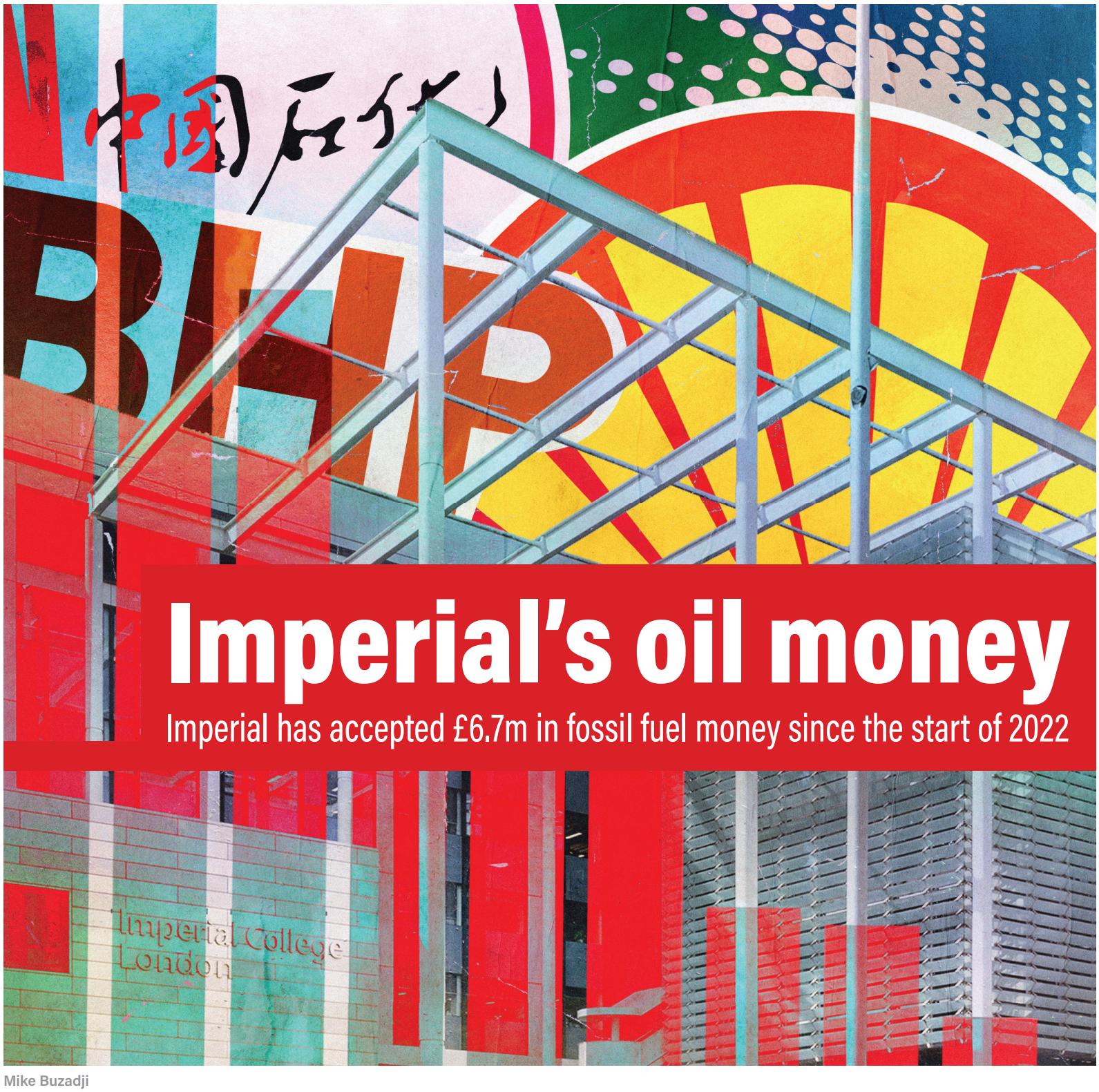
First published in 1949, *Felix* is released weekly during term time and is distributed around Imperial's London campuses. All students, staff, and alumni are welcome to contribute to the paper.

Felix

ISSUE #1830

KEEP THE CAT FREE | SINCE 1949



Imperial's oil money

Imperial has accepted £6.7m in fossil fuel money since the start of 2022

Mike Buzadji

Editor-in-Chief
JAMIE JOHN

Imperial is the second biggest beneficiary of fossil-fuel funding to universities, according to DeSmog, a climate journalism website that obtained the figures through Freedom of Information requests.

Since 2022, the College has accepted £6.7 million from major oil, coal and gas companies, in the form of research agreements, tuition fees, scholarships, grants, and consulting fees. Figures shared with *Felix* reveal that just over half of this money comes from two companies: Shell and Sinopec. Other large benefactors include BHP and Saudi Aramco.

Over this period, a total of 13 major fossil fuel companies donated funds to the College. From 1854 to 2010, eight of these companies were responsible for 13.1% of all human-generated carbon dioxide and methane emissions.

A previous report by OpenDemocracy found that between 2017 and 2021,

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DECLARATION

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 I, the *Felix* Editor, on behalf of the team promise that:

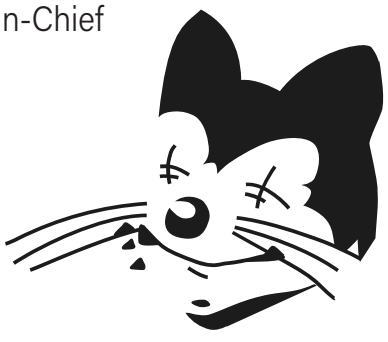
We will, to the best of our ability, tell you the whole truth and nothing but the truth.

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
Editor-in-Chief



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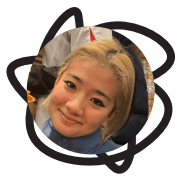

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NEWS

Hugh Brady responds to open letter from Jewish and Israeli societies

The letter had slated Imperial's 'ChatGPT'-like response to the Hamas attack.

Editor-in-Chief
JAMIE JOHN

Imperial College President Hugh Brady has responded to an open letter criticising Imperial's response to the Israel-Gaza war. 'We feel abandoned and thrown to the wolves,' reads the letter, published by Jewish Society and Israeli Society.

'On behalf of our entire leadership team I want to underline to you and all your members that antisemitism has no place at Imperial. Full stop.'

'I will ensure we take swift action against it wherever and whenever we see it,' wrote Brady in a private letter to the two societies on Tuesday morning.

Jewish Society and Israeli Society expressed gratitude towards the fact that Brady had written back to them. 'Imperial's response has been improving over time,' said a representative of Jewish Society, speaking to *Felix* after seeing Brady's letter. 'But the bar was very low to start with.'

Brady reassured Jewish and Israeli students that 'Your safety as part of Imperial's community is of paramount importance for me and our wider leadership team.' He urged them to 'report hate speech, harassment or abuse to university management, or via our Report and Support tool.'

'We will have to see how things change moving forward,' said the Jewish Society representative. They pointed out that all of the support measures mentioned in Brady's letter already existed, but that students feared reporting antisemitism for fear of being identified. 'Imperial has already banned hate speech, but still these issues continue.'

The representative called on the College to describe Hamas as a terrorist group in communications to the wider student body – something it has yet to do. "Hamas is a designated terrorist group. Supporting them is illegal, and inciting any violent antisemitism is illegal. Several students and staff do need to be reminded of this."

The original open letter describes the experience of Jewish students on campus. 'Even in relatively peaceful time,' it says, 'Imperial Jewish and Israeli students feel fear on campus. They are scared to be openly Jewish and openly Israeli for fear of classmates and lecturers attacking them. They fear verbal repercussions, online harassment, discrimination, isolation and bullying. These fears are well founded, many students have reported antisemitism and racism on campus.'

Some Jewish students have described incidents in which they have received insensitive comments from their personal tutors. *Felix* is not sharing the details of these incidents in order to protect the identities of the students involved.

Others say that they feel unable to approach their tutors, pointing to their friends' experiences and their tutors' comments on public forums.

Jewish Society says that students feel isolated; since there are so few Jewish students at Imperial, they fear there will be no one to protect them if they are subject to antisemitic comments.

Imperial's changing rhetoric

Brady's response is the most recent in a series of communications Imperial has sent on the war and the Hamas attack.

The first few of these drew criticism from Jewish and Israeli students. A tweet sent from Imperial's X (formerly Twitter) account on 10th October, said that its 'thoughts are with all those affected by the escalating violence in Israel and Gaza.'

The next day, Provost Ian Walmsley sent a letter to Imperial's Jewish and Israeli societies, stating that 'Our Imperial community stands as one against acts of violence and hatred,' and expressing his shock at the 'appalling violence in Israel and Gaza'.

On the afternoon of Friday 13th, Jewish and Israeli Society sent an open letter to the College, at the same time as a series of other letters from staff, students and alumni.

'We do not understand... why Imperial hasn't condemned [Hamas's] heinous acts,' they wrote, expressing dismay that Imperial had made no mention of the proscribed terrorist group. 'We feel shocked that these atrocities have been so heavily downplayed.'

Referring to the College's response thus far, they said: 'Vague, non-commitment that could have been written by ChatGPT is an affront to our dignity'.

The letter ended with a call for the College to meet with Jewish and Israeli students to discuss how best it could support them.

Hours after the open letter was published, Imperial President Hugh Brady sent a statement to all College members, saying, 'This week's terrible attacks by Hamas against Israel and the escalation of violence in Gaza have been truly shocking.'

What happened in Israel and Gaza?

This section contains details some readers may find distressing.

In the early hours of Saturday 7th October, Hamas, the proscribed terrorist group governing the Gaza strip, launched a surprise attack on Israel. Thousands of rockets were fired, and Hamas militants breached the Gaza-Irael barrier, massacring at least 1,400 civilians and soldiers, and taking hundreds hostage. Videos posted by Hamas on social media show that Israeli victims were set alight, dismembered, beheaded, and raped.

