. In this ENO production, the director, Richard Jones, has dealt with the issue intelligently and appropriately. As the opera closes, the Nurembergers hold up the faces of German cultural heroes: composers, artists, writers, filmmakers, actors and architects; and celebrate their contributions to human thought.

Jones shows his intelligence and skill throughout. The production is slick, dynamic and frequently very funny. The sets seem to depict some sort of simplified reality, but retain detail where it matters. The crowds

**"The ENO has created something that fully lives up to the mind-blowing depths of Wagner's vision."**



Nicky Spence as David (left) and Andrew Shore as Beckmesser (right) in the *Mastersingers of Nuremberg* Photo: Alastair Muir/REX



Andrew Shore (Sixtus Beckmesser) and Gwyn Hughes Jones (Walter von Stolzing) in *The Mastersingers of Nuremberg* Photo: Tristram Kenton for the Guardian

**"The ENO's new production should enjoy broad appeal, and handles the finer points with tact."**

are used brilliantly to depict in one moment a chaotic riot, and at the other the solemn uniformity of the church – the chorus is excellent. Musically, Edward Gardner conducts a modern *Mastersinger*, shedding the bombast and weight of previous interpretations in favour of flexibility and sensitivity. The orchestra has moments of utter brilliance, and only loses its composure when the on-stage brass is added to the mix – a crucial mistake which I trust will be addressed in subsequent performances.

All the cast is excellent but, as is understandable in such a long performance, shows inconsistencies here and there. Gwyn Hugh Jones plays a passionate and pre-occupied Walther. His love, Eva, is portrayed by Rachel Nicholls with grace, but perhaps she lacks the spontaneity that would really allow us to relate to her character. The antagonist, Beckmesser (Andrew Shore), was handled less well, although the blame for this should lie with the director. His humiliation in the second act is so complete and absolute that his further scheming in the third seems forced and incongruent. Wagner's great coup of world-play at the finale,

which should serve to finally rule out Beckmesser's pretensions, is served weak and cruel. In fact, due to the translation to English the genius of this scene is missed entirely.

I do have to say that Shore plays the part with near-perfect comedic instincts and has the voice to match. Hans Sachs is of course the keystone in the opera, and, in one of the longest roles in operatic existence, he sees what others do not see and manoeuvres the story to its conclusion. Iain Paterson debuts in this marathon and does so with stunning confidence and humanity – he is sure to become one of the great Wagner singers of his generation.

I am sure that the name of Richard Wagner has passed over your ears at some point or another. In any case, you will have felt his influence, whether in film music or more academic genres. If you are at all curious, this is the production to see. It is not only enjoyable and funny, but deals with Wagner's difficult themes head-on, with sophistication, and a no-nonsense approach.

*The Mastersingers of Nuremberg is on until the 10<sup>th</sup> March. Tickets available online.*

# Seeing photography in a new light

Jingjie Cheng examines how *Drawn by Light* reimagines photography

Photography exhibitions are often about particular movements, themes, or individual photographers. Rarely do you find an exhibition as all-encompassing as this show of the best of the Royal Photographic Society's (RPS) collection. Besides including instantly recognizable photos, such as Steve McCurry's *National Geographic* magazine cover photo *Afghan Girl*, the exhibition is notable for its effort to present a macroscopic view of photographic history, drawing links across time, individuals and whole movements. The Society is in a unique position as both bystander and participant in the major photographic milestones of history, and this exhibition exploits both these roles ingeniously to create a fascinating and informative tribute to the art of photography.

The show is divided into three sections, each of which reveals a different facet of photographic history. 'Continuity and Change' juxtaposes similar subject matter in photos from different time periods and photographers, creating a lively dialogue between works that transcends time and context. The streaker held by three policemen in ED Lacey's photo, for example, and the naked children in James Jarcho's *Limbs* who are also running away from an officer, unite in a playful defiance of social decorum.

Across history, there have been certain recurrent themes that photographers consistently return to, and this particular room highlights these similarities very strikingly. From the curvaceous bodies of nudes across time to journalistic photographs of uncannily similar compositions of spectators at a badminton match and bystanders at a policeman's funeral, photographs have captured the timelessness of the human condition. Particularly delightful is the 1956 piece by Philippe Halsman. Inspired by the jump shots of comedians of the time, he got the Duke and Duchess of Windsor to do one too – which they gamely did, while maintaining their air of composure and dignity!

The RPS, founded in 1853, is the world's oldest surviving photographic society and its early members consists of the most famous practitioners of the time such as Hugh Welch Diamond and Roger Fenton. It held its first open exhibition at The South Kensington Museum in 1858, which later became the **Science Museum** and **Victoria and Albert Museum**. The second room of the exhibition is dedicated to the photographs



Leicester Square, 1896, Paul Martin, The Royal Photographic Society Collection. Photo: National Media Museum, Bradford / SSPL

and photographers themselves that represent the 'Optimism and Progress' of the 1850s, a period when photographic techniques and the role of photography in society was developing rapidly.

True to its role as a participant in the history of photography, the RPS also has a remarkable collection of photos of photographers themselves. In the 1856 piece *Photographic Society outing to Hampton Court*, a cluster of men in top hats are pictured in front of a carriage, chatting and setting up equipment on a patch of grass – a candid but vivid capture of the spirit of the early RPS. Madame Yevonde's self-portrait with a Vivex colour camera encompasses the concept of this section of the exhibition – a focus on the drivers and technology that shaped the time. In the centre of the room, there is a recreation of a section of a photography exhibition as it would have looked in the 1850s, with photos densely arranged and with subject matter ranging from busts at the British Museum to landscapes.

Aside from photographs, the

exhibition also displays a collection of equipment significant to the development of photography. Three rare original Nièpce heliographs – the first time someone attempted to 'draw by light' – are on display, along with Henry Talbot's camera lucida sketchbook and a portable camera of the 1850s, among others.

In 'Personal Vision', the third and final room of the exhibition, works by the same photographer are shown side by side. Some of these have a distinct character and highlight the similarities across works by the same photographer – for example, the gentle, otherworldly landscapes of Ansel Adams or the quirky and whimsical pictures of Richard Polak. Others are vastly different and show the diverse interests of individual photographers. Roger Fenton, best known for his photos of the Crimean War, also took remarkable still life and landscape pictures. This room is thus an interesting companion to the first room – one connects the dots between subject matter while the other invites the viewer to pick out

the "personal visions" of individual photographers' bodies of work.

*Drawn by Light* is impressively comprehensive, with a diverse range of style and subject across time and place. Pioneers of photography are displayed alongside recent masterpieces, capturing an exquisite view of photography in its entirety. Drawing from the collection of such a historic organization, the exhibition strikes a fine balance between being informative and aesthetic. At the same time, it presents its art in a cohesive way that challenges any preconceived notions of individual photographic movements and photographers that viewers may come in with.

Well-organised and easy to navigate, the RPS collection is definitely a fascinating and enjoyable visit.

*Drawn by Light: The Royal Photographic Society Collection is running until 11<sup>th</sup> March in the Science Museum Media Space. Tickets are £8, £4.50 for students.*

**"It presents its art in a cohesive way that challenges any notions of individual movements"**

**"The exhibition strikes a fine balance between being informative and aesthetic."**

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## Artists' most magnificent obsessions

Fred Fyles is impressed by the Barbican's display of unseen collections



Dr Lakra's record covers collection. *Magnificent Obsessions: The Artist As Collector*. Barbican Art Gallery Photo: Peter MacDiarmid/Getty Images

Keyrings. That was what I collected when I was younger. Every time someone I knew went abroad, I forced them to bring me back a trinket attached to a keychain, until I had boxes and boxes bursting with these gaudy accessories jam-packed above my wardrobe. Of course, being 8 there was no need for me to own a keyring, let alone hundreds, but this is what lies at the heart of collecting: buying and then not using, accumulating and storing ephemera whose sole purpose is to bring enjoyment to the collector.

I am sure I am not alone in my collecting neuroses; most people I know have a current collection of something, and it is hard to find a single individual who didn't at some point in their life – normally childhood – obsessively collect something. The Barbican's newest exhibition *Magnificent Obsessions: The Artist As Collector*, shows us that the collecting bug spares none of us, least of all creatives; from Hiroshi Sugimoto to Peter Blake, everyone has a secret collection at home, and indulging in this hobby can help us tap into our creative potential. Never have I felt so validated in my prepubescent fixation on keyrings.

Asking artists to reveal to us what they fixate on in their personal lives allows us an insight into how

they work, and what influences them. While we are used to an artist producing a 'product', allowing it to enter the public forum, by presenting us with what they surround themselves with, Barbican lets us know where they get their inspiration from. For some artists the links are apparent – Damien Hirst's collection consists of – surprise, surprise – skulls, taxidermy, and medical models, taken from his unimaginatively named 'Murderme Collection'. For others, the effect it has on their work is less obvious. Edmund de Waal's collection of *netsuke*, Japanese fasteners, may give us a bit of family background, but does little to help our understanding of his minimalist ceramics. Howard Hodgkin goes so far as to claim that his collection of Indian art has no influence on his paintings; why include it then?

What is fascinating about the exhibition is how it highlights the different approaches people can have to collecting. Some focus on a certain type of object, such as Mexican tattoo artist Dr Lakra's vast range of garish record sleeves, while others' approaches are more scattershot; take Peter Blake's collection of old signs, natural oddities, and freakshow dioramas. For some artists the art of collecting is a professional act; Hiroshi

Sugimoto's collecting stemmed from his dealership in folk art, which allowed him to explore Japanese traditions during the 1980s and '90s. The collection of German minimalist musician and artist Hanne Darboven shows how what starts as a pastime can spill over into an obsession; clocks lie against toilets, paintings lean on mannequins, and the weight of hundreds of photographs strains the boards of her desk, made functionless thanks to her hoarding.

While the Barbican always goes to great lengths to ensure that their exhibition space is appropriate for the contents, for *Magnificent Obsessions* the design is of paramount importance. These collections are supposed to be seen *in situ*, and therefore the design team have tried to make each space seem like a living room, or a study, placing carpets or mirrors at random intervals throughout. For some rooms, the design works beautifully, such as Pae White's vast trove of Vera Neumann textile designs; ranging from handkerchief to bedspread, they hang from wires, like washing in the wind, creating a colourful abstract image. For others, however, the idea falls a little flat, since the collection is presented in such an artificial way.

Throughout the exhibition, there is a strong theme of kitsch camp,

that vague term defined by Susan Sontag as "a vision of the world in terms of style". Andy Warhol's obsession with this side of American culture is well documented, and here we are presented with a group of his exceptionally ugly cookie jars, featuring leering clowns and grotesque pigs, along with a myriad of other, undeniably camp, characters. We can also see how Warhol's obsession with products influenced his work; from a vitrine of children's playthings we segue into a collection of prints featuring toys.

While some collections are more serious, such as minimalist Sol LeWitt's modernist photos by August Sander and Henri Cartier-Bresson, and Sugimoto's collection of morbidly beautiful anatomical drawings, the best ones in the exhibition are those suffused with camp humour. Blake's range of random objects clearly play into his effervescent post-war collage work, which helped form the basis of Pop Art, whilst Martin Wong's meticulously arranged selection of *Americana* classics are positively brimming with wit and life. But no collection compares to Jim Shaw, whose particular fixation is paintings obtained from thrift stores. When a collection was exhibited at the ICA back in 2000 their horrific naïveté shocked critics, and now

we have a chance to revisit them. They are indeed powerful; with slightly off proportions, and hyper-saturated colours, they leer out of the canvas like surreal grotesques of the American nightmare. From one painting a woman in white grins manically out at us in a Lynchian fever dream, whilst another of a small child could have been painted by 'psychological cubist' George Condo. Magnificent indeed.

Ultimately, *Magnificent Obsessions* is indeed a success, allowing us a key insight into the lives of illusive artists. While the concept could have been laborious, the Barbican have helped to keep it light by including all the cult ephemera (a polite word for crap) that we may have in our own life, whilst also providing examples of artists' work that grew out of such context.

So often placing something in a museum is akin to confining it to a mausoleum, but by trying to avoid endless rows of vitrines, the Barbican manages to inject life into the exhibition. This is a celebration of the object acquired not found; of the inner collector that manifestly resides in all; of the inescapable clutter of everyday life.

*Magnificent Obsessions: The Artist As Collector is on at the Barbican Centre until 25<sup>th</sup> May. Tickets £12*

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## Human Rights: the Sight and the Fury

Fred Fyles looks at two contrasting exhibitions of photography

*“Everything can be explained to the people, on the single condition that you really want them to understand”*

– Frantz Fanon, *The Wretched of the Earth*

Bombings. Famine. Conflict. As images of these atrocities jump out of me from black and white photos adorning the walls of **The Photographers’ Gallery**, the words of polemical anti-colonialist Frantz Fanon ring in my mind. In his most famous work, *The Wretched of the Earth*, he advocates for those who are colonised to use violence as a tool for political freedom. While Fanon sees conflict as a necessity, the exhibition *Human Rights Human Wrongs* shows that it seems to be an inevitability: a side effect of living on our fractured planet.

Taking the 1948 Universal Declaration of Human Rights as a starting point, *The Photographers’ Gallery* explores the archive of the Black Star Photography Agency, who are legendary for their photojournalism. Picking a collection of photographs from numerous conflicts of the last 60 years, the exhibition spans the globe, in what

is quite possibly the most depressing world tour; starved Biafran orphans staring forlornly out at the lens; women marching in the Plaza de Mayo in Argentina, highlighting their plight as the mothers of ‘disappeared’ children; and Algerian bards, singing ballads against French colonialism in Tunisia during protests.

With *Selma* being released in cinemas to critical acclaim, it seems a ripe time to revisit the civil rights campaign, and photographs of Martin Luther King by Charles Moore and Bob Fitch help humanise the legend, revealing the edges that were smoothed away in his journey to become an icon. Other photos allow us to starkly draw a link between the present and the past, with Willie Nkosi’s photograph of black protesters in Soweto during the late 1970s reminding us of recent scenes in Ferguson. The signs around their necks read “Don’t shoot. We are marching. We are not fighting”, showing us that then, as now, black bodies are not safe from the force of an imperialist government.

However, with many of these photos there is a sense of ‘been there, done that’. As Susan Sontag says: “Images transfix. Images

anaesthetize”. In our media-saturated world it has become difficult for an image to retain the power to shock, to stun. While it is imaginable that these images caused a furore when they were first published, revealing a hidden reality, globalisation has meant that rather than being placed out of view, such acts are instead thrust upon us.

This attitude is not helped by the way the photographs are presented; instead of presenting them chronologically, or geographically, we flit around, from one place to another. Starting off in Vietnam, we might then head to Alabama in the ‘60s, then Algeria, then Morocco in the ‘70s, and then back to Vietnam. While I understand that this may have been a deliberate ploy to overwhelm us with the sheer volume of horror humanity can produce, the effect is actually that we become disorientated, and the narrative that we have been building is fractured.

The exhibition succeeds where it presents a view of the world that we are unfamiliar with; the power of great photography is that it can alter the way that we perceive what is happening around us, and this is clear in the photographs that explore how women are treated within war. In one photo from Vietnam we see a group of white soldiers engaging with local women, who we presume to be prostitutes. The slack-jawed grins plastered on the faces of the Americans is sickening, and as we gaze at them gazing at the women, it is difficult to feel anything other than sheer disgust.

In one photo, things are taken further; as well as the photographs we are told the captions written on the back; in this one an Angolan woman stares out at the camera, and the caption tells us that “she makes propaganda for a black-white community”. While this view seems somewhat optimistic, it is certainly a novelty in an exhibition that seems to be lacking in new ideas.

The lack of context for many of the photos is also an issue; unless you have a generally good idea of the innumerable conflicts since 1948, it can be difficult to tell what is happening in the photograph. However, some ideas are universal; in my favourite photograph of the exhibition, entitled *Red China*, a woman stares forlornly at a pair of shoes, her tired eyes and worn clothing contrasting against the glamour of the Western-style accessories. It is a reminder that not all conflicts involve bloodshed, and not all injustice concerns violence.

Once you have been emotionally



Untitled, from the series *Anima*, 2012 Photo: Charlotte Dumas

drained by these harrowing photographs, you can head down to the Photographers’ Gallery’s other exhibition, which offers a welcome change of tone. *Anima and the Wildest Prairies*, the first UK solo exhibition by Dutch photographer Charlotte Dumas, displays a collection of photographs of wild horses living in Nevada. Framed against a wide-open Southern sky that stretches across the photograph, powerful horses wander free, exemplifying the power and might of the natural world. With nary a human in sight, Dumas’ work is an exploration of man vs. machine. The natural might of the mountains and the glamorous majesty of the animals suggests that they have the edge.

But what is more impressive is Dumas’ work *Anima*, a video of the horses used for military funerals in the USA falling asleep in their stables. Framed like classical paintings, Dumas’ skill with light is apparent, evoking the memory of the old masters; observing these horses as they slowly drift into dreamland feels like a sort of transgression, as if we are trespassing on private property.

It’s the kind of work that I could watch for an age: slow, deliberate, and beautiful. It also gives us a time to reflect on the things I have seen upstairs in the *Human Right Human Wrongs* exhibition. After the horrors of the human world, it’s a welcome relief to be able to slip into a tranquil, animal one.

*Human Rights Human Wrongs and Charlotte Dumas: Anima and the Wildest Prairies are both on at The Photographers’ Gallery until 6<sup>th</sup> April. Free Admission*



Hilmar Pabel, *Czechoslovakia Invasion, Prague, August 21 1968* Collection. Photo: The Black Star Collection

**"The exhibition shows violence as an inevitability of living on our fractured planet"**

**"Dumas’ skill with light is apparent, and evokes the memory of the old masters"**

## Kickstarting my life in Mexico City

Aditya Narayanan discuss the arts and footballs in this dynamic capital as a new home

Mexico City glitters at night. Dots of yellow flow across the ground. Like a train of ants, they follow a path as if preordained, in a robotic line with no destination. I can feel the energy from my plane window.

Drugs. Violence. Human trafficking. The typical Western news cycle on most developing nations influences the opinions of people about Mexico more than most. India and China have oriental mysticism and South America has the untamed Amazon wilderness. Yet despite the centuries of Mayan and Aztec culture interacting with European colonists, press about Mexico is usually negative. Just weeks before I fly out I hear news that the bodies of 43 missing students have been discovered in nearby Guerrero state, in what looks like an orchestrated killing. I lose count of the amount of friends and relatives trying to convince me not to visit here, or to book with a tour company, but I was determined to go.

It is freezing when I land. A stark contradiction to the burnt out, barren vistas associated portrayed in the Speedy Gonzalez cartoons. As my taxi winds through the lamp lit streets I am surprised by how well maintained and organised the roads are, and the smooth flow of traffic. My opening meal is tacos al pastor, a local classic, and the perfect antidote to a hungry stomach.

Morning brings a trip to the campus of Mexico's biggest university, Universidad Nacional Autonoma de Mexico, a sprawling mass of concrete

unfolding over the area of a small city. The campus has a faded, 1970's aesthetic to it, but with open green spaces and mazy walkways it retains an air of languid intellectualism. Complex murals stretch across the sides of buildings; a melange of Aztec myths and scientific discoveries blended so that neither appears incongruous.

If there is one form of artwork that could define Mexico City it is the murals. Broad splashes of colour draped across walls both inside and outside grandiose buildings, forming any manner of scenes from the historical to the geographical to the downright surreal. The main UNAM campus in Ciudad Universitario is one of the best examples, with the main library exterior fully dedicated to a variety of artwork.

Tributes to Galileo and Copernicus are flanked by graphics of indigenous myths, while a diagram of an atom is perched above a snapshot of a revolutionary demonstration and other parts of the country's history.

One of the most striking murals is a magnificent eagle rising over two wrestling figures embedded in the side of the Estadio Olimpico Universitario, a so called '3D mural', for the sculpture elements it brings to the Mayan influenced architecture.

Likewise both the Palacio Nacional and the Supreme Court are just a couple of publicly accessible places whose interior corridors are decorated with murals by such luminaries as Diego Rivera, José Clemente Orozco and Arturo Garcia Bustos. However, both are on under



The intimidating football stadium of Universidad Nacional Autonoma de Mexico. Photo: Aditya Narayanan

police guard with no authorised entry. Developments in the case of the 43 students have gripped the nation in a state of palpable fury, not least because this particular case exposed a sinister link between politicians and the cartels. Public spaces and small parks everywhere are occupied by tents, protesters camping out to put pressure on the government for justice, and "43" is daubed everywhere in graffiti. In conversation, most Mexicans express a strong distaste for the police, and this disconnect is magnified at football matches.

While possessing an 80000 capacity the stadium is not unusual for the

average North American university, few if any can say they host a professional football team. Not least one of the country's most storied and successful ones: the Pumas of UNAM. A 3D mural by Diego Rivera thrusts out of the magnificent, stubborn concrete bowl, its distinct indigenous influences only strengthening its imposing aura. It truly looks like it belongs of the era of the original Olympic games.

The walk to the stadium is abuzz with the onset of the Clausura. Vendors hawking food, drinks and Pumas memorabilia. I spot one cheekily selling items of Club America, the great rivals of Pumas who play their games at the equally iconic Azteca. Gun toting police in full riot armour peer grimly through their sunglasses as we are repeatedly checked for contraband. Even belts are banned from the inside.

The resentment is tangible, the safety checks pass without incident barring the ejection of those with fake tickets.

Although it seems that half the city is here, the two curvas at each end are empty apart from the visiting fans. I am positioned behind the ultras, the Rebels, in the Pebetero stand underneath where the Olympic flame was lit all those years ago. The Rebels are on their feet for 90 minutes, with intermittent bursts of silence bookending a never ending chorus of chants, led with the accompaniment of a drum and other instruments.

The chants of the Pumas fans are primarily support of their own team, with the occasional obsession mocking of the opposition (or their arch rivals Club América). Aggression is only audible when insulting the

cops; who are seen as complicit in perpetuating a broken, corrupt system. It is also interesting to note that women comprise a significant portion of the ultras (or fanatics as they are termed here), and are often leading the chants with gusto – something almost unseen in Europe. It is a reminder that there are some lessons concerning discrimination that can be learned from less developed nations.

The match finishes in a disappointing 1-1 draw, with moments of quality conspicuous by their absence apart from a sublime assist for Pumas' goal. Oddly, the feel of the match is almost exactly as I imagined from highlights of the 1970 and 1986 football World Cups, aided by the constant, concussive energy generated by the indefatigable Pumas fans and The Rebels in particular. For an introduction to Latin American football, even a half full stadium has been more exhilarating than I imagined.

No article about Mexico City would be complete without mentioning the legendary Frida Kahlo, who along with her husband Diego Rivera put Mexican art into the consciousness of the world. With her fusion of indigenous art styles with contemporary European surrealism, allied to longstanding socialist activism on behalf of the native Mexican cultures.

Her childhood house, the Casa Azul, is a monument to her life and work, all achieved despite suffering polio at 6 and a serious traffic accident at 18 which left her in a wheelchair. It is this defiance in the face of intense difficulty that continues to inspire Mexicans today.



The brightly coloured Casa Azul, childhood home of the famous artist Frida Kahlo. Photo: Aditya Narayanan

## The College board that is letting students cross borders

Kamil McClelland sat down with the new head of Exploration Board after their endorsement of his upcoming trip through Central Asia

How many people knew there was such a thing as the Imperial Exploration Board? Apparently not that many, as I found out when telling people that I had received their endorsement for a cycling expedition myself and a few friends are planning this summer across Central Asia. And so, I decided to talk to the Chairman of the Board, Dr. Lorraine Craig, to find out more about what the Board does and how others can get involved.

**Kamil McClelland: So Lorraine, could you tell me a bit about the history of the Board and why it formed.**

Lorraine Craig: The Board was established in 1955 under the sponsorship of the College, the Students' Union and Old Students' Associations to consider proposals for expeditions submitted by members of the College and to administer funds given to assist with the cost of those expeditions.

It was founded to encourage student development outside of the lecture theatre. During the '30s and war years, there were a lot of expeditions out of Oxford and Cambridge and starting from around 1953, the University of London decided to get in on the game, leading to the Imperial Board being founded. The 1957 Karakorum Expedition was in fact led by legendary British mountaineer Eric Shipton, where they surveyed some glaciers in the Karakorum alongside climbing, although the final report was never submitted.

