

Felix



INSIDE

10 ways to be more sustainable  
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ISSUE 1789

FRIDAY 21ST JANUARY 2022

# “Face-to-face teaching is vital” - Zahawi calls for in-person insurgence

**Sam Lovatt** Editor-in-Chief

“There are no excuses, we are all in this together” said Nadhim Zahawi, Education Secretary, to *The Times* on January 9<sup>th</sup>. Discussing face-to-face teaching in UK universities, Zahawi was staunch in his call for students to get their “value for money”, and said that students should complain to the Office for Students (OfS) if they feel they are not getting their value for money.

He later corrected this, telling students to instead complain to the Office of the Independent Adjudicator (OIA).

In other news of complaining against unfair, controlling powers in your life, the government’s Police, Crime, Sentencing and Courts bill was rejected by the House of Lords on Monday night.

Governmental curbs on face-to-face teaching were lifted in May 2021.

Zahawi’s comments come as 23 out of 24 Russell Group universities plan to offer a mix of online and in-person teaching this academic term.

“They are doing it in primary and secondary schools and in colleges. I expect universities to do the same thing, otherwise explain why not.”

Zahawi has for some time now been calling for the UK to “live with the virus”, often touting the phrase “from pandemic to endemic”.

He has also written an open letter to university students on the issue. Somewhat contradictorily, the letter states that “There are some great examples of effective

and innovative online teaching, and universities and colleges have been delivering a high-quality blended approach since before the pandemic. Maintaining the option of online teaching for those who are vulnerable or isolating is to be encouraged”.

He goes on to say that “face-to-face teaching should remain the norm and the pandemic and [sic] must not be used as an opportunity for cost saving or for convenience”.

Highlighting the potential for payout, Zahawi said “compensation totalling over £450,000, and an additional £282,000 was paid to students under settlement agreements reached by the OIA.”

Though Imperial is London-based, it is unclear whether the London Mayor has any say in how Higher Education (HE) will move forward. The Mayor’s office has not responded to two of Felix’s requests, asking him to clarify his role in HE within London.

In October 2021, the OIA ordered the University of Wales Trinity St David to repay fees it took from art and design students, after it replaced in-person with online modules that reportedly were not related to their chosen subjects. This complaint was brought to the OIA by 13 students from the university.

Imperial College’s move to online learning during the pandemic earned it national praise. The College was awarded The Times University of the Year award for 2022. National Student Survey results for last year were at a

Credit: Wikimedia commons



record high, in a year where almost all other institutions’ rankings fell. A new “hybrid” model of operation for the College was launched near the end of last year, which promised to include both in-person and remote learning.

The College’s innovations that earned it such applause included “lab at home” kits and virtual field trips.

At the recent Davos summit, held

by the World Economic Forum, Imperial’s President Alice Gast said that universities needed to retain the positive changes brought about by the pandemic, and “forge ahead with new frontiers”. She also said that, to future-proof education, universities should “embrace technology, optimise human interaction, personalise content, and reach more people”.

This issue was produced thanks to the work of

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# National Student Survey launched amid controversy

**Sam Lovatt** Editor-in-Chief

The National Student Survey (NSS) has launched at Imperial College and will run until the end of April 2022 for all final year students.

Last year's NSS garnered Imperial nation-wide acclaim, with a record-breaking result of 84%. This is 3% higher than the previous year and came in a year where the score for almost every other university went down. Imperial College says that the survey will ask students about "areas such as academic support, learning resources and assessment and feedback".

Vice Provost (Education and Student Experience) Emma McCoy said that she encourages all final year students to take the survey, and that "It is an extremely important barometer for the College of the things that we are getting right, but also where we can improve, and we take the results very seriously. By taking part in the Survey you are shaping the Imperial experience for future students just as those who came before you shaped your own experience".

She added "Our plans for the future have adapted to, and in some cases been improved by the pandemic, but they are no less ambitious. These improvements range from campus developments, including new multi-disciplinary laboratories, lecture theatre conversions and next-generation AV, to improved student support such as an expanded Mental Health Advice service."

Imperial College increased its funding for mental health services from £932,772 in the 2019/20 academic year, to £959,651 in the 2020/21 academic year. This represents a 2.9% increase. The College have clarified that McCoy's comments refer to future spending, and that four new roles in the Mental Health Advice service have recently been filled.

The total mental health spend in the 2018/19 academic year by the University of Bristol, whose student population is of a similar size to Imperial's, was £1,458,544. This is

69% higher than the amount Imperial College spent during the same time



frame. Imperial College's revenue was 58% greater than that of the University of Bristol in the 2019/20 academic year.

Last year's record-breaking NSS results at Imperial were largely put down to success in the transition to remote learning. The NSS website specifies that "Questions about students' experience of higher education during the coronavirus pandemic will not be asked in the 2022 survey". Given this, it is unclear whether Imperial's high score will be maintained.

The University of Oxford's student union (SU) has announced a boycott of the NSS for the third year in a row. They say this is because "the data gathered from the NSS is used to rank universities against each other, which can create a competitive market of education" and that this "may encourage universities to stream money into quick fixes simply to drive up student satisfaction on paper".

Oxford SU adds that "questions on the NSS reflect a narrow view of what higher education and student experience should look like, rather than the more holistic and structural understanding Oxford SU advocates for, which includes an emphasis on equality and welfare as well as academics".

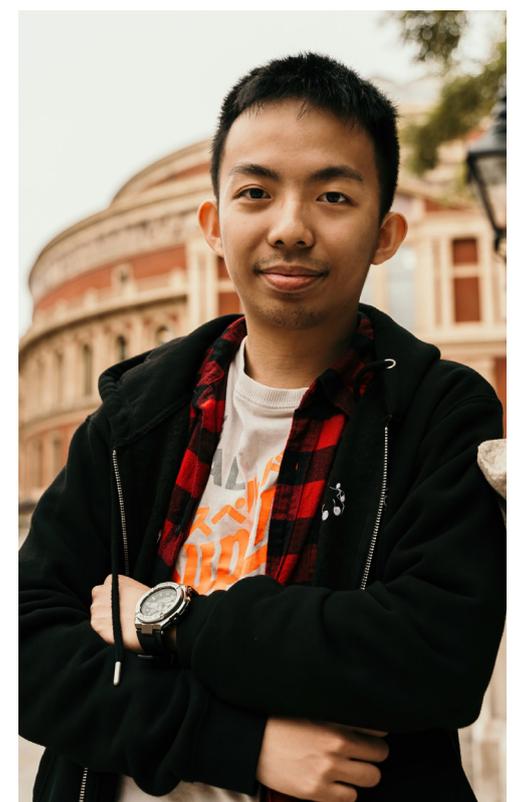
There are no mandatory welfare-based questions in the 2022 NSS. There are optional questions that can be selected from a 'question bank' by the HE provider. If the provider does not select these questions then a

student at that institution is not given the option to answer them. Of the 54 questions in the question bank, four relate to welfare and student safety.

Other SUs to boycott the NSS include University of Cambridge, University of Bath and Kings College London. The National Union of Students called for a boycott of the NSS in 2016.

Imperial College Union's Council voted on whether to join the NSS boycott in the 2016/17 academic year, but this idea was voted down.

The Union's Deputy President (Education), Daniel Lo, said "I am aware that a number of students' unions have decided to boycott the National Student's Survey (NSS). I acknowledge their concerns, and I agree that the NSS questions are not comprehensive enough to fully assess student's academic experiences at the College, or their ability to access support. However, the scoring and comments are valuable for both departments and ICU in evaluating their teaching success and lobbying for improvements respectively. Our view is that we should leave students to decide whether to participate or not".



Daniel Lo, DP Education

FRIDAY 21ST JANUARY 2022

# SCIENCE

*Edited by:* ISABELLE ZHANG  
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## Transcription factors, Hox genes and a six-finger hand

► *Small things can make big changes, depending on where they are...*

Wang Guo Staff Writer

In the embryonic development of vertebrates, a tiny single cell called a zygote, which comes from the fusion of an ovule and a sperm cell, starts dividing many times in order to form an embryo. This is faced with the challenge not only of forming specialised cells like nerves, but also the obligation to allocate these specialised cells in the correct position because they will form tissues, and from tissues form organs. So you do not want them to be misplaced, or the survival of the organism could be compromised! Those responsible for this huge commitment are some transcription factors (TFs) encoded by Hox genes.

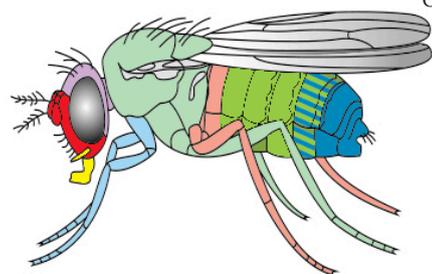
TFs are proteins that bind to sequences of DNA that code for proteins. Transcription factors can activate or inhibit their activity and in this way regulate transcription. This is a cellular process that uses a specific sequence of DNA to synthesize a molecule of messenger RNA (mRNA). The mRNA is a single-strand nucleic acid that associates with ribosomes, a cell organelle that, using the genetic information contained in the mRNA, can start joining amino acids together to form proteins. This process is termed translation. Proteins are the building blocks of life because they enable essential chemical reactions and also form part of cell structures such as the cytoskeleton or the cell membrane.

However, if transcription factors regulate gene expression, what regulates

transcription factors? Rather than controlling TFs directly, what is actually regulated are the genes that codify these TFs. The switching of TF genes ON/OFF ultimately depends on external stimuli like a change in the levels of oxygen. This is to say, TF genes are often regulated by other TFs, in a sort of cascade. One TF activates another, and so on. This phenomenon is called amplification. But the TF genes at the top of these cascades have the first word. This is why they're called master regulators.

In the 1950s, scientists conducted a screening of the homeotic transformations (or developmental abnormalities) in *Drosophila* (fruit flies). E.B. Lewis mapped the mutations responsible for these homeotic transformations in 1978. One of his findings was that the mutated genes act in a combinatorial way like a code, the Hox code. Two groups of Hox genes in chromosome 3 of *Drosophila* were discovered. Although located physically in different locations in chromosome 3, scientists referred to them as a single identity called the Hox cluster. What was really surprising is that the Hox genes closer to the extreme 3' of DNA act on the most-anterior body parts, and those at the 5' end act on the most-posterior body parts. There is spatial collinearity between the gene location and the development of a body part in a particular location.

Hox genes regulate each other. For example, in *Drosophila*, if the Hox gene



Credit: Antonio Quesada Díaz, public domain

ANTENNAPEDIA

lab

pb

Dfd

Scr

Antp

BITHORAX

Ubx

Abd-A

Abd-B



The six-fingered hand of someone with polydactyly

Ubx is ON while the rest of them are OFF, halteres ('wings') are formed in the third thoracic segment (T3). A bithorax mutation causes the Ubx to interpret the second thoracic segment (T2) as T3 too. Consequently, the mutated *Drosophila* has four halteres instead of two.

W.J. Gehring discovered a conserved short DNA sequence: the homeobox. This contains the genetic information necessary to synthesise a chain of 60-amino acids called a homeodomain. The homeobox is a highly conserved stretch of genes that contain the Hox genes. It encodes a domain for transcription factors that is able to bind to specific DNA sequences in order to regulate developmental processes. It is highly conserved in vertebrates, meaning you'll share the

same homeobox as the birds, toads, or mammals around you.

Synpolydactyly is a rare genetic disease caused by a mutation of the HOX13 gene. It was the first disease diagnosed to be associated with Hox genes. The symptoms of synpolydactyly are limb malformations. These can be syndactyly, joint fingers, or polydactyly, extra fingers. The treatment is surgery to separate or remove fingers.

Even small molecules like those encoded by Hox genes can determine big changes in the organism. These genes are interconnected and highly regulated, so the impacts of these molecules do not depend on their quantity, but where they are expressed along the cascade of transcription factors.

Hox gene collinearity: the order of the genes in the Hox cluster is the same as their expression pattern along the anterior-posterior axis of the body

# Active noise cancelling - a necessity or luxury?

► *Tech Editor Rayan Kamal discusses active noise cancelling*

**Rayan Kamal** Tech Editor

Active noise cancellation has become increasingly popular in the wireless audio market. Technology companies have taken advantage of this shift in the market by releasing both headphones and earbuds with Active Noise Cancelling (ANC). Take Sony, who have released the WH-1000XM4s headphones, and also the WF-1000XM4 wireless earbuds. Both of these cost upwards of £200, almost double what “normal” wireless earbuds and headphones cost. So, are there any advantages of ANC, or are tech companies just taking advantage of the current hype to charge double and increase their profit?

Let’s begin by understanding what ANC is and how it actually works. ANC uses the speakers in a device to reduce the amount of background noise heard. In doing so, it allows users to experience just the music or podcast that they are listening to, without being interrupted by the drone of everyday life. To get into the nitty-gritty of it, ANC uses microphones that constantly listen to the surroundings. The ANC system inside the headphones record the sound waves that are produced by the listener’s background. The headphones then create their own sound wave which is in an-

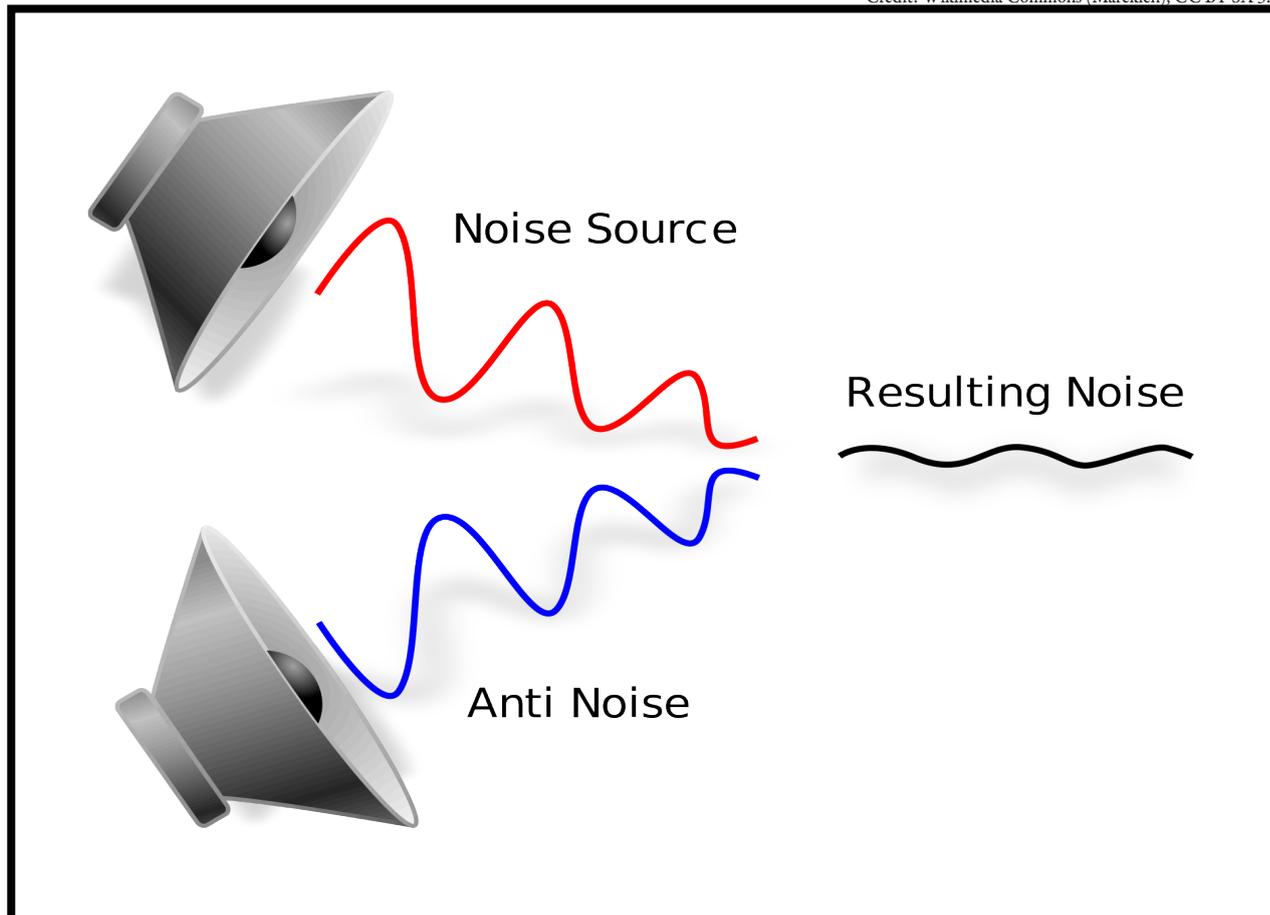
ti-phase – i.e., a mirror image of the original wave. In doing so, the unwanted background noise is cancelled out (destructive interference).

All headphones already have a type of noise isolation that some may not be aware of – passive noise cancelling. This is just the earbuds creating a seal in your ear canal to physically block out the noise. It is important to note that the quality of the music outputted does not improve, though this might seem the case.

Rather, the distractions that may have been present have now been removed.

So back to the original question, a necessity or luxury? ANC is incredible for commuting. It excels in this area, due to the low frequency sound produced during travel - take the humming of aer-

Credit: Wikimedia Commons (Justin Evans), CC BY-SA 3.0



Destructive interference, the fundamental physics behind active noise cancelling technology

oplanes or trains. In fact, ANC works well at blocking out noise even without music playing – it’s a great way to get some sleep on a noisy tube journey. Taking this further, it can actually prevent hearing loss (hear me out). How many times have you travelled in the tube and not been able to listen to hear your music over the cacophony of sound? How many times have you then had to increase the volume up to max or close to max? This level of noise can be quite damaging to your ears: listening to sounds of 90 decibels and above for long periods of time is shown to have adverse effects on our ears. This is where active noise cancelling comes into its own, allowing you to comfortably listen to music at lower volumes, saving your ears for the future.

There are some drawbacks to owning a device with ANC, the main one being safety. There can be a reduction in situational awareness on the streets and roads, to the extreme where people have been hit by motor vehicles because they couldn’t hear. ANC headphones often come with

a “transparency” mode, which allows you to hear your surroundings better by amplifying outside sounds using the same mic used for ANC. However, use of this feature is at the user’s discretion.

So, ANC – a necessity or luxury? Well in my personal opinion, if you’re in the market for a new set of headphones, and are considering getting a wireless one – which you probably are given that most new phones today do not have headphone jacks – then it’s worth getting some with ANC, because ANC is a luxury worth having. Furthermore, as technology matures, prices get lower. Nowadays, if you’re not worried about brand hype, then you can get some pretty decent ANC headphones for a reasonable price. So go for it!

## Flavoursome fungi, stormy weather and laboratory revelations!

► *Science Editors Jamie John, Marek Cottingham and Cara Burke share the science they've been watching, reading and listening to this week*

### Cara Burke

I finished reading Merlin Sheldrake's *Entangled Life*, which is a wonderful introduction to the science and wonders of fungi. I have also been listening to BBC Sound's *Fungi: The New Frontier*, which is lovely skim through fungi in food, mycorrhizal fungi, ancient fungi and fungi in pop culture with cameos from top mycologists and researchers including Suzanne Simard and Merlin Sheldrake. I have managed to catch only the first episode of the BBC's new David Attenborough documentary *The Green Planet*, but if you're into beautiful time-lapsed shots of plant growth, it's got plenty of that!

Credit: Wikimedia Commons (Rendra Regen Rais), CC BY-SA 3.0



*Rafflesia Arnoldi*, commonly known as the "Stinking corpse lily", the largest flower on Earth, is featured in *The Green Planet*

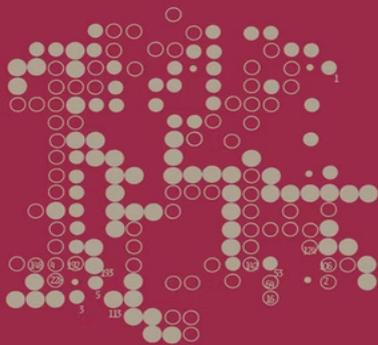
### Laboratory Life

The Construction of Scientific Facts

Bruno Latour • Steve Woolgar

Introduction by Jonas Salk

With a new postscript by the authors

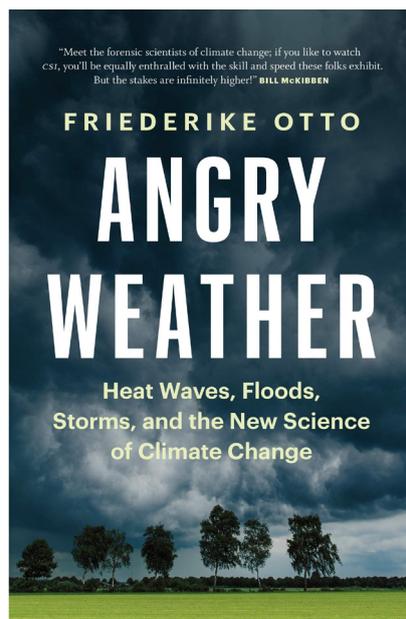


### Marek Cottingham

I have been reading *Laboratory Life: The construction of scientific facts* by Latour Woolgar, an account of a sociologist who observed the daily workings of a biological research team over two years, creating a unique account of the scientific process and changing his perspective on his own field and work. So far, it is a very interesting read.

### Jamie John

I'm currently reading *Angry Weather* by Imperial's very own Dr Fredi Otto, recently listed on *TIME* magazine's list of 100 most influential people in the world (2021). Her work looks at how climate scientists can link weather disasters to climate change, and impact the discourse on events soon after they play out. I've only just started reading, but I'd like to see how the method she and her colleagues at World Weather Attribution pioneered actually works. See Issue #1780 for Felix Science Writer Shirin Ermis's interview with Dr Otto! I've also been listening to *The Climate Question*, a podcast from BBC World Service, which takes an extensive look at the climate problem.



## This week in Science...

### FROM IMPERIAL...

#### Solar cells could efficiently recycle indoor light for electricity

Researchers at Imperial College London have developed efficient indoor light harvesting using organic photovoltaic devices with a photo active layer. Wireless communication devices equipped with technology such as Bluetooth Low Energy (BLE) are able to perform with very limited, but continuous, power. This power could be provided by indoor lighting, but this has so far been limited as solar cells typically capture much brