



felix

ISSUE 1820

FRIDAY 10TH FEBRUARY 2023

THE CAT IS BACK



Imperial's quiz-winners
Illustration by Isaac Winson

Union Council votes to support UCU marking boycott

► 60.6% of Union Council vote in favour of assessment and marking boycott.

Jamie John Co-Editor-in-Chief

Imperial College Union Council on Tuesday 7th February voted in favour of a motion to continue supporting the University and College Union's (UCU) industrial action, and to begin supporting its proposed marking and assessment boycott.

The decision was met with applause from some members of Council, and will be reflected in Imperial College Union's official stance moving forward.

On the first resolve of the motion, 84.8% of members voted to continue support for the UCU's strike action; 12.1% voted against, and 3.0% abstained.

On the second resolve, 60.6%

voted to begin supporting UCU's marking and assessment boycott, should it take place from April. 18.2% voted to continue not supporting the boycott, with 21.2% abstaining.

The motion notes that 'Should a marking and assessment boycott

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EDITORIAL

This issue was produced thanks to the work of:

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And our numerous contributors!



Felix moves forward

Much like the rest of the world, we here at *Felix* have been re-evaluating how we feel, how we operate, and how we interact with our community – you! But unlike most New Year's resolutions, our New *Month's* resolutions are here to stay. Better quality, more content, more fun, and increased student body engagement are all things we are resolutely going to stick to over the next few months. We're bringing some (metaphorical) colour back to *Felix's* pages, by way of actively recruiting a host of fresh blood to the cult – we mean *society* – and streamlining how we work together to create each issue of the paper.

Regular readers will have seen that *Felix's* previous Editor-in-Chief, Ameena, resigned from her post two weeks ago (January 27th). We greatly appreciate the work she has done as Editor, as well as her contributions in previous roles as Deputy Editor and Chief Copyeditor, and we wish her the very best in the future.

You might be wondering who is now behind this editorial. Unfortunately for Sci-Fi and Fantasy Club, it isn't the ghost of the *Felix* office, but three students from the *Felix* team who have volunteered to

share editorial responsibilities and try to keep the ship afloat.

Jamie has been on the team for two and a half years and counting, having previously held Deputy Editor and Science Editor roles. Isabella has been an integral part of this year's News and Sports-and-Societies sections, being Editor for the latter. And Zanna has been *Felix's* Books Editor for a year and a half, as well as Treasurer for this academic year. All of us have written and edited extensively for the paper and are well-versed in its operations.

A significant change to note is that we're shifting from *weekly* to *fortnightly* printing for the remainder of the year, returning to normal for 2023-24.

Among our established content - brought to you by a fantastic team of section editors - we're super excited about having more excellent illustrators, the caption competition in our freshened-up Puzzles section, and bringing back our long-lost Arts section! We're really looking forward to giving the paper some much-needed TLC, and we hope you feel inspired and motivated to join us either as a contributor or as a reader; after all, there is no *Felix* without its readers.

Illustration by Nicolas Geiseler Toran



Statement of Intent

At *Felix*, we believe that it is always in the interest of the students to be in the know. Transparency in the workings of the College and the work of your student representatives is key. Therefore we, the *Felix* Editors, on behalf of the team promise that:

We will, to the best of our ability, tell you the whole truth and nothing but the truth.

We will keep your confidence and will only publish something you say to us if you have explicitly said that we can.

We will work to expose unfairness and discrimination in all forms that it takes at the College.

We will treat fairly any article sent to us, regardless of point of view, and do our best to work with you to prepare it for publication.

Signed by: Jamie John, Isabella Ward, and Zanna Buckland
Co-Editors-in-Chief 2023

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Imperial Quiz clear the field at ACF Regionals

► *Imperial A achieve a clean sheet of ten wins in quiz competition qualifiers.*

Oscar O’Flanagan

Imperial College Quiz Society Treasurer

The Imperial A team have won the UK edition of the 2023 Academic Competition Federation (ACF) Regionals quiz tournament with a clean sheet of ten wins and zero losses. ACF Regionals is a challenging buzzer quiz tournament where student teams attempt to qualify for the annual ACF Nationals tournament, due to be held at MIT in April. This year’s Regionals tournament, hosted by Imperial on January 28th, saw twelve teams from a total of eight different universities

compete in the City & Guilds building.

The winning Imperial team consisted of undergraduates Adam Jones (computing) and Justin Lee (chemistry), as well as PhD students Michael Mays (aeronautics) and Enoch Yuen (molecular biosciences). They bested tournament favourites Oxford A in their sixth match, who finished the day with eight wins and two losses, meaning that a final was not needed to determine the winner. This is the first time ever that a non-Oxbridge team has come first at ACF Regionals in the UK, since it was first hosted in 2016.

Imperial is now looking likely to be

represented in the notoriously difficult ACF Nationals tournament for the second year running. Justin Lee, also Chair of the Quiz Society, remarked on the team’s recent success in tournaments:

“I’m very glad we’ve won a second tournament in 14 days - there were a couple of close games, but we made it unbeaten without having to play an additional final. We are playing some of the best quizzers in the entire country, which didn’t make it easy, but our repeated training sessions helped offset our initial defects in both knowledge and confidence.”

A second Imperial team - ‘Imperial B’

- also competed in Regionals, consisting of PhD students Rahim Dina and Owen Iredale and undergraduates Jonah McDonald and Mattia Elkouby. They had a rather more tumultuous record of four wins and six losses, including two close defeats to the teams from Sheffield and Bristol. Nonetheless, given the standard of this year’s field at ACF Regionals, this is nothing to sneeze at.

The Quiz Society meets every Monday from 6-8 p.m. in City & Guilds, room 651 for buzzer quiz practice. People of all levels of quiz experience – including none – are welcome to join.

USS deficit dents Imperial’s financial outlook, shows Annual Report

► *Heightened financial pressures make College’s sustainable staff strategy unclear*

Isabella Ward Co-Editor-in-Chief

Imperial’s most recent Annual Report revealed that the College’s finances took a hit in the 2021-2022 academic year as the College concluded the year with a deficit of £123.6 million, in stark contrast to the surplus of £161.7 million surplus delivered in the previous year.

The large net deficit is partially due to a projected £153.0 million increase in pension provision.

This sum — up from a £5 million contribution the previous year — comes off the back of the 2020 valuation of the Universities Superannuation Scheme (USS).

The USS is a centrally-administered national pension scheme for active and retired academic staff. At its latest complete actuarial valuation in March 2020, the value of the scheme’s assets was found to fall £14.1 billion short of the scheme’s technical provisions. As a result, a deficit recovery plan was put into place which obligated employers to pay a contribution of

6.2% of salaries to the fund. This will increase to 6.3% as of April 2024.

Despite the gravity of the deficit on paper, acting Chief Financial Officer Dr Tony Lawrence assured the community that in 2021-2022 “Imperial delivered a sound financial performance”. Lawrence owed his optimism to the fact that employer contributions are to be repaid over an agreed recovery period of 18 years.

However, he also warned that “this is likely to remain a source of volatility in our results in the coming years”, especially as another valuation of USS is due in March.

The USS deficit recovery plan is a point of contention, as academics and academic-related staff continue to strike in protest against reforms to their pensions. Proposed reforms would see many individual’s pensions cut and employee contributions hiked, which strikers argue effectively equates to a drop in their salaries.

Prior to February’s industrial action, a spokesperson for Universities UK, on behalf of USS employers, said:

“The reality is that for some considerable time, universities have had to do more with less and make up the shortfall on the cost of teaching and support from elsewhere in budgets because fees have not kept pace with inflation. This is the context in which we would ask members of the UCU to consider whether to join the picket lines in the weeks ahead.”

Lawrence agrees, writing in the report “The cost of delivering a high-quality learning experience is increasing at a time when home undergraduate tuition fees are capped until at least 2024–25.”

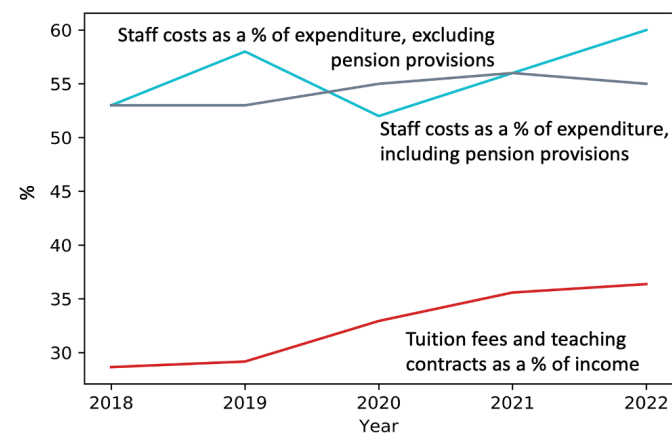
Figures from Imperial’s Annual Report show that income from tuition fees and teaching contracts continue to provide an increasing proportion of Imperial’s total income.

Thi s

unsurprisingly mirrors the increasing annual intake of students. Despite this, staff numbers have stagnated.

Lawrence acknowledges this is an issue, stating in the report “Overall staff numbers have stayed broadly unchanged over the last three years, despite the growth in student numbers. This is not a sustainable situation going forwards, particularly as we are planning for further modest growth in student numbers.”

However, the increasing proportion of College income eaten up by pension contributions may indicate why staff numbers have flattened in recent years.



On the picket lines

Picketers were out in full force today on Exhibition Road, striking as part of the UCU in protest against a 'real-terms paycut'. At around 10:30 am they regrouped and various members took to a megaphone to discuss the state of the strikes.

It was excitedly announced that on Tuesday the Imperial College Student Union had voted to continue supporting the strikes and begin supporting the marking and assessment boycott, and this was met with applause from the circle.

However, speaking to strikers, I was told that the decision to implement a marking and assessment boycott was not taken lightly: striking alone has required large amounts of "soul searching". Yet, one picket argues that, faced with an 8% pay cut which effectively equates to losing one month's worth of salary every year, to him losing 18 days of pay to strikes this year is a no-brainer.

They told me how they have especially "agonised" over the commitment to boycott marking and assessment. However, they feel that this is the best chance they have at putting sufficient pressure on the College to resolve the disputes, arguing that this is better for students and staff in the long-term.

With 16 more days of striking ahead of them, they realise that they need to strategise to ensure there are moments of heightened pressure on the College.

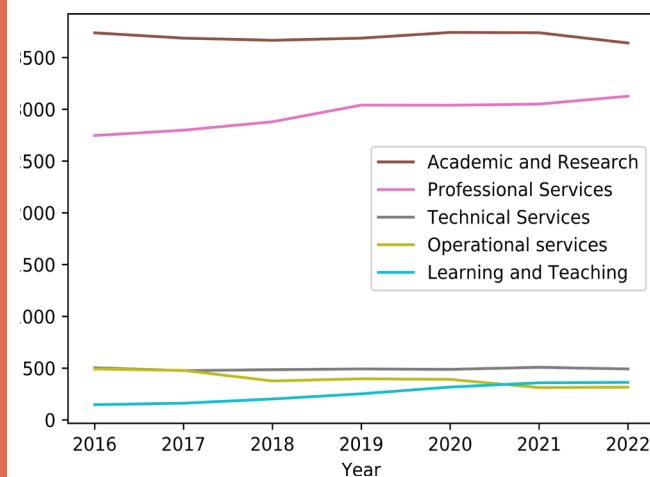
Trade unionist Roger took to the megaphone to reiterate this. He called this set of strikes "unique" due to the length of time they span, and offered support in strategy, logistics, and contacts.

Those present have resolved to be "less passive" on the picket lines and increase attempts to explain their cause to non-striking colleagues and try to win them over: "We cannot afford ourselves to be divided", one member stressed. "The longer the picket line, the shorter the strike", is the mantra.

Shortly after the regrouping they headed off to an organiser meeting in the Union. The use of these facilities, as well as the provision of tea and coffee to the picketers, are made possible by the student union's continued support.

UCU members are grateful for this, but also referenced an incident on Wednesday night when University of Manchester students occupied (and are still occupying, at the time of writing) three campus buildings in support of UCU demands and amidst a rent strike. Picketers are hopeful that momentum will gather behind a student support initiative here at Imperial. They maintain that a better deal for staff will result in a better quality of education for students, telling me as we walked to the Union building:

"There's never been a greater case for unity between staff and students than there is now"



On the other hand, the report also conceded a "big drop in the level of cash flow from operating activities". Hence, the increase in pension contributions as a fraction of expenditure may simply be a corollary of the College tightening its belt in other areas.

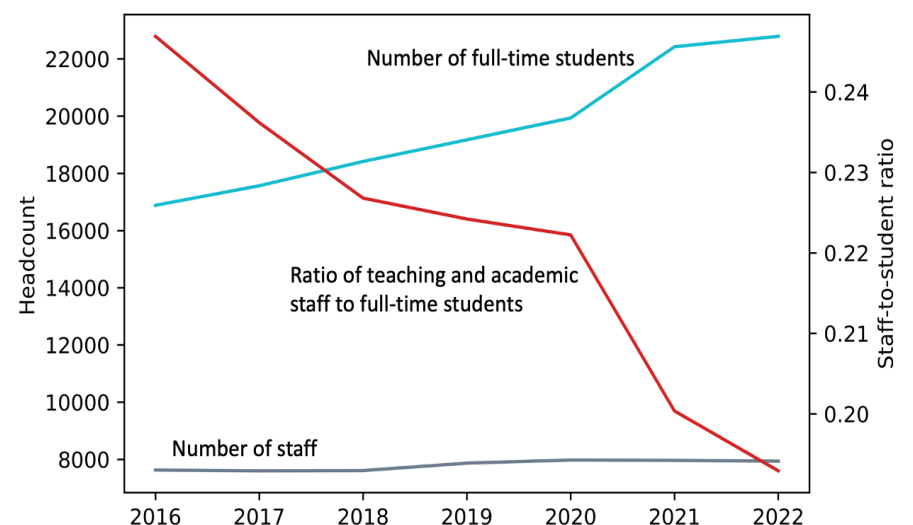
In 2016-2017, staff numbers dropped to a

Yet this is not unprecedented. The annual report for 2016-2017 notes: "Staff numbers fell marginally in 2016-17 for the first time in five years. The fall in academic and research staff numbers mainly reflects the fact that the volume of research undertaken in Chemistry is being slightly constrained ahead of their move to new facilities in White City next year. We expect this trend to reverse in the coming years."

However, the staff numbers have barely recovered from this low, despite student numbers having increased by just short of 30% since 2017.

Intentions for recovery may have been blighted due to the results of the prior USS valuation conducted in 2017. Similarly to now, employers were obligated to pay recovery rates of 6%, which may explain why the College was left with little capacity for growth in employee numbers since.

Relationships with support staff



have been turbulent too. In January over 200 non-teaching staff went on strike in response to an off red pay rise of 3.3% which, in the face of double-figure inflation, which they deemed 'a pay cut in real terms'.

Establishing the right balance has been on the College's agenda for some time. In the 2016-2017 annual report, the College

wrote "The business plans submitted by departments this year show they appreciate the need to control cost and recognise the need to change how we provide support services. Our intention is to keep growth in support staff numbers to a minimum by redesigning our operating model."

Lawrence hints at this redesign in the most recent report: "The increased use of a multi-mode approach blending in-person and online content is one of the ways in which we believe we are delivering a student experience that is better than ever ... The hybrid ways of working we are piloting present us with the chance to rethink the way we use our space and optimise the return on our investment in our estate."

The new People Strategy 2022+ objectives set out by the Human Resources department takes this a step further as they plan to 'conduct a review of Professional, Technical and Operations, and Learning job families' salary structures'. The strategy will also attempt to streamline their pool of support staff by 'reducing the use of external agencies to increase the capacity for in-house search and create a talent pool' and hence trim the fat on their temporary worker recruitment expenses.

Continued from page 1...
Union Council...

take place, this may affect the ability of students to progress or graduate, and therefore could be significantly detrimental to students.'

The UCU represents academic and academic-related staff in further and higher education. UCU members nationwide are participating in industrial action relating to cuts to the

if a majority of a trade union's members agree to it in a ballot. During a marking and assessment boycott, UCU members are asked to cease all summative marking and associated assessment duties.

Council members heard from an Imperial UCU representative, who explained why he felt industrial action was necessary. He told them that the College had offered a median 3.3% pay increase for the 2022/23 academic year. Staff earning the very lowest salaries were awarded an 8.5% increase, whilst the highest earners received a 1.1% increase. He argued that, in the face of double-digit inflation, the average staff member would be hit by a real-terms pay cut of around 8%.

The UCU representative called upon ICU to continue supporting the strikes. He asked that students be encouraged to join picket lines, and that UCU members continue to be allowed to use parts of the Union building on the days of strikes. "I completely reject this idea that the College raises all the time, that students are customers, and that somehow staff or students should be blamed for fees", he said. "The manner in which the College behaves is frankly one of survival. All they're trying to do is bring in money and put pressure on staff, when our interest is supporting students and just trying to get by."

Council members discussed the potential impact of further industrial action, including the proposed marking and assessment boycott. There was a sense among some present that the boycott would spur on the College to negotiate further. One member from the Royal College of Science Union argued that a boycott was now necessary, given that past strike action had been ineffective, saying, "I think it's really important that we vote in favour of the marking boycott — it's the only real way we can effect change."

An Undergraduate Engineering Representative to Council argued that disruption to students would be minimal, especially compared to strikes, which result in lost teaching hours. ICU President Hayley Wong reiterated that the Union puts the interest of students first. She also reassured members that, should a marking and assessment boycott

happen, the College promises to do everything in its power to prevent it from having an impact on students. The motion itself, authored by Jason Zheng, ICU Deputy President (Education), notes that 'all College employees deserve a fair salary and fair pensions.' On the topic of pensions it

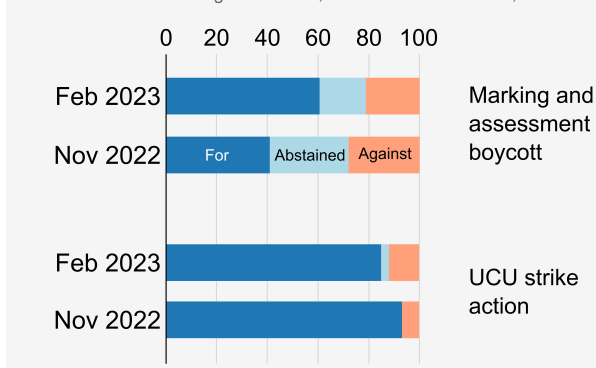
Jason Zheng

ICU Deputy President (Education)



This year's industrial action is more intense than anything we've seen before. The number of strike days has increased significantly from previous years, and the threat of a marking and assessment boycott is now upon us. We are obviously very concerned about the impact that this round of industrial action will have on students' education and student experience, with the equivalent of nearly four teaching weeks being impacted. However, we are also conscious that the working conditions of staff are the learning conditions for students, and believe that when staff feel they are fairly compensated then students will have a better experience as well. This has been an issue for many years, and we implore the College to work closely with the Joint Trade Unions to resolve it as soon as possible.

Felix Union Council has changed its stance on the marking and assessment boycott
Union Council voting breakdown, Nov 2022 vs Feb 2023, %



Source: Imperial College Union
Felix is the student newspaper of Imperial College London.