There are also some great photos in the archive of an expedition to Iceland in 1956 where at the start of the trip, they look like best friends but by the end are all looking in different directions and seem considerably less chummy.

**KM: Do all expeditions have to have a science or research aspect to them?**

**"Established in 1955, [the fund was] founded to encourage student development outside of lectures."**

LC: This certainly was the case in the early years, where groups went off to make a map or survey the geology or botany of the area. But I feel this has evolved over the years and I would rather not send out groups to do 'simple science' where it is not particularly of any research value. Nowadays, we are more explicit about encouraging personal development, giving people the opportunity to do something new and exploratory for them.

I feel it is enough of a challenge and a learning experience to get the teams to thoroughly plan an expedition, go off and do it, and then return safely afterwards and write up a superb report.

**KM: Why do you encourage the students to write up a report of the journey afterwards?**

LC: I think it is very important for the students who go on an expedition to reflect on their experiences and you really notice as you approach the end of a trip that you start thinking about what you have gained from it.

Leadership, teamwork, organisation, time-management, tolerance and compatibility, self-confidence, humility, responsibility for yourself and your team, safety, communication, project management and planning are just some of the many skills that every expedition member has to apply.

It is also a matter of legacy and, just as you have spoken to and learnt from people who have gone on similar expeditions to your own, it is important to pass on your knowledge and wisdom to future explorers.

It is all well and good for people from older years to go on expeditions but you need to help younger students, those in first and second year, to develop their skills.

That is how we all got where we are today and it is important to give back for that reason.

**KM: And why do you think it is**

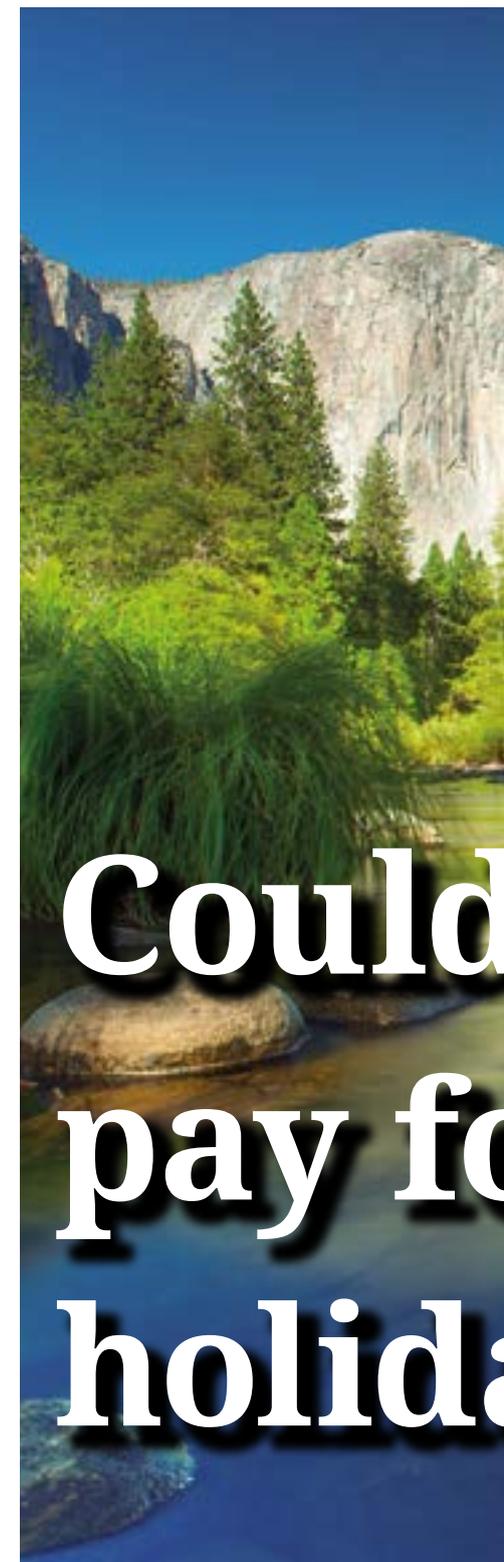
**that the Board is not more widely known about?**

LC: Although the College Reporter normally has an article each year, past expeditions did not publicise themselves enough. Although it is less of a problem now with everyone creating blogs online, people used to return from an expedition and, as opposed to writing up their experiences, immediately started to think about planning another. Whilst this is quite a natural thing to do, it has meant that they have not always been available to pass on their knowledge as easily and have not made the Board more widely known.

**KM: What is your background and how did you come to be the Chair of the Board?**

LC: I am a geologist and have always enjoyed the outdoors so soon after gaining my PhD from Queen's Belfast, I joined a research group at the University of Cambridge to go and work in the Arctic. At the time, women couldn't go to the Antarctic so I decided to go north instead and was part of a small polar community, working in Greenland, Svalbard and Ellesmere Island. After this, I realised how much I had benefitted from the help of others and wanted in some way to support others to have a go at expeditions. I became Head of Research and Higher Education at the Royal Geographical Society and, although this didn't actually involve any research for me, I was still travelling a lot of the time. Just before I came to Imperial, I learnt that the previous Head of the Exploration Board, Prof. Bob Schroter, in fact a close friend of mine, was retiring from the role and he felt that I would be his natural successor. I then sat in on a few meetings, the secretary Nigel Wheatley taught me the job and the rest is history!

**KM: Have you found your geology**



# Could pay for holidays

The 2013 expedition took seven Imperial students

**knowledge has helped you on expeditions?**

Oh absolutely! It gives you a unique understanding of the landscape, why things are as they are, which helps in all aspects of a journey.

Geology I find also gives you very astute observation skills, which is invaluable in every aspect of planning an expedition.

**KM: Do you have a favourite expedition in the history of the board?**

LC: I don't think I could pull out one as my favourite as each expedition is special for the individual members who go on them.

For me, I get most enjoyment out of watching the students develop from the first time they approach me with

# Travel

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Travel Editor | Yung Nam Cheah



## College or your next day?

ents to the famous Yosemite National Park in California, USA Photo: Flickr/ Dhilung Kirat

the idea to when they return safely to my office just after they come back, having seen through their proposal safely from start to finish.

Having said that, with my mountaineering and polar experience, when I get an exciting trip related to those, I do sometimes wish I could go on them, although this doesn't affect the kind of trips that are endorsed in the end. For example, your trip across Central Asia is one I would love to do when I one day retire, although maybe not at the kind of pace you will be doing it!

**KM: There is always an element of danger in expeditions despite precautions taken but has anything ever gone seriously wrong on one of the Board's expeditions?**

LC: It is sobering to read the report of the 1961 Beerenberg expedition

**"I get most enjoyment out of watching students develop when they return."**

to North Jan Mayen Island on which there were five fatalities and the report serves in part as a fitting tribute to those who perished. Most of the party had been to Svalbard, operating boats and mountaineering, the previous year.

The expedition of 8 men had been operating as two parties, one in the northwest and the other in the southwest of the island. Two of the northern party travelled by a small, rigid hulled, metal boat to pick up the southern party. The outward journey had taken several hours. On the return journey the wind got up, they hit a sudden squall, the boat was overturned some 35 metres from the shore. 5 out of 6 died; and even after considerable searching only one body was found. Other expeditions have suffered the occasional accident and sadly fatality but not to such an

extent.

**KM: Due to the expense of expeditions, it seems they have historically been more of a rich person's retreat. Do you feel this is still the case?**

LC: Imperial College has always had a tradition to support their students to undertake expeditions; this is the *raison d'être* for the Board's existence. Having funding and approval from the Board can open doors to Trust funds and other charities.

Many of the expeditions over the years were undertaken by fund-raising, borrowing equipment, gifts of food and equipment from suppliers, and finding a place to travel to within their means. These are all useful skills for future employment.

Most expeditions can be completed within the budget of each individual

student.

In some of the earlier expeditions students do not seem to have been constrained by the need to find a job and some expeditions seemed to proceed at quite a leisurely pace.

Take the expedition to Africa and the Americas in 1960 which ran from March to November involving overland travel across both continents undertaking a survey of private light aircraft and their activities. Nobody these days would be likely to have the time and resources to undertake this type of expedition.

**KM: Is there one place you have never been that you would still love to go to?**

LC: There are lots of wonderful places still to go to, and the world is full of fantastic journeys that I would love to make. It's impossible for me to pick out one! There are a whole host of places that I would love to visit, and hope to one day.

**KM: And what is your next adventure?**

LC: Travelling in the Arctic is a wonderful way to meet people who often later become your close friends. This summer, with the help of some Greenlandic friends, I am travelling to a remote settlement in the north west of Greenland, leaving loads of time for potential delays so that I am back in time for my College commitments...

**KM: Finally, what do you say to those who may not have much experience of expeditions but would really love to go on one?**

LC: 18 expeditions applied to the Imperial College Exploration Board this year, of which 13 or 14 will go ahead. If you have no experience at all, join one of the clubs or societies, which can be a great way to get to know others as well as build your experience. Most Imperial expeditions have a good legacy component and you might find someone who will be looking for another member of their expedition or will take you through the planning of one. Contact us early on in the Board and we will do our best to support you through, or send you in the direction of someone who can help you. It's a fantastic way to develop your skills and have a superb experience at the same time.

To find out more about the board, visit their website at <http://www3.imperial.ac.uk/expeditions>. Maybe you could be the next intrepid explorer out of Imperial!

Also, if you would like to find out more about our trip cycling over 2000 miles along the Silk Road in Central Asia, visit our website at [www.tourdestan.co.uk](http://www.tourdestan.co.uk).

**"It's a fantastic way to develop your skills and have a superb time."**

# HANGMAN



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## EXCLUSIVE: Hangman discovers sinister plot to open new catering empire in the former Weeks Hall

After students at the Union Council voted to condemn Weeks Hall, Hangman has investigated the future plans for the now derelict building.

Union Council voted to allow the building to be used for “non academic and academic use,” and although it was initially suggested it could provide childcare facilities, it has been revealed that it will now house the new TasteImperial Headquarters, named Commercial Services Corp.

The building will be transformed into one giant food hall, spanning six floors. There will also be a bar, although this will only serve alcohol after 5pm so as not to encourage academics turning to liquor so early on in the day.

Although the plans remain top secret, Hangman was able to sneak into the preliminary meetings, dressed as a busboy and pushing a trolley featuring SCR breakfast delicacies, including three-day-old scrambled eggs and soggy bacon.

Whilst serving up coffee Hangman overheard the plans to turn one whole floor into a bubbletea outlet. Said one consultant to the board, “That vaguely named F-East outlet in the JCR is doing really well. Surveys show that students from the East like food also from the East, and bubbletea is apparently a delicacy from out there.”

Another plan is to have a 50m long jacket potato station, complete with a salad bar similar to that in the JCR. A different consultant suggested that the students could then fill a potato with their choice of salad, although

this was met with trepidation as some were keen to point out that students are not used to such varied filling choice when it comes to staples such as the mighty potato.

One warned: “If we start letting them think you can put more into a potato than just soggy tuna or plastic cheese, we may see a culinary uprising on our hands.”

However, when one board member suggested the quality of the potato should also be addressed, they were met with unfaltering laughter, with one colleague actually wiping tears out of his eyes and another rolling on the floor.

Further blueprints depicted a series of fountains that would pour out drinkable aloe vera water that students could then refill their bottles from, and another bar dedicated purely to creating the award winning chicken and bacon baguette by hand.

There was conflict over the idea to present facilities for evening meals however, with one member stating that “we shouldn’t spoil the students too much.”

Nane Jeary, who chaired the meeting, agreed and then added: “I feel uncomfortable providing more than one outlet that serves healthy, hot meals past 5pm.

“However, if we are to add another, we should really shut it by 7pm so people working late in the library are forced to go to Imperial College Union or h bar.”

Union Overlord (Diago McCalidad) was also present. New to the role of Top Guy In Charge of Food, Drinks



This jacket potato is too nice to serve in the former hall. Photo: Vegan Feast Catering

and Bars and a driving force behind the halls takeover, McCalidad proposed another Union-ran dining space be included too.