Israel retaliated swiftly, pounding the Gaza strip with its own airstrikes. As of 15th October, Israel's strikes are estimated to have killed at least 2,670 people, and injured thousands more. Hundreds of thousands of Palestinians have been forced to evacuate northern Gaza, and Israel has imposed a total blockade on the strip, preventing the entry of food, water, electricity, and water. These developments have exacerbated the existing humanitarian crisis in the region. Nearly half of the 1.3 million residents of Gaza are children.

UN human rights experts have condemned Hamas's 'deliberate and widespread killing of innocent civilians' and Israel's 'indiscriminate military attacks against the already exhausted Palestinian people of Gaza'. They described the actions of both sides as war crimes.

"A slap in the face": Physics students dismayed at MAB complaint outcome

News Writer
MOHAMMAD MAJLISI

Imperial this week released the results of an investigation into a complaint submitted by Physics undergraduates about their department's response to industrial action.

Students expressed their dissatisfaction with the outcome, after the investigator only partially upheld the complaint. Their demands for a partial refund of tuition fees were rejected, but the investigator found that the department's 'communication with the student body could have been improved.'

Students are especially upset by the report's comments on the emotional impact of the department's response.

'It was not unexpected that the situation would change from time to time so that information provided by the Department sometimes had to be corrected and updated,' wrote investigator Professor Richard Thompson – himself a member of the Physics department. "I do not believe that these corrections were significant enough to cause distress."

"Being told, 'That's not stress inducing,' is a bit of a slap in the face," said one student. "The report does not acknowledge the emotional and mental impact of the department's communication failures to the students."

"The reps spent multiple full days trying to reassure people, who were told different things by staff members, compared to what was then communicated to the student body as a whole."

"Many people didn't – and still don't – know what their results [from last academic year] are, as we are still missing marks from two of the four core modules this year," they continued. "It's frankly a disgrace the way the whole situation has been handled."

The students' complaint raises two main concerns: the Physics department's response to the Marking and Assessment Boycott (MAB), and its response to missed lectures.

During the MAB, boycotting staff ceased all summative marking and associated assessment duties. As a consequence, the Physics department, which had a disproportionately high number of boycotters, was unable to fully mark examinations for many first- and second-year modules.

'Since staff undertaking the MAB are not required to inform the College until their marking is due, the Department had very limited knowledge of how severe the impact would be until very close to the date of the examiners' meetings,' says the report on the students' complaint.

However, it acknowledges that 'students could have been informed about the developing situation and the department's plans, and could have been more actively involved in formulating those plans.' It recommends that the department should 'involve students in decisions about what actions to take' and should 'keep the whole cohort informed in a timely manner'.

It also recommends that 'the Department should be as flexible as possible with regard to resit examinations.' In mid-July, some modules had been marked entirely, and some only partially, as a result of the MAB. Students were therefore given provisional passes on the basis of the fully-marked modules, and told they would have to resit the MAB-affected modules, if it emerged at a later date that they had failed. Students were given the chance to resit in August 2023 – before they knew whether they had passed or failed, or alternatively, to resit the exam at the end of the 2023/24 academic year.

The report recommends a change in policy here: 'If a student now finds that they will have to take a resit in summer 2023 for a module they failed at the first attempt, the Department should allow them to defer it to the August/September resit period if requested.'

The original complaint noted that students had lost one in every 10 hours of lectures to strikes. 'We are still not receiving the education promised by the university', wrote the complainants, arguing that the missed content would hurt their career prospects.

The report acknowledges that around 9% of lectures in the 2022/23 year were missed, but says that only 2% of the content was fully undelivered, with the remainder delivered via lecture notes. This finding has been received poorly by the complainants.

"I am surprised that the department considers lecture notes an acceptable substitute for teaching," said the head complainant. "The implication by the department is that we could learn their course using a PDF - which is not the standard of teaching I expect from a supposedly world-class institution such as Imperial."

Others concurred: "It feels that the department willfully ignored a key part of the complaint," said a student representative, who wished to remain anonymous. "Handing us lecture notes on the final day of the course without problem sheets, tutorials, or seminars does not count as teaching us the content. The department seems unwilling to acknowledge that the way they handled teaching over the strikes was inadequate and seems to care more about seeming to have done a good job than about actually doing a good job."

The complainants say they will appeal the outcome of the report to the College Secretariat. Meanwhile, undergraduate physicists say they are struggling to keep up with new content this year, as a result of missed content last year. Many are worried about their Comprehensives, exams that cover all content in the first and second years of the course.

Carlo Contaldi, the Deputy Head of Department (Education) told *Felix* that he was disappointed with the "confrontational tone and language adopted" in discussions suggesting that students' complaints amounted to a demand for "strike-breaking and asking students to challenge picket lines", despite the student body's claim to support the striking lecturers and their goals. He criticised the students' "continuous criticism" calling it "distracting" and said that if students feel that they do not have confidence in him, they should inform the Head of Department and he would step down immediately.

An oil refinery. Envato Elements

→ FROM P. 1: IMPERIAL'S OIL MONEY

Imperial had accepted over £54 million from major oil companies – the next biggest beneficiary at the time was the University of Cambridge, which had received £15 million over the same five-year period. In total, the top 10 biggest beneficiaries received £86.6 million.

An Imperial College London spokesperson said: "As part of our ongoing commitment to working towards a sustainable future, Imperial College London pledged in 2020 that it will only engage in research partnerships with fossil fuel companies where the research forms part of their plans for decarbonisation, and only if the company demonstrates a credible strategic commitment to achieving net-zero by 2050. We will no longer accept funding from fossil fuel companies that is directed at propagating the existing extraction business."

Who are the four biggest benefactors?

Sinopec is a Chinese state-owned oil and gas company. Its parent company is the world's largest oil refining, gas and petrochemical conglomerate.

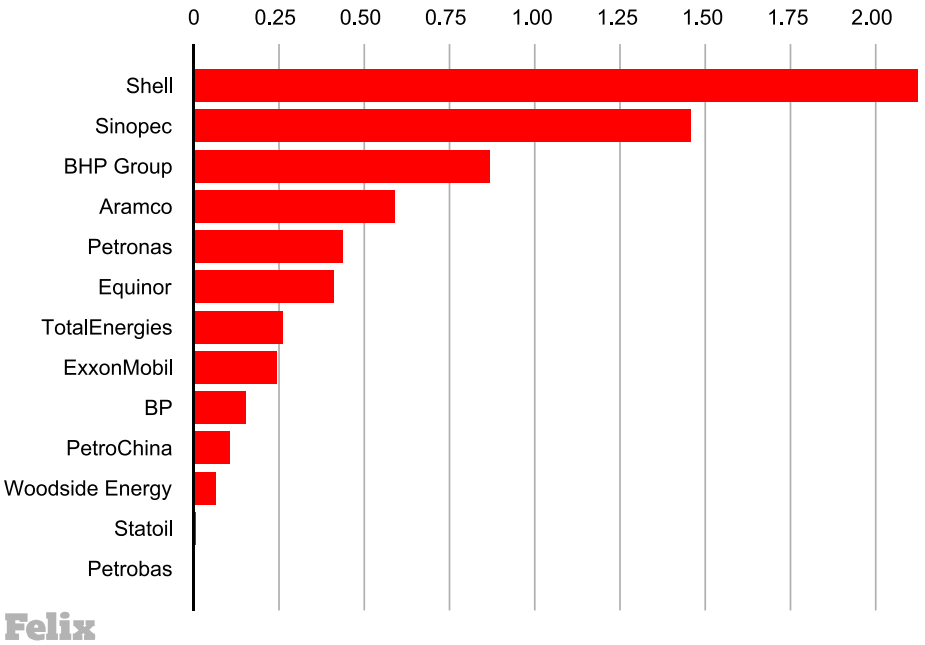
Saudi Aramco is a Saudi Arabian state-owned oil and gas company, and is the second-largest company in the world by revenue.

BHP is the largest mining company in the world by market capitalisation.

Shell is a British oil and gas company. It is the largest company by market capitalisation listed on the FTSE 100.

Imperial is the second biggest beneficiary of fossil-fuel funding

Amount donated since January 2022, £m



Source: Freedom of Information requests submitted by Max Colbert on behalf of DeSmog, and shared with *Felix*.

The largest university beneficiaries of fossil fuel financial commitments since 2022

University	Funds
Exeter	£14,700,000
Imperial College London	£6,725,769
Heriot-Watt	£6,005,844
Manchester	£3,077,268
Cambridge	£2,821,437
Oxford	£1,209,221
Royal Holloway	£740,657
Queen Mary London	£587,956

Source: The Times and The Sunday Times Good University Guide / Higher Education Statistics Agency

JTUs agree to halt industrial action

Editor-in-Chief
JAMIE JOHN

The Joint Trade Unions (JTU), representing staff at Imperial, have agreed to withdraw their notifications of industrial action 'as a gesture of goodwill to facilitate pay negotiations in January 2024.' The JTU represent the local branches of UCU, Unite and Unison, three trade unions, and negotiate staff pay locally with the College. For over a year, they have been engaged in a dispute over the College's pay award, arguing that it does not account for increases in the cost of living due to inflation.

In a joint statement sent to College staff, Imperial and the JTU said:

'Imperial has agreed to bring forward pay negotiations for 2024-25 to January 2024. As part of any agreed award, Imperial will bring forward an element of any consolidated pay increase to the date on which the reduction in USS employer contributions takes effect. For the avoidance of doubt, the savings underpinning Imperial's previous offer of a one-off payment in December 2023, will now be considered as part of the January 2024 pay negotiations.'

'Following a JTUs members meeting on Monday 16 October, UCU, UNISON and Unite have agreed to withdraw their notifications of industrial action on 18 October 2023 as a gesture of goodwill to facilitate negotiations in January. The JTUs have been asked to submit a pay claim for 2024-25 by December 2023'.