USS pensions scheme, which covers UK higher education. In addition to this, Imperial UCU members are engaging in industrial action in response to the College's 2022 local pay award, which they feel is insufficient given the current cost-of-living crisis.

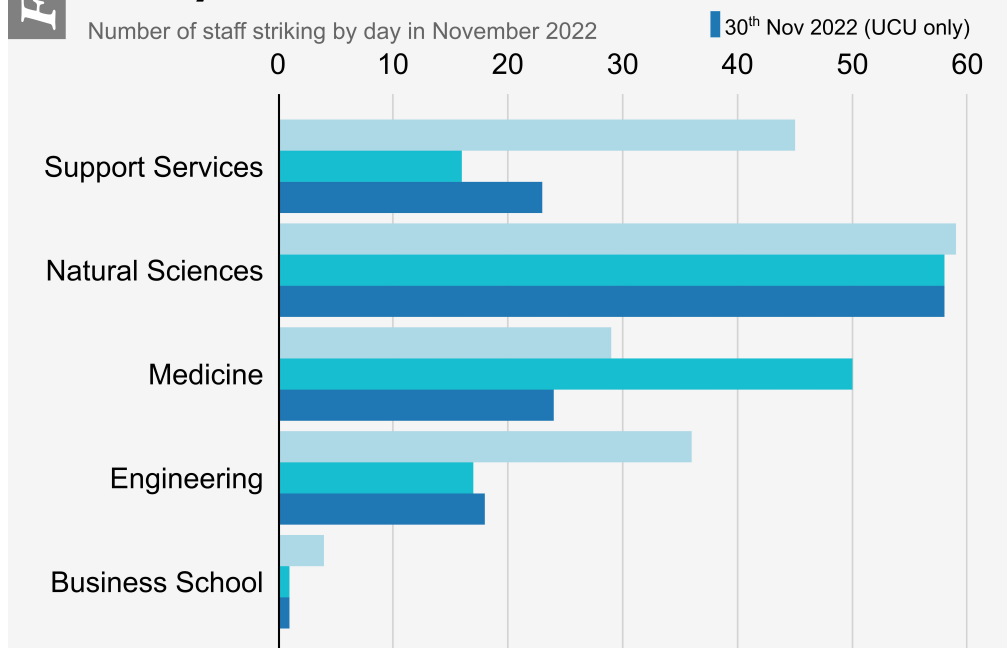
Imperial College Union (ICU) has supported the UCU's strike action in various forms since 2018. In the most recent strikes in November 2022, and in January and February 2023, space was provided in the Union building for striking staff to meet, hold events, and store materials.

However, the support of a marking and assessment boycott represents a step further in its endorsement of the trade union's industrial action, and a change from ICU's position earlier this academic year.

In November 2022, Union Council voted on a separate UCU marking and assessment boycott planned for January 2023 (which was later called off). In that vote, Council was noticeably more divided: 41% of present members voted not to support a boycott, 28% voted against the resolve, and 31% abstained.

The UCU's newly proposed marking and assessment boycott will begin from April 2023, pending the outcome of a ballot of the trade union's members to renew its mandate to call industrial action. In the UK, industrial action is only legal

Felix The impact of strikes varies by faculty
Number of staff striking by day in November 2022



Source: Imperial College Union, Union Stance on Continuing Support for UCU Industrial Action, Union Council / 7th February 2023
Felix is the student newspaper of Imperial College London.

NEWS

BLAST FROM THE PAST

THIS WEEK IN...

2010

Tanaka Business School...

It is often said that journalism is the first rough draft of history.

Here at *Felix*, we'd like to offer you a glimpse into the history of the College, as told in the pages of our very own news section. Each issue (space-permitting) join us as we explore stories from our extensive archive, which spans 74 years, all the way back to our founding in 1949.

If you would like to browse the archive for yourself, scan the QR code.

Email us if you find something interesting!



- ▶ College Business School was founded as the Tanaka Business School in 2004.
- ▶ In 2005, its namesake Gary Tanaka was arrested.
- ▶ This week in 2010, Tanaka was sentenced to five years in prison for fraud. The story was featured in *Felix* issue 1453 (below).

felix FRIDAY 12 FEBRUARY 2010

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news.felix@imperial.ac.uk

NEWS

Business School's Tanaka imprisoned

Sina Ataherian reports on the 5-year sentence that Imperial College benefactor Gary Tanaka faces this week

If you are in second year or above, you may remember the halcyon days when Imperial College Business School was called the Tanaka Business School. The name came from Gary Tanaka, a Japanese-American fund manager who did a PhD in Mathematics at Imperial. He pledged £27 million to the College, who thanked him by naming the new Business School in his honour. In 2004, the Queen thanked him for his generosity during the ceremony in which she opened the new Business School building.

But most of the money has yet to come. On Friday, Tanaka was sentenced alongside his business partner Alberto Vilar for defrauding investors of £13.5 million. They were both ar-

rested in 2005, after a private detective hired by a concerned client discovered that they had attempted to clear millions of pounds of debts with their clients' investments. The prosecution alleged that the pair had stolen £3.4m from Lily Cates, a 70-year-old American heiress who had been a client for 18 years.

Edward Adams, the private detective, claimed that Vilar and Tanaka had used two-thirds of Ms Cates' fund to pay off another investor and £440,000 of the firm's bills. Another £670,000 of her money was used by Vilar to fulfil a charitable pledge to Washington and Jefferson College, and other personal expenses. The court heard how Tanaka had instructed his assistant, Maxine Rye, to cut out Ms Cates' signature from a document and tape it to a fax authorising the transfer of an extra £170,000 from her brokerage account. Tanaka was found guilty of three counts of securities fraud, conspiracy and investment adviser fraud but innocent of nine other counts. Vilar was convicted of all 12 charges.

Tanaka is the son of Japanese immigrants to America, who were interned during World War Two. He was born in a holding camp. After the family were released, his father built a poul-

try business that enabled Tanaka to afford to attend MIT. When he moved to London for his PhD, he claimed to have "fallen in love with swinging Beatles-era London." He met Vilar in 1980 after a career that took him around the world, from San Francisco to the Middle East. Together they launched Amerindo Investment Advisors. The firm invested in some of the most successful firms of the dotcom boom, including Microsoft, Cisco, Amazon and eBay. At one point, they had more than £5 billion in client assets. But, after the dotcom bust, their firm's stock price dropped by 90 per cent.

The presiding judge, Richard Sullivan said, "the investment world needs to know this kind of behaviour cannot be tolerated." The judge is called The Avenger for his crusade against allegations of fraud.

Claiming innocence, Tanaka said, "our documentation was lax and that got us into trouble. I'm sorry for what happened ... you think you're going to win the race and your horse comes in last. I was surprised at the severity of the sentence. I feel innocent in the sense that nobody lost money. We were arrested and convicted on a footnote." He described the trial as "a storm in a teacup."

A man called Tanaka and his business school

Gary A. Tanaka was born June 23, 1943 to Japanese parents in Hunt, Idaho, within the compounds of the Minidoka concentration camp; it was set up to detain Japanese-Americans across the US during World War II.

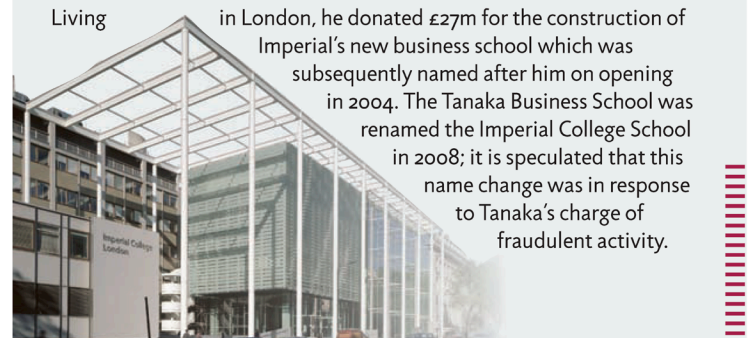
He graduated from the Massachusetts Institute of Technology, then studied for a PhD in Mathematics at Imperial College. He has two sons who have followed in their father's footsteps and are successful businessmen.

Tanaka has great involvement in thoroughbred racing horses, owning a major stable that has reared horses that have won races across the globe.

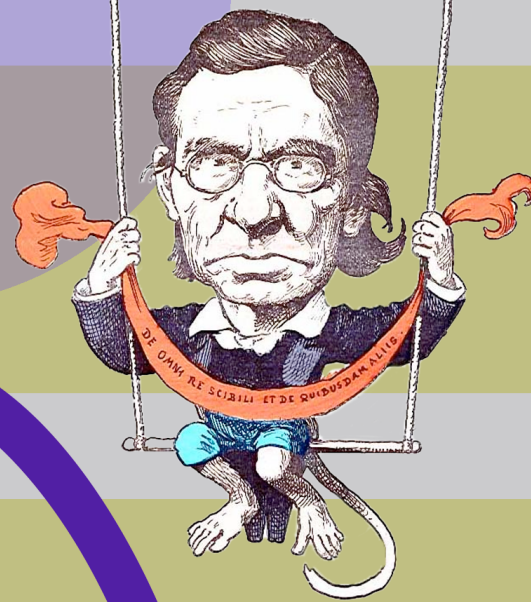
Living in London, he donated £27m for the construction of Imperial's new business school which was subsequently named after him on opening in 2004. The Tanaka Business School was renamed the Imperial College School in 2008; it is speculated that this name change was in response to Tanaka's charge of fraudulent activity.



Gary Tanaka donated £27 million to Imperial College and was thanked personally by the Queen. He now faces 5 years in prison for fraudulent



*Writers submit to the emails
at the top of each section!*



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SCIENCE

Edited by: Angie Lo
Taylor Pomfret

SCIENCE

How to avoid the worst air pollution when travelling around London

► *The air pollution problem on London's Underground is worse than we thought. Here's how to reduce your pollution exposure and advocate for a cleaner city.*

Peter Knapp Science Writer

Healthy travel produces the least pollution, moves your body, and reduces risk to yourself and others — including exposure to air pollution.

A recent study reported by *Felix* on air pollution in the London Underground stated that levels of airborne particulate pollution were “more than double the WHO's recommended limits”. But the reality is unfortunately much worse.

In the reported study by Kumar *et al.*, it is unclear if the instruments were calibrated to the underground environment before measuring. But calibration of the instruments is crucial to get accurate data.

Kumar *et al.* found that levels of PM_{2.5} (denoting particles small enough to reach the alveoli in the lung) at the South Kensington Piccadilly line underground platform were between 40-50 $\mu\text{g}/\text{m}^3$; whereas a previous study by Smith *et al.* from King's College (now absorbed into Imperial's Environmental Research Group) used calibrated apparatus and found this value to be 178 $\mu\text{g}/\text{m}^3$ — which is 4 times greater.

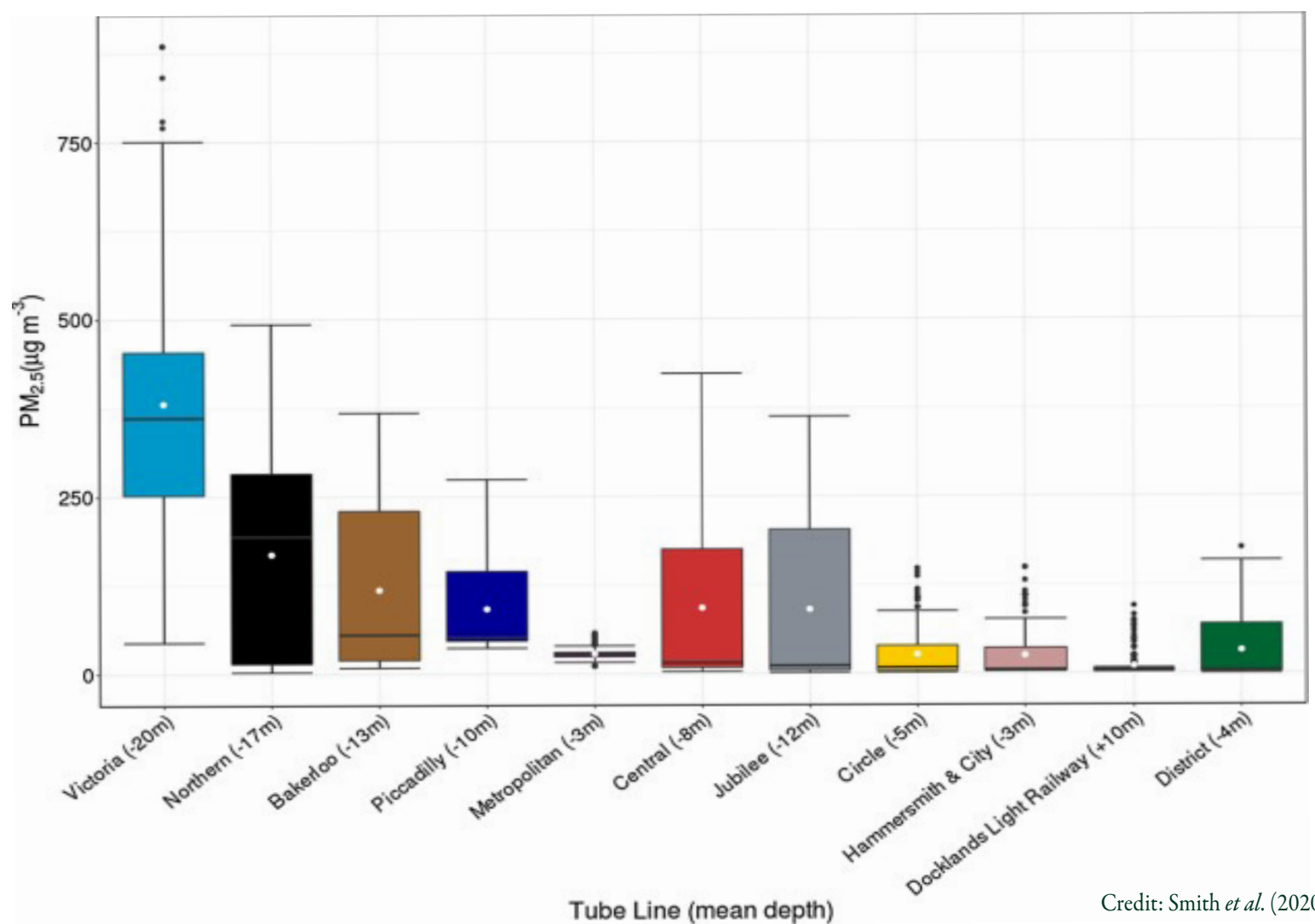
Levels of PM_{2.5} can be remarkably high in the London Underground. This is because air can get trapped in the tunnels, and dust created by brakes, wheels, and sparking from electrical connections is always disturbed by regular trains kicking it up. The highest value recorded in the Smith study was 885 $\mu\text{g}/\text{m}^3$, whereas the WHO guideline for 24-hour exposure is 15 $\mu\text{g}/\text{m}^3$, and annual exposure just 5 $\mu\text{g}/\text{m}^3$. Roadside levels in Lon-

don average 14 $\mu\text{g}/\text{m}^3$ of PM_{2.5}, but are more likely to have much bigger problems with other pollutants such as NO₂ and ozone. All of these pollutants cause inflammation, which in turn increases the risk of asthma, dementia, strokes, diabetes, cancers, and many other diseases.

The UK Department for Environment, Food, and Rural Affairs (DEFRA) has classified the Tube as an ‘indoor environment’ that currently has no guideline limit for any air pollutants. With two million people using the Tube every day, and people spend-

ing roughly 90% of their time indoors, DEFRA should focus on setting indoor air pollution thresholds as a priority. The Clean Air (Human Rights) Bill, informally known as ‘Ella's Law’ after Ella Kissi-Debrah, a 9-year-old girl who died of air pollution, has passed through the House of Lords with exceptionally strong cross-party support. The bill addresses indoor air, therefore including the London Underground, and establishes the human right to breathe clean air precisely and explicitly in UK law. It would require the Secretary of State

Scan for the full results of the Smith *et al.* study:



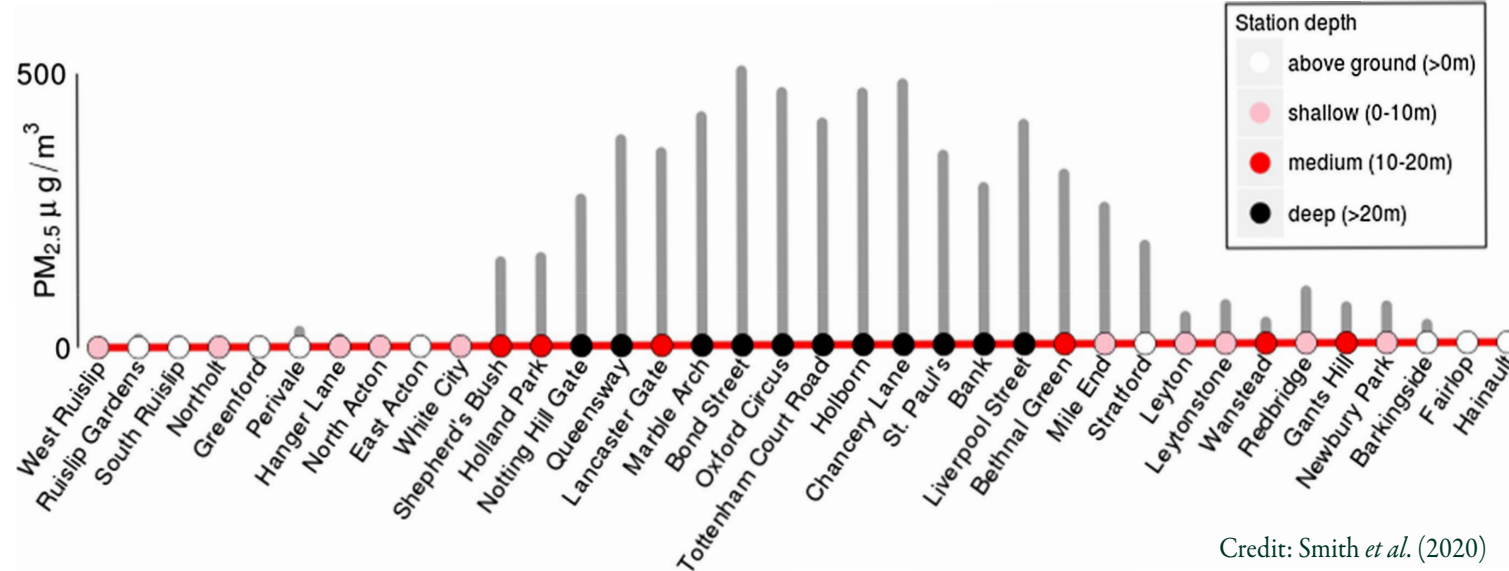
Graph showing the concentrations of PM_{2.5} by Tube line, with concentrations ordered by median.

Credit: Smith *et al.* (2020)

to achieve 'clean air' throughout England and Wales within five years of the passing of the Act and maintain it thereafter.