Plans were drawn up to advertise it as “The longest bar to also house several hundred mice.” However, upon hearing a suggestion from one consultant that maybe this outlet could provide more variation than the undistinguishable meals currently available at h bar and

FiveSixEight, McCalidad turned red in the face and cried “¿POR QUÉ?”

He stated that providing meals that can be prepared without being fried or defrosted may be “Pushing the boat out a bit.”

“We have perfected the tried and tested formula for producing fries that have an aftertaste of fish, so why change anything?”

However, one consultant was quick to point out that with no rent coming

in from this hall, and the ever-rising price of illegal MSG, refurbishing and stocking all these facilities may cost thousands.

Nane Jeary came up with a quick solution however, and pointed out that the unspent amenities fund from this year was still lying around in her account. “With the money saved, we could probably even chuck in a few vending machines, although it doesn’t really matter if they work.”

## Shock election stats: how big is yours?

A new study by Imperial College School of Medicine has found that the average size of a big election can vary by as much as 2.4 positions from country to country.

Africans tend to have Big Elections of around 7.8 positions, whereas in Canada the average is 5.4.

Silippa Phett, an alpha female, told Hangman that the size of the Big Election is not important, it’s about how you use it.

She continued “There’s nothing more satisfying than a Big Election hitting all the right places”.

Hangman did ask if performance is reduced with a smaller Election. Phett replied, “With a Big Election, the pressure can be just too high and the likelihood of a unsatisfying finish is far greater.

“I much prefer a happy ending when

an Election is involved.”

In other news, a student has fallen seriously ill campus today. A spy at the health centre discovered he had a whopping 50 positions in his Big Election - all of the ones on offer.

Physicians have repeated their warnings about the excessive effects of democracy on the body, as it can lead to starving the brain of blood.

One doctor said, “We recommend all students to read the label provided with Democracy before using it.

“We know that Democracy can help people to overcome feelings of inadequacy around their Big Election, but overdose can have a number of side effects including mocking, disappointment, and - as seen in this tragic case - death.”

Manufacturer ePfizer were unavailable for comment.

## NEWS WITHOUT THE NEWS



## Tampon King found asleep on bed of UKIP sanitary towels

# HANGMAN



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## Diary of A Fresher aged 18 3/4

Friday 6th of February

Today I went out to Tiger Tiger with my hall friends, as it was someone's birthday on another corridor and all the cool kids were going.

It was pretty bad though, I had to pay like £20 to get in, and then I was kicked out after half an hour as I predrank quite hard and puked up a mirrored wall.

I drunk dialled American Girl too, which was awkward, as she picked up and all I kept doing was singing American Pie down the phone. She texted me after calling me a jerk, and told me not to bother with Valentine's Day plans. I didn't even make any?

Saturday 7th of February

So hungover today, and basically spent all morning slowly throwing up what felt like half my organs. Went to the library later and just sat on the fourth floor staring blankly at my laptop for eight hours.

Sunday 8th of February

Still hungover. HOW AM I STILL HUNGOVER

Monday 9th of February

Today I walked onto campus late to morning lectures, and all I could hear was high pitched screaming. I was worried maybe finally someone had snapped and was running around with a sword or something, so decided to hide in the bushes for a while.

It turned out it was just the people bungee jumping from a crane near Queen's Lawn. I've told no-one why I was half an hour late to lectures.

Tuesday 10th of February

I went to the library café today for lunch, and saw Dorothy out with Kris, but it didn't make me sad anymore. I got a coffee and sat in the corner planning to Skype Richard at Leeds Uni, as he's good with girls and might know what I should do about American Girl.

He said he was busy again getting an outfit together for something called the Otley run, so I sat there for a bit whatsapping my Mom. Richard is always too busy to skype since he went back to Leeds after Christmas. Also since he started taking speed he doesn't really sleep regular hours either so never replies to my text messages.

Keeping in touch with friends from home is hard.

Wednesday 11th of February

I went to sports night tonight, and saw American girl. I apologised and she said it was fine, although I still bought her a couple of snakebites to cheer her up.

We made out in Metric again, I'm such a LAD lol

Thursday 12th of February

HUNGOVER AGAIN WHY GOD WHY

# HOROSCOPES



ARIES

This week you decide to sneak into the Baftas in order to touch Bendorickle Cumberpickles sweet sumptuous privately educated face. You decide that disguising yourself as Helen Mirren is the best plan of action; however you are quickly discovered, and as according to BAFTA rules, you are made Stephen Fry's sex slave.



TAURUS

You thought I was joking about the fishcakes. Next cook the potatoes in boiling salted water for 10 mins. Then leave to cool in a colander for 2 mins and return to the pan on a low setting. Mash the potatoes for 2-3 mins - it should be dry and fluffy. Stir in lemon zest, mayonnaise, mustard, capers and some seasoning.



GEMINI

This week you develop a strange obsession Chris Kaye, poring over all his Facebook photos, writing poems about him. Unfortunately you discover that due to a mishap in the physics department, Chris Kaye now has the ability to immaculately conceive. You are impregnated with triplets.



CANCER

This week you try to capitalise on the Imperial related Facebook pages, by creating one related solely to things that sometimes happen in imperial (how hilarious). Unfortunately this incites the anger of the orgy master and he comes to your house, forcing you to become the filling in a human centipede sandwich.



LEO

This week, following the suspension of your Gaelic football group for allegedly stealing potatoes, you still are determined to enter the Hyde Park relay so you decide to go under a false name. You fail to take into account the backlash from the name "Rolf Harris and the allegations".



VIRGO

This week in order to get an advantage in the union sabbatical position elections, you decide to beef up your application with some slightly exaggerated facts about yourself. The problem is that they immediately see through this and your claims of your helicopter being shot down in Afghanistan cause you to withdraw.



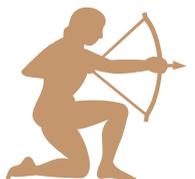
LIBRA

This week a cute first year student from the Techtonics visits Felix and offers to write the horoscopes as they're a bit shit. You agree, as long as he comes down to the office to write them. Whilst you play My Chemical Romance on repeat. And he promises to continually flicks his black fringe in time to the music. Let me know bae



SCORPIO

This week, due to no body wanting to take you the Valentine's ball, you decide to auction yourself off as a date for charity in the hope of aiding the general atmosphere of charity. Your plan backfires when the auctioneer has to go into negative values, and the union has to pay £104 to your date to take you off their hands.



SAGITTARIUS

This week you decide to use the new instant Google translate mode in order to better connect with Imperial's Malaysian community. You ask a guy how his day was and what he's having for dinner, causing him to rush out of the room. You find him in a red catsuit with 15 cucumbers lubed up on the bed.



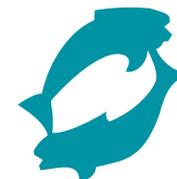
CAPRICORN

This week you decide to do the bungee jump for RAG week; due to a mishap in appliance of the bungee cords, as you jump of your trousers and underwear come flying off as you plummet down. Not only did Ben Fernando see your genitals, your underwear is now stuck on the Queen's Tower for all to see.



AQUARIUS

This week you're a rugby player. After getting with a loose netballer in the union, you take her to Hyde park to finish the deed. You get caught on the railings on the way out and you die.



PISCES

This week you join the Imperial University Challenge team. You arrange the tryouts for a time when many of the best candidates can't make it, and then you bully the person who got the 4th place in the team to drop out for you, but fuck it, at least you'll be on TV.

# Puzzles

fsudoku@imperial.ac.uk

Puzzles Editor || Michael Faggetter

## Weekly Quiz

## QuizSoc Anacrostic Grid

Paul G

This quiz has been brought to you by QuizSoc: [quiz@imperial.ac.uk](mailto:quiz@imperial.ac.uk)

### 1) The Fine Arts

What name is given to a three-panel composition of paintings, such as *The Garden of Earthly Delights* by Hieronymus Bosch?

### 2) In the News

Which bank has been recently revealed to have helped thousands dodge taxes by using Swiss accounts and loophole abuses?

### 3) World History

The genocide of the Tutsi of 1994 happened in which African country?

### 4) Science of Old

Ancient Greeks believed that the world was composed of four what?

### 5) Making Your Science Degree Work For You

What term is given to animals that lay eggs but keep them inside the mother's body until they are ready to hatch?

### 6) World Geography

What is the capital of Kenya?

### 7) Popular Misconceptions

Arthur Wellesley, 1st Duke of Wellington, hero of Waterloo and later Prime Minister of the UK, was born in which country?

### 8) Literature and Written Words

C.S. Lewis wrote a series of novels featuring which mythical land?

### 9) This Day in History

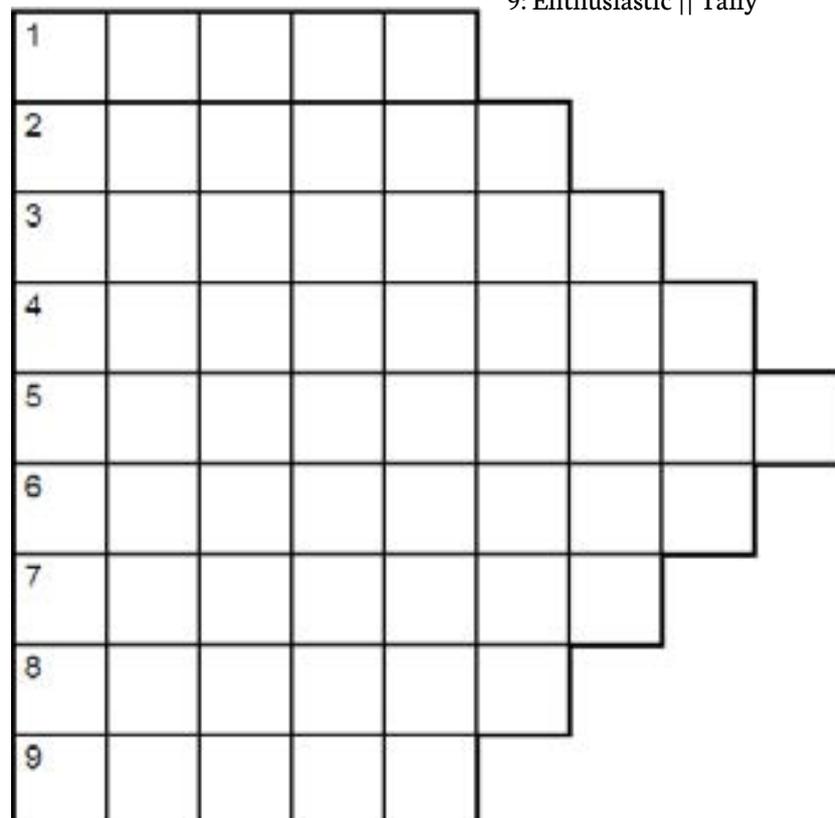
13<sup>th</sup> February 711 BC is considered to be the traditional date of birth of Jimmu, who was the legendary first what of Japan?

### 10) ...and if you got all the others right, their initials spell out...

Which of the 20 natural amino acids possesses an alcohol group and a chiral centre in its side chain?

The solutions to each pair of clues are anagrams of one another, but only one of them belongs in the grid. When the correct solutions from each pair have all been entered, the first column will give the name of a European airline.

- |                                       |   |
|---------------------------------------|---|
| 1: Girl's name    Relating to hearing | 5: More openly sexual    Very strong wind |
| 2: Polluted    Referee                | 6: Causing fright    Insignificant        |
| 3: Make nervous    Tranquil           | 7: Firearm used for hunting    Zeros      |
| 4: Herb    Self-important             | 8: Consecrated    Coniferous trees        |
|                                       | 9: Enthusiastic    Tally                  |

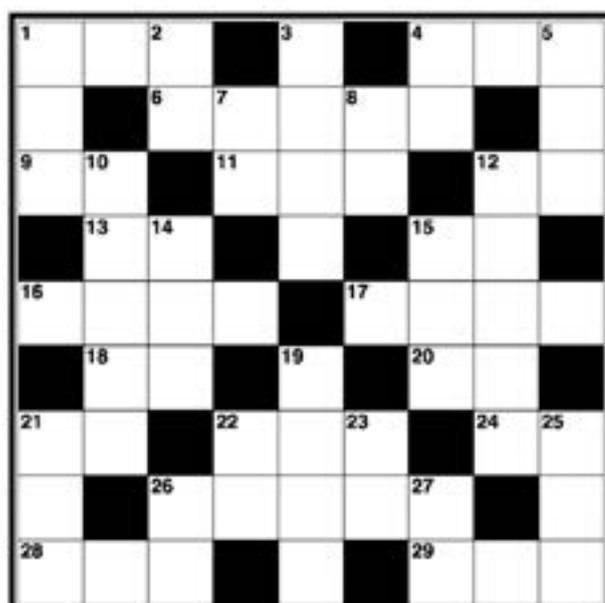


## Cross-number

This one is a little bit challenging...