ExxonMobil pulls out of PhysSoc talk after student opposition

Editor-in-Chief
JAMIE JOHN

News Writer
MOHAMMAD MAJLISI

American oil giant ExxonMobil has pulled out of a careers talk hosted by Physics Society, Imperial's departmental society for Physics students.

'Due to concerns from climate activists and students in our community, ExxonMobil [sic] have made the decision to pull out of this event,' reads an email from Henry Leitch, the Physics Society President. 'We're very proud of our community for raising their concerns to us and hope they feel heard.'

Leitch writes that PhySoc was not paid for the event, and that it was 'purely a careers opportunity for students to show interest in... PhySoc is not sponsored by any oil companies.'

'However,' he continues, 'many graduates do work in this field, and it is likely many will in the coming year.'

How it happened

Talking to *Felix*, Leith outlined the sequence of events that led to the careers talk, and then its subsequent cancellation.

An Imperial graduate who worked for Exxon's Global Trading group approached Physics Society with a proposal for the company to host a careers talk. There was no monetary incentive, says Leith.

The graduate told Leith that the Global Trading group had taken on eight Imperial students in the previous year. "They told me they were looking to expand the group, and they were saying, 'We'll reach out to universities and do the standard procedure of offering graduate jobs to pull in students.'"

"So I go, 'Cool.' I share many of the sympathies which many other people do, but my personal views on Exxon were not important. The equation for me was that some people are taking these jobs, and restricting that would be almost as controversial as not restricting it. My job is to provide these opportunities."

So, Leith and the Physics Society committee planned and advertised the event. The backlash was swift, he says. "It all happened over the course of a day – or even less."

"I'm doing lectures and then I'm coming out and I'm talking to friends about it and then I'm going into lectures and then next they've pulled out. We were getting messages left, right, and centre."

Leith is reluctant to name the individuals and groups that contacted him, but says the society received "passionate messages", and that the complaints were "reasonably widespread", coming from students and other activist groups.

"I immediately told the Exxon people what was happening, and they decided to pull out for security reasons", he continues. "They said that they weren't able to send someone in with enough security provision to be able to run the event safely, because it was too close to the date of the event."

He admits he was naïve in assuming everything would proceed smoothly. "This has been a learning curve for me. In handover documents [for next year's Physics Society committee], I'm going to doubly stress that these things are risky, because this was quite a scary experience"

However, the Physics Society committee still feels there is value in holding events like this, rather than cancelling them altogether. "If we ran this event, then people who care could ask constructive questions and create debates around it. The idea of shutting down discussion is something we were against."

"Is it the choice of the individual, or is Imperial's job to restrict student access to these companies as part of a wider agenda to make the world a better place? That's not for me to answer."

ExxonMobil highlighted its "long-standing" relationship with Imperial, saying, "Many Imperial alumni have built long and highly successful careers with ExxonMobil. "Today," it said, "Our focus is on delivering the critical energy and essential products the world needs while at the same time reducing emissions to accelerate the world's path to a net zero future."

ExxonMobil and climate science

ExxonMobil has been criticised for its stance on climate change. A study published last year in *Science*, a peer-reviewed academic journal, found that between 1977 and 2003, Exxon's scientists had 'predicted global warming correctly and skilfully'. 'Yet,' it alleged, 'Whereas academics and government scientists worked to communicate what they knew to the public, ExxonMobil worked to deny it.'

At Exxon's 2013 annual shareholder meeting, Rex Tillerson, then CEO, said incorrectly: "If you examine the temperature record of the last decade, it [hasn't] really changed.'

'What if [after] everything we do, it turns out our models are lousy, and we don't get the effects we predict?"

Between 1989 and 2010, Exxon published regular 'advertorials' in major American newspapers, with titles such as 'Unsettled Science' ('it is impossible for scientists to attribute the recent small surface temperature increase to human activity.')

The company has also been accused of donating millions to lobby groups that sought to deny climate change – claims it denies.

Last week, ExxonMobil agreed to buy shale group Pioneer Natural Resources for $60 billion, betting on the continued importance of oil and gas in the world's energy supplies. The move came just a month after the International Energy Agency said that demand for oil, natural gas, and coal will peak before 2030.

ExxonMobil said it believed it was "uniquely well positioned to help society achieve its net zero ambition."

"We recognise that climate change is real and that is why we have launched an entire business dedicated to helping lower emissions."

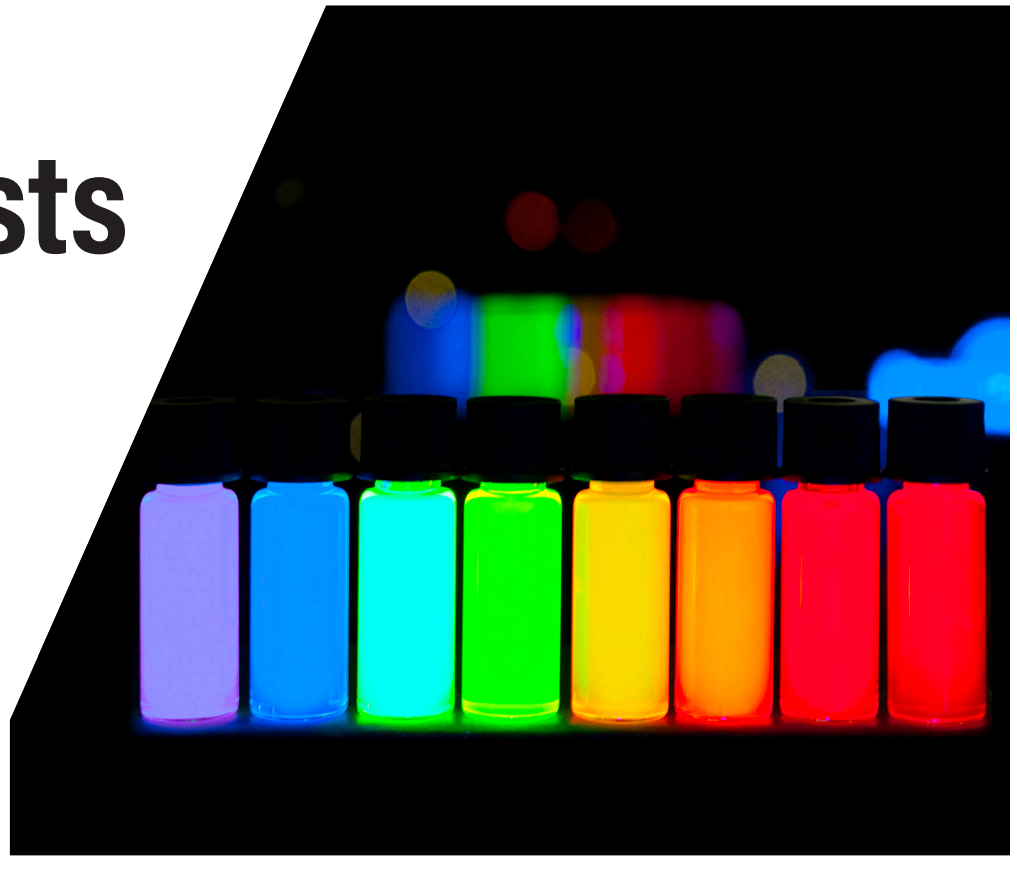
"Our Low Climate Solutions business is working on major carbon capture and storage (CCS), hydrogen and biofuels projects to help lower emissions in vital, but hard to decarbonise sectors, such as transport and heavy industry. And we are drawing upon our experience, competencies and competitive advantages to develop new solutions to help address the net-zero challenge."

"We encourage everyone at Imperial with an interest in a career in energy to find out more in the 'Our Approach' and 'Careers' sections of our website."

SCIENCE

Nobel's nanochemists and the legacy of quantum dots

Science writer, Emily Wentworth, explains all about quantum dots.



Quantum dots with vivid colours stretching from violet to deep red. PlasmaChem

Science Writer
EMILY WENTWORTH

Continuing our exploration of the 2023 Nobel Prizes, this week we delve into nanochemistry, a realm of incredibly small length-scales. Nanomaterials must have at least one nanoscale length, leaving some flexibility in the structures that can be created by confining one to three of the dimensions. This produces quantum wells, quantum wires, or quantum dots: the subject of this year's Nobel in Chemistry. The Nobel Prize in Chemistry 2023 was awarded to Alexei Ekimov, Louis Brus, and Moungi Bawendi for their groundbreaking work on quantum dots.

Shrinking science

Due to quantum confinement, quantum dots are not simply nanoscale versions of macro-sized semiconductors. Generally, in bulk materials, such as bulk semiconductors, electrons are free to move. However within quantum confinement, the laws of classical mechanics governing these electrons are tossed aside when electrons are trapped in a small space like a quantum dot, and the material properties begin to be governed by quantum mechanics instead. The energy levels accessible to the electrons in a quantum dot now become discrete, rather than the continuous energy band structure that we expect from bulk materials. Interestingly, the gap between these quantised energy levels is inversely proportional to the size of the nanomaterial - as the quantum dot is made smaller, the energy gap becomes larger. The most intriguing part of this discovery is that despite being made of the exact same material, quantum dots can be tuned to emit different colours of light, only by changing their size.

For a clearer perspective on just how small these are, a typical quantum dot falls in the range of two to ten nanometres across. By comparison, a human hair has a diameter of 50 micrometres, 10,000 times larger! Although some theoretical scientists made predictions for the behaviour of such materials, the almost incomprehensible scale difference used to present a barrier to synthesising them and obtaining real experimental evidence. The 2023 Nobel Laureates in Chemistry overcame these challenges, redefining the landscape of nanochemistry and its potential applications.

Introducing the laureates

Alexei Ekimov and Louis Brus both followed independent and different paths to the discovery of quantum dots. Seven years after obtaining his PhD, Ekimov published a paper in 1981 in which he observed that the size of copper chloride crystals within a glass matrix, controlled by temperature, influenced the final colour of the glass. This discovery is recognised as the first synthesis of quantum dots, which Ekimov referred to as "three-dimensional microscopic semiconductor crystals".