More on Underground air pollution: the toxicology of the dust is not well understood. The solubility of particulate matter, for example, may play an important role as more soluble pollutants may create more inflammation in the lung's inner surface. The particles in the Underground are mostly metals with low solubility, which may reduce relative toxicity. However, toxicology studies from 2005 showed Tube dust has 'cytotoxic and inflammatory potential at high doses'. The health effects of magnetite — one of the most common forms of particulate matter found in the Tube — have been linked to Alzheimer's as well as magnetite nanoparticles being found in the brain. A recent study showed that dust from the Bakerloo and Jubilee lines made mice more vulnerable to deadly bacterial infections. More conclusive toxicology studies on Tube dust are currently underway at Imperial College.

Overall, cycling is the best way to get around London, if this option is available to you. It is normally the quickest, cheapest, and healthiest method. For journeys that can't be walked or cycled, the bus is likely the least polluted option. If you need to take the Tube,



Credit: Smith *et al.* (2020)

Graph showing PM2.5 concentrations at each station of the Central Line. The graph reflects how deeper lines are more polluted.

know that the lines above ground are least polluted, and lines deepest below ground are most polluted. Avoid long, deep journeys. See the diagrams for more guidance. The worst option by every metric is to travel by car: it is the most polluting, exposes you to the most air pollution, causes the highest carbon emissions, is the least space efficient, most expensive, causes the most congestion, and causes the most fatalities. Let's be clear: public transport is the way forward. Knowing our exposure to air

pollution helps to make the best choices. For healthier travel and safer streets, campaign for more cycle-friendly infrastructure and support those who are already doing it. Spend £90 a year as a student to use the Santander docking cycles, which give you 1 hour of free cycling. Wait five minutes to get another free hour. To be more confident cycling, there are free courses from TfL. For more information about the London Underground, and air pollution in general, please see my

webpage via the QR code on the right.

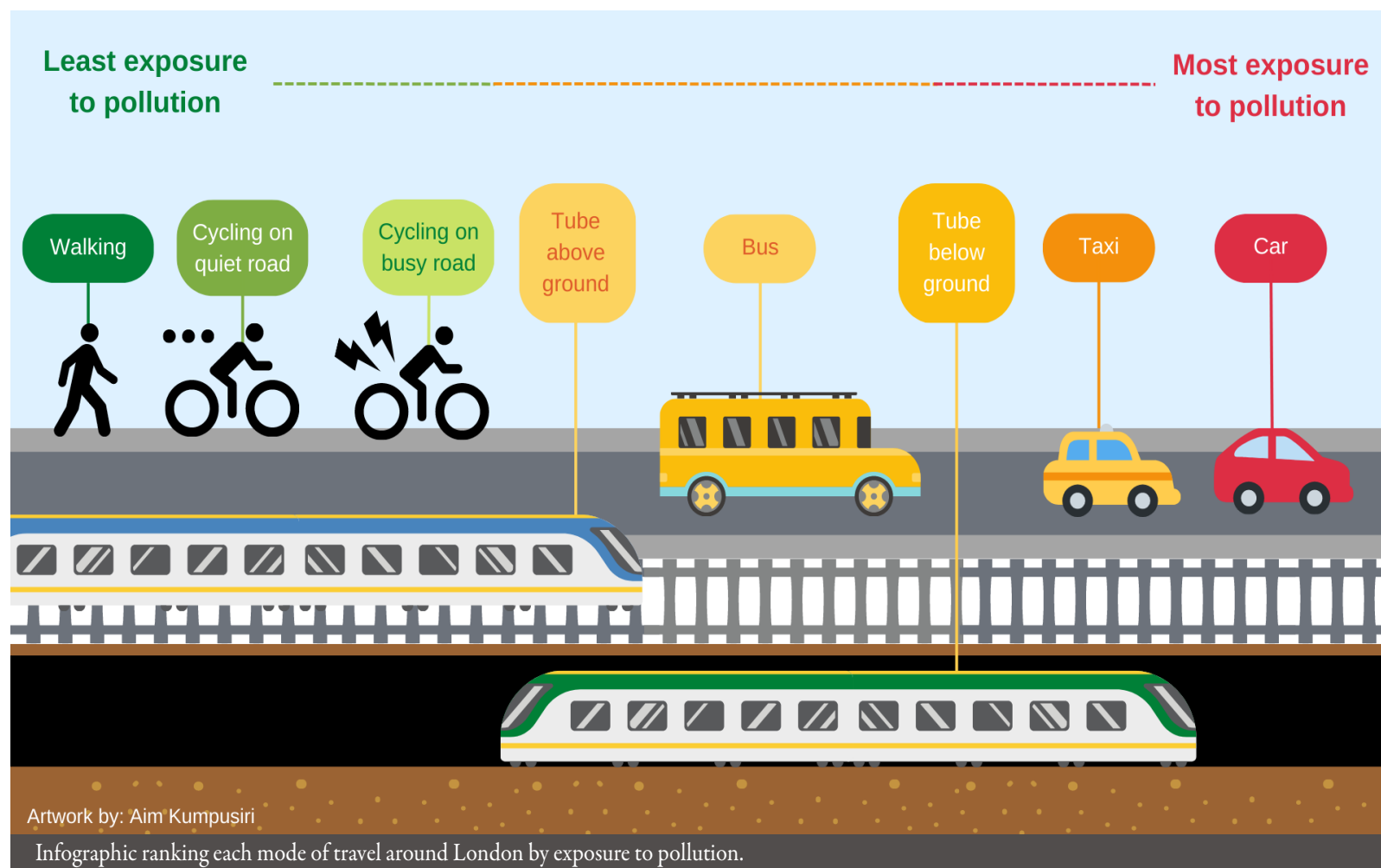
Scan this QR code to go to Peter Knapp's webpage:



And scan here to find more info about TfL's free cycling courses:



Credit: Aim Kumpusiri



SCIENCE

From driving a taxi to doing a PhD — the j

► *How Imperial scholar Michael Hedges' former driving career led him to green up London's taxi fleet and*

Peter Knapp Science Writer

Michael Hedges, 63, will be finishing his PhD this year at Imperial College on the health effects of the dust from the London Underground. After a life of driving taxis in London, how did Michael get to this point?

In 2000, Ken Livingstone was elected as mayor. "One of his key pledges was to reduce air pollution and reduce our carbon emissions, focusing on buses, taxis, and cycling," he says. Michael was a union representative for taxi drivers and had meetings with the mayor's office to develop ways to clean up the taxi fleet.

The approach at the time was to fix up old taxis to bring them up to at least the 'Euro 3 standard', which calls for limited CO, nitrogen oxide and particulate matter emissions. It was agreed that all taxis would charge their customers 20p extra over 3 years, which would pay for the upgrades. "But this wasn't enough, and taxis were still producing vast amounts of NOx [nitrogen

oxide] pollution," he says. "Greenpeace, Friends of the Earth and Global Action Plan were all campaigning for taxis to become less polluting." Rather than fighting against the campaign groups, Michael and the mayor's office worked with them to find a solution. They listened to each other and combined their efforts to add pressure on the government.

In 2016, air pollution in taxi cabs was measured and it was found that taxi drivers breathe the most polluted air out of any professional driver. A 40-minute journey from Heathrow to Bethnal Green showed the highest levels on Cromwell Road, just south of Imperial's South Kensington campus (see image below). A series of videos made by Global Action Plan also showed that taxi drivers were concerned about the air pollution they were creating and breathing in.

Taxis suck in pollution from vehicles in front of them, and then hold that pollution in the cab. Electrifying taxis would therefore reduce the nitrogen oxide pollution that can accumulate in

them. Michael started a Masters in 2018 at King's College London, with Dr Ben Barratt, (then at King's College and now at Imperial) as his personal tutor. Michael's dissertation was on improving air quality in taxi cabs. "The main finding was to change the ventilation mode to 'recirculation', which cuts off the air from outside and blows just the air that is trapped in the cabin. But this traps the air and carbon dioxide builds up, which affects the driver's concentration and potentially increases accidents. I found that taxis should open their windows briefly at least every 20 minutes when they are in the least polluted areas to maintain the best air quality in the cab."

Michael also worked with the Mayor of London and the Union of taxi drivers to electrify taxis, which now populate around 50% of the fleet.

Michael started a PhD with Dr David Green at King's College in 2019. The investigation of health effects on the London Underground was presented as a topic, and Michael took it on after

gaining an MRC Centre for Environment and Health Studentship. "I had to take a substantial cut in earnings and, with my partner's support and my own savings, I also needed to change my lifestyle to make taking a PhD work."

As COVID-19 hit, and the department moved to Imperial College, there was much disruption to the initial stages of Michael's research. His research involves working with 120 participants (60 people with lung conditions that cause breathing difficulties, and 60 with healthy lung function), measuring their exposure to multi-pollutants on journeys either underground or over-

Credit: Shanon Lim

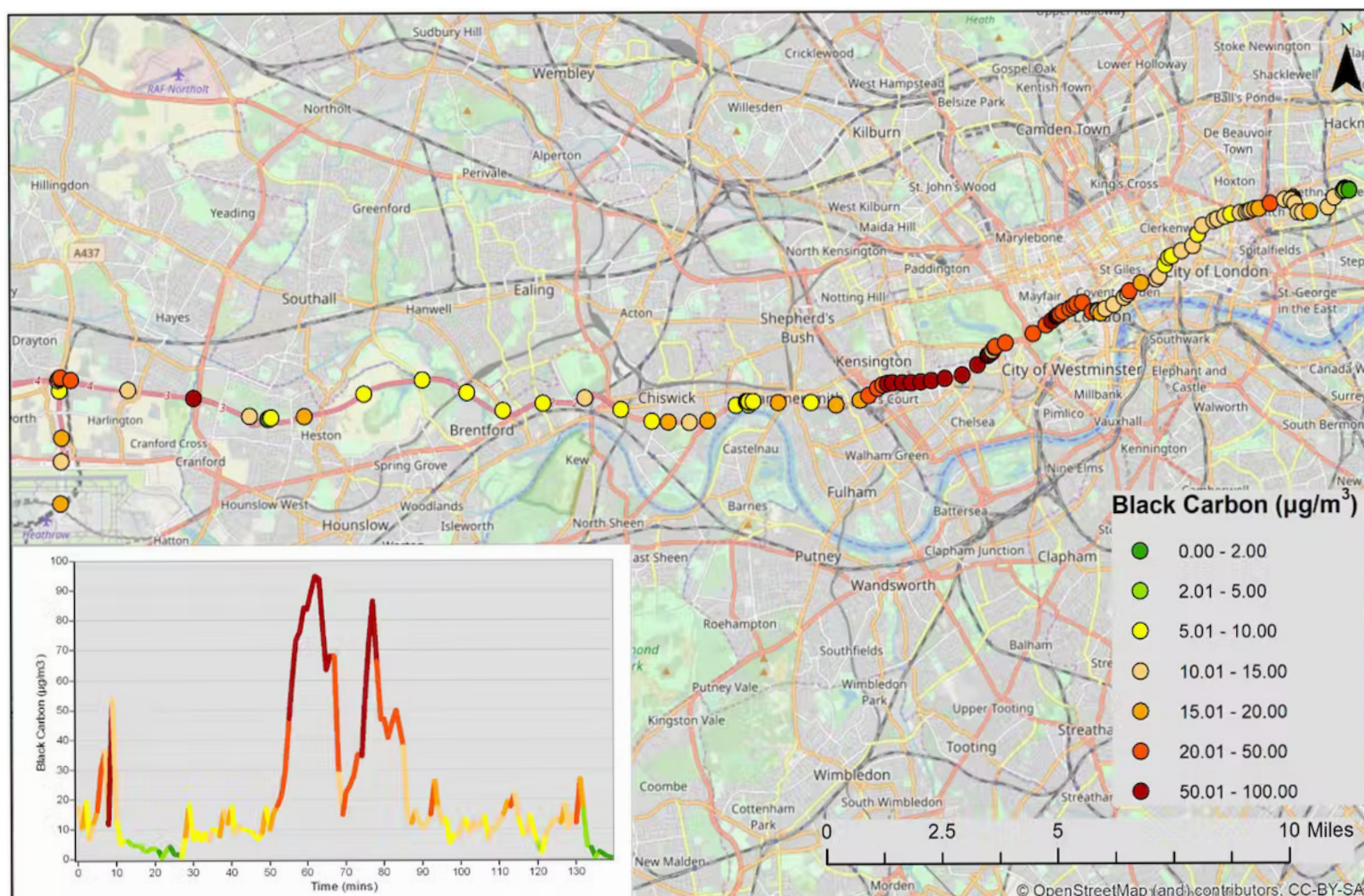


Diagram showing the concentrations of black carbon trapped in a vehicle cabin across a 40-minute journey from Heathrow to Bethnal Green. Each dot represents one minute of exposure.

ground. The participant health outcomes before, during, and after exposure to multipollutants are assessed to determine if there are any adverse health effects from underground travel. "Mandates to wear masks on public transport were enforced, which delayed the study, but I found that mask-wearing reduced the exposure to pollution that the participants were subjected to," he says. The benefit of this twist was the finding that even poorly-fitting surgical masks reduce PM2.5 air pollution exposure on the Underground.

Journey of Michael Hedges

and research air pollution on the Tube.

Credit: Natalie Yu



by trains. “Metallic particles from the brakes, wheels, rails, and sparks from electrical contacts make up around

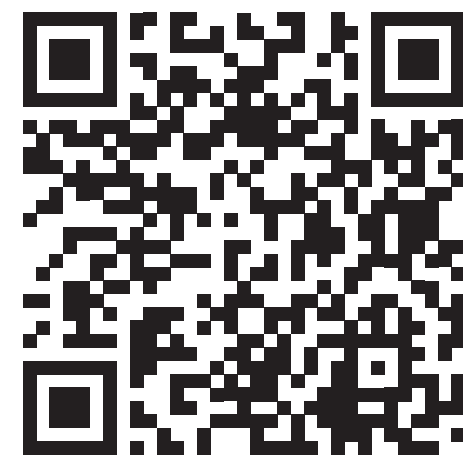
are high, Michael stresses that the effects these particles have on health are not yet known and this is preventing decisive action on tackling what is potentially a toxic environment. One part of his PhD is to study Underground dust’s oxidation potential, a key indicator of inflammation. “This inflammation response can lead to many systemic issues such as strokes, dementia, asthma, cancers, heart disease, and diabetes,” he says. In London, 9,400 premature deaths are attributed to poor air quality, and worldwide it is estimated that 1 in 5 deaths is caused by air pollution, mainly from burning fossil fuels. Although the Underground dust may be less harmful than expected, it may conversely be more harmful than expected as well. Michael cycles much more than he tubes. If he takes the Tube, he wears a mask and, if possible, takes the lines that are nearest to the surface. An interactive map of the Tube pollution levels at each station can be found via the QR code at the end of this article, which might help you plan your journeys to avoid the worst air pollution.

Another interesting finding in Michael’s study was that the levels of PM_{2.5} are the same at the front of a tube carriage as at the back. This is likely due to the trains constantly kicking up the dust, never allowing it to settle. He also found that NO₂, a pollutant from diesel engines, was present in the Underground network, which will have likely been drawn in from the car traffic above ground, albeit at lower levels. Another question is to disentangle the health effects of NO₂ and ozone above ground from fossil fuels and from the metallic particles that fog the Underground.

I ask how we can reduce levels of pollution in the Underground, and Michael says “more ventilation and platform screen doors like those on the newly opened Elizabeth Line would make a

huge difference”. He says that underground stations in Seoul and Paris have live air pollution monitoring that is displayed to passengers. “What would happen if London’s underground network looked like this?” he asks.

Michael wants more people to cycle and use public transport. “My favourite way to travel around London is by cycling” he says. But the challenging experiences of cycling in London has led him to support safer cycling infrastructure, and programmes to increase confidence in cycling. Even as an ex-cabbie, Michael supports LTNs, increasing the ULEZ zone, increasing TfL’s funding, and reducing the number of cars that are on our roads. Perhaps route-finding apps could include ‘pollution exposure’ as a metric to find the best routes, but maybe this is a PhD for someone else...



Scan to see an interactive map of Tube pollution levels.

Any reduction of air pollution exposure on the Underground is a huge bonus as it contains the most polluted sites in London. In general, underground trains in deep tunnels have the worst air quality in a city because air is trapped and the particulate matter is constantly disturbed and created

the platform, the more difficult it is to exchange the air, and the worse the air quality is. London’s deepest line, Victoria line, has a median PM_{2.5} concentration of 361 µg/m³ — over 25 times higher than the roadside level median and around 24 times higher than the WHO guideline for 24-hour exposure.

But although particle concentrations

67% of the air-borne particles.”

says Michael. The deeper

SCIENCE

How our Sun may be used to test dark energy

► *Dark energy is driving the accelerating expansion of the universe, yet its nature remains a complete mystery. Oliver Nash explores how measurements from the Sun can be leveraged to test this mysterious form of energy — dark energy.*

Oliver Nash Science Writer

Among the most significant challenges faced in cosmology today lies one particularly unnerving idea: our universe is expanding. How this expansion comes about has no definitive answers, but scientists commonly refer to a mysterious ‘dark energy’ as the impetus for expansion, an entity crucial in our understanding of the end of our universe. Whilst it may be difficult to access a force acting on cosmological scales, recent studies have suggested that our search for dark energy may actually be closer to home than first thought.

The notion that our universe is expanding has been around since Edwin Hubble’s observations of receding galaxies, but only more recently have we discovered that this expansion is not constant; rather, the cosmos we see is accelerating away from us. These results were extremely significant, and their discoverers, Saul Perlmutter, Brian P. Schmidt, and Adam G. Reiss, were awarded the 2011 Nobel Prize in Physics.

Yet the driving force behind this acceleration remains unclear. The term dark energy is often used as a placeholder for this obscure force, an energy density permeating spacetime with negative pressure. Given that dark energy makes up approximately 68% of the universe, developing a theory which encapsulates the dynamics we see and accurately describes it is crucial for our understanding.

Finding a theory for dark energy which is consistent and compatible with pre-existing theories of the universe has proven to be challenging thus far. One of the foremost explanations is currently known as the cosmological constant, a term originally included by Einstein in his theory of general relativity (GR) to ensure that the cosmos was not expanding. Contrary to Einstein’s intentions, the cosmological

constant is currently used to model the expansion of the universe, describing an energy intrinsic to the vacuum of space that reproduces the observations we have of surrounding galaxies being driven away from us. What was once designed as a constant to keep spacetime stationary has now gained status as a part of the ‘standard model of cosmology’, namely the Λ CDM (Lambda cold dark matter) model of the Universe, and is among the most successful theories we have in accounting for dark energy.