This is the first time that this puzzle has made an appearance in Felix so let us know what you think.

If you need somewhere to start, check out the 'Last Week's Solutions' section for a hint.



### Across

- Three times the same digit
- Five times 7 down
- Consecutive digits in order
- 1 down minus 25 down
- 14 down plus 25 down
- 15 across plus 24 across
- 8 down minus one
- 14 down minus 20 across
- 5 down times 21 across
- 6 across divided by 15 across
- See 14 down
- 18 across plus 15 across
- See 2 down
- 28 across rearranged
- See 12 across
- Consecutive digits in order
- 29 across plus 1 across
- See 19 down

### Down

- 22 across minus 4 across
- 21 across plus 24 across
- 9 across times 27 down
- Twice 15 across
- Its digits total twenty
- 22 down plus 26 down
- 22 down plus 4 down
- 1 across squared
- 15 down squared
- 18 across plus 4 down
- See 12 down
- Nine times 29 across
- 6 across divided by 4 across
- See 8 down
- 27 down plus 4 down
- Three times 7 down
- See 7 down
- Twice 12 across

## FUCWIT

Send in scanned copy of your completed puzzles to [fsudoku@imperial.ac.uk](mailto:fsudoku@imperial.ac.uk).

Points are awarded for each correct solution, Bonus points (in brackets) are awarded to the first correct answer!

Everyone must be far too busy to submit puzzle solutions this week – we had very few correct answers! If there is a puzzle you would like to see, we'd love to hear from you – or perhaps submit your own!

### Points available this week:

Cross-number	3 points (+2)
Weekly Quiz	4 points (+2)
Word Star	3 points (+4)
Word Search	2 points (+1)
Anacrostic	4 points (+2)

## Leaderboard

### Individuals:

1. Adam Stewart	98
2. Catmelon	39
3. Jem Ong	31
4. Kebab King	21
5. Fengchu Zhang	3
6. Gabriel Quek	2

### Teams:

1. Fully Erect	83
2. L3Gendary	55
3. Mindsuckers	48
4. Dapper Giraffe	15
5. AnyonebutKofi	8
6. Aerodoku	2
7. Guang <3 Le	1

# Puzzles

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Puzzles Editor | Michael Faggetter

## Word Search

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

Since today is Friday 13<sup>th</sup>, here is a quick wordsearch containing a selection of common, and uncommon, things that some consider to be lucky. Try and find them all!

- |                         |                      |                       |
|-------------------------|----------------------|-----------------------|
| <b>CRICKETS</b>         | <b>WISHBONE</b>      | <b>TORTOISES</b>      |
| <b>ACORNS</b>           | <b>SHOOTING STAR</b> | <b>CHIMNEY SWEEPS</b> |
| <b>FOUR-LEAF CLOVER</b> | <b>BACULUM</b>       | <b>PENNY</b>          |
| <b>BAMBOO</b>           | <b>(RACCOON</b>      | <b>ANKH</b>           |
| <b>SEVEN</b>            | <b>PENIS-BONE)</b>   | <b>SAPPHIRE</b>       |
| <b>POT-OF-GOLD</b>      | <b>NUTMEG</b>        | <b>FEATHER</b>        |
| <b>WISHING WELL</b>     | <b>GOLD INGOT</b>    | <b>BUDDHA</b>         |
| <b>SCARABS</b>          | <b>BIBLE</b>         | <b>EVIL EYE</b>       |
| <b>ALLIGATOR TEETH</b>  | <b>RED BATS</b>      | <b>EYELASH</b>        |
| <b>TIGER BLOOD</b>      | <b>TAROT</b>         | <b>DREAM CATCHER</b>  |
| <b>GOLDFISH</b>         | <b>LADYBIRD</b>      | <b>HORSESHOE</b>      |
| <b>ALBATROSS</b>        | <b>LUCKY-DICE</b>    | <b>COINS</b>          |
| <b>CROSS</b>            | <b>PIG</b>           | <b>HAMSA</b>          |
| <b>KEY</b>              | <b>RAINBOW</b>       |                       |



By: L. A. Bonté



For more comics and animations visit [FlibertCartoons.com](http://FlibertCartoons.com)



## Word Star

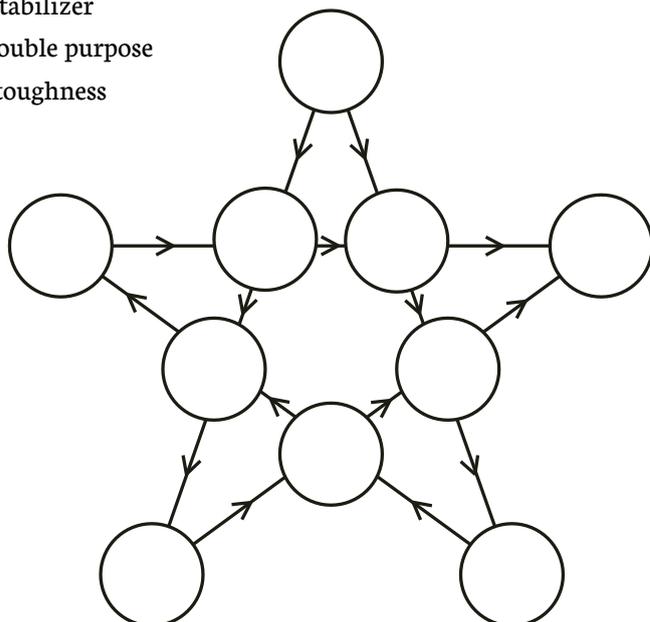
### STILL UNSOLVED FROM LAST WEEK!

Find 5 **four-letter words** using the clues written below.

Fit them all into the star (the arrows indicate the direction in which the word is read).

#### Clues:

- Cheap fat used for cooking and adding texture to pastry
- The fourth community card in Texas Hold'em
- Kangaroo stabilizer
- Having a double purpose
- Symbol of toughness

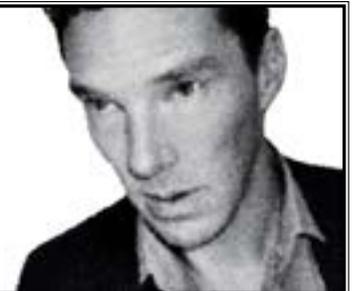


## Last Week's Solutions

#### Cross-number hint:

- Across  
 4. The number of days in a year

Benedict Cumberbox



### Weekly Quiz

- |             |                       |             |                |               |
|-------------|-----------------------|-------------|----------------|---------------|
| 1) Saturn   | 3) /b/                | 5) India    | 7) Unobtainium | 9) Titan      |
| 2) Ottomans | 4) Rembrandt van Rijn | 6) Quaalude | 8) Epitaphs    | 10) Sobriquet |

### Crossword

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

### Sudoku

9	7	4	3	6	1	8	2	5
6	5	3	4	8	2	1	9	7
1	2	8	9	5	7	3	6	4
7	3	2	5	4	6	9	1	8
8	1	6	7	9	3	4	5	2
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9	4	2	7	3	8	6	5	1
7	3	8	9	6	4	2	1	5
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6	2	7	5	8	1	3	4	9

# Clubs and Societies

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C & S Editor || Ben Howitt

## Like Le Mans, but on eight wheels

Lizzie Campbell at the Skate Society's first speed skating session

It was an inauspicious start to last year's Le Mans 24 hour roller relay. One seventh of the team had missed the train and there had been one injury before the race had even started; our team shirts were homemade with sharpies on the Eurostar and the rain was practically biblical.

Nonetheless, we soldiered on and managed to steal away first prize in the student category. One golden cup, a bottle of champagne and enough time for the muscle spasms to subside later, we decided to go again, except this time bigger and better!

This year, ten members of IC Skate Soc are undertaking one of the world's most challenging skate races.

This is where Adrian Wordsworth comes in. Adrian has been skating since he was a toddler and has gone on to win 21 British speed skating titles. He has been a fixture on the UK skating scene for decades.

Our captain and Chair last year, Jenny Lenz, met Adrian last year at Le Mans and Adrian has generously offered to train our team this year. His company Troup Bywaters + Anders will also sponsor us for some real shirts this year! Thanks to this generosity we plan to steal back the Cup of Glory from our rivals at other

Universities worldwide.

This Wednesday was our first training session. Though bitterly cold, the sun was shining and we headed down to Serpentine road in Hyde Park. Setting out a small circuit, we began with the basics and learned the stance preferred by speed skaters... getting really, really low! After two minutes skating in this position, our thighs were on fire and our lower backs were starting to complain.

The paceline (a technique where a long line of skaters all skate in perfect unison, so that wind resistance is reduced for everyone except the poor leader) was equally difficult, with everyone bumping into each other and falling behind in turns. How on Earth were we going to take on this mammoth race?!

And yet, within half an hour we were getting it, and skating with perfect form around our circuit. We learned about planning lines around corners, about passing batons without decelerating (scary!) and much more. Within 2 hours we were all hooked, and excited for the next training session!

By the time Le Mans rolls around in June, we're hoping to be a well-oiled skating machine – in no small part thanks to Adrian's expert training. If



Keeping lower allows you to carry more speed around corners. Photo: AW SpeedSkating

you're interested in learning to skate, or in joining the speed skating team, IC SkateSoc meet every Wednesday at 13:00 in Beit Quad, and can provide

skates and pads.

Speed Skate training is the first week of every month at the same time as usual skate sessions. We can

be found on Facebook at [groups/ICskatesoc](#). Adrian's page, with photos, tips and tricks, can be found on facebook at [AWSpeedSkating](#).

## ArtsFest to hit Imperial next week

**JONATHAN MCNAUGHT**  
ARTS & ENTERTAINMENT  
BOARD CHAIR

“ArtsFest? What's that?” I hear you chorus, “There are scientists, engineers and medics at Imperial who like arts?” I may be totally biased, but I really believe the answer is yes, and ArtsFest is one of the many times during the year to show it.

The successes of Arts clubs at Imperial are far reaching. A few years ago, in a competition that only ran once, Imperial College Symphony Orchestra (ICSO) was awarded the title of “Best University Orchestra in the UK”. That's quite an achievement against universities in which most orchestras have at least some music students!

Just a couple of weeks ago, the International Championships of Collegiate A Cappella came to the UK

for the first time and held their semi-final at Imperial. With more teams competing than any other University, and an award for best soloist, the event was a sure sign of Imperial's talents.

We have five orchestras, one of the best university cinemas in the country, fantastic choirs and ambitious art and dance groups. Each one has a number of fantastic events coming up for you this term – such as more ambitious shows than ever

before in the recently redeveloped **Union Concert Hall**, ICSO performing at **Cadogan Hall**, home of the Royal Philharmonic Orchestra, and the IC Choir performing *Carmina Burana* in the Great Hall. And on top of all this, they all take part in ArtsFest!

ArtsFest is a weeklong celebration of Art, Drama, Music, Dance and everything in between that Imperial has to offer. This year it takes place from 16<sup>th</sup>–20<sup>th</sup> February and has more events and more collaborations than ever before. And crucially, every single event is free.

There are events every evening. Some highlights include Imperial College Sinfonietta on Monday 16<sup>th</sup> performing the music to *Fantasia* live in the Union Concert Hall, in collaboration with Imperial Cinema, FilmSoc and ICTV. On Wednesday 18<sup>th</sup> there's another chance to hear our A Cappella groups, this time performing a variety of pieces with the fantastic Musical Theatre Society in the Union Concert Hall – surely not to be missed!