> **Although quantum dots are small in stature, their applications and potential span all disciplines of science.**

Quantum dots entered Louis Brus' journey as an academic by a stroke of serendipity in 1983. While researching semiconductors in solution, Brus noticed that day-old solutions containing cadmium sulfide nanoparticles displayed a different colour to freshly prepared solutions. Through transmission electron microscopy, he determined that this resulted from the nanoparticles forming larger clusters over time, demonstrating quantum size effects in solution.

Moungi Bawendi enters the scene slightly later. His research at the Massachusetts Institute of Technology from 1990 onwards streamlined the synthesis and improved precision in creating quantum dots of a specific size, both of which were vital in improving their commercial applicability.

Microscopic scale, macroscopic changes

Although quantum dots are small in stature, their applications and potential span all disciplines of science. This includes acting as biosensors in disease diagnosis and monitoring, increasing the wavelengths of light harvestable by solar cells, and raising image quality of electric screens. Their versatility extends much further. A basic search of "quantum dots" into a scientific database generates 140,000 results, emphasising the groundbreaking efforts by Ekimov, Brus and Bawendi. Their contributions, recognised by the Nobel Prize, will leave more than a nano-sized footprint on the future of science and technology.

ENVIRONMENT

Fossil fuels and the Science Museum: an Imperial perspective

Following on from last week, *Felix* investigates what students, staff, and alumni think about fossil fuel companies sponsoring our neighbours.

Environment Editor
SIMRAN PATEL

Students and staff from across Imperial College have shared their opinions about the Science Museum's exhibitions being sponsored by the fossil fuel industry. While British Petroleum (BP) sponsors the Science Museum Group's STEM training academy, Shell and Equinor have sponsored its exhibitions. Adani Green – a renewable energy company part of a conglomerate including coal mining operations – is sponsoring a gallery about climate change that will open in spring 2024. Most Imperial students and staff expressed their displeasure with the sponsorships, but some explained the importance of the fossil fuel industry in mitigating the impacts of climate change.

What does the Imperial community think?

"It depends on the partnership," said a chemistry student. "We must act against fossil fuel companies and their environmental impact, but that does not mean angrily opposing any institution that has anything to do with them." A mechanical engineering student said "I don't mind as the museum should be non-profit anyway. Also, I don't think there are many vested interests."

Professor Nilay Shah, Professor in of Process Systems Engineering in Imperial's Chemical Engineering department, said "I feel that we have a responsibility to engage with the more enlightened companies and support them with transition plans as the global energy transition will happen faster if the heft of the current energy industry is used constructively. On the other hand we are not interested in projects associated with increased extraction of fossil fuels."

Others openly voiced their support for the sponsorships. "Working with energy companies at the forefront of science, while also allowing them to fund campaigns to bring science to the people is great," commented a medical student. "The current hype train of people trying to force organisations to break ties with fossil fuels is ludicrous virtue signalling at its worst" echoed Xiang Hong Tan, another student. "Fossil fuel companies should not be restricted from partnering with the Science Museum. Science is science, not politics," he continues. "Yes, fossil fuel companies have a history of greenwashing, but the transition to a net-zero economy still requires significant scientific research and capital. Who else has the tremendous amount of capital ready to be contributed towards net-zero initiatives? ... Oil majors should not be shunned because of their track record.".

Others were vocal in opposing the Science Museum. "Most fossil fuel companies have no interest in keeping to the limits of the Paris Agreement", said Dr Robin Lamboll, a research fellow from Imperial's Centre for Environmental Policy, "and their involvement in discourse around climate change is either to delay action or to greenwash. When the project is purely to inform the public or to investigate political solutions, it's hard to avoid the risk of motivated reasoning to keep funding flowing, even when communicators and researchers have good intentions." Similarly, Dr Dave Clements, a Reader in astrophysics at Imperial, said "It's clear that the current management and board of directors are more worried about money than, frankly, the science - and they're quite willing to let organisations like Adani be able to have some commercially motivated input into exhibitions." Another chemistry student agrees with this, saying the museum's "continued affiliation with the fossil fuel industry shows they are not willing to put evidence before financial gain."

Students and staff also expressed their discontent with the fossil fuel sponsorships by highlighting the Science Museum's importance as an educational institution. "As a scientist, it's galling that the Science Museum ever accepted any relationship with such a destructive company," said Dr Julia Halder, a teaching fellow in Public Health at Imperial. "As an educator, I am horrified that the museum is fine with these companies' names

Simran Patel / Goran tek-en CC BY-SA 4.0

in a place of information and education." Similarly, another student began to "distrust [the museum's] commitment to science and public education" due to the sponsorships. According to a Design Engineering student, the sponsorships "completely go against [the museum's] philosophy and feels like a betrayal to the

young people who they aim to inspire." Postgraduates have expressed similar views, with PhD candidate Pete Knapp saying "the Science Museum should be a beacon of following the evidence, but instead they treat it with contempt."

In response, "The Science Museum Group achieves public good for a wide and diverse audience of many millions with the sponsorship it receives," a Science Museum Group spokesperson told *Felix*. "External funding has been vital to the transformation of our five museums, creating inspiring, free spaces where millions of visitors can immerse themselves in authentic stories about science, engineering, mathematics and more. We continue to urge companies in carbon intensive sectors to show more leadership in speeding up the transition to low-carbon energy sources."

"Overwhelming scientific evidence indicates there is no room now for new oil and gas extraction if we are to stay below a disastrous 2°C increase of global temperature," said Professor Jeff Waage OBE, Imperial alumnus and member of Imperial Climate Action. "Yet all of these companies are ramping up exploration and extraction." For example, the Adani Group – which Adani Green is a part of – is expanding its coal projects in India. Equinor will be operating the recently approved Rosebank oil field in the North Sea. In June, Shell told investors it plans to expand its natural gas operations. BP plans to expand fossil fuel operations in the North Sea, Gulf of Mexico, Indonesia and more. This is despite the International Energy Agency and Intergovernmental Panel on Climate Change stating that no new fossil fuel projects are compatible with reaching net zero carbon emissions by 2050.

Imperial and the Science Museum

Imperial College and the Science Museum have a relationship stronger than just being neighbours. As well as co-hosting the Great Exhibition Road Festival with other institutions, Imperial's Business School held their Welcome Day at the Science Museum earlier this year. Furthermore, PhD students from Imperial's Grantham Institute provided evidence for the Shell-sponsored *Atmosphere* exhibition. Most importantly, three Imperial academics sit on the Science Museum's Advisory Board. Two of them are Professor Washington Yotto Ochieng, EBS, FREng from the Department of Civil and Environmental Engineering, and Dr Mark Richards from the Department of Physics. *Felix* asked these academics what they thought about fossil fuel sponsorships.

> **"I am horrified that the museum is fine with these companies' names in a place of information and education.**

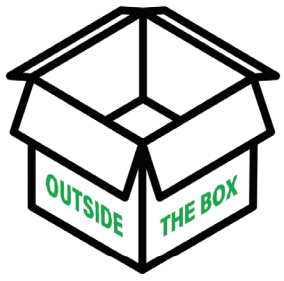
Dr Richards – a researcher on air pollution who lectured on environmental technology – explained to *Felix* how aware he is of the need to reduce carbon emissions. He believes that every climate solution has its nuances, and an underrated solution is reducing global energy demand. Dr Richards emphasised the importance of an inclusive, holistic energy transition – where no industry or community is left out of climate discussions, and socioeconomic issues are tackled alongside environmental issues. To him, this means science institutions need to work with industries that some people no longer desire but are best placed to provide clean energy for everyone. When asked about the Science Museum's sponsorships, Dr Richards said he knows that the museum has relationships with fossil fuel companies but is unaware of the details of any contracts. He accepted his Advisory Board position to encourage the Science Museum Group to make positive changes that benefit all.

Professor Ochieng also enjoys the societal impact of his Advisory Board position. He told *Felix* that the Science Museum has the advantage of convening industry, world-leading scientists, and the public so the world can reach net zero carbon emissions faster. In particular, he acknowledged that industry funding allows scientists to share their research on climate solutions with the public. Professor Ochieng explained how very concerned he is about the climate crisis, and how he wants fossil fuels to be phased out as quickly as possible without compromising energy demand. While he recognises the need for climate solutions to be profitable to industry, he campaigns against environmentally damaging policies. Since Imperial and the Science Museum are attractive public educational institutions, Professor Ochieng believes they should hold energy companies accountable for their emissions and help accelerate their journey to net zero. For example, the Science Museum Group's "partnerships panel" uses the Transition Pathway Initiative – which Professor Ochieng thinks is the strictest code for corporate climate responsibility – to assess potential partners. By setting high standards for energy companies, he believes the Science Museum Group can encourage those companies to reshape their fossil fuel-dominated business models faster than they would otherwise.

"The Transition Pathway Initiative only assesses the climate awareness and stated intentions of fossil fuel producers", said Professor Waage, "and may score a company above the threshold used by the Museum even if their actual performance to date in reducing emissions is poor." For example, although BP, Shell, and Equinor want to be net zero companies by 2050, according to Greenpeace, less than 0.2% of their energy production was renewable in 2022. The Adani Group conglomerate has a Transition Pathway Initiative score under the Science Museum Group's demands, but Adani Green specifically satisfies those demands. According to Reclaim Finance, the initiative does not consider whether companies have scope 3 emissions targets (emissions associated with others burning the fossil fuels they extract), and understates the importance of short-term reductions in carbon emissions.

In another link between Imperial and the Science Museum, Professor Ochieng revealed to *Felix* that he introduced Science Museum Group executives to Imperial's Sustainability Strategy committee – which he sits on – to share ideas and best practice in internal carbon reduction.