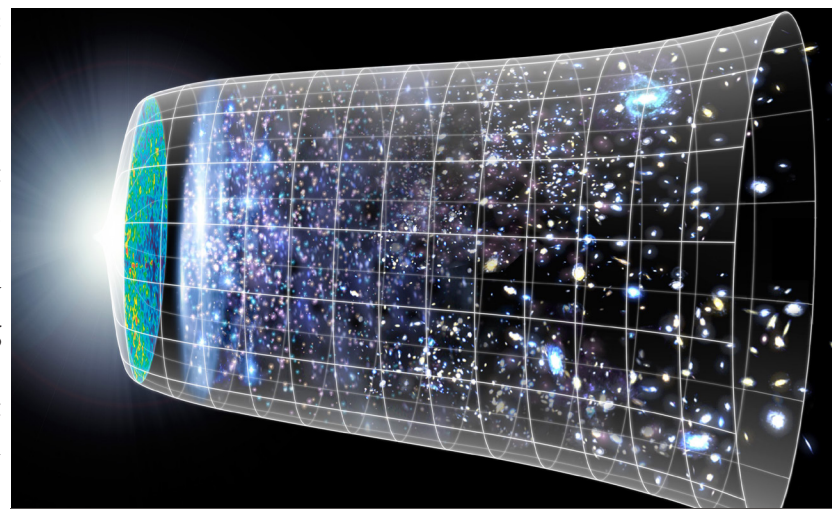
Despite these successes though, there remains a glaring issue for the Λ CDM model specifically regarding vacuum energy. Dark energy is a term that encapsulates the energy responsible for accelerating the expansion of universe, whilst vacuum energy is a kind of energy that permeates the whole universe and may be taken into account as a contribution for the dark energy. Vacuum energy can be calculated using results from quantum field theory, yet when this computation is done, the result is a value around 10120 times too large, an enormous discrepancy which makes it hard to argue in favour of both quantum field theory and the Λ CDM model simultaneously. It is this discrepancy that has motivated research into a diverse range of alternative hypotheses, and to explore the validity of any of these approaches requires a wealth of observational data to compare against. Precision data involving forces acting on the largest scales in the universe can be tricky to obtain, but for one set of theories, there is mounting evidence to suggest that the answers may instead lie in objects such as the Sun.

Extensions of GR are a set of theories aimed at explaining expansion, not by introducing some dark energy, but by modifying how gravity itself operates. Improving on a theory as successful and robustly tested as GR is no small feat, but the idea of these models is that they

will be able to reproduce the same results predicted by GR at local scales, whilst simultaneously matching the expansion seen at cosmological scales. However, modifying gravity may not only

affect dynamics at the largest of scales, but also introduce small variations in celestial objects found within our own galaxy. For instance, theories such as general scalar-tensor extensions of GR predict that the gravitational constant G may not be as constant as was once assumed, and specifically in the case of the Sun, could vary depending on the object’s radius.

In a study published in *Astronomy & Astrophysics*, researchers Saltas and Christensen-Dalsgaard demonstrated that since the Sun is a system based on the balance of gravity and pressure, changes to the gravity acting on it should manifest themselves as measurable features in the star’s structure. More specifically, the authors predict that, among other variables, the speed of sound inside the Sun should be affected. The speed of sound is a quantity which determines how vibrations travel through the solar interior in an analogous way to the propagation of earthquakes through the earth, and this effect comes about due to its dependence on both pressure and temperature, both of which will be changed if the force of gravity is varied. These solar measurements can in turn be used to quantify exactly how the theory should describe modified gravity, adding to a growing body of work aimed at pinning



Graphical representation of the expansion of the universe from the Big Bang to the present day.

Credit: Wikimedia Commons

down these all-important parameters through observations of other celestial bodies, and even gravitational waves.

Measurements of the Sun as a test for dark energy is an exciting avenue in probing fundamental physics, but despite the developments made in these theories, the Λ CDM model remains the predominant description due to its simplicity and ability to pass the majority of tests we have given it so far, something that many theories in modified gravity have been unable to match. Yet the presence of a huge discrepancy in vacuum energy, alongside a number of competing ideas including expansions of GR, represent a significant challenge to our understanding of how the universe should be described. It is for these reasons that there is increasingly a need for empirical data in order to ascertain the correct way forwards. Extensions of GR may well fade in support in the light of new evidence, but it is the observations themselves that are crucial in making that judgement, again demonstrating this process as a core tenet of the scientific method and highlighting the potential importance of our Sun in the search for dark energy.

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ENVIRONMENT

Government approval of bee-killing pesticide will further drive insect decline

► *A compelling case against the use of environmentally-unfriendly chemicals in agriculture.*

Andra Vladu Environment Writer

Report after report reveals that the UK insect population is declining at alarming rates. Scientists warn that we are entering an ‘Insect Armageddon’, which could have devastating impacts on our already fragile ecosystems. To add fuel to the fire, the Department for Environment, Food and Rural Affairs (DEFRA) have approved the use of thiamethoxam, a harmful neonicotinoid pesticide known to particularly affect honeybee and bumblebee populations. This announcement comes after a potential threat posed by yellow virus, which affects production of sugar beet and is spread by aphids. Thiamethoxam is taken up by the plant and spreads to all parts of it, including the nectar and pollen. This makes it easily accessible to foraging insects like honeybees, moths, and butterflies. The neonicotinoid is known to cause serious damage to the nervous system of these insects, making it difficult for them to navigate and forage for food. In 2018, the EU banned the use of thiamethoxam because of the damaging effects it has on pollinators. But following Brexit, the UK government approved emergency use of the pesticide to combat crop disease.

How are insect populations faring in the UK and why is this a significant announcement?

The “State of Nature” report is one of the most comprehensive reviews of the UK’s biodiversity, published by a partnership of over 70 conservation organisations. It provides an overview of population numbers, distributions and assessments of threats facing wildlife. The most recent figures from 2019 state that since the 1970s, the UK has lost over 40% of its bee, butterfly, and hoverfly species, and that many species are in danger of extinction. These significant declines are attributed to habitat loss, climate change, pollution, and pesticide use. The decline in insect

populations has far-reaching consequences for the UK’s ecosystem.

As we are all aware, insects play a crucial role in pollinating plants and providing food for other birds, bats and other animals. The loss would mean a domino effect extinction of animals further up in the food chain. But this decline also has implications for food security — many crops, such as fruit and vegetables, rely on pollination by insects. In fact, bees alone are responsible for one out of every three spoonfuls you eat!

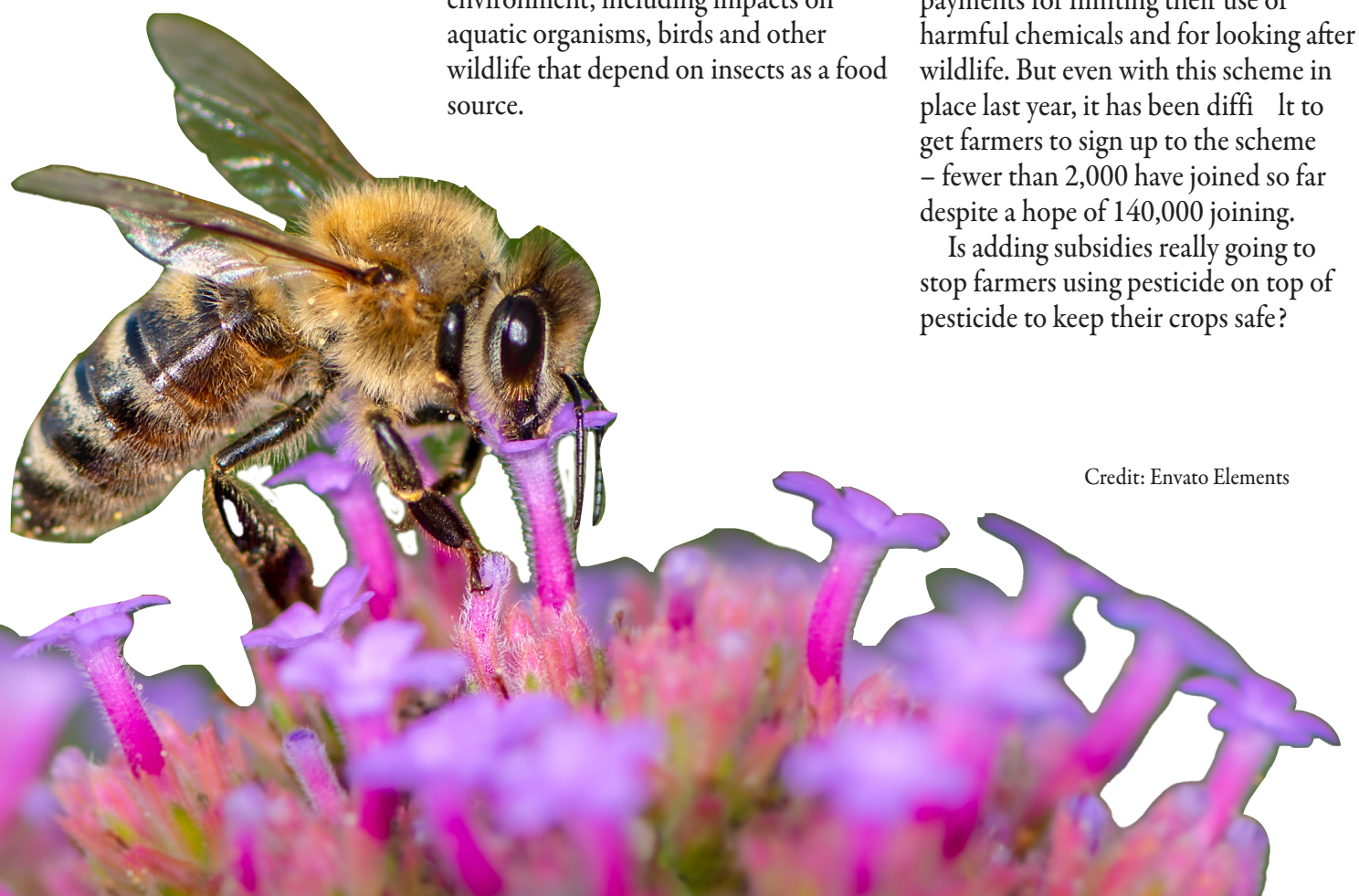
Thiamethoxam usage does not just drive the decline of already low insect populations. Studies show that neonicotinoids also have negative effects on the overall health of the environment, including impacts on aquatic organisms, birds and other wildlife that depend on insects as a food source.

What are conservation organisations saying?

Understandably, the news has been met with anger and disappointment by conservation organisations and activists. The same announcement was made by DEFRA last year, leading the Wildlife Trusts to take legal action against the UK government over its decision.

To try and put minds at ease, ministers have announced that they will incentivise farmers to use fewer insecticides. This decision comes as part of new post-Brexit agricultural subsidies as part of the Sustainable Farming Incentive (SFI) announced by environment secretary Thérèse Coffey last Thursday. Farmers will receive payments for limiting their use of harmful chemicals and for looking after wildlife. But even with this scheme in place last year, it has been difficult to get farmers to sign up to the scheme – fewer than 2,000 have joined so far despite a hope of 140,000 joining.

Is adding subsidies really going to stop farmers using pesticide on top of pesticide to keep their crops safe?



Credit: Envato Elements

COMMENT

Edited by: Elif Civelekoglu

COMMENT

The UK must switch to green energy NOW

► *Imperial Climate Action's Nell Pates believes that transitioning to renewables is the UK's best chance to reach net-zero by 2050.*

Nell Pates Comment Writer

The ongoing cost-of-living crisis and the war in Ukraine have brought the importance of fuel security to the forefront of the national debate. It is increasingly clear that countries need to be more self-sufficient, and the UK's reliance on fossil fuels is a huge contributor to making the country less secure. Right now, it is also making us poorer.

The UK still imports billions of dollars of oil every year to meet our energy demands. According to the House of Commons community report from January of this year, fossil fuels are used to meet around 75% of the UK's energy needs, and the past year has shown what a precarious position this puts us in. It makes us dependent on oil and gas countries and their leaders. Although the UK should try to remain globally relevant, it should also be as self-sufficient as possible so the threat of another country turning the gas off doesn't dictate our national policy. Countries like France, which maintains a large nuclear component in its energy mix, and Norway, where almost all energy comes from renewable sources, are faring better under the current global crises than the UK, which is set to be the only major economy to shrink in 2023.

There are countless environmental reasons to move away from fossil fuels, but the central one is that burning them is releasing more and more CO₂ into the atmosphere, which is warming our planet and acidifying our oceans, fuelling both the climate and ecological crises. This isn't some niche opinion: the International Energy Agency, an intergovernmental agency that works with countries around the world on energy policy, has said that if we want to limit global warming to 1.5°C, no new oil and gas fields should be explored.

Even without these concerns, the case to transition to clean

and renewable energy has never been stronger than it is right now.

Great Britain is ideally positioned to take full advantage of clean energy sources: as an island with a huge proportion of coastline compared to its area, renewables are an easy option. Coastal areas tend to be windier, hence there is a lot of space available for offshore wind farms. Indeed, in recent years, the UK has been breaking records for electricity generation — achieving longer and longer solar generation times, going the longest period without running a coal generator since the industrial revolution, and recording the greenest month for electricity generation by reaching new lows of CO₂ outputs.

So what do we need to do?

1. One strand of the switch to clean and renewable energy is the need to tackle demand and consumption. Energy consumption, and therefore demand, is still rising, and demand drives the way that electricity is produced and how much it costs. The national grid turns on power stations to meet demand as dynamically as possible, starting with the cheapest options. In the UK that means nuclear, then wind, solar and other renewables, and then gas and even coal when demand spikes and renewables aren't able to meet the requirement. If we can lower and smooth demand on the grid, we can make the most efficient use of the best energy sources.

2. We need investment in energy sources lower down the chain that feed the national grid to increase capacity. The grid can't run full-time on intermittent sources like wind, so constant sources, like nuclear, are needed if we are going to leave fossil fuels behind, and so are energy-storage options coupled to renewable resources like pumped hydropower.

3. The government needs to legislate further to disincentivise fossil-fuel use. The UK has a commitment to reach net zero by 2050 and zero-carbon generation by 2035 (commitments

that exist because all the science says we must stop emitting greenhouse gases). Carbon pricing — a UK carbon tax — has shown the effect that real legislative intervention can have: the scheme made coal-fired power stations incredibly expensive to run, pushing coal generation to the very fringes of the UK energy mix in just a few years.

“

EVEN WITHOUT THESE CONCERNS, THE CASE TO TRANSITION TO CLEAN AND RENEWABLE ENERGY HAS NEVER BEEN STRONGER

All of this makes decisions like that taken by the UK government to award new licences to expand fossil-fuel extraction absolutely baffling.

The need to leave fossil fuels behind and switch to clean, green, and renewable energy now is clear and science-based. It is also the most economically sound option for the long run. Although this winter everyone has been suffering from the effects of the cost-of-living crisis, existing renewables have lessened the strain. Green energy has even overtaken gas as the main contributor to the UK's electricity generation this winter, and it was only possible because of our pre-existing green-energy infrastructure. We need more of it, and far, far less fossil-fuel dependency. We could lead in the technology and energy sectors, pushing the cutting edge forward and exporting our lessons learnt. Fossil fuels are one of the greatest harms to the planet, and we can go further and faster towards making our energy cleaner and greener right now.

Credit: Wikimedia Commons, J.R. Cordova



A sight that may become common in the UK coastline.

One step forward — two steps back into the smog

► *Imperial Climate Action's Ben Jones questions the ties between governments and for profit companies.*

Ben Jones Comment Writer

As the sun shone over 2023, the use of coal-based energy seemed a thing of the past. With proposed agreements on the rise such as the new Coal Elimination Treaty, which hopes to phase out coal use and mining, globally, by the 2030s, it seemed that this heavily-polluting source was finally being addressed for its environmental damage — being responsible for over 30% of the 1°C increase in global temperatures according to the environmental charity ClientEarth. The futility of grasping onto this source while a plethora of cleaner energy sources are available has never been clearer.

However, a planned destruction of Lützerath, a dainty village in western Germany, seems to undo all this progress. Plans for a lignite ('brown coal') mine are going ahead, aiming to extract 280-million tonnes of coal

— a reality which would entirely imperil the 1.5°C global warming limit promised at the Paris Agreement. This goes directly against the words of the German government, who in November last year promised their people and the world that coal-based energy production would be phased out by 2030 due to the increasing concern about Germany's role in global warming.

The foundations of this monstrous mine have been laid. They are now being built upon by the infamous energy company RWE — a large provider which, despite its greenwashing attempts, is still known as Europe's number-one polluter according to a report by ClientEarth in 2017, which also reported that RWE produced 68.9 million tonnes of CO₂ emissions in 2020. In response to criticism about its self-evident plans to advance global warming came a flurry of excuses. These centre around the idea that the Ukrainian crisis has led to decreased

gas supplies, a fact which cannot be denied. However, why would a country with such a respectable commitment to its environment return to the dirtiest of fossil fuels? Many believe it surrounds the gold that lines the pockets of RWE. Instead of erecting cleaner solutions to this gas crisis, they still act with euro-shaped eyes, unchallenged by the German government.

Meanwhile, the people whose wallets aren't brimming with destructive profits are rightly opposed to this eviction, and on the 14th of January approximately 15,000–35,000 environmental activists demonstrated their distaste for this obnoxious apathy to global warming. This powerful display materialised as thousands of driven protestors marched through mud and rain to reach the edge of the mine and chanted against its go-ahead. The scene escalated as units of the police force assembled and exercised a needlessly violent response

against this otherwise peaceful protest. Deemed 'outrageous' by climate activist Greta Thunberg, who was present at the protest, the police boasted their riot gear as they equipped water cannons and batons to face the unarmed protestors.

Overall, this avoidable step into further climate Armageddon displays a distressing willingness that the German Green Party to be working with companies like RWE — placing the future of Germany's climate pledges in an uncertain place as profit-driven fossil-fuel companies juggle the fate of global warming.

In better news, much of Europe is aiming to keep its coal elimination on track, with Greece, Hungary, Ireland, and Italy aiming to phase out coal by 2025, and Denmark, Finland, Spain and the Netherlands aiming for 2030, according to the European Commission.

Credit: Imperial Climate Action

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- ⚡ turn off the lights
- ⚡ close the windows
- ⚡ switch off locally controlled cooling units
- ⚡ shut down your computer and monitor
- ⚡ turn off local heating
- ⚡ lower radiator controls

They might sound simple, but turning these things off can help save energy and reduce our carbon emissions.

Imperial College London

SAVING ENERGY

Wait!
Don't leave just yet.

Here's how you can help us to save energy:

- ⚡ Question why our new buildings leak
- ⚡ Find out what uses the most energy
- ⚡ Demand our energy is renewable
- ⚡ Question why people are flying
- ⚡ Hold us to account
- ⚡ Join Imperial Climate Action

These might sound obvious, so why do you think Imperial is asking you to turn off the lights instead?

Spot the difference!

COMMENT

Project Illumine — a Qur'an commentary for our time

► *Steve Connolly urges readers to look at the Qur'an with a fresh pair of eyes.*

Steve Connolly Comment Writer

Ironically, like science, people get out of the Qur'an what they project onto it. Avoiding confirmation bias requires the true enquirer to engage dispassionately, neutrally, and with dedication to discerning the multi-layered meaning according to its own terms. Without suitable guidance however, even the most well-intentioned approach is likely to fall foul to misunderstandings, assumptions, idiomatic expressions, and decontextualisation, as well as naïvely simplistic literalism anticipating the spectre of legalism. Compounding these, the projection of egotistical biases and prejudices leads inevitably to cherry-picking, resulting in a message that is incondite, confusing, and antiquated — hideous darkness masquerading as enlightenment; the prize for the unwary.

The genius of the Qur'an partly lies in its ability to address people in every age post-revelation. To its pre-modern recipients, passages like (51:47) "We built the universe with great might, and We are certainly expanding it," and (21:30) "...the heavens and the earth were one mass, and We tore them apart[...]" were clearly inexplicable, but to people familiar with Edwin Hubble's work these now make perfect sense. Conversely, the original meaning, understood within its 7th-century context, relating to much of its content, only resonates superficially, as our intimacy with its initial setting has diminished over time. The once familiar has become unfamiliar, aggravated by the accretion of dogmas, embellishments, and common mythologies — memes, if you like — aided by intellectual indolence, factionalism, and bouts of ideologically-driven campaigns to frustrate the message under the aegis of imperialism, both 'Islamic' and European.