If Jazz and Rock are more your thing, then don't miss the *Tribute Night* on Thursday 19<sup>th</sup> in Metric, or Big Band playing up the Queen's Tower on Monday lunchtime (I'm praying for good weather...). Or maybe it's Dance? On Friday 20<sup>th</sup>, our ArtsFest spectacular finale will take place in the Union Concert Hall with a variety of performances from Dance societies such as Funkology, Latin and Belly Dancing, musical societies, international societies such as ChineseSoc, all hosted by ComedySoc.

“I have too much work, I can't come”, you say. Well firstly these events are all free. Almost all of these societies would (rightly!) normally charge for tickets, so it's an amazing opportunity open to everyone. Two societies will also be holding “Concert Teasers” for you: the IC Choir on Thursday lunchtime in Sherfield, and ICSO's Open Rehearsal in the Great Hall on Wednesday evening – a concert which will eventually feature the BBC Young Musician 2014 on the 28<sup>th</sup> February!

There are also events at lunch-time



IC Big Band's performance from the Queen's Tower has featured in every Artsfest so far. Opposite (left to right): IC Juggling, IC Choir, IC Jazz & Rock. Photo: (left to right) Daniel Elson, Thomas Angus, IC Choir, Facebook.

# Clubs and Societies

[felix.clubsandsocieties@imperial.ac.uk](mailto:felix.clubsandsocieties@imperial.ac.uk)

C & S Editor || Ben Howitt

every day! From performances in the Business school entrance, to juggling on Dalby Court, there's something for you there too. You can get involved on Monday by doing your own chalk drawing outside the Queen's Tower Rooms, and participate in (or observe) a piano masterclass from the Chamber Music Society on Wednesday afternoon.

Finally, there are the Art Exhibitions from PhotoSoc and

LeoSoc. Not only will they be presenting right under your nose in the Sherfield Main Entrance, but head up to the 5<sup>th</sup> floor in Sherfield where you will find the Blyth Gallery. There you will find a secret garden where you can sit on a bench and admire the work of these fantastic artists.

And there are more events than these – a full timetable can be found below or on our Facebook page [https://](https://www.facebook.com/icartsfest)

[www.facebook.com/icartsfest](https://www.facebook.com/icartsfest).

You don't always hear about the arts at Imperial – can Art and Science really interact? I strongly believe so; there are over 1600 members of arts related clubs at Imperial – and over 10,000 people attend events every year. The Imperial Fringe on Thursday 19<sup>th</sup> at 17:00 in the Business School Main Entrance is a great example of scientists collaborating with a wide range of societies, with

the theme of Light: to celebrate the International Year of Light.

People come to Imperial because of the arts – having a strong musical scene can be seen has a huge differentiator between universities, especially for those who weren't sure whether to study science or music, like me. Promoting the arts scene will give a further example of the fantastic Clubs and Societies at this University, and collaborations between clubs

provide the perfect place to meet new people while continuing with a passion, and taking a well-earned break from the library.

ArtsFest is a chance to do just that. You might not think you know anything about music, or care for art, but I'd urge you to give it a try this year. Come to one of the many events that will be going on; try something new and you may be surprised just what a good time you have!

## What's On – A guide to ArtsFest

### Big Band on the Tower

IC Big Band kicks off Imperial College ArtsFest 2015 in style! The band will play an uplifting set of quality big band jazz from the balcony of Queen's Tower.

MONDAY 12:30 – 13:30  
QUEEN'S TOWER

### Chalk Drawing

Some dedicated people from LeoSoc will be in the possession of 200 pieces of chalk, and they will be drawing all over the ground outside Sherfield! Become part of ArtsFest by making your own chalk drawing!

MONDAY 14:00 AND ONWARDS  
OUTSIDE SHERFIELD, QUEEN'S LAWN

### Fantasia Film Night

Join us for an exciting evening of film and wonder at the Imperial Cinema! We start off with a few short films produced by ICTV members, followed by a performance of Disney's *Fantasia* – a visual masterwork to the tunes of Tchaikovsky among others. Representatives from FilmSoc will be there to provide you with trivia and the historical background of *Fantasia*. Join us for a cinema setting as you have never seen before!

MONDAY 19:00 – 21:00  
UNION CONCERT HALL

### Wind Band Lunch Performance

Wind Band is bringing you the lunchtime entertainment for the second day of ArtsFest. Scuttle over to the Business School Entrance at 12:30 to hear them perform their latest repertoire (and get a taster of upcoming concerts).

TUESDAY 12:30  
BUSINESS SCHOOL ENTRANCE

### ArtsFest Lecture: DarwinTunes

Dr Bob MacCallum is a researcher at Imperial who is looking at the evolutionary aspects of music – how come we like certain tunes and rhythms? He set up a website to test whether random noise could eventually become music through a selection process. Join us for a very exciting lecture that combines science – the core of Imperial College – with music as part of ArtsFest.

TUESDAY 18:00  
READ LECTURE THEATRE

### Writing Workshop /Book Blind Date

Writers' Soc and IC Science Fiction bring you this event – a drop-in writing workshop and book blind date. Join in whenever you like between 18:00 and 20:00 for writing exercises, and learn more about the upcoming Writing Competition organised by the two societies. You will also leave with an unknown book, and perhaps not one that you would have picked up in the first place, which is a great way to discover a new author or genre.

TUESDAY 18:00 – 20:00  
CLORE LECTURE THEATRE, HUXLEY



### Lunchtime Juggling

Ever wanted to try juggling? The juggling society will be bringing their juggling tools and various other things to the Dalby Court for a lunchtime try-out!

WEDNESDAY 12:00 – 14:00  
DALBY COURT

### Masterclass: Margaret Fingerhut

Play the piano? Want to see a professional and accomplished pianist teach talented Imperial students? Join the audience for this masterclass, where members of the Chamber Music Society will be given 30 minutes of public tuition by Margaret Fingerhut. Places are limited, so first come first served!

WEDNESDAY 14:30 – 16:30  
ENSEMBLE ROOM 1, BLYTH MUSIC CENTRE

### Chamber Choir Evensong

After a hard day's work, pop over to Holy Trinity on Prince Consort Road for some high-quality choral evensong and a service. The IC Chamber Choir will be performing

WEDNESDAY 17:30 – 18:30  
HOLY TRINITY CHURCH, PRINCE CONSORT RD

### ICSO Open Rehearsal

With their concert scheduled for the next week, this open rehearsal by Imperial's very own Symphony Orchestra is set to be something special, especially as the BBC young musician who is joining them for the concert is set to join them for this night. Here's a unique chance to see how one of the best student orchestras in the UK rehearses with their conductor Richard Dickins.

WEDNESDAY 19:00  
THE GREAT HALL

### A Very Vocal Evening 3.0

The A Cappella + Musical Theatre (MTSoc) Societies highlight of the year! Be prepared for an evening of highest quality singing and much entertainment with both individual performances from MTSoc and the various A Cappella groups, as well as a joint number!

WEDNESDAY 19:00  
UNION CONCERT HALL

### Choir Lunchtime performance

Looking forward to the IC Choir concert this term? How about a taster of the fine music that they are singing during this lunchtime performance in Sherfield? Enjoy the majestic tunes of Carmina Burana, and perhaps some old classics from Handel's *Messiah*.

THURSDAY 12:00 – 13:00  
SHERFIELD LEVEL 2

### Blyth Lunchtime concert

And straight after the choir's performance, why don't you take the lift up to the fifth floor for the regular Blyth Lunchtime concerts. Jessica Chan will be performing Beethoven's *Piano Sonata in D, Op 28*.

THURSDAY 13:00 – 14:00  
READ LECTURE THEATRE, SHERFIELD LEVEL 5



### 'The Secret Garden' – a Vernissage

LeoSoc and PhotoSoc invite you to the vernissage of their exhibition 'The Secret Garden' in the Blyth Gallery. Become part of the artwork by taking a seat on a park bench and enjoy some free nibbles and wine.

THURSDAY 18:30 – 19:30  
BLYTH GALLERY, SHERFIELD LEVEL 5

### Tribute Night

Prepare for an evening of riffs as Jazz&Rock are inviting all their members to perform songs by their favourite artists in Metric. Grab a drink and enjoy these new renditions of both old and new classics.

THURSDAY 19:00  
METRIC



### ICSE Lunchtime performance

Instead of walking to Hyde Park in this cold weather, bring your lunch over to the Business School Entrance for this lunchtime performance by the IC String Ensemble. As one of the final lunchtime performances during the ArtsFest week, this one is not to be missed!

FRIDAY 13:00 – 14:00  
BUSINESS SCHOOL ENTRANCE

### ArtsFest Finale

The Grand Finale of ArtsFest! Come enjoy a show with the best of dance, comedy, music and singing that the arts societies and more at Imperial have to offer! With a casual setting, the ArtsFest week will be finished off by a variety of performances, such as belly dancing, a teaser of MTSoc's new show, and some Chinese traditional music to celebrate the Chinese New Year. Feel free to pop down to the Union Bar for a drink while you enjoy this variety show, and help out Unicef in their charity work by buying some cupcakes!

FRIDAY 19:00  
UNION CONCERT HALL

# Clubs and Societies

felix.clubsandsocieties@imperial.ac.uk

C & S Editor || Ben Howitt

## Art explosion tops off ICSM's Rag Week

**BEN HOWITT**  
SECTION EDITOR

The Imperial College School of Medicine Students' Union (ICSMSU) presented an Arts Revue last Sunday, 8<sup>th</sup> February, to conclude what has been, by all accounts, a very successful Raising and Giving (RAG) week.

The show was performed in the Union Concert Hall and featured acts

from various Medics' performing arts societies including music, Dance and Light Opera, as well as a sneak preview of ICSM Drama's upcoming production of *Beauty and the Beast*.

ICSM Light Opera and ICSM Dance performed numbers from *Hairspray* and Cole Porter's *Anything Goes*, while the evening also saw, for the first time ever, a performance from all of the Medics' music societies (Chamber Choir, Choir, Orchestra, Jazz Band and Bands).

Two of the Union's sabbatical officers, Abi De Bruin (Deputy President, Clubs & Societies) and Chris Kaye (Deputy President, Welfare) attended the evening, and Abi lauded the "incredible ICSM talent" on show.

Sarah Hough, who founded Arts Revue and planned much of the event, said "I didn't realise quite how much organisation and how many logistical nightmares would be involved in creating this event! But seeing four of ICSM's arts societies come together to create something incredible and doing what we love to do made it all worthwhile.

"I hope Arts Revue will continue to be a yearly opportunity for these four sister societies to work together and show you all how incredibly talented and enthusiastic our members are."

RAG week featured 'I'm a Club Captain, Get Me Out of Here', which was filmed on Tuesday and screened in the Reynolds bar on Thursday night. Medics' team captains (and some of the ICSMSU Exec) were given 'fun' challenges, competing



'Turn it off' from the *Book of Mormon*, performed by ICSM Light Opera. Photo: Dominic Lagrue



Sarah Hough performs as Elle from the musical *Legally Blonde*. Photo: Facebook

for a chance to participate in the live Bushtucker trial in the bar on Thursday.

One of the more controversial events was the time-honoured tradition of '4-skinning'. The idea is that 4 second year medics are nominated from the ICSM sports teams, who then compete to gain the most sponsorship. The winner has their head shaved. The lucky prize this year went to Football's Wenrui Sun. Wen described the experience as "even more crushing" given that he

had previously avoided his head being shaved on tour.

A fundraising total is yet to be released by the ICSMSU committee, with further events running over the next few weeks, including the RAG Valentine's Ball at the Phoenix Arts Club on Monday.

It's really reassuring to see that Medics have time to cultivate interests outside of their degrees (at least in the first two years), and we here at *Felix* look forward with anticipation to next year's Arts Revue.

## FemSoc ask: Everyday sexism or a deep rooted issue?

Feminist Society is launching the campaign ICSEXISM on campus to document the experiences of students and staff with respect to facing everyday sexism at Imperial College London.

The College, as the top STEM subject higher institution in the UK as well as the world plays an important role in providing a place where the people in the various faculties are given a place to work and achieve things on an egalitarian basis. Imperial should be a place where biases of gender are muted in the face of equality of talent, hard work and determination.

But – as is evident – The ratio of male to female in the Imperial in some courses is widely known to be heavily skewed with some like Physics and Engineering being far over the college average of 65% male students.