"I wasn't aware that there are Imperial academics who are on the board of the Science Museum," said Dr Dave Clements. "They need to wake up, smell the carbon dioxide, and actually start acting for the good of the world - rather than the good of the Science Museum's bank balance." Dr Clements was not the only one taking such stance. "Science Museum managers - and this includes three distinguished Trustees and Advisors from Imperial College – will be aware of the science," said Professor Waage. "So why are they permitting these sponsoring companies to greenwash their reputations at the expense of the Museum's credibility?"



What does net zero even mean?

WITH ZANNA BUCKLAND

On a tangent from what I had originally planned to report on this week, I've decided to instead explore the meaning and implications of using the term 'net zero' when thinking about solutions to climate change.

Net zero has become a huge buzzword in environmental and climate journalism. So much so that it has arguably lost its gravitas. How many of us actually understand the term when we read it? What does it mean to governing bodies and corporations that have set net-zero targets for themselves?

From an informal survey of 43 people (family, friends, and acquaintances), I found that most could hit the mark on a simple definition of net zero: 'emissions produced by humans equals emissions absorbed from the atmosphere by humans'. 'Carbon' and 'greenhouse gas' (GHG) emissions were used interchangeably, some respondents mentioned economic implications, and others expressed strong views about the term. Many expressed uncertainty in their ability to define it. And some defined it entirely outside the context of climate change by simply stating its mathematical meaning.

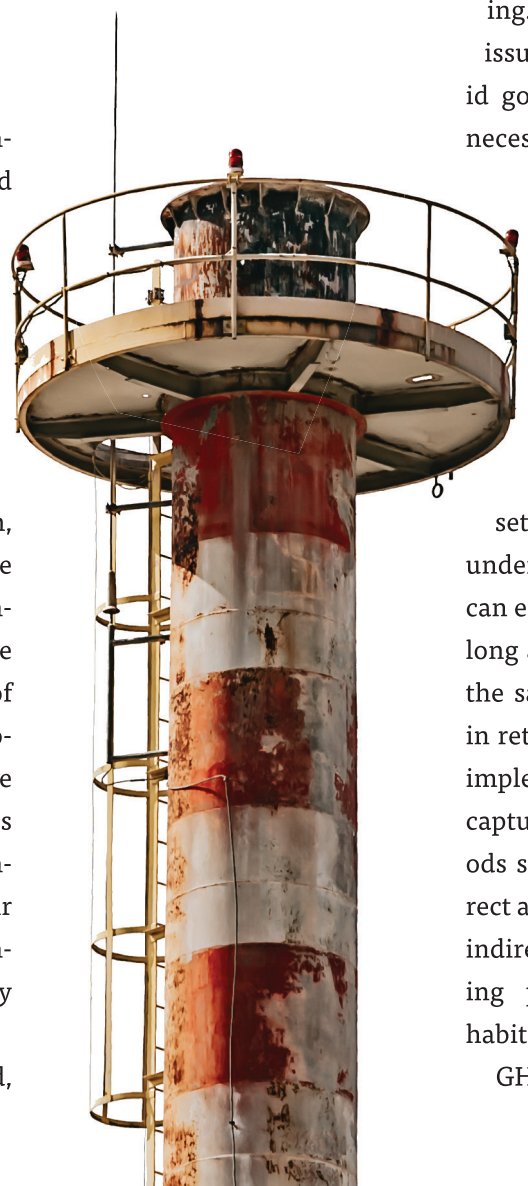
The UN's definition is that 'net zero means cutting greenhouse gas emissions to as close to zero as possible, with any remaining emissions re-absorbed from the atmosphere, by oceans and forests for instance.' The World Resource Institute (WRI) defines net zero targets as being achieved 'when all emissions released by human activities are counterbalanced by removing carbon from the atmosphere in a process known as carbon removal'. BBC Bitesize (targeted at young people) describes net zero as 'the point at which the number of greenhouse gases being put out into the atmosphere is equal to the number that are being taken in.'

There are a number of key issues in the definition of net zero and, more importantly, in the concept itself.

Firstly, net zero, referring to net-zero GHG emissions targets, is a term that gets thrown around a lot by news outlets, in government press releases, and in companies' social governance and responsibility reports. Often, these terms are used without any kind of explanation or justification and could easily be taken out of context and misinterpreted by readers, as reflected in some responses to my survey. Even using the word carbon to qualify emissions entails something different to greenhouse gases.

How can people feel empowered to vote on governments' climate agendas without being fully informed and knowing what terms like net zero actually mean? The way policy proposals are worded can influence the public and private sector's receptiveness to government intervention. Technical literacy should not be taken as a given, and thus reporting should take government policies and announcements and help make them accessible to all readers of voting age. If policies are proposed in terms that don't make sense to everyone, this excludes voters who feel they don't understand enough to show their support or opposition, and invites decisions to be made by misinformed voters.

Both in the UK and beyond, environmental targets have been shifted significantly over the years. The 20 Aichi biodiversity targets, which were set in 2010, expired in 2020 with none being met at a global level. The 2015 Paris Agreement on global warming is now revisited every year at the Conference of Parties (COP) on climate change to hold nations accountable to their commitments. But it also allows them to adjust their individual and collective climate goals.



The UK's rolling back of its net-zero targets encompasses delayed initiation of bans on the sale of new oil- and gas-boilers and petrol and diesel cars, as well as announcing they would not be implementing new taxes on flying or eating meat. These targets, which contribute to the government's overarching climate commitments, have been shifted to later dates with no real evidence or sound reasoning. I for one don't see the issue with maintaining a solid goal when they won't even necessarily be met at the end of the day. What is the point of even setting targets if they can so easily be adjusted to suit a different agenda?

One failure of net zero is inherent – the idea of being able to offset one's GHG emissions. The undertone of this tends to be 'we can emit as much as we want as long as we find a way to absorb the same amount of emissions in return'. Corporations usually implement this through carbon capture and storage (CCS) methods such as forestation and direct air capture (DAC), as well as indirect methods like improving production efficiency or habitat restoration.

GHG offsetting can, however, be harmful. An example of the potential damage it can cause is the planting of monocultural tree plantations that adequately perform carbon sequestration but don't regenerate ecosystems and promote biodiversity. Offsetting practices often don't directly address other environmental problems that humans cause: biodiversity loss, food waste, toxic chemical waste and pollutions (air, ocean and land), overexploitation of natural resources, and ecosystem degradation.

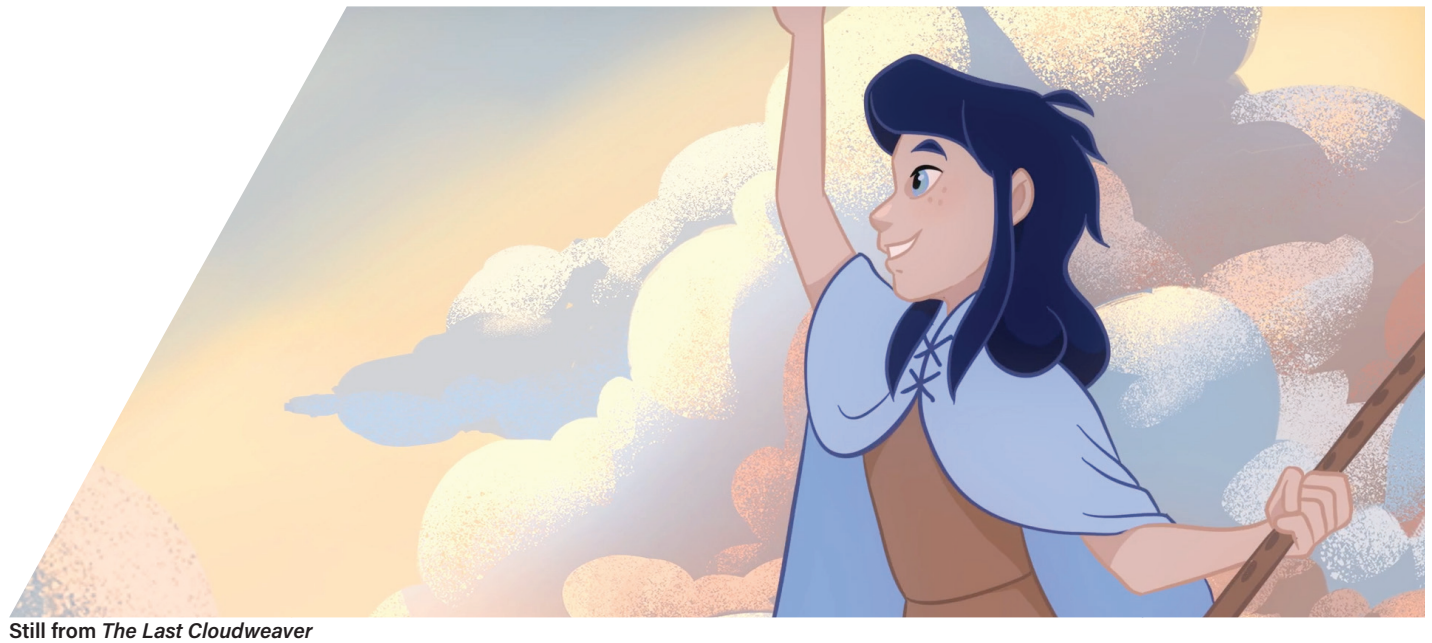
Our personal impressions of net zero can be very different to what corporations and governments are actually working towards, and it is difficult to hold them accountable. A net zero tracker at zerotracker.net compiles data on net-zero commitments from the largest global corporations and whether they report on their progress, which allows consumers to easily find this information (if they choose to look for it) and shows how lacking some of these major companies' climate commitments still are.

As much as it appears that the concept of net zero has been corrupted, my intention is by no means to criticise net zero alone, but to encourage readers to think about environmental reporting in general. What other terms can you think of that are unclear or overly technical? The two biggest topics in environmental activism at the moment, biodiversity and climate change, have endless nuances and assumptions attached to them and can be used just as ambiguously as the term net zero. The ability to question language and to be aware of its limitations are vital for understanding why we aren't in the position to enact direct change and to better put pressure on the people who can actually make a difference.