Originating a fresh and innovative understanding of the Qur'an, the polymath Khaled Abou el Fadl (abul fadl) is close to completing its first direct-to-English commentary (tafsir) in 40 years via YouTube (Project Illumine, The

Usuli Institute), with future publication in the offing. To demystify the text, Abou el Fadl employs the revelation's axiomatic moral and ethical propriety to guide his own holistic, thematic, and contextual analysis rather than getting bogged down in the traditional, all-too-often navel-gazing, line-by-line treatment. As might be expected of a scholar, there is the requisite literature review — extensively referencing the ~1,000-year-old tafsir genre — complemented with novel research where applicable. The result is transformational.

“

THERE IS NO LONGER ANY EXCUSE TO CONTINUE MISCIING THE QUR'AN

Take, for example, the allusion to judgement day in the chapter 'The Moon' (54:1) "The hour has drawn near, the moon has split," which precludes a literalist interpretation; exemplifying the Qur'an's use of the past tense to reference the future; differentiating Divine from human time. The absence of reliable eye-witness testimony discounts this assertion in the narrative literature, indicating folkloric embellishment of a prophetic miracle, or the common and pervasive mythology that stoning to death is an Islamic prescription despite contradicting the Qur'an. Instead, because of the infeasibility of providing four eyewitnesses (24:4), the entirely notional penalty for adultery of 100 lashes, according to the chapter 'The Light' (24:2), emphasises the egregiousness of the sin. As Abou el Fadl points out, however, the real focus here is on deterring slander (penalised

with 80 lashes), the Prophet's wife famously suffring this accusation. Literalistic and legalistic prescriptions aside, recourse to a fine would likely constitute a just, modern Islamic punishment for defamation, mirroring the remedy available under English law. As for the adulterers themselves, societal approbation and civil-law-like rather than criminal (hudud) proceedings would presumably suffice today.

What about the notorious wife-beating verse? Chapter 'The Women' relates the tradition of husbands accusing their wives of sexual impropriety (nushuz) — based on the suspicion (real or otherwise) of their spouse taking a lover while he was away on extended travel — leading to her indefinite incarceration in the family home (or worse), thereby facilitating his remarriage. The passage concerned (4:34) is revolutionary because it abolished the husband's culturally assumed prerogative to unjustly accuse

and unilaterally punish his wife, instituting an alternative public judicial process with a range of options instead. Misconstruing this, patriarchally-inclined jurists subsequently invented, as the professor notes, the legalistic fiction of the husband lightly beating his disobedient wife with a toothbrush (miswak) to maintain familial order even though it apparently contradicts the next verse (4:35) where arbitration to resolve their differences is recommended. Abou el Fadl's Project Illumine covers a plethora of such examples demonstrating the inappropriateness of much of the received Qur'an commentary to date. His work is an indication of the qualitatively superior textual understanding now available which relates to people living today rather than reflecting the old world of yesteryear. Consequently, there is no longer any excuse to continue misciting the Qur'an owing to suitable and accessible information.

Credit: Wikimedia Commons, Turkish and Islamic Arts Museum

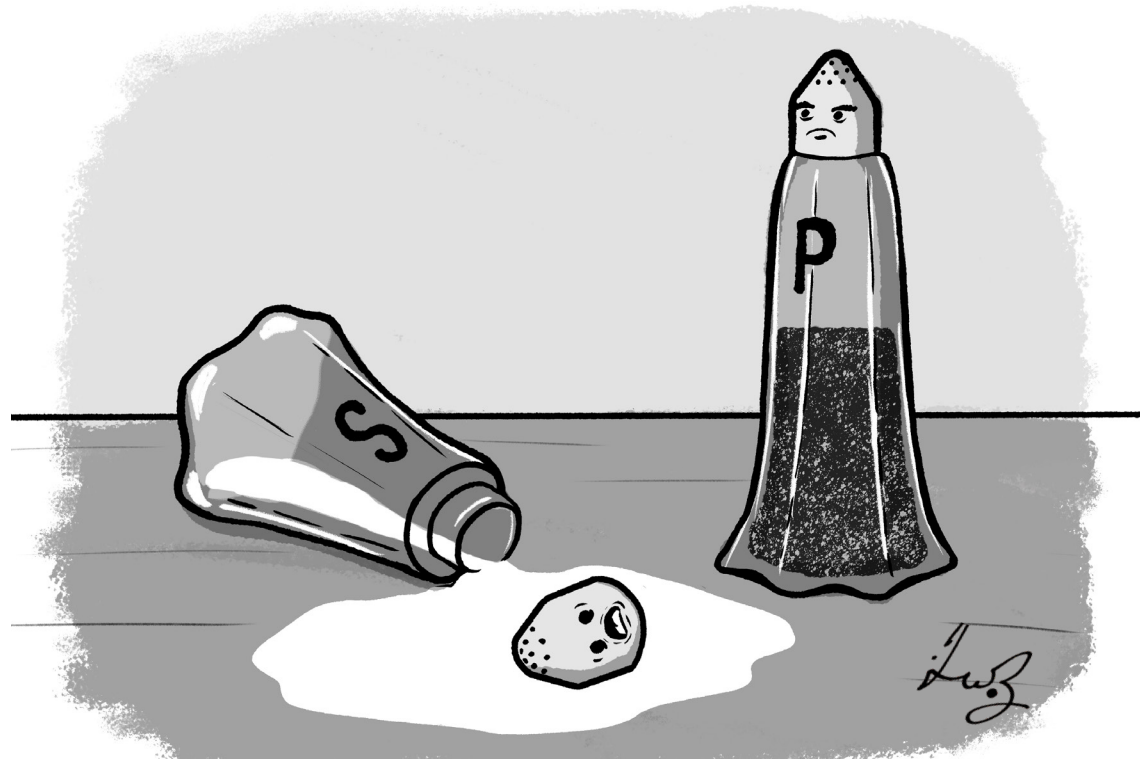


With the new translations, we could be witnessing a shift in attitudes towards Islamic teachings.

CAPTION COMPETITION

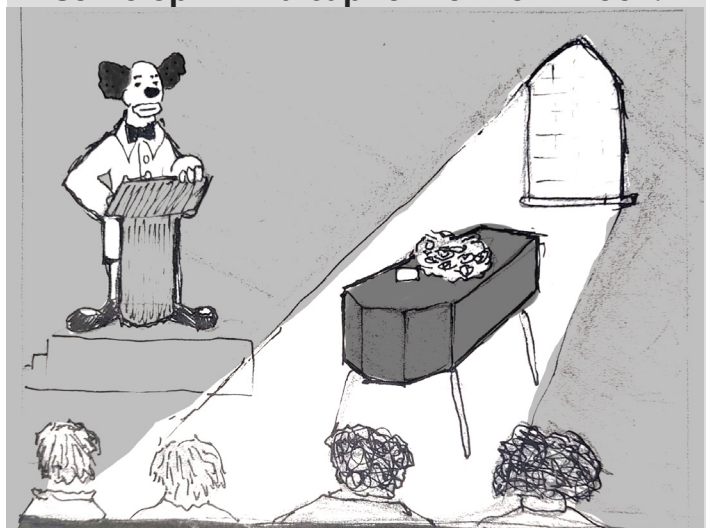
COMICS

This week's winner - James Howells



"Telling me to keep my head on doesn't exactly help right now, Karl."

Come up with a caption for next week!



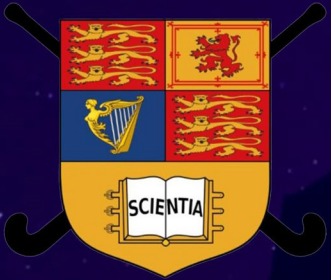
The aption competition is back! Every issue, a new cartoon panel will need a caption before it's featured in the paper.

If you think you've got a good caption for the panel above, send it in to puzzles.felix@imperial.ac.uk or through our instagram page for a chance to win 15 points on the leaderboard and get your caption in the paper. Good luck!

The Cat #001



If you want to contribute comics to Felix, or a cartoon for the caption competition, please contact us at puzzles.felix@imperial.ac.uk



Imperial College Hockey Club

ICHC P

NEON



Photography and Editing by alekziol.com

Presents

PARTY



CROSSWORD

4 points

Theme: Proverbs and Idioms

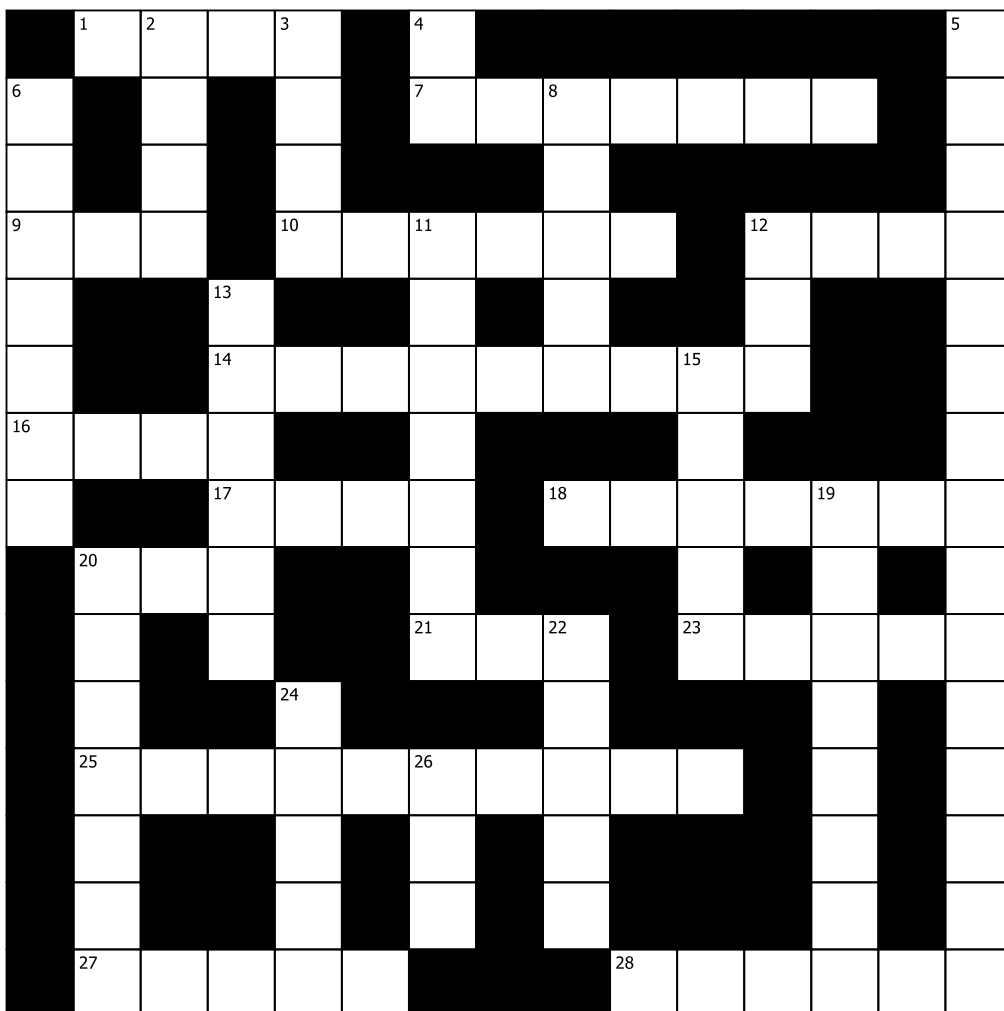
e.g., Quality leading to high glucose content in fruit = 'forbidden'
(forbidden fruit tastes the sweetest)

Across

1. Do this before its higher form of exertion (4)
7. The conclusion will not arrive until they orate (3, 4)
9. A lack of sin for this and two other sensory experiences (3)
10. Repeated until learned (6)
12. The sheep herder may do this at a scarlet breakfast (4)
14. Murderer of innocent felines (9)
16. You can both own this and put it inside yourself (4)
17. Observation of cannabis means it will never do this (4)
18. That quandry of the convicted criminal (7)
20. In my car's engine cover (3)
21. The highest acquaintance of a male human (3)
23. that intimate activity ____ (5)
25. Mr. Whack, grant the pooch a piece of skeleton (5, 5)
27. Building material ill advised for geologists playing catch (5)
28. No plan meant that the plan ____ (6)

Down

2. Quantity of performance worth a land of promise (5)
3. If you don't they might gain muscle (4)
4. ___ the pork was boyant in 14.7 psi (2)
5. Topped up with misery (10, 5)
6. Causes more cardiac attachment (7)
8. The accusation of which exposes a lousy artisan (5)
11. Status of white liquid causing upset (7)
12. Also found at the location of a letter that describes property distribution (4)
13. Advice giving ship killer (7)
15. A buck does this (5)
19. Misused to construct Everest (8)
22. That which stops canines from tucking into a sandwich (7)
24. A few of these things never mend (5)
26. His majesty will need one if he wants to get in to his domain (3)



Missing Vowels

1 point each

CATEGORY: Imperial Buildings

Put the correct vowels and spaces in these jumbled up consonants to find the answers. Send your answers in along with your puzzler-name to puzzles.felix@imperial.ac.uk for points on the leaderboard:

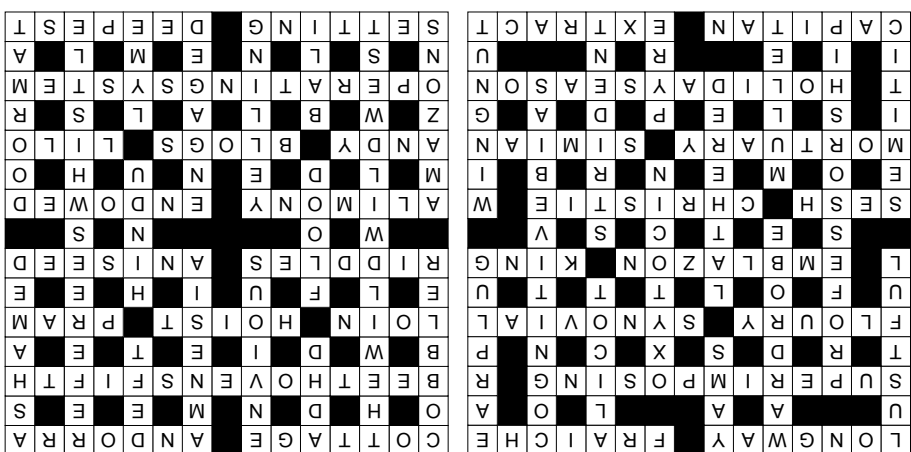
- i) t hr yls ch lfmn s
- ii) dy sns chl fds gn ngn rng
- iii) km pp rt rbl d ngs
- iv) b lck ttlb r try

Sudoku

2 points

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

Solutions from Issue 1818 and 1819



**SEND ALL YOUR ANSWERS
BEFORE 12:00 ON WEDNESDAY
22nd TO GET POINTS ON THE
LEADERBOARD**

Edited by: ISAAC WINSON

Wall-E to Wall-Z

Author: Wallter Cronkite

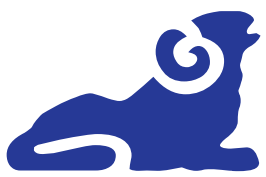
More than two thousand years after Marcus Wallrelius uttered the famous phrase ‘*murus ergo sum*’ (I wall therefore I am), his words have never been so poignant. When talking about the cornerstones of modern civilization, literal cornerstones are often overlooked. But wherever man goes, walls follow: humans and walls go hand-in-brick. Unless you’re a Millwall fan, in which case it’s brick in hand. Whether we are building them up, or tearing them down, the simple wall plays a part in every significant moment of human history. The first ever wall is a point of contention among the wall-istorian community: a sea wall somewhere? Well, it occurs to me that the A and B walls probably came first. The Great Wall of China? But surely the first-ever wall would’ve been ‘pretty good’ at best. Most scholars have settled on the answer that the pearly gates must be embedded in some kind of wall, and to avoid a twenty minute conversation with a member of Christian Soc, it’s worth conceding that was the first. Too many people view walls as a way to keep people out. Let me tell you: they do just as good a job of keeping people in. Was Hadrian’s wall built to keep the Scottish out? Obviously it was, and that is a noble goal. But even

more importantly, it stopped good, god-fearing English people from accidentally crossing from the land of milk and honey over to the land of youth unemployment and day-drinking.

The award for most misunderstood wall-o-phile of modern times has to go to Donald Trump, a lifetime member of the W.A.P. (Wall Appreciation Party), who wanted nothing more than a ‘physical, tall, powerful, beautiful’ wall. I have it on good authority that the location was a secondary consideration. Another wall lover demonised by the pro-fence media is the late, great Mr. Gorbachev, who had absolutely no desire to tear down that wall. Once again the minds of our children are poisoned by anti-wall lobbyists working from their Whitehall offices. It’s worth noting this area of London was originally called Hite-Wall before Big Fence became the political powerhouse it is today. But this article is not a call to arms. Instead, it is simply a celebration of an unsung hero of our time. A life without walls is no life at all, or certainly a draughtier one. Let us hope that all our beautiful walls really do get ten feet higher someday soon. And that’s the way it is.

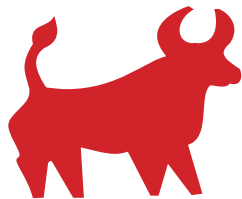


A celebration of Wall-purgis Night



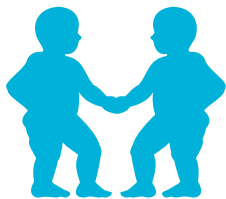
ARIES

This week your tendency to charge head-first into situations will serve you well, especially if you’re in the mood for a headache.



TAURUS

This week you wonder where you can get a good list of unwritten rules.



GEMINI

This week you ingest enough caffeine to hear colours and see gods.



CANCER

This week you get halfway through eating a horse and realise you’re not as hungry as you thought you were.



LEO

This week you eat a whole charcuterie board by yourself, but you’re lactose intolerant so it becomes a shartcuterie.



VIRGO

This week you tell your girlfriend she’s drawn her eyebrows on too high. She seems surprised.



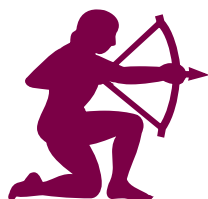
LIBRA

This week you ask your pharmacist if he has any merch.



SCORPIO

This week your intense and mysterious nature will be even more confusing to those around you. Stay true to your sign, embrace the chaos, and kiss a donkey.



SAGITTARIUS

This week you forget to set an alarm and jog through your morning sleep.



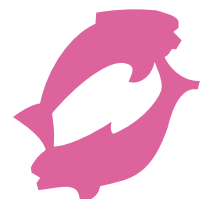
CAPRICORN

This week you send your mate the most brutal, gut-punching, heartbreaking text but end it with “lol”.



AQUARIUS

This week you get confused when you find out that Coq au Vin isn’t love in a lorry.



PISCES

This week you decide to read a horror story in braille, but something bad is going to happen — you can feel it.