This disparity, attributed to and integrated with the wider societal issues to do with gender, makes Imperial vulnerable to the gender discrimination that may sweep into various aspects of the wellbeing of the members.

Hence, it is important to get a conversation started on this. Innocuous statements may hide the bigger picture. It is in the pixels that the picture is hidden, so why not zoom into it?

We would like to know about your experience of college life – any instance that you felt undermined the balance expected to exist in both academic and social pursuits the College campuses. The experiences of members of the College, by being part of a world class community, have the potential to reverberate much beyond.

This information will be collected and moderated confidentially and your experiences, however minute, will make part of a large mosaic that will seek to understand the conversation on campus and more broadly, initiate change.

The campaign has 3 main aims:

### To gather students' experiences

We hope to gather your experiences of sexism through our survey. Through sharing your stories (anonymously) with the student body, the College and the Union, we hope to raise awareness of the level of sexism experienced by students, and highlight areas where change is required to combat sexism on campus. If you have an experience of sexism you want to share, fill in a short form at [imperialcollegeunion.org/icsexism](http://imperialcollegeunion.org/icsexism).

### To get people talking about gender and feminism

Through a series of informal and fun events as well as a panel discussion, we hope to start an open and inclusive conversation on campus about what constitutes sexism and why it's a problem. More broadly, we'd also like to encourage more discussion around gender & feminism.

### To empower students to make change happen

Through our discussion based events, women's space and weekly Feminist Society meetings, you can take part in discussions aimed at finding ways of tackling sexist behaviour on campus, be it through creating a supportive women's network at Imperial, or influencing the union or college to change its policies... or any other idea you might have!

Visit us at [facebook.com/groups/icsexism](https://facebook.com/groups/icsexism) or tweet @ICSexism to give your views and to find out about future events.

**NIVEDITA KALLA**  
ICSEXISM COMMUNICATIONS OFFICER

Image: Feminist Society.

# SPORT

Sport Editor: Kunal Wagle

## Imperial host Hyde Park Relays



The start line of the men's race Photo: IC Cross Country

### MATT DOUTHWAITE ICXC CAPTAIN

On Saturday 7<sup>th</sup> February, more than 600 runners from universities across the UK, the Netherlands and Poland took part in the Hyde Park Relays, hosted by Imperial College Cross Country and Athletics Club. Teams comprised of 6 men or 4 women, each running a lap of the 5 km course, beginning by the Serpentine and looping clockwise up to Marble Arch before returning to the bandstand.

The likes of Cambridge, Oxford, Portsmouth, Manchester and many of the London Colleges sent teams to compete, and were joined by over 150 students of Imperial College taking on the challenge themselves.

At 12 noon, Club Captain Matt Douthwaite started the race with a welcome and a blast of the whistle, and the leg one runners took off down the opening straight led by some pretty big names in the running world and some more excitable internal runners.

Chris Bannon, one of the main organisers of the event, was first up for the Imperial Men's A Team, hoping to defend his 2 year title of fastest leg at the event, but faced stiff competition from Cambridge runners who'd lined up some of their best.

Also on the start line was Imo Simmonds running for the Imperial Women's A Team, backed up by the full scoring team who placed 8th in BUCS XC seven days earlier, so hopes were high for a medal.

Once underway, the race moved

fast. Bannon and Short jostled for 1st place at the front. The hundreds of other runners sailed past – not only IC Cross Country and Athletics, but also Imperial students with all manner of points to prove and a hilarious range of fancy dress costumes. Spotted outfits included superheroes, gentleman dressed in a bra and hot pants and Braveheart-style tartan robes.

Unfortunately Cambridge were first at the end of leg one, 12 seconds ahead of Bannon, who ran 14:33! He handed the bat over to Chris Olley to charge down the Cambridge team. He ran a time of 14:47, extremely impressive. Over in the Women's race, Imo had handed over to Sarah Johnson, who went on to run one of the legs of the day with 17:16. The mass of teams around the bandstand created a fantastic atmosphere and some spectators ventured out onto the course to provide support for their runners.

The Imperial Men's A's were still holding on tight with pressure from Sheffield and Oxford too. A third Chris (Thomas) put in a strong run to keep them in the game following David Freeman, handing on to Simon Prigent and finally James Ellis. The Women's A's were also battling away and with great runs from freshers Alex Mundell and Kara Meunier with 18:03 and 20:00 respectively.

The Men's B Team boys had impressive performances from Tom Bartissol and Dom Marshall, both pushing 17 minutes. Notable runs in the Men's Chuckles and Dangerzone Teams were Marcus Ingram and Alex Diaz, both with fastest legs for their

teams. In the Women's, the ICXC Gazelles were led home by Marta Sawicka in 20:18.

After all the excitement of the relays were over, the teams headed for the Jacket Potatoes and prize giving. The competition in the end turned out too strong for the Men's A Team, who placed 4th by just 12 seconds, beaten out by Cambridge, Oxford and Sheffield, despite Bannon's effort awarding him second fastest leg of the day. The girls had fared better, placing 3rd overall, behind Cambridge and Oxford once again, thanks to the storming run from Johnson, awarding her 3rd fastest woman. In other categories, the Polish University of Poznan beat the Dutch to fastest foreign team and Fisher Hall won the Halls prize.

Afterwards came the after party in the union. The Hyde Park Relays Horn made an appearance, sounding off the celebratory drinks for the organisers, Chris Bannon and Will Jones. A massive thank you to them for working incredibly hard to bring one of the smoothest HPRs in recent memory, as well as all the volunteers who helped out on the day.

Notable moments of the night included the arrival of Portsmouth, with their freshers attached to melons to drink out of, some friendly drinking rivalry with Cambridge, some possible over celebration from a certain organiser and of course Taylor Swift.

Full results can be found at [hydeparkrelays.co.uk](http://hydeparkrelays.co.uk). If you want to get involved look out for the event next year or email [run@imperial.ac.uk](mailto:run@imperial.ac.uk).

## Imperial Devils face crunch clashes this weekend



Photo: Imperial Devils

Imperial Devils B head into a two-game road trip this weekend on a dry stretch of late, having lost their last three games since a strong season opener, which saw the team shutout Cardiff Breadhawks for a 6-0 win on home ice at the Streatham Ice Arena (SIA).

First up on Saturday 14<sup>th</sup> is a Valentine's date at Coventry & Warwick Panthers B, a team the Devils B last met on 29<sup>th</sup> November for a tight 2-3 loss, with all goals against the Devils scored in the first period. A weak first period is a pattern that's plagued the Devils throughout the season, with average goals against standing at 3-0.5-1 by period.



Photo: Imperial Devils

Kelly is expected to get the start in net – his first of the season – with usual goaltender #17 Zimmerman unavailable, but due to return for Sunday's game.

Devils A also play on Saturday against Southampton Spitfires B at home for their first meet this season after a postponed game before the holiday break. The A team are 2-3-0 on their season, and the Spitfires 1-0-2, giving them an even point match-up, but the Spitfires have the edge in the tables with fewer games played and +1 (Devils at par) goal difference. The Devils' power play conversion comes in at 38.5%, second only to UCL, with 40%. This makes for an interesting matchup

with Spitfires' Division-topping penalty kill at 88.9%, though they lack on the power play, with no goals so far this season.

Sunday sees the Devils B head back out to Oxford, for game 2/2 against the Women's Blues (the league is mixed as a whole, though Oxford and Cambridge each field separate teams). The teams last met just two weekends prior, when the Blues stole a 3-8 win at the SIA; the Devils again performed strongest in the second, with boxscore against 4-1-3.

Six of the Blues' eight goals were scored by #27 Jennifer Lawrence, who's had an incredible season registering 4.7 Pts/Game. Shots on goal (SOG) during their last meet were 53-29 in favour of the Devils, but the Blues' netminder did a stellar job of keeping them out, and went on for a .943 save percentage; the Blues' (and Lawrence's in particular) precision meant 29 was enough. The Devils will look for a stronger start in the first period, and to turn more of those SOGs into goals.



Photo: Imperial Devils

As always, this weekend's games will be blacked out on all local networks; so be sure to get yourself down to the Streatham Ice Arena on Saturday for a 9PM faceoff of Devils vs Spitfires!

**OLLIE FORD**  
IC DEVILS WEBMASTER

# SPORT

Sport Editor: Kunal Wagle

## “Come, let’s live the dream again”

That is what Sachin Tendulkar has been telling Indian fans in the latest advertising campaign for the World Cup. On the eve of the tournament, **Kunal Wagle** tells *Felix* what to expect.

### Pool A

#### England

Best World Cup Performance:  
**Final (1987, 1992)**

ODI Ranking: **5**

Key Player:

After England installed him as captain **Eoin Morgan** will be desperate to prove that the decision to remove Alistair Cook as captain is justified.

But also look out for:

**Alex Hales** and **Jos Buttler** are explosive batsmen when they are on song and could make or break England’s World Cup with their batting in the tournament.

#### Australia

Best World Cup Performance:  
**Champions (1987, 1999, 2003, 2007)**

ODI Ranking: **1**

Key Player:

Australia’s **new ball pairing** were destructive in the Carlton-Mid Tri Series against England and India, with Mitchell Starc twice removing two batsmen in the opening overs. And Mitchell Johnson isn’t bad either.

But also look out for:

He’s started to call himself the man Australia can rely on, and if **Glenn Maxwell** can pair that with his aggressive batting, Australia can expect some very high totals.

#### Sri Lanka

Best World Cup Performance:  
**Champions (1996)**

ODI Ranking: **4**

Key Player:

**Kumar Sangakkara** has announced that he will retire from ODI cricket after this World Cup. He is Sri Lanka’s leading run scorer and seems to be getting better every day. He carries with him Sri Lanka’s hopes.

But also look out for:

**Lasith Malinga** has been hailed as the greatest death bowler ever, and he knows that opposition batsmen will fear that toe-crushing in-swinging yorker.

#### Bangladesh

Best World Cup Performance:  
**Super Eights (2007)**

ODI Ranking: **9**

Key Player:

Bangladeshi captain **Mashrafe Mortaza** is a medium-fast bowler who has shown the potential to be a big threat.

But also look out for:

**Shakib Al-Hasan** will be keen to demonstrate why overturning his ban was a good call.

#### New Zealand

Best World Cup Performance:  
**Semi-Finals (1975, 1979, 1992, 1999, 2007, 2011)**

ODI Ranking: **6**

Key Player:

Kiwi batsman **Kane Williamson** has transformed himself over the last few years into New Zealand’s best batsman.

But also look out for:

Like Australia, New Zealand’s new ball pair, which is made up of **Trent Boult** and **Tim Southee**, are very strong.

#### Afghanistan

Best World Cup Performance:  
**Debut**

ODI Ranking: **11**

Key Player:

At age 30, **Nawroz Mangal** is the elder statesman of the Afghanistan squad and will thus want to lead by example.

But also look out for:

Captain **Mohammad Nabi** is usually Afghanistan’s most reliable player.

#### Scotland

Best World Cup Performance:  
**Group Stage (1999, 2007)**

ODI Ranking: **9**

### Pool B

#### South Africa

Best World Cup Performance:  
**Semi-Final (1992, 1999, 2007)**

ODI Ranking: **3**

Key Player:

**AB de Villiers** put his name in the record books (again) by blasting the fastest century in ODI cricket last month.

But also look out for:

**Hashim Amla** is South Africa’s opener and the newly installed Test captain will be keen to show that he is just as valuable in the short form of the game as the long form.

#### India

Best World Cup Performance:  
**Champions (1983, 2011)**

ODI Ranking: **2**

Key Player:

Having had a stellar test series down under, **Virat Kohli** had a quiet tri-series against England and Australia. He knows he is one of the best batsmen in the world, and has a great opportunity to prove it.

But also look out for:

The key to India’s chances will be how their fragile **bowling line up** fares on the flat decks in Australia. The injury to Ishant Sharma will have done them no favours as well.

#### Pakistan

Best World Cup Performance:  
**Champions (1992)**

ODI Ranking: **7**

Key Player:

**Shahid Afridi** has announced that he will retire from ODIs after the World Cup. Despite this, he knows that, with both bat and ball, he has the ability to win games for his country. And lose them.

But also look out for:

Also retiring is captain **Misbah-ul-Haq**. He is the mainstay of the Pakistan middle order and will be desperate to end his limited overs career on a high in Melbourne.

#### West Indies

Best World Cup Performance:  
**Champions (1975, 1979)**

ODI Ranking: **8**

Key Player:

Explosive batsman **Chris Gayle** can win a game for the West Indies in the first ten overs. In a time of turmoil for the team, he will be expected to come up with some hefty blows.

But also look out for:

**Darren Sammy** could be key to the West Indies’ hopes.

#### Zimbabwe

Best World Cup Performance:  
**Super Sixes (1999, 2003)**

ODI Ranking: **10**

Key Player:

In the victory against Sri Lanka, Zimbabwe’s top order batsman **Hamilton Masakadza** scored a brilliant century to guide his country home.

But also look out for:

In the same game, **Sean Williams** was very impressive. He took three wickets at a cost of only 35 runs in ten overs.

#### Ireland

Best World Cup Performance:  
**Super Eights**

ODI Ranking: **12**

Key Player:

The hero of Ireland’s 2011 campaign, **Kevin O’Brien** will be eager to showcase his destructive ability again this time around.

But also look out for:

Surrey’s wicketkeeper-batsman **Gary Wilson** took Ireland close to the Quarter-Finals in 2011, but succumbed to a shocking LBW decision.

#### United Arab Emirates

Best World Cup Performance:  
**Group Stage (1999, 2007)**

ODI Ranking: **9**

# SPORT

Sport Editor: Kunal Wagle

## What is the best team ever?

The BBC announced theirs last week. Now, it's *Felix's* turn to choose



The greatest One Day team, as voted for by BBC readers Photo: BBC

### Who the BBC chose

- |                     |                   |
|---------------------|-------------------|
| 1. Chris Gayle      | 6. Adam Gilchrist |
| 2. Sachin Tendulkar | 7. Jacques Kallis |
| 3. Brian Lara       | 8. Shane Warne    |
| 4. Sir Viv Richards | 9. Wasim Akram    |
| 5. AB de Villiers   | 10. Brett Lee     |
|                     | 11. Glenn McGrath |

### Who we'd have chosen

- |                     |                          |
|---------------------|--------------------------|
| 1. Adam Gilchrist   | 6. Kumar Sangakkara      |
| 2. Sachin Tendulkar | 7. Jacques Kallis        |
| 3. Brian Lara       | 8. Lasith Malinga        |
| 4. Sir Viv Richards | 9. Glenn McGrath         |
| 5. Michael Bevan    | 10. Wasim Akram          |
|                     | 11. Muttiah Muralitharan |

## World Cup Dream Team

*Felix* picks the eleven to watch at this year's tournament.



Steve Smith is captain of our dream team Photo: CA

David Warner (AUS)

Chris Gayle (WI)

Virat Kohli (IND)

Steve Smith (AUS) (Captain)

Kane Williamson (NZ)

AB de Villiers (SAF) (WK)

Glenn Maxwell (AUS)

Mitchell Johnson (AUS)

Tim Southee (NZ)

Mitchell Starc (AUS)

Trent Boult (NZ)

## What is the best format?

The ICC has been searching for the perfect World Cup format for years.



The 1992 World Cup has often been viewed as the fairest Photo: PA

If there is one thing that can be said about the ICC Cricket World Cup, it's that over the years, the International Cricket Council (ICC) themselves have been very unsure over what the best format is.

A large amount of this has been down to the debate over how many teams there should be in the World Cup. The governing body is keen to downsize, whereas the Associate nations are, predictably, not.

The format has varied widely over the various editions of the World Cup, with varying degrees of success. The original format of the World Cup, which pitted eight teams in two groups of four with the top two progressing to the semi-finals, was viewed as successful. It lasted just over a fortnight. However, this format is not viable now, as there are more than eight Test nations.

The format of the 1992 World Cup has been widely accepted as very successful (even if the rules weren't – the rain rule proved to be very controversial). It had nine teams who all played each other in a league. Semi-finals and a final would follow.

This is the sort of format that the ICC wants to implement, but it has its drawbacks – the obvious one being that it would result in the removal of the Associate nations from cricket's premier tournament.

The Associate nations view their participation in these tournaments to be crucial for their boards to thrive financially. A knock-on effect of boards earning less money is that grass roots cricket in the countries will suffer. And we all want younger players to be playing cricket.

So, based on the assumption that keeping the Associate Nations is a good thing, what other formats would be better? Personally, I quite liked the 2003 format (which had two groups of seven and a second group stage called the Super Sixes), but I understand where people are coming from when

they say that it felt quite long and bloated.

The ICC responded with the 2007 World Cup, but that proved to be a financial disaster. In the 2007 World Cup, the teams were split into four groups of four, with the top two from each progressing to a Super Eights stage. But what the ICC hadn't considered were the ramifications of the big commercial teams being knocked out.

Whilst I appreciate that this is a risk no matter what the format, it is far more likely in a group of four than a group of seven. India lost to Bangladesh, and Pakistan lost to Ireland. Both were knocked out, and the public had to deal with two weeks of watching (with all due respect) two minnows in the Super Eight stage. Unsurprisingly, ticket sales slumped.

The format for 2011 (and 2015) sees two groups of seven again, but with the ill-fated super stages axed once and for all. Instead there are quarter-finals before the traditional semi-finals and final. Again, I have to say that I quite like the format. Again, I also have to say that others find it very long.

So, what is the best format? Well, in my point of view, the ICC should take a leaf out of their book for the Twenty:20 World Cup. In that, there are sixteen teams – the ten Test nations and six Associate nations.

The bottom ranked eight teams have a preliminary stage with the top two sides qualifying for the Super Tens, which is effectively the remaining ten teams playing in two groups of five.

If the preliminary stage was to be a knockout tournament then the length of the overall tournament will be significantly shorter, while the Associate nations will also get their day in the sun.

And most importantly, instead of arguing, we can all just get on with the cricket.

## Four mouth-watering clashes at this World Cup

Kunal Wagle picks out the four group stage matches that he is most looking forward to at this year's World Cup.

### Australia v England

Melbourne Cricket Ground, 14<sup>th</sup> February

The first game in Australia in the tournament is one of the biggest there can be. Both sides will be looking to make an early statement to their group about what to expect.

### India v Pakistan

Adelaide Oval, 15<sup>th</sup> February

The opening weekend ends with the biggest clash of them all. India haven't lost to Pakistan in a World Cup before, but Pakistan will know that India have never looked so vulnerable going into a World Cup.

### India v South Africa

Melbourne Cricket Ground, 22<sup>th</sup> February



The rivalry between India and Pakistan is fierce Photo: Asia Cup

The two most explosive batting line-ups from the past year face off in the crunch match in Pool B. Expect fireworks from both sides in what tournament seeds predict will be the battle for pole position.

### New Zealand v Australia

Eden Park, 28<sup>th</sup> February

The two hosts play each other on New Zealand's home turf. The Kiwis have been in a rich vein of form and have looked invincible at home recently. But Australia is also looking incredibly strong. It takes a brave person to suggest this isn't a potential prequel to the final.



# Imperial leave it late to snatch victory against Hult

Phil Gerstenburg return from Victoria Park scarred after facing a waterlogged pitch



An artist's impression of the challenging conditions the 7th XI faced at the weekend Photo: Steve Porter

Last Saturday IC 7s faced off against Hult International Business School 2s in Victoria Park. The day got off to a bad start when Giles Wane decided he would miss the meeting time altogether after his alarm just decided it would not go off that morning. The tube journey to Victoria Park took us past all of the great sights of London, including Whitechapel, a place where one of the team feels more comfortable and cosy than anywhere else in London.

Upon arrival in Victoria Park it was clear that this was not going to be 90 minutes of footballing delight. In fact it wasn't going to be 90 minutes of anything, but more on that later. While the changing rooms were of a more spacious variety than those at Fortress H, many rogue items were found on the floor and this encouraged a quick change allowing for more warm up time once on the pitch. However, a quick pitch inspection showed the conditions to be even worse than expected – the Shaguar has since considered buying the plot of land we played on to grow his potatoes, describing the conditions as “perfect”.

It was even discussed if goals had to be converted using the Klinsmann method, which was turned down by the opposition, something that became more and more surprising during the game as it was evident that they all enjoyed a good dive. The referee then decided at 2pm that kick off had actually been scheduled at 1:30pm instead and tried to tell us both teams had shown up late. After much discussion it was decided that 35 minute halves would be played. Hults were given kick-off as the ref had forgotten the coin for the toss in his bag which was unfortunately placed 20m away on the touchline.

As the game kicked off it was apparent that the midfield duo of Sam Monk and Euan Graham was ideally suited for this style of football with their destructive ability, conquering the middle of the park early. Rob Harris played his usual style with minimal running but great efficiency in laying off the ball to his supporting cast of Ignacio Deprit, Tom Fenning and Chris Caulcrick. This created opportunities early but Harris missed a one on one and Chris fired a free kick just over the bar.

Hults were convinced that playing

on the ground through the pool of mud that was the pitch was their best option, and this made it easy for the IC defence to stop their attacks. Throughout the game their only opportunities arose from set pieces – but man of the match Jaime was able to pull off some exceptional saves in goal.

During the second half IC were really able to show their dominance and the breakthrough came in the 67th minute (three minutes from the end) when their keeper decided to take a leisurely country stroll back into his net after punting the ball 15 metres downfield. The ball was poked through to Chris who did well to score into the open goal on a pitch as unstable as Frank's hands after a union night.

The day concluded with Louis offering the best treats of the season as he ensured that everyone received not only a starter but also a main and a dessert. Upon returning to the union the 7s also decided to dominate Bola Bola with two semi-finalists, kicking out many favourites on the way #justice. Overall, all the players who had invested into the 7s were rewarded with an exceptional return.

## Immortals lose at home to Hurricanes 24-6



Photo: Imperial Immortals

Sunday 8<sup>th</sup> February saw the Imperial Immortals clash with the Hertfordshire Hurricanes at Fortress Harlington.

Earlier in the season the Immortals put in a great second half and lost 22-12 after some inspired work from Bob Works from Home Alone 2: Lost in New York with the quarterback sneak of legend.

Sunday's game started with the Immortals offence on the pitch after a minute's silence of respect for Tony Bainbridge, former head coach of Brighton Tsunami, who died earlier in the week.

The offence started strong; driving the ball early on, which would become a theme throughout the game. Strong running from Emanuel Olagbaju and Duncan 'Wendy' MacKinnon saw yards for days but as with previous games the offence struggled to finish and put the ball in the endzone.

Immortals defence were strong as ever and limited the normally high scoring Herts offence to only one touchdown in the first half, which ended with Amit Chawla getting a tasty interception.

The second half saw the Herts offence put up two more touchdowns and a field goal to put them up by 24-0. However, the Immortals stuck to what they knew by running the ball hard and throwing well.

Toby Sinclair, quarterback, threw for over 100 yards on the day including some great link-up play between Toby and Noach Ben-Haim with special mention for the always illusive yards-after-catch

Noach managed to pick up, saw the Immortals fly down the pitch.

This megadrive saw the Immortals within 10 yards of the Herts endzone where the offence punched the ball in with a quarterback sneak with Toby waltzing in for the touchdown.

The defence managed to win the ball back for the offence several times through the efforts of Marin 'wet burp' Tuleu getting two interceptions on the day as well as Little Harry Collini causing a fumble.

However, the Herts defence stayed strong to deny the Immortals any more points and the game finished 24-6 to Herts.

The Game's Most Valuable Players were: Little Harry 'Springer' Collini (Line MVP for great work on the offensive and defensive lines), Marin 'wet burp' Tuleu (Defensive MVP for consistent play of defense and getting two picks), Noach Ben-Haim (Offensive MVP for great play on the outside to keep the drive alive several times with his magic feet) and Jörn 'Gorab' Jörg (Overall MVP for dominating on both offensive and defensive lines and making the QB sneak a real weapon).

Special mention has to go to Mad Dog Pecs who it was nice to see back playing the game with some of his mind intact. A great performance with an unflattering score line helping the Immortals to look forward to next week's game against the Birmingham Lions.

**SAM HILL**  
**IMPERIAL IMMORTALS**