ARTS

Gilbert on Gilman

An interview with composer Ros Gilman



Still from *The Last Cloudweaver*

Arts Editor
GILBERT JACKSON

The art of film composition is a challenge to even the most seasoned composer; you are not free to experiment with the music as much as you would like, you are tasked with aligning the music perfectly with what is on screen, and the music must simultaneously add substance to the film without becoming too much of a distraction. The composer, Ros Gilman, is a worthy challenger to this task. Having studied violin performance, composition, and conducting at both the University of Music, Vienna and the Royal School of Music, Ros has accumulated a plethora of qualifications and repertoire, having worked alongside short-film director Anna-Ester Volozh, as well as working on the HBO series *Folklore* and programmes for various channels in Germany and France.

Recently Ros has worked with Volozh on *The Last Cloudweaver*, an animated short film about an ancient dragon who bestows the knowledge of 'cloudweaving' to his young apprentice. For his work on this film, Ros was nominated for a Septimus Award as well as, most recently, received accolades at the *London Music+-Sounds Awards*.

A few weeks ago, I had the pleasure to speak with Ros himself, not only about his award nominations, but also on his life as a young composer, his recent work, and his transition to orchestral composition, as well as looking at his influences and methodology.

Ros Gilman conducting the Prague Philharmonic

GJ - Having read your biography, I was hoping to hear, in your own words, your journey from being a musician all the way to being a film composer?

RG – My journey started very early on; both my parents were professional musicians and when I was three years old, I started my journey as a violinist. I went on to study concert violin at in Vienna but, unfortunately, I suffered a hand injury which put it all on hold. For me it was then a question of 'what do I do?' I've always loved films, and have always loved music, it made sense to combine those two loves. That was how I ended up going back to university to study to be a film composer.

GJ – Do you think writing music for films and TV comes with its challenges?

RG – Absolutely. There's sort of an upside and a downside here. The structure of the music is already predetermined, I feel that my job as a composer is to reinforce the emotion of the story presented to you. The challenge is that you're not free to write whatever you like, but also you must follow the director's vision; they have an idea of what they want to achieve in a scene, the challenge is to find out what they're after.

GJ – In this case, how did you find working with Anna on *The Last Cloudweaver* and working for the first time with a full-scale orchestra.

RG – It was wonderful! Anna and I had worked on one occasion before with a smaller orchestra on a project called Johanne. She approached me with *The Last Cloudweaver* and I immediately said 'absolutely!' It was ambitious for a short film, but Anna kindly gave us such a large music budget with which to work. Oftentimes, Anna guided me in a direction I wouldn't have always gone but it worked out well and working with this large lineup was a welcome moment.

GJ – I notice that you worked on a lot of electronic music in your early career. What was it like being able to take the reins of a full-scale orchestra this time?

RG - It was wonderful. It was both humbling and wonderful being with these professional musicians. You know, with older and wiser musicians they might be thinking 'who is this young guy?' but it turned out to be a great experience.

GJ – This film lacks any dialogue, so you use motifs throughout to represent each character. How did you come up with these melodies and harmonies for each character and scene?

RG – As you say, there's no dialogue, so it was great being able to assign themes and particular instruments to each character. The story features a dragon and a young girl, the dragon is very grand and old and so I used a solemn theme played on the cello; the girl is more impatient and younger and so she was represented by a piccolo playing a nostalgic but playful theme.

GJ – You mentioned nostalgia, I heard you using the pentatonic scale throughout and I wondered if you used these more ancient modes to emphasise that theme?

RG – I think there is that reason behind it, but one reason was because the director loves Japanese animation, and you get a lot of these harmonies and melodies in Japanese music, particularly the music of *Studio Ghibli* by Joe Hisaishi. This was the

musical language Anna was looking for and so I immersed myself in it.

GJ – On that topic then, who would you class as your own musical inspirations. Which composer's do you hold in your regard?

RG – I think the two big composers of film for me as a student were John Williams and Danny Elfman – John Williams in particular is my hero. I would also say composers like John Powell, who composed for the *Shrek franchise* and *How to Train your Dragon* Nicholas Brittell and Ludwig Göransson are also other composers I enjoy listening to.

GJ – I can tell in your work, the idea of texture is quite important to you. Do you think texture is of greater importance in film these days?

RG – I feel that film music has changed in recent years: music in movies these days is certainly moving towards a more textural approach, you don't have many of the great melodies that you'd hear from John Willimas or Howard Shore, but I certainly admire the modern work of Alexandre Desplat, who still uses melody very well.

GJ – You've recently been nominated for two prestigious awards, the Septimus Award for best soundtrack and more recently for best original music for a short film at the *London Music+Sounds Awards*. What does it feel like being nominated and recognised for your achievements?

RG – It feels great. I think as composers we put a lot of blood and sweat into our work; many hours spent on our own with many challenges to face. The music was composed very early, and recorded during a time when COVID restrictions were still active, which presented us with the great challenge of finding a country in which a symphony orchestra was allowed to record. In light of this challenge and all the hard work that went into the score, it's great to be awarded for all this effort.

GJ – Are we going to see more Japanese influenced music from you in the future, or will you branch out?

RG – Earlier this year I finished working with Anna on a new project which I'm hoping will be released soon. I think part of my job as a film composer is being flexible in terms of musical genres. I enjoy writing fantasy music but right now I'm working on a feature film with an Austrian award-nominated director that's a drama shot in black and white. The score is much smaller and very different; no Japanese influences this time. I think it's about finding the collaborative aspect with the director and finding the right language for the film; it's one of the things I enjoy most about being a composer, it keeps you mentally fit and it always keeps you challenged.

This interview has been edited for length and clarity.

Still from *The Last Cloudweaver*

Ros Gilman conducting the Prague Philharmonic

BOOKS

Another side of the Gascoigne

A look back at the legendary life of Paul Gascoigne.

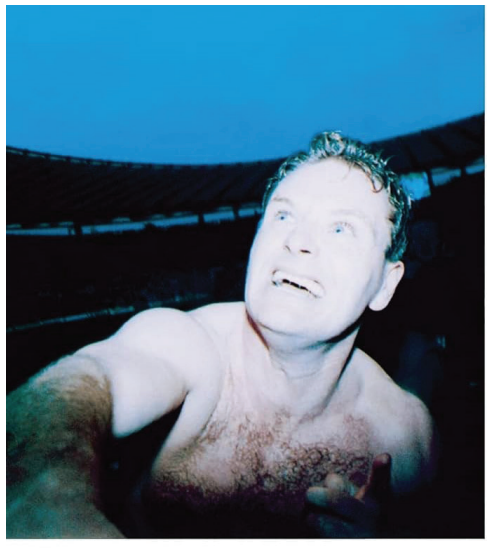
Books Editor
TOM SAVAGE

There is no discernible anniversary associated with this review of *Gazza Agonistes*. Published 29 years ago, it describes the events surrounding the life of footballer Paul 'Gazza' Gascoigne through the 1990s. Its author – literary critic and poet Ian Hamilton – passed away in 2001. However, his depiction of the rise and fall of this talented man remains timeless. Hamilton writes from the perspective of a lifelong fan, willing Gazza up the football field from behind the pen. A self-styled 'Gazzamane', he celebrates the highs with literary flourish, and reports on the lows with all the authority of a disapproving parent.

I first came across *Gazza Agonistes* via a series of recent tweets, showing football-ers who graced the covers of the London Review of Books throughout the 1980s with cover titles like 'Social democracy, Sociology, Soccer'. Karl Miller, the editor of the LRB at the time, pioneered, as *The Guardian* mentioned in his obituary, 'a distinguished style of soccer journalism'. *Gazza Agonistes* is perfectly placed within this subgenre, and feels so far away from the current state of football critique which consists largely of clips of Mark Goldbridge looking sad on YouTube.

Writing in 1993 (with an afterword written in 1998, after Gazza's exclusion from the World Cup squad that year), Hamilton describes being attracted to Gazza's 'legendary scampers' while playing for his childhood club, Newcastle United, and then moving to Tottenham Hotspur, Hamilton's childhood club. This transaction of loyalties, from one man's sporting allegiances to the other, provides Hamilton with the emotional license to report on Gazza in a way that is distinct from the tabloid journalists who plagued his career.

Gazza Agonistes highlights just how much the culture of football has changed throughout the last 30 years. Players were expected to take accountability for their own actions: justifications for drunken nights were laundered by tabloids to be aired out in the court of public opinion. The concept of the beautiful game seemed much more tangible when those involved as players talked and behaved like those watching. Gazza would go to the pub with his mates, like us; end up in fights, like us; and famously shed a tear, like us. There is an argument against this level of scrutiny. It destroyed Paul Gascoigne; why should people earning a living have to answer for their actions outside of their work?



GAZZA AGONISTES
Ian Hamilton
Granta Magazine

For better, or worse, player engagements with social media and journalists are now heavily vetted. Clubs avoid risking anything that could undermine their image, and in turn, net worth. Owners are looking to sell at reputational highs, whilst fans want owners to leave when their clubs are at their lowest. Who knows what Hamilton would think of players expected to answer for nation-states, and respond to sportswashing allegations?

Agonistes is a reminder of a simpler, more passionate time in football, best enjoyed listening to the soundtrack of the 1990 Italy World Cup, Pavarotti's Nessun Dorma. For all of Gazza's mistakes, and the treatment he endured, his epic struggles will not be repeated, neither will an account as poetic as Hamilton's.

Pale Fire: for better or worse

It is the reviewers who have the last word.