Science tells us that things are going to get very bad, very quickly. The time to act is **now**. What are our aims?



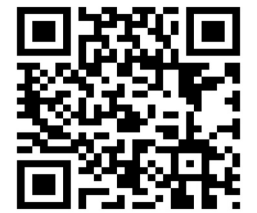
Get involved by signing up to our mailing list.

Divest from fossil fuels.

ICL prides itself on being at the forefront of science and technology. Fossil fuels are the past: we should be investing in the future.

Imperial Climate Action

was founded to be proactive in the face of the climate crisis.



Complete our survey and give feedback.



Prioritise climate education at Imperial

Imperial should be clear about the scale of the climate emergency with all its staff and students.

Rewarding and responsible, fossil-free, careers.

Careers at Imperial disproportionately offer access to destructive and damaging industries.

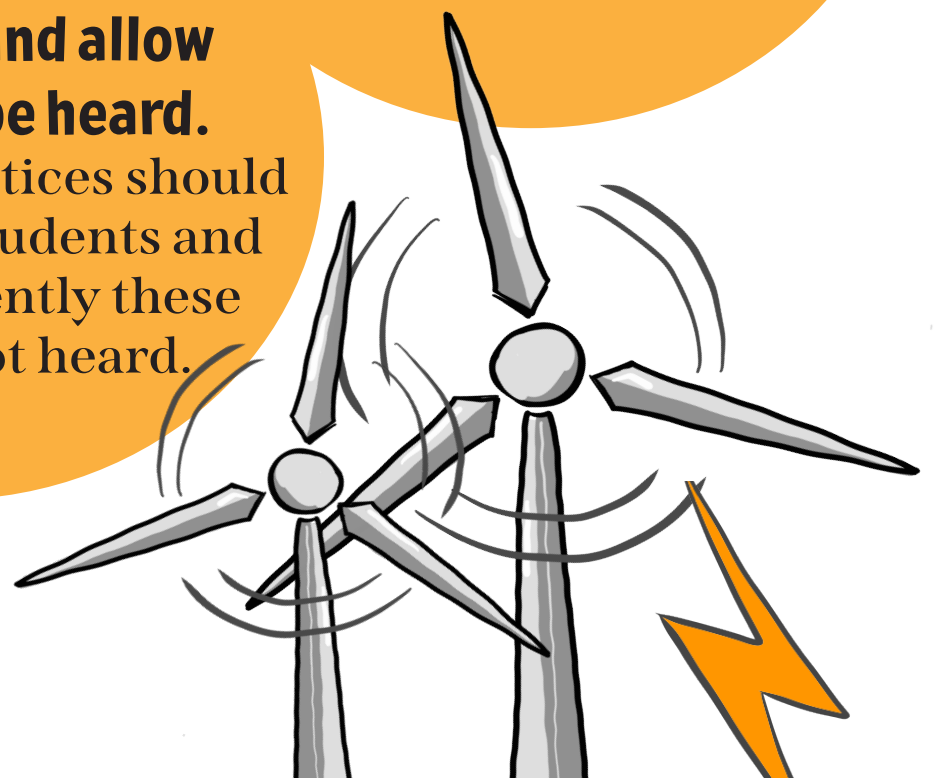


Trains, not planes.

We need a responsible travel policy that considers climate impact as well as financial cost.

Listen to the Imperial community and allow students to be heard.

Sustainable practices should be steered by students and staff, but currently these voices are not heard.



ARTS

- ▶ THE ARTS SECTIONS IS BACK!
- ▶ EARTHQUAKES IN LONDON: AN INSIDER'S REVIEW

ARTS

Edited by: Gilbert Jackson
Sophie Pointon

IT'S TIME TO PLAY THE MUSIC, IT'S TIME TO LIGHT THE LIGHTS!

Felix Arts is back again!

Gilbert Jackson Arts Editor

Art is never finished, only abandoned. Words allegedly spoken by Leonardo Da Vinci; a man known for, ironically, never finishing most of his paintings. However, unlike Leonardo, we here in the Arts section are once again taking up pen, brush, microphone, and camera to bring art back to you after our brief absence.

Art is one of the driving forces that keeps our souls alive; where would we be without it? Human existence has forever taken delight in art, even before civilisation began: paintings were made detailing heroic exploits and honouring natural wonders, stories of legend were dramatised by wise men and women over hearths to adoring crowds, and music was played, conjuring up vivid images of the world around us.

What art does is tell us all a story; it does not just recount bare facts and detail, but instead embellishes each story with personal touches that can only come from the creative mind. An artist can look at a landscape with their eyes, but what they then paint will not just be a literal photographic interpretation but a mixture of reality, emotion, and thought. And this applies not just to art but to music and literature as well.

We may know our favourite plays and operas word for word and song for song, but we will always see them performed in new lights, for each actor and singer brings their own input and distinctive traits to the art, which brings it off the page and into our eyes and ears. Sometimes this is done to great effect and truly moves us as human beings, but other times, these qualities obfuscate and drown out the original art rather than expanding it. However, like the art itself, which has the truly personal embedded in its essence, the recipient (that is you, dear reader) will also have personal appreciation for such things; what is good art to our eyes and ears is not necessarily good art for everyone since we are 'oh so opinionated'.

With this in mind, I have a task for each and every one of you. The world has been blessed with art. However, not all of us know about it or care for it... yet. If you see a piece of art, go to a play, or attend a concert, why not tell us about it? **Tell us how it made you feel.** Art has ways of moving us all, in both good and not so good ways. **Tell us what you think the artist wants us to feel.** Many artists are good at conveying their own emotions and experiences to you. However, some artists may fall short of this objective and won't portray their meanings to you effectively, and it's up to you to tell us how well this is done. **Where can I find art?**

Art is found in the places you'd expect: galleries, concert halls, theatres, etc., but oftentimes the best art is in the hardest-to-find places and is left obscure. Why not tell us about them and inform others on how to access underappreciated art forms more easily.

The job I have for you is simple: inform us, educate us, and give us reason to see things for ourselves. We are all opinionated about art; even those of you out there who say you don't care for it, tell us, why!? Some of us are new to the art world, and that's a-okay; we aren't born knowing art intrinsically — we have to learn at some point — so if you ever find yourself with spare time, why not pop into a gallery, see a play you know nothing about, listen to a musical you've never heard of before, and tell us about it afterwards. Remember as well, every opinion and nugget of information, no matter how concise and brief, is valuable to someone. **Join the Arts team at Felix!** Inform, educate, and reason...

Did you know...?

The Royal Opera House, The English National Opera, and The Barbican let you create student accounts, which allows you to buy heavily subsidised tickets!

However, only certain performances for each opera will have student rates. The timings for 'student nights' are revealed at the start of each opera term, so you'll need to get in early with a chance of getting decently priced tickets.

What's On...?

Get ready for...

Very Vocal Evening

@icmusicaltheatre x @icacappella
COLLAB

Come to the concert on the 15th of
February and watch all groups perform!

ARTS

Theatre Review

We are simply earthquakes ourselves...

DramSoc's latest production, *Earthquakes in London*, from the perspective of the Polar Bear.

Credit: Elsa Germain

Sophie Pointon Arts Editor

On the 26th, 27th, and 28th of January, there were three hugely successful runs of *Earthquakes in London* by the Dramatic Society at the Bridewell Theatre after many, many, many late hours of toiling, crying and devastating displays of organizational prowess. Part wake-up call, part hallucination, this play has left more than a few emotional scars.

Your humble correspondent had the blessing of playing the Polar Bear in this half-crazed, furious, erratic play, defined by its steadily disintegrating plot; no offence to its creator, Mike Bartlett.

The play follows the lives of three sisters, Sarah (Zeynep Soydan), Freya (Annie Knight), and Jasmine (Andreea Cojocea) who are in various stages of succumbing to despair, frivolity, or greed, no thanks to their climate-obsessed father, Robert Crannock (Benjamin Meacher). When news that earthquakes will soon be felt in London, the family and the people around them are thrown into a chain of events that makes the audience question not only the overuse of the planet, but what it means to be a parent, the worth of a human life, and how to take control of one's fate.



Freya (Annie Knight) and Peter (Emmanuel Greenfields) musing on life.

Credit: Elsa Germain



Directors Jonah and Ellen, um, directing the enthused cast.

Some scenes raise more questions than they answer, but the two masterly directors, Ellen Redgrave and Jonah McLeod managed to browbeat the script into something that moved, amused, and terrified the audience — often at the same time.

If you weren't part of the lucky few who saw the play on its sold-out run, please don't mention guavas, Jasmine's latest 'squeeze' or the real message of the play, because no one wants to deal with these things. On the other hand, if a Young Man (Michal Horanský) offers you cupcakes, say yes, but on no account are you to accept biscuits from a businessman called Carter (Jack Finnis). And if someone named Emily (Parnika Prabhakar) walks to London barefoot, you will know that you are saved.

(The previous three sentences were written in the same style as the script for *Earthquakes*. You may want to read them again.)

Earthquakes is not the sort of play anyone will forget in a hurry, given the combination of the stunning acting ability (the Polar Bear looked on in awe), the tangible atmosphere created by a playlist that contained 'In the Year 2525', 'Viva la Vida' and 'Rebellion (Lies)', all alongside the stark-yet-perfect set design of tree roots/lightning bolts/cracks in the ground. Interspersed throughout the play are a club scene, a gaggle of swimmers, a set of emotionless mothers, metaphorical takes on Covent Garden performers and Oli Keene's gorgeous voice. Some characters end up back where they started, a divorce is initiated, someone is born, and someone else dies. To try and condense it into one measly article is beyond the Polar Bear's capabilities.

Every character had at least one defining moment that will haunt them for a while to come. Annie's is giving a Year 8 whiskey and cigarettes, Andreea's would be doing a burlesque to a stone-cold audience, and Zeynep's is her response of "Not yet," when she was told that she was wasted. Billy Gregory's has to be interacting with audience members while bringing his shopping to a strip club. "I'm going to sleep with more sisters of elected politicians," would be Adam Adan's, while the blindingly obvious potential for an affair between Freya's husband and father would



Sarah (Zeynep Soydan) about to sell her soul to Carter (Jack Finnis).

be Alex Jones' and Benjamin Meacher's respectively. Michela Jurkovicova's would be her character's shameless honey-tongued bribery and the title of this article is Anoushka Nairac's.

It is quite a challenge to pick out highlights of the play because there were so many of them. Nonetheless, it was an intense experience for everyone involved to witness Robert's confession that he never really loved his children and Zeynep's portrayal of a disillusioned politician was eerily good. And there was no better way to end the play than with Alex's heart-rendering final farewell to Annie.

A full list of everyone who deserves thanks and credit would need another page, the total number of cast and crew being 60, but we need to not contribute to climate change and save paper. That said, the whole thing wouldn't have been possible without Kacper Neumann, Oliver Gale, and the relentless efforts of

the technical team. A shoutout to our friends from the Musical Theatre Society, who graciously warmed up the rest of the audience during the second performance of *Earthquakes*. The standard has been set.

If the Polar Bear is allowed a self-indulgent comment, it would have to be that they loved every minute of it (but only after they had seen the play run through the whole way and finally grasped some idea of what was going on) and would very much encourage anyone even remotely interested in theatre to come dive into the chaotic fun.

Feeling like you missed out by not seeing it? Well, you did.

The only saving grace is that there will be much more of its like to come!



Partying to *Viva la Vida*. From left, Adam, Andreea, Oli and Sophie.



Drama Society's tech team

BOOKS

Edited by: Zanna Buckland

BOOKS

Books Article

Romance and politics: an unlikely pairing?

► *Two examples of politics and romance going hand in hand.*

Zanna Buckland Co-Editor-in-Chief

Political-romance novels don't exactly have a genre of their own, but it seems to me the two themes have more in common than meets the eye. Nick Hornby's newest title *Just Like You*, and Fran Cooper's debut novel *These Dividing Walls*, both zoom in on romance in the context of political upheaval.

Just Like You is the story of a regular meet-cute which blossoms into a full-blown romance. Joseph is a young, black man who works in a north London butcher's shop frequented by Lucy, a middle-aged, divorced, white mother of two. The pair strike up an unexpected friendship through Joseph's babysitting of Lucy's boys, but their obvious differences on the surface make their relationship rocky. Place them in the political landscape of 2016's Brexit referendum and another layer of tension is added to the situation.

In this novel, Lucy is strongly against Brexit, whilst Joseph takes an agnostic stance, choosing to avoid antagonising his pro-Brexit parents, and feeling he doesn't know enough about politics to comment. This reflects the views of many younger people, especially now that information is so often misleading and easily misconstrued. But Joseph's uncertainty rubs off on Lucy, who steps back and analyses her own opinions, and it is this dynamic, where each person challenges the other's judgement, that makes their relationship — and relationships in general — so compelling and meaningful.

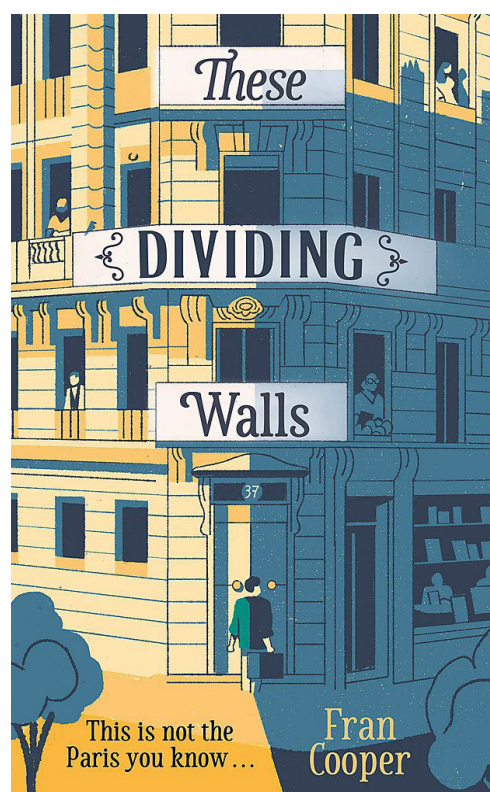
These Dividing Walls follows the lives of the residents of a Parisian apartment complex — Number 37 — during a sweltering French summer. Among these residents is visitor Edward, who is staying in his friend Emilie's attic flat, and dealing with the recent death of his sister. Edward takes a job in

Emilie's aunt Frederique's bookshop, who also resides in No. 37 and has also previously suffered a loss. The two find comfort in each other's company, whiling time away with sightseeing and thoughts spoken aloud. Their shared feelings lead to something more potent; an intimate companionship. This happens against a backdrop of civil unrest, with some local Parisians acting on their heated opinions about immigrants making the city their home. This also divides the residents of No. 37, especially fuelled by the arrival of a Muslim family.

Contrary to the characters in *Just Like You*, Edward and Frederique largely remain separated from the politics in their building, but the contrast between their shared internal struggles and the fraught tension of their surroundings makes their own affair, and the country's, all the more poignant.

Funnily enough, both novels explore a relationship between a young man and an older woman, albeit in very different ways. This may explain why political discussion comes into play, as generational gaps can emphasise differences in political opinion. This could appear in the form of how much a character actually cares about politics, pressure or influences from family and friends, and as similarities or differences in point of view.

Politics can act as a much-needed grounding force in otherwise whimsical romance novels and make the reader feel more involved. Reading *Just Like You* while living in post-Brexit London, and *These Dividing Walls* while on holiday in Paris, I felt this particularly keenly. It's something that more authors should attempt to incorporate into their writing, especially in a time when toned-down political discussion is scarce.



BOOKS AVAILABLE TO REVIEW!

If you love reading but don't know which books to write about, we have a number of titles that need reviewing - these are usually recent or upcoming releases, hot off the press.

Crime/Thriller

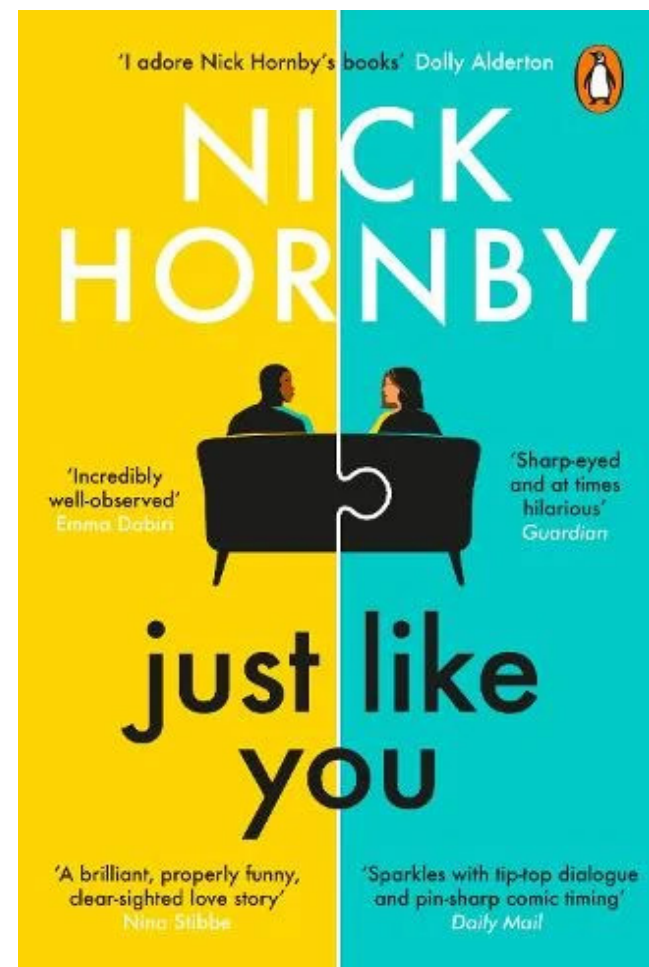
In The Shadow They Cast by Paul Graham

Red Light and Bell by Richard Cobourne

Languages

The Anglo-French Exchange (Textbook) by Dr. Allswell E. Eno

Email books.felix@imperial.ac.uk if interested!



KENAN MALIK: NOT SO BLACK AND WHITE

Imperial's Associate Provost, with the Equality, Diversity and Inclusion Centre, is hosting alumnus Kenan Malik to speak about his newest book *Not So Black and White*. In it, Malik presents a new look at the story of race, challenging ideas about identity politics and questioning conventional interpretations of these matters. Malik is a columnist for the Observer and has presented for BBC Radio stations; the event promises to be an engaging one. Details below!

Date: Tuesday 28th February

Time: 12:15 - 13:15

Location: G16 Lecture Theatre, Sir Alexander Fleming (SAF) Building, South Kensington Campus (or live online).

Cost: Free!

Register at the link in the web version of this article or in our Insta bio @felix_imperial

Sophia Prize

Felix is offering a **£400** prize to one **outstanding, inspiring and accessible** article that helps tackle **climate defeatism** and covers, or conceives of, an **economic, cultural or scientific innovation** that helps **fight global warming**.

Send your submissions to
fcomment@ic.ac.uk
environment.felix@ic.ac.uk
science.felix@ic.ac.uk



MUSIC

Don't Miss the Gig

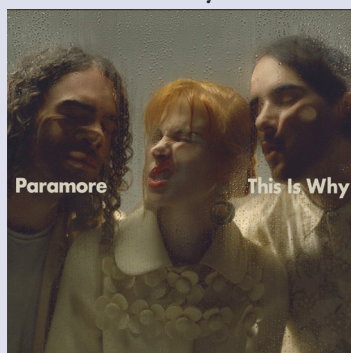
LMS Random Band Night @ METRIC, Tuesday 14th February

Do you have a date you want to impress? Do you want to drown your sorrows in hastily organised covers? Did you forget to book anything for your significant other this Valentine's Day? Worry no more, Live Music Society has you covered. They're hosting one of their most popular events of the year this Tuesday (the 14th February), Random Band Night! Come and jam with some strangers and, who knows, maybe you'll end up touring the world with them after a Billboard #1 – anything can happen!

Single of the Week

'This is Why' by Paramore

As I'm writing this, the album is not yet released but I already know this will be my album of the week and it might even be the album of the year. Paramore are returning, emo is back, pull out your eyeliner. I can't say much because I haven't heard the album yet, but if you're desperate for my thoughts about it you can email the music account and I'll let you know (or you can wait 'till next issue when I'm sure I'll talk about it). If the singles are anything to go by, *This Is Why*, will be worth your time.



Today in Music History

- An accident prone day of history, February 10th 1974 saw record producer Phil Spector seriously burned in a car crash, leading to extensive plastic surgery and an increase in his reclusiveness.
- Seven years later in 1981, singer and songwriter Natalie Cole was trapped in her suite on the 26th floor when the Las Vegas Hilton hotel caught fire, luckily she was rescued.
- In happier news, 2011 saw Rebecca Black release the video for 'Friday' which became a viral hit.



MUSIC

Felix Recommends

Hand-picked by a DJ: January 2023's top releases

Take a look at DJ Matija's eclectic selection of dance/electronic and post-punk to summarise the genres in January.

Matija Conic Music Writer

January has been a bit of a dry period for music and I've really been craving some exciting new releases, but I, nonetheless, wish to point you in the direction of certain tracks that I've had on repeat recently.

Skrillex has been on a bit of a roll, blessing us with two fantastic bangers – 'Rumble' ft. Fred again.. and Flowdan, as well as the super impressive 'Leave Me Like This'. The former track is a driving house tune with that signature Fred

again.. production flair. Although admittedly Fred again.. hasn't been one of my favourites when it comes to LPs and creating cohesive and consistent records, there is much to be said about his knack for creating an earworm and assembling samples and vocal chops into groovy beats, making me all the more excited to see him grow in a more interesting direction going forward. *Leave Me Like This* is another example of pure electronic music artistry and has already become a go-to during my DJ sets – incredible bop, truly the best of Skrillex.

The GOATs, Viagra Boys, who have made it to the third spot on my AOTY list, have also come out with a deluxe version of *Cave World* with some cool new inclusions, like 'It Ain't Enough', which is an intense, post-punk cut that serves

as a perfect example of why I'm still very much in love with the band's sound. Another curious detour is 'Only Friend', a song that almost gives me gentle Johnny Cash or Nick Cave energy, a vocal territory

Sebastian has not ventured into until now. 'Stretch My Arms' is quite enjoyable too, with the mellow, drowned out guitars creating a lovely Velvet Underground vibe off a track

like 'Femme Fatale'.

Gorillaz continue teasing their record, *Cracker Island*, with a new single, 'Silent Running'. While I've been absolutely enamoured with songs like 'Skinny Ape' and 'Cracker Island', I have to say this release cycle has been a bit of a mixed bag for me. 'New Gold' has quickly become a rather forgettable track with little to offer – motivating me to revisit it – and I'd say the same for this new cut. Although fairly inoffensive, the groove is painfully generic and uninspired and I really think Damon can be doing bolder

stuff than this. Still, excited to hear what he's got in February.

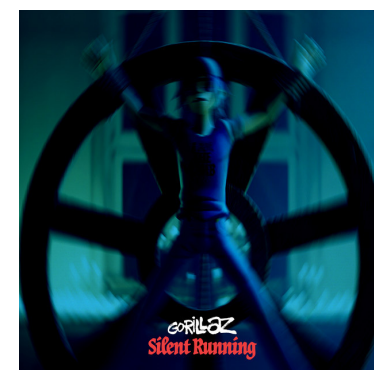
Slowthai has also returned with a bang this week with a new single from his up-and-coming record *UGLY* and I have to say I'm very much impressed. Slowthai has been known to experiment with genres in creative ways on his previous two records, making him difficult to be boxed into UK rap. *TYRON* was one of my favourite albums from 2021 owing to its unforgiving display of anger, rage, but also vulnerability and depression. The new track, 'Selfish', remains introspective, but

sees Slowthai rapping over a post-punk beat, reminding me of hits like 'Doorman' and just how well *TYRON*'s chaotic rapping style works over dark baselines. Overall, I would be very happy if the album fully explores this vibe.

Lil Yachty is perhaps the most surprising 180 to kick the year off, with *Let's Start Here* seeing him explore a psych rock, Tame Impala-esque direction, diving into a more alternative sound palette. Overall, a very welcome change as far as I'm concerned, although I'm still 50/50 on his vocals, as the way they are processed can come across as jarring at times. I do want to point your way to one track, 'running out of time', which I absolutely love, largely because



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MUSIC

Album Reviews

Ben's warm grails: Mount Eerie

Sometimes the concept album can be taken too far in the best kind of way.

Benjamin Bateman Music Writer

I always thought it was funny how quite often in the 'alternative music' scene, the hive mind seems to dip quite shallowly into many different artists' discographies. A good example is Godspeed You! Black Emperor and *Lift Your Skinny Fists*, which is a mainstay in all alternative vinyl-hoarders' collections, while other albums in their discography like *F#A#∞* don't receive quite as much attention. People like *Spiderland* by Slint, but even I haven't actually listened to *Tweez* all the way through. Even my beloved Mancunians Elbow have it rough: under 2% of their total listeners have even listened to their newest album!

The same unfortunate thing has happened to Phil Elverum's band The Microphones, a precursor to his musical re-branding as Mount Eerie (not to be confused with the subject of this review, The Microphones album *Mount Eerie*). The album that gets the most attention from Elverum's Microphones days is *The Glow Pt. 2*. According to last.fm, only 11% of listeners of the band have even bothered to listen to *Mount Eerie*. The album followed *The Glow* by two years, and was (at least until 2020) the last from Elverum under this moniker; this is the work that led him to 'bury' The Microphones and transition to the new musical and artistic direction he wanted to follow. A meditation on the struggle to stay alive and confronting your eventual death, the album takes the sonic identity of The Microphones to its inevitable conclusion.

The album starts out with the same 'foghorn' sound that made many appearances on *The Glow*, and almost indistinguishably *I want wind to blow*, the first track from the previous album, plays under the noise and ominous foghorn. Things aren't as they seem though, as the lively, folksy guitar is soon swallowed up by nothingness as we're introduced to a thumping rhythm formed by the sudden stops and starts of various drum samples. The first half of *I. The Sun* is a long, primal 'drum solo' to get lost in — representing the first years of life, living in the fast lane. It comes to a crashing stop as Elverum waves goodbye to family, friends and loved ones as they sail away from him. "See me wave my handkerchief on the shore." Singing to the sun, the universal observer on this planet, he's almost asking for a guardian as he faces his loneliness. After mourning the loss of all those he knew, he's scared away by a "black ship" on the horizon, and frantically begins to climb Mount Eerie.

The song ends in a crescendo of cacophony and dissonance, eventually just all-encompassing white noise.

The album continues as a narrative from Elverum's perspective in this hostile world, having clambered the first bit of the mountain, watching the sun set. A more palatable listening experience returns in *II. Solar System* accompanying the narrator, Phil, waiting for an inevitable end in peace. "Let the flash-flood begin, wash me down the canyon, quicksand pull me

as a Big Black Cloud envelops his senses. It's tranquil and calm but solemn until the sudden moment Death himself appears, and takes joy in breathing in Phil's last breath, taking his life as a "bloating bully". He's surrounded by a gang, jeering and leering at the dying man, taunting him in his last moments, both vocally and in the instrumentation. A heavily distorted, droning guitar and clipping drums accompany Death's cruel song, until this fades, the Big Black Cloud departs and

observes Phil's body being consumed by vultures, observing morbidly "The way they share / The memory you did wear / and now your song / is inside of them." The way the band plays with the textures and timbres of the voices and instruments on this album is one of the best things about it; not only do various different characters show up vocally, but instruments and distortion plays a large role in itself. Once again at the end of the track, the universe lifts Phil's spirit up into the void of white noise, the earthly realm behind him, and in *V. Universe* he sees himself reflected in the universe itself. Silence shocks the listener before Phil is joined by the universe as a choir behind him. It ends in this strange and unearthly kind of euphoria — a pessimistic listener might think that this might have been more of this blind hope ("I know you're out there") hinted at in the second track.

Though based heavily around various metaphors, the album doesn't really try to hide its subject matter. It's quite explicit and obvious with a lyric sheet open in front of you, but that doesn't take away from the experience

and meditation on the nature of mortality and death. *Mount Eerie* really a class act of musical storytelling, and I do wish more artists had the gall to come up with concept albums like this. More than that, though, I wish more people would dig a little deeper into artists they think they've listened to and find gems like these. If you've listened to *The Glow Pt. 2* and not this one, I recommend checking it out. I guess this ends my semi-essay on this album. I should probably write about *Laughing Stock* by Talk Talk now just to complete my set of favourite narrative albums about death, shit.



in." The mantra Phil repeats, "I know you're out there," continues as he walks through the trees. He's looking at death and the souls of the dead surrounding him on the mountain, the symbol of the struggle to stay alive. "You're vultures in trees, you're lanterns on lakes." Phil eventually ascends the mountain further, in *III. Universe*, after the guitar of the previous song is again drowned out in noise and discomfort. As he climbs, the universe asks him: "What do you want?" And in response, he continues to climb and climb, fruitlessly trying to escape the end that approaches him; in the end it's what's above him that will be his death. "How many times have I died up here before?" He asks to the void, as there's no sun for him to question anymore. A dissonant choir of voices, the universe or perhaps those who died here before, surround him.

Phil finds himself on a boulder eventually as his death approaches. *IV. Mount Eerie* describes his death,



FILM & TV

FILM & TV

Edited by: Jonah Hewett
Mike Buzadji

Film Review

Triangle of Sadness



► Sorcha Owens discusses the morals of Ruben Östlund's newest comedy of excess.

Sorcha Owens Film Writer

How much is a Rolex worth on a desert island? — and other questions you've probably never asked, are tackled by the characters in Ruben Östlund's latest venture. Already nominated for three Oscars in Best Picture, Best Director, and Best Writing, with a Palme d'Or already in its trophy cabinet, I'm a bit late to the party, but is the all this hype deserved? *Triangle of Sadness* is a three-part act that charts the journey of couple Yaya (the late Charlbi Dean) and Carl (Harris Dickinson), who are invited on an all-expenses paid-for luxury cruise, and its guests, before pretty much everything that could go wrong on a ship does, leaving them stranded on an island.

We jump in, mockumentary style, examining the absurdity of the male-modelling industry and Carl's shaky position within it. At an audition, the judges recommend he work on his 'triangle of sadness' (the area between the eyebrows and the forehead), mirroring the film's own exploration of the holy trinity of power: money, class, and beauty. Dean plays Carl's supermodel girlfriend with balance, adeptly toeing the line between innocence and manipulation. Their fraught relationship dynamic hinges on Carl's fragile masculinity, exacerbated by his inability to fulfil traditional gender roles. In a painful spat over money, he flips out at having to pay the bill, whilst Yaya points out that her job as a model has landed them their hotel room. Her investment in the relationship is just a stepping stone to her ultimate goal of being a 'trophy wife', a role only available in a patriarchal framework.

It becomes clear that everything that makes a luxury cruise so covetable — seclusion in the middle of the ocean, limited resources, and being off the grid — is exactly their downfall when marooned on a beautiful island. No one knows this as well as Abigail (Dolly de Leon), the head of toilet staff. Self-important head of staff, Paula, played by Vicki Berlin, continues pandering to her rich guests, never truly breaking free of the behaviour which has rewarded her in the past, struggling against the incoming tide of a matriarchy. Carl's illusions of love for Yaya are swept aside as their roles

flip. Without money, beauty is an even stronger currency, one that now only Carl can exploit, raising the question perhaps of whether any society can be free of capitalism, in any particular shape or form. His charade of loyalty reveals him as a pathetic social climber, adapting to whatever hierarchy he faces. Dickinson brilliantly captures the snivelling energy of Carl, whose pretty face barely masks the insecurity fuelling his every decision. Fans of Ruben Östlund's other darkly comedic work will be pleased by his continued work on the uncomfortable dialogues between pairs of characters. The immersive shots paired with a soundtrack, drawing from classical to techno music, slot you right in with a heavy dose of second-hand embarrassment. In *Force Majeure*, the marriage between the main characters is tested when the husband decides to

abandon both children when an avalanche hits. At its core, *Triangle of Sadness* is a story of (mainly) a couple's trials and tribulations — exploring when personal survival trumps commitment to a relationship. Yaya implores Carl to "not do anything you wouldn't want me to do", a slippery slope only made steeper by character is complex

his wife and an avalanche (ly) a couple's trials — exploring when commitment to a relationship. Yaya implores Carl to "not do anything you wouldn't want me to do", a slippery slope the stakes at play. Each and well fleshed out —

their personalities evolving as they face fresh adversity. Most comical is perhaps Zlatko Burić's self-proclaimed Russian 'king of shit', Dimitry: a blubbing, sweating caricature of capitalism. Most of his scenes have genuinely laugh-out-loud moments, notably his (slightly too pointed) argument with socialist captain, played by Woody Harrelson. Dolly De Leon's stellar performance has the audience in a chokehold, savouring her punishment of those who have belittled her, and demands a watch in itself.

However fun it is to see the elite make a fool of themselves, it does feel a little hard to swallow given that success in the film industry has and will continue to entwine the personal lives of both director and cast deeper and deeper into the upper class. Having done the rounds at various glitzy film festivals it's hard to understand exactly who this movie was made for; us to laugh at the rich or the rich to laugh at themselves? But then again, if for a paycheck a bunch of actors will pretend to have explosive diarrhoea, I guess the movie's message and reality blur slightly.

There are strong parallels with Kurt Vonnegut's *Galapagos*, where an assortment of survivors of a cruise shipwreck establish a new world order and of course, mirroring the descent into barbarism and rivalry in William Golding's *Lord of the Flies*. *Triangle of Sadness* throws up its own questions, tailored to modern society, where the attainment of money, power, and status are no longer as linear; Instagram influencers and tech wunderkinds are just as likely to end up on the same table as trust-fund millionaires. Although the film started production way back in 2019, the sharp revelation of Priti Patel's so-called 'low-skilled employees' as key workers during the COVID pandemic adds yet another dimension to this tale of riches-to-rags. The parting request for the audience is simple: examine your own moral corruption.



FILM & TV

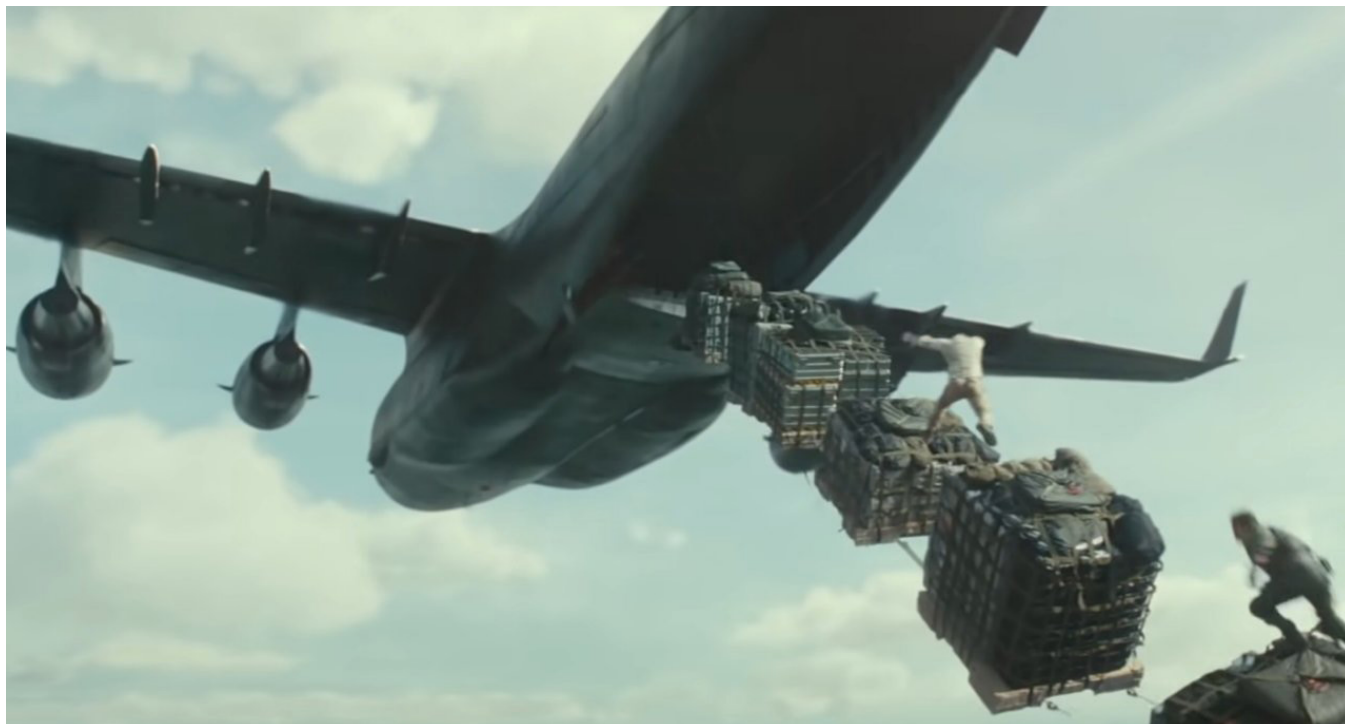
Uncharted

► *A year-old, previously unpublished article, in which Zanna Buckland ventures into what is now quite-charted review territory.*

Zanna Buckland Co-Editor-in-Chief

I've never played any of the *Uncharted* games that the movie is based on, but the disturbingly accurate algorithms of the Metaverse enticed me to watch it through constant bombardment with snippets of the trailer. I hate to say it, but the algorithm was successful yet again, and I found the adventure-action film wildly entertaining. As in any blockbuster action film, the main cast is filled with familiar faces; Mark Wahlberg (*Ted*) and Tom Holland (*Spiderman*) play the main duo, Victor Sullivan and Nate Drake, with costars Sophia Taylor Ali (*Grey's Anatomy*), Tati Gabrielle (*You*), and Antonio Banderas (*The Mask of Zorro*).

Considering this is your run-of-the-mill explorer adventure — following mysterious journals, maps and ciphers towards an ultimate goal of 'buried' treasure — Wahlberg, Holland, and Ali do a great job building up the complexity of their characters' relationships. There is a fair amount of backstabbing, with the 'every man [/woman] for themselves' mentality between them, interspersed with lots of humour and a few heart-warming moments. Unfortunately, Ali and Gabrielle's roles are a little lacking in depth and fulfilment, but as action films go, *Uncharted* does alright on the female representation front. Although the plot moves slowly at times, the scattered action scenes more than make up for it, comprising multitudes of impressive, well-choreographed stunts and rooftop chases, in the same league as the *Mission Impossible* films. Holland himself has claimed they were the "biggest and toughest of his



Method-acting Tom Holland trying his best at a frustrating quick-time event.

career", which is saying something, coming from the most recent *Spiderman* to grace our screens. He spends a lot of time behind bar counters, starting off with neat bartender tricks and progressing into a full-on bar fight involving a bottle of gin, fire-blowing, and even some flamboyant acrobatics. The trailer gives you a glimpse of the key action sequences, in which Holland clings to a trail of cargo being whipped around mid-air, somehow managing to fend off bad guys in the process.

The visual effects were stunning, with pristine island vistas, a glamorous charity function, and the afore-

mentioned bar fight occurring in a psychedelic underground club full of coloured lights. That didn't stop my viewing companions from gleefully ripping the physics of airlifting 500-year-old wooden ships to shreds, but the premise wasn't flawed enough to compromise the entire film — it is based on a video game after all. As video-game-based films go, this is definitely one to watch, especially if you're searching for a light-hearted distraction from the sombreness of reality (or if you just want to see Tom Holland do some cool gymnastics/make a cocktail/do shirtless pullups).

WHAT'S ON

Feb 16, 2023

Feb 19, 2023



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The BFI Future Film Festival is a four day event comprised of short film screenings (in theatre and online), as well as industry panels, interviews, keynotes and quizzes. It's aimed at young filmmakers and young film enjoyers. Definitely worth checking out if you're interested in film, or in meeting and greeting the James Camerons of the future!

Visit whatson.bfi.org.uk for more details and tickets.

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SPORT & SOCIETIES

*Edited by: Isabella Ward
Charlotte Probstel*

SPORT & SOCIETIES

Turkish Society raises over £1000 in a single day

► *Imperial Turkish Society coordinates response to earthquakes.*

Isabella Ward Co-Editor-in-Chief

Following a 7.8 magnitude earthquake striking parts of south-eastern Turkey and northern Syria in the early hours of Monday 6th February, Imperial College London Turkish Society hosted a fundraiser over the following Wednesday and Thursday, asking for item and financial donations to provide relief to those affected. The devastation of affected areas was immediate, with initial casualty estimates of approximately 20,000 injured and over 3000 dead. However, as search-and-rescue operations continue, victims face new dangers, with no access to food, water, medical supplies or shelter amid sub-zero temperatures.

In their first day, the Turkish Society received 35 boxes worth of sanitary products, canned food, blankets, and warm winter clothing. The goods are to be donated to the Turkish Disaster and Emergency Management Au-

thority (AFAD) alongside donations received by other Turkish bodies in the UK. The transportation of these to affected zones has been planned, with the loaded plane set to depart on Friday.

However, due to the difficulty of actually getting the support to those in need, the Society are also strongly encouraging financial donations. It is important that organisations providing relief have sufficient cash flows to adapt to the changing needs of those affected.

On Wednesday alone the Society raised over £1000 and, whilst unable to receive any more item donations, manned their stall throughout Thursday to continue to encourage monetary donations and raise awareness.

As well as directing donations towards AFAD, they have chosen to support the Ahbap, a Turkish voluntary network that is on the ground and already actively delivering support to affected regions. Consequently, donations must be made

in Turkish lira, but the conversion rate with British pound is displayed. Additionally, they are encouraging donations to AKUT Search and Rescue Association, a voluntary, non-governmental organisation involved in searching, assisting, and rescuing victims, and to Oxfam's emergency disaster relief fund.

They also signposted the public towards the Union of Medical Care and Relief Organisations, who provide emergency and impartial relief in Syria, and are currently attempting to deliver aid and conduct rescue operations. Through the fundraiser, the Turkey Society hopes 'to come together in unity and do our part in this devastating time.'

Whilst the rapid rallying of support is admirable, public efforts will have to be sustained over a longer period. On Tuesday Turkish president Recep Tayyip Erdoğan announced a three-month state of emergency, and continued international support will

be key as Turkish and Syrian citizens look to rebuild their homes and lives.

Imperial Netball II smashes their way to the top of their league

► *ICUNC definitively see off LSE*

Issy Dipple ICUNC IIs Team Captain

After a slow start to the term for Imperial College Union Netball Club (ICUNC) IIs, with several of our matches being rearranged or cancelled, the girls have been full of energy with high spirits for every game that has gone ahead so far. We headed to Berrylands on Monday evening for an important match against LSE IIs that could change our position on the leaderboard.

With only seven players available this week, we were fortunate to have a perfect line up with our two star shooters in

attack (Ella Stanbury and Grace Bryden), a tremendous trio in centre court (Louise Thomassin, Karen Pacho, and Hauwa Muhammad), and our dynamic defensive duo (Gabby Handberg and Emily Prior).

Initially, it seemed that this would be a very close match as both teams were scoring at a rapid rate throughout the first quarter. However, our defensive strategies down the whole length of the court enabled us to turn the game around. A particularly good interception from Louise in centre court, as well as the great rebounds that Gabby and Emily picked up in the defensive circle,

dramatically increased our possession. From there, we pressed on and by the end of the first quarter we were up 12-5.

In the second and third quarters we continued to maintain a good goal difference whilst the opposition began to use fowl play as their main tactic. Our WD Hauwa, who made her debut for ICUNC IIs only a few matches prior, fought off her attacker by standing her ground as well as chasing for every interception.

By the end of the third quarter the girls were glad to have a rest and a few sweets (thanks Karen) to boost their energy levels. Knowing we needed to make a

final push, we decided to up our communication in the defensive circle and focus on making good passing decisions in centre court. Indeed, with these measures in place we were able to maintain our seven goal lead, concluding the match at 32-25.

Every team member put on an impressive performance in the freezing weather, and without any substitutes. And this has paid off: ICUNC IIs now sit at the top of their LUSL leaderboard.

There were celebrations all round for ICUNC, as that same evening ICUNC IIs beat LSE IIs 42-40.

32-25 ICUNC II
VS.
LSE II

42-40 ICUNC I
VS.
LSE I

Imperial qualifies for BUCS Sailing finals

► *Wind in Imperial Blue's sails as they wipe the floor at Southern Sailing Qualifiers.*

Esme Lynch First Team Crew

It's 6am on a chilly Saturday morning and a weary group strapped in buoyancy aids linger on the Queen's Lawn. They're off to the Southern Sailing Qualifiers: a weekend which will decide their future in the field of team racing.

After a bumble down the M3 we arrived at Spinnaker Sailing Club and gathered our three teams before the event. We were eager but there was one obvious thing holding us back: the wind. The glassy lake was beautiful to passers-by, but left us disheartened, dry and — most critically — still onshore, bringing the event to a halt before it had even begun.

The wind never did pick up so, much to everyone's disappointment, Saturday's racing was cancelled. However, sailors just can't handle a day without races, so we decided to substitute our boats for karts and rallied our teams into a Karting Grand Prix. After many raucous laps (with some members nearly convinced that, such was their prowess, they should ditch boat racing for car racing) the score was officially settled (with a couple black flags) and we left to grab dinner and wind down before the next day.

Luckily, the second day brought more excitement. By 9am wind swept in lightly across the lake, just enough to get the boats launched and the races



Imperial Sailing's second team: Imperial White.



Imperial Blue (blue sails) neck and neck with Oxford.

started. After a few rounds, our squad had warmed up and got into the rhythm of things. We worked together to out-sail and out-maneuver the other teams.

At the end of the day, we were proud to see that our first team, Imperial Blue, had a 100%-win rate, placing them second overall and sending them straight through to the BUCS Finals.

Our second team, Imperial White,

placed fifth. They too progress forward to the next stages, with hopefully just a slight detour at playoffs in a few weeks' time.

There are many varied takeaways and learning experiences to examine back in regular training but, overall, it is great to see the long hours of theory and practical sessions paying off, moving Imperial one step closer to the top of British university team racing.

UCL conquered in women's cricket

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► *Imperial Women's Cricket team achieve 8-run win over UCL.*

Lizzie Williams
Imperial Women's Cricket Club President

Imperial College Union Cricket Club Women's took on tough competition UCL in their opening fixture of the London Universities Women's league. Imperial won the toss and chose to bowl first. They restricted UCL to 62 runs in 7 overs with wickets for Gaya and Aarna.

Imperial started off their chase with a great total of 20 set by the opening

pair, Gaya and Rutvi. Including a 6 from Rutvi off their last ball. Debutant Alvina hit 3 off her first ball and partnered with Aarna getting the total to 44. Shannon and Zanna carried this on getting the team to 57 with 1 over left, with 2 4s in a row for Shannon. Lizzie went in to bat last needing 6 off the last over. This was comfortably achieved, and the team got to 71, securing an 8-run win over UCL.

Next up, they face LSE and Kings to decide who the Champions of London are!



Imperial Sailing's first team: Imperial Blue.

SPORT

Imperial Men's Hockey Is falls short in BUCS Cup Competition

► *A disappointing loss to Bournemouth dashes the squad's high hopes.*

Matthew Marsh

Imperial Hockey Men's Is Captain

Despite a promising start to the season, the Imperial Hockey Men's Is have been knocked out of the BUCS Trophy by Bournemouth Polytechnic University.

The 2022/23 Season had so far proved exciting for the young squad, who is reaching its maturity at their time in university. The team have been gunning for promotion back into the BUCS Premier League, with a further aim of going all the way in the BUCS Trophy Competition. Unfortunately however, a couple of close defeats shortly before

the Christmas break have led to the prospect of promotion diminishing, with the team languishing to 4th place in the league and the primary aim switching to push on in the cup competition.

Increased competition for places has been a refreshing change to the team this season. The players selected for the match were: goalkeeper Jimmer George; a backline consisting of captain Matthew Marsh, Sam Korsen, Ollie Bennett and Lucas Siu; midfield manned by vice-captain Robert Hoppe, Ben Lindars and Justin Mak; and the forward line of Ed James, Joe Taylor and Will Barbrook. On the substitutes bench sat Prem Jagadeesh, Zhangqu Chen, Kelvin



Imperial up the aggression in their defensive tactics against Bournemouth.

Yip, Ollie Bloodworth and Ben Lovell.

Despite starting off strong, the team soon slowed, and this led to compounded goals for the opposition in the middle section of the first half. Imperial's opening play proved to be the highlight of their game and indeed, by half time the game was gone.

Under mounting pressure, Imperial employed more aggressive tactics in the second half. However, this left them open at many points vulnerable to a counter-attack, allowing Bournemouth to score a couple more goals. The most positive point was when Rob Hoppe scored for Imperial, but at this point it was clear that this was just a consolation goal.

The game fell far short of the high standards set by the team so far, with captain Matthew Marsh commenting:

"It was a poor day all round, we never

really got going and at times had little confidence. It was probably the most embarrassing fixture we have played in as a squad considering our ability. We need to learn from it but the lads are very talented, forward thinking and I have no doubt we will put it behind us and kick on and win all our remaining games this season."

The team look forward to their three final BUCs fixtures. They are hoping that by securing a few wins, they can build back the confidence needed to start next season strongly and reinstate themselves at the top of the university league system.

Having said that, it's not all over for Imperial Men's Is this year. They hope that March will see them win their LUSL competition for yet another consecutive season and hold on to their title as reigning Varsity champions.



Imperial obstructs Bournemouth going for goal.






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The City Varsity returns!

► *Imperial's highly anticipated rugby exhibition match against LSE returns on March 11th.*

Oliver Tatlow ICRFC Varsity Secretary

The City Varsity: a highly anticipated exhibition rugby match, is back on the 11th March. The evening, taking place at Rosslyn Park FC, will see men's and women's rugby teams from Imperial and LSE battle it out for the JP Morgan Shield and the Rees Rawlings Cup. Looking ahead, Men's Is Captain Sean Naka said: "The First XV this year is one of the strongest I've seen since joining Imperial. The backs feature some strong runners, and



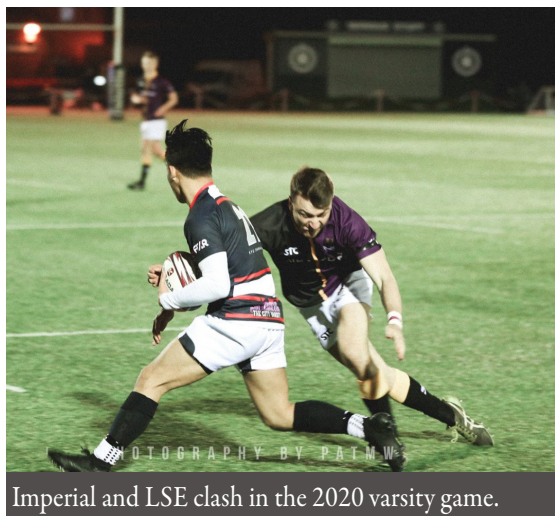
WE'RE GOING TO HAVE TO PLAY WITH TENACITY AND FLAIR AGAINST A TOUGH OPPOSITION

Credit: The City Varsity

have been led so far by fresher fl -half James. The forwards have been dominating scrums and lineouts in the league.

Players to look out for include Walter and Sam, who look to get their 2nd TCV cap. A special memory for me was winning in my first year with my mum watching in the stand. TCV is the highlight of the Imperial rugby calendar. We promise an exciting game, so come watch!" The

women's game kicks off at 5pm and the men's at 7pm, with gates opening at 4.30pm. Tickets are on sale now and all profits go to Matt Hampson Foundation, whose purposes is to 'inspire and support young people seriously injured through sport'.



Imperial and LSE clash in the 2020 varsity game.

CEC launches Pre-Accelerator programme

► *New programme aims to support entrepreneurial students in developing climate technology whilst studying.*

Climate Entrepreneurs Club

We are the Imperial College Climate Entrepreneurs Club (CEC), a 300+ member society on a mission to increase the number of startups that address climate change and students who want careers in climate tech. We believe the next Google will be a cleantech breakthrough, and we aim to be the launchpad to build it. Our primary goal is to inspire and enable entrepreneurial students to apply their skills by building ventures that address the climate crisis.

The CEC is hosting a pre-accelerator programme to support

entrepreneurial students in developing a climate tech idea while studying. Teams from top UK universities will compete in developing a sustainable business idea to demo in front of our partners to win cash prizes. This programme is a 3-month programme that starts on 21st of February and lasts till the 1st of June, when the demo day will occur. The pre-accelerator is organised in collaboration with the Cambridge Climate Society and Imperial Entrepreneurs Society and is supported by the Imperial College Grantham Institute, Enterprise Lab,

Entrepreneurs First, and other leading institutions in climate tech. The programme will accept a maximum cohort of 25 teams, or 100 participants from the above-mentioned societies and the deadline to sign up will be February 19th. Throughout the programme, you will have bi-weekly demo cafes and monthly workshops for your team to get together with your personal mentor to update your progress and receive feedback.

If you have a startup idea, this is an amazing chance for you to develop this idea with your team, along with support

from professionals within the industry. If you do not have a concrete startup idea or team yet, we will be running many events where you can talk to professionals and meet with like-minded individuals to build your team and finalise your idea.

You can access our website through this link: <https://www.climateentrepreneurs.uk/pre-accelerator> where you can find out more information and sign up to the programme.

Join us if you have an entrepreneurial mindset and want to build something that has a drastically positive impact on the world!

SOCIETIES

Prosthesis (n.) vs. Prosthetic (adj.)

► *Meet the Prosthetics Society and find out how they are fighting for accessible, high-quality, well-designed prostheses.*

Credit: Matthias Jammot

Charlotte Probstel Societies Writer

“Cutting-edge knowledge”: that is how Jared Stoloff, a 2ndyear bio-engineering student at Imperial College, which describes the ethos of the Prosthetics Society. Although a rookie on the societies scene, having been founded by Matthias Jammot in 2022, the society already has a staggering 235 members.

You may think that bio-engineers would dominate the Prosthetics Society; however, design, mechanical, electrical, chemical, civil, and aerospace engineers are also amongst its ranks.

And this is only the engineers! There are also computing students, materials scientists, mathematicians, and medics involved in the group. Any team working in the field of prosthesis is truly a ‘jack of all trades’.

Miray Kirolos, a medic intercalating in medical engineering, told me how, in her static-arms team, not only does each student bring different skills from their respective degrees, but they also teach these skills to each other. How collaborative!

As a leader, Miray loves how easily different roles can be delegated among the diverse set of engineers. Meanwhile, her continuous learning in different fields of engineering incidentally aids her throughout her own degree.

In between Miray and Matthias sits a man I had heard

lots about; Digby Chappel.

A PhD student with prosthetic hands, Digby is leading a team of undergraduates to design a Myoelectric (electrically-powered) Arm to compete at the 2024 Cybathlon at ETH Zürich (taking place 25th–27th October). As a mentor to Jared and Camille Lemoine (also 2ndyear bio-engineering), he in-

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WE DON'T CHASE THE GAME. WE ARE FOCUSED ON THE TASK. OUR MAIN TASK IS THE HYBRID ARM.

volves them in the development process of electric upper-body prostheses and teaches them hands-on skills that they would not get in their lectures or labs.

“He gives us insight into what is standard”, Jared said, clearly in awe. “We don't chase the game. We are focused on the task. Our main task is the hybrid arm.”

The group also holds incentivising socials: Matthias, lead of the myoelectric prosthetic leg, organised a pub quiz night and two inspiring talks for the group.

Credit: Miray Kirolos



A wooden toe; the oldest known prostheses currently in Egypt.



Alex Lewis and the Prosthetics Society.

The first was by Nate Macabuag, founder of Koalaa (an arm-prostheses start up), who stressed to the group the importance of comfort. In the second, Alex Lewis — a quadruple amputee, fund-raiser, and speaker — taught them ‘what true prosthesis should be’, which is very different from what we may think they are.

The talks were eye-opening, as both speakers emphasised that people with limb differences don't want prostheses for everyday tasks, as they learn to adapt in creative new ways. Most don't use prostheses at all, because they are too heavy, uncomfortable, cause excessive sweating, are expensive, do not last forever, may only be worn for specific tasks, and could be horribly designed. For example, Alex Lewis showed the group a mountain-climbing attachment made of rubber which would not grip onto anything slightly tilted and was, at around £900, not the greatest investment. However, through Lewis' collaboration with the University of Southampton, the first handcycle for a quadruple amputee was built; a real feat in biomechanics.

The speeches from Lewis and Nate, and the stories of their interactions with their clients led Matthias, Digby and Miray, and the other 200 society members to design well thought-out prostheses which will allow people to revisit their old passions or try out new ones (sports, arts and crafts, cooking, etc.).

The ambition of the Prosthetics So-

ciety must be met with enough dedication from its members. Camille and

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WHAT TRUE PROSTHESIS SHOULD BE.

Jared invest three hours per week into their projects and sometimes even more when they attend the open Electrical Engineering and Computer-Aided Design (CAD) workshops. The society truly prioritises skill development through practice and peer-sharing.

The Prosthetics Society is open to everyone, regardless of their background. If you want to help people with limb differences, want to learn amazing hands-on skills, and want to ‘get stuff done’, instead of letting projects gather dust or staying in your own headspace, I strongly encourage you to join the Prosthetics Society.

Until next time,
Charlotte