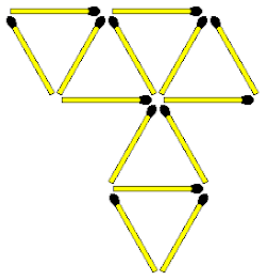
Book Commentators
SHADE & KINBOTE

Pale Fire appeals to many of those that love literature. However, it is a text that delights in its forms, but rather than respecting the genre, clothes itself in a flayed skin of art, obscuring the homunculus beneath. Nabokov forces together a poem and its criticism to create a higher, third text between the lines on the page. He fails, I believe, not due to his poor writing; some of the Shadean lines, particularly in the third canto, are beautiful and Kinbote is funny in his own way, but due to the impossibility of what he is trying to accomplish. His text as much deserves its reputation for literary genius as any of the vast annuals, bought by Star Wars afficionados, that expound on exactly how lightsabres work and what the intestines of the Tatooine-dwelling sand mammals look like. If the tangential revelation of a vast world can be called masterful, they manage the task far better, without the need to resort to cheap suggestions of madness or untrustworthiness. Pale Fire is a journeyman's piece. An experiment that should have never left the notebook.

Nabakov's reputation for highly crafted prose makes his novels obtuse to some, often critiqued for a loss of soul and sensibility in favour of literary games and acrobatics. Perhaps nowhere better does this fall than on Pale Fire: fake literary commentary of a fake poem written by a fake poet. Stuck in his academic ivory tower, Nabakov satirises academic literary criticism, calling out its narcissism through slight references and quiet one-liners. A myopic focus on rarefied prose and postmodern structure can be meaningless, but I find that these aspects give the novel its punch. Nabokov allows a cohesive narrative to emerge from the disparate notes of the cantos — maintaining the facade of serious commentary while giving enough information to instil a sense of unease and paranoia in the reader. Distilled to its plot, the novel is simply the ramblings of a madman, but it is through the initial deceit and this particular metafiction concept that the reader gains more insight into the psyche of the narrator. In this case, the literary game played here is not one of fanciful wanderings, but one designed to engage the reader more in its world than most novels ever have.

PUZZLES

Hello Puzzlers! Another matchstick puzzle - can you move 2 matchsticks to make 5 equal traingles?



Six matchstick triangles

Puzzles Editor
ISAAC WINSON

Last week's answers

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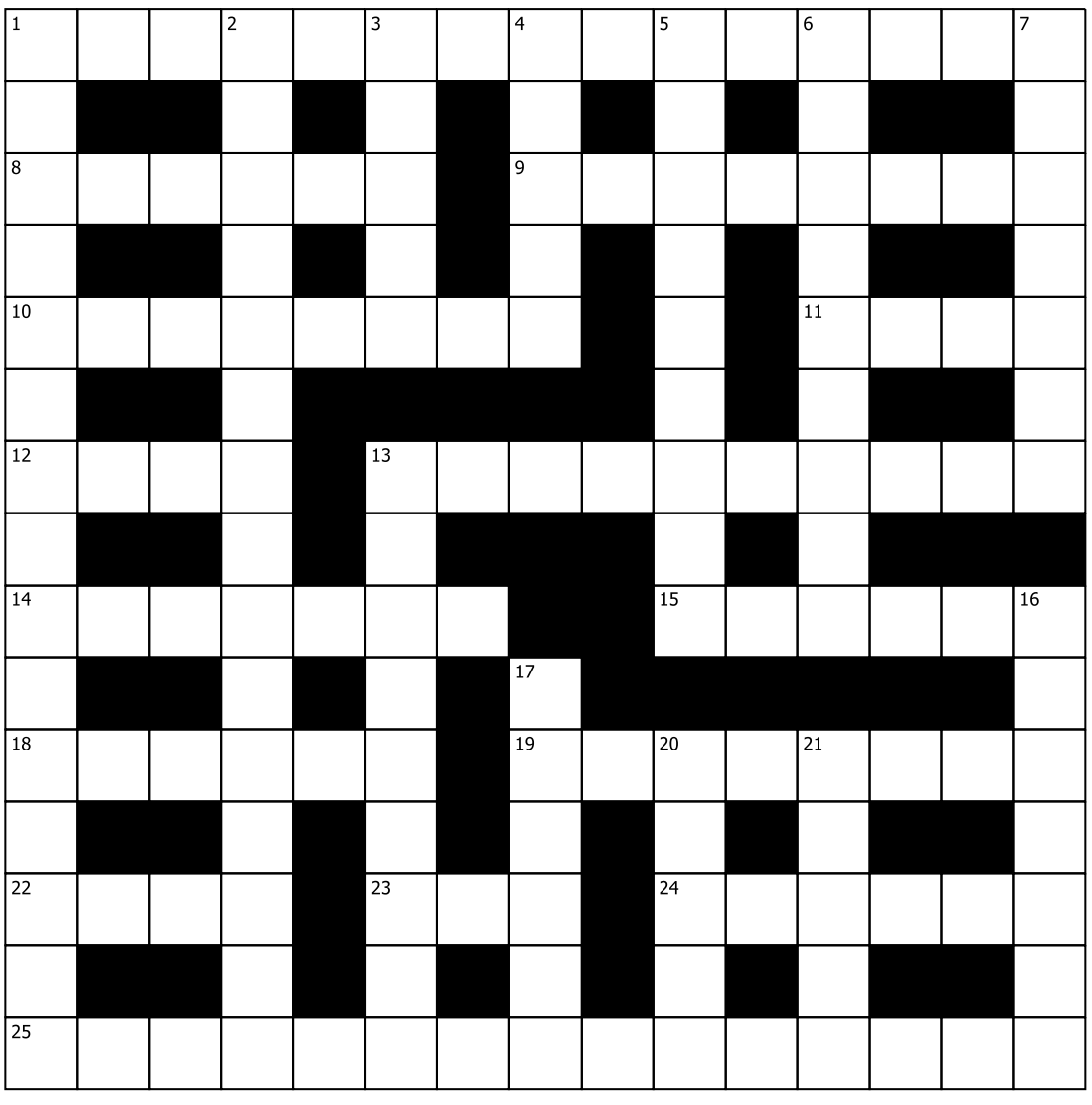
CRYPTIC CROSSWORD



Across

1 Fan training makes me cold (3-12)
8 Addictive protagonist loses back of her needle (6)
9 Curvy nose's cavity infected by end of void(8)
10 Blades? Diamond cut steak (3-5)
11 Two nibbles chew yet born head (4)
12 The copy-editor's gone potty! Messed up by losing a T (4)
13 Food a muddled Bed and Breakfast serves to make fat Dr. scram (5, 5)
14 Confused raindrop lost north heading, now falling from the sky (3-4)
15 Large chest in sale item gives support (6)
18 One-hundred noisy years can make things a little unclear (6)
19 Frocks altar-boy wears inside due to season (4-4)
22 Posh old place in St Moritz (4)
23 Sharp blow within campaign for appeal (3)
24 Swallowed alive! And is shaken with a lack of din (6)
25 Tube passage will loop back to large organ (9, 6)

Down

1 Lo, mascara applied by Jesus? It's a tale everyone should know (1, 9, 5)
2 Self-referential problem preceded by argumentative utterance (9, 6)
3 Benjamin was shaken by the loss of his member, for the empire had sent a silent assassin (5)
4 Susie was animated by this very paper (5)
5 Chap from Berlin put nine up in the frameless window to rude effects (9)
6 Noble steed gets disturbed over a dropped tonne, causes muzzle tear (4-5)
7 Clever contraptions get half a dagger up them (7)
13 Killer cleavage container (5-4)
16 Get another scan, then they can pull it out (7)
17 Nothing in the vault, it's virtually a scam (6)
20 Call-in to Lewis' wardrobe for barrels (5)
21 Raise around fifty for the most power in the sun (5)

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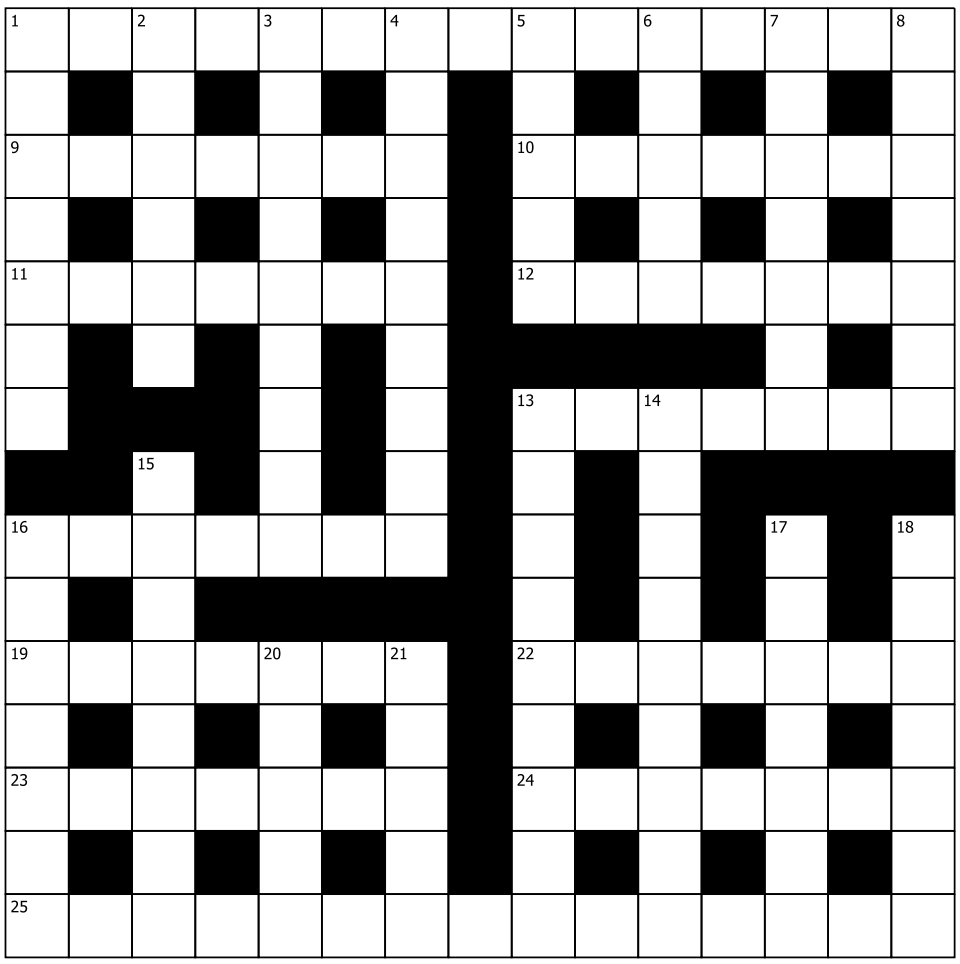
CROSSWORD

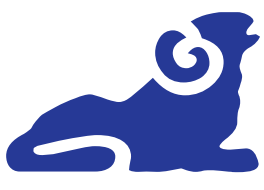


Across

1 Found at the top of the royal mile (9, 6)
9 A zero toll dual-carriage road (7)
10 Surname of American actress best known for Veep and Seinfeld (7)
11 Can be found in the Fallopian tubes (3, 4)
12 Leaking (7)
13 Series of films from 1958 - 1979 starring Kenneth Williams and Barbara Windsor among others (5, 2)
16 Relating to the external sac that contains the testicles (7)
19 The events or property of another (7)
22 Long, thin, filled with cream - topped with chocolate (7)
23 To enjoy oneself or celebrate in a boisterous fashion (7)
24, 8 Down - Notorious sex offender and owner of black book (7, 7)
25 Small black predatory insect which spins on the surface of still water (9, 6)

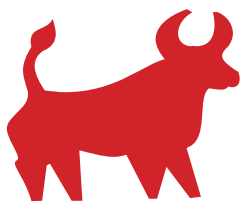
Down

1 Harry _____, famous British comedian and impressionist (7)
2 Film franchise released by Blue Sky studios, first released in 2002 (3, 3)
3 Worn by Charlie Chaplin (9)
4 Currently in industrial action, famously red (5, 4)
5 Greek god of the dead (5)
6 Singer, with best selling album of 2015 (5)
7 Jewellery company headquartered in Manhattan (7)
8 See 24 Across
13 Trophy presented to the winner of the Golf Open Championship (6, 3)
14 Daniel _____, actor in Swiss Army Man (9)
15 Physical _____, 1975 album by Led Zepplin (8)
16 Red _____, 2018 film starring Jennifer Lawrence (7)
17 British detective series starring Rowan Atkinson (7)
18 Doing something in an impressive, grand, or luxurious way (2, 5)
20 relating to a seizure (5)
21 motion of indifference (5)



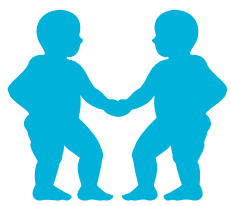
ARIES

This week you horseplay too hard.



TAURUS

This week your boyfriend is ill. What an ick!



GEMINI

This week your laptop turns your thighs a gentle medium rare.

CANCER

This week you thought you had seen the last of them but the chickens have come back to roost.

LEO

This week your Will to Power is great enough to unplug your flatmate's charger.

VIRGO

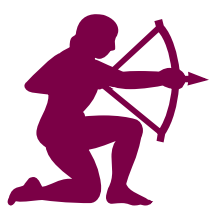
This week your Hinge date goes downhill after you use the words "It isn't climate change denial".

LIBRA

This week's only consolation will be a well-julienned carrot.

SCORPIO

This week you will drunk-call your grandma to tell her your allergic to her food.



SAGITTARIUS

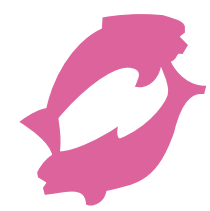
This week a bed bug gives you a coquettish bite.

CAPRICORN

This week you realise that it isn't spelt 'renumerate'.

AQUARIUS

This week you impress your library crush by carrying around the biggest encyclopaedia volume.



PISCES

This week the consomme is looking a little thin.

SOCIETIES

7 Wonders of Pitch Night

Clockwise: Impli LinkedIn StartIn startin.in Flexr LinkedIn Nex.Q LinkedIn fibe fibe.uk Corma corma.io RapiDx LinkedIn

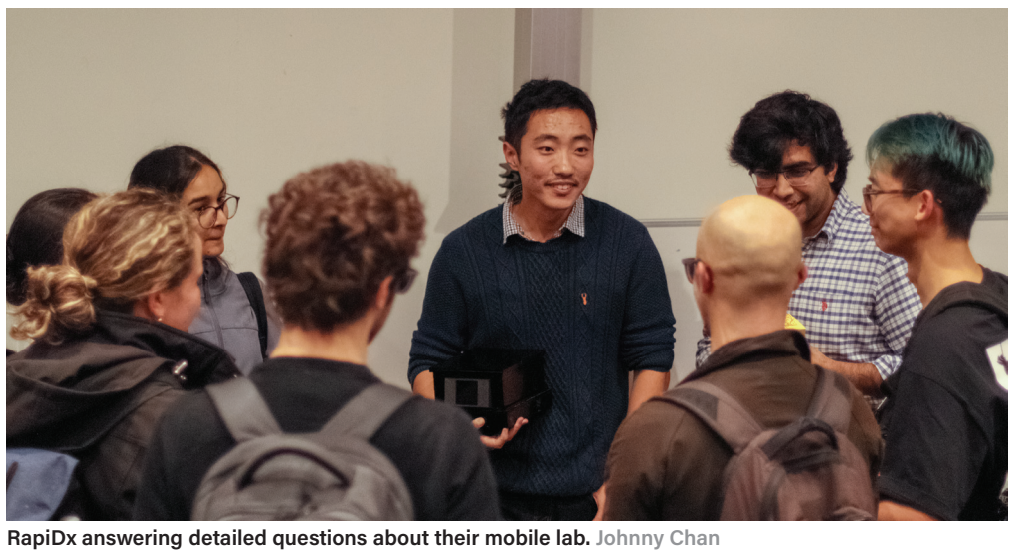
From potato threads to a swipe-app incubator, startups always amazes.

Societies Editor
CHARLOTTE PROBSTEL

At least a hundred avid students sat deep in pre-event chatter in CAGB 300 on Thursday night (12th October) with some paper, pens and ears tuned to listen. All were waiting for the row of presentations at the 'Pitch Night', an event hosted by Imperial´s Entrepreneur Society. Seven pitches by representitives of startups founded by Imperial alumni, all from different corners of innovation and technology, went on to present their unique ideas. These companies aim to solve the big challenges in our society: unsustainable fashion, inefficient medical diagnostics and prevention, infectious diseases, incompetent office management and – interestingly enough – insufficient start-up formation.

Each entrepreneur had five minutes to present and another ten minutes for questions from the five guest panelists, representing venture capitals. The questions were focused on the scalability of the company (for example, if the goal was to expand to the US and other oversea markets), and their business model (how the company would profit). While the ideas themselves were enough to amaze the audience, the hardships and struggles of entrepreneurship certainly left a lasting impression as well. From funding to recuitment and marketing, these entrepreneurs needed to navigate through them all. In their pitches, presenters provided insights on the nature and scale of the social issues, and how these problems have been – and can be better tackled. The presenters also layed out their future plans on operations and funding.

The night kicked off with Impli, a company developing a subdermal implant to monitor hormones levels for women. The startup aims to aid infertility treatments, a currently expensive and ineffectual process. The second team, Corma, is building a Chrome extension that manages all software-as-a-service (SaaS) licences acquired by a small or midium-sized company, streamlining their use of business softwares. RapiDx presented their ultrafast polymerase chain reaction (PCR) test to detect urinary tract infections, sexually transmitted infections and respiratory illnesses, providing a method for at-home screening of these diseases. The fourth team, fibe, introduced a method to fabricate strong cotton-like threads from waste potatoes, collaborating with fashion brands such as H&M or Inditex. Flexr, another biotech startup, works with professional atheletes to improve posture, spot health risks and manage stress levels by analysing body movements with artificial intelligence. In an effort to make entrepreneurship easier, StartIn facilitates co-founders' meetings, news and event updates, and the hiring process with one simple cloud platform. The final presenter, Nex.Q, is developing a machine learning algorithm to reduce hospital infections. Of the seven companies, RapiDx was ranked first by the panelists with its market strategy, earning a spot in the exclusive London Startup Fair hosted by Imperial. Attendees had a chance to see the interiors of RapiDx's custom built device, kept as a secret most of the times by the startup.



RapiDx answering detailed questions about their mobile lab. Johnny Chan

The event involved start-ups that had already achieved a few rounds of funding, with five to fifteen employees, and had worked on their idea for at least a year. This surely would provide valuable insights for would-be entrepreneurs among the audience. In an interview with Felix, the event coordinator, Jared Stoloff, a 3rd year bioengineer, shared how he reached out to these companies and how he selected them. "LinkedIn is an amazing tool", Jared said, illustrating to your correspondent how startup founders could be found on Imperial´s alumni page. After a more detailed study on the startups, he invited thirteen for an initial meeting. Seven were eventually shortlisted for being the most relevant for the target audience. After the presentations, the attendees had the opportunity to talk with the presenters, learn from their experiences and get to know each other. Surely, the brandname of Imperial helped a lot in making all of this happen. "A few calls go a long way," Jared explained. A simple e-mail got him into contact with many exceptional people, whom, according to Ridhi Maheswari, the president of the society, included "the greatest minds in this country".

The Entrepreneur Society aims to host one such pitch night every term, so watch out for the next one, which will take place in early 2024. Of course, this is only one of the many events organised by the society. On 17th October, there was a fireside chat with Michael Seibel, founder of Twitch. There will be another event on 24th October with AI Foundary, located at University College London. Check out their official Instagram page for more information.

Scan to follow Imperial Entrepeneurs on Instagram for more exclusive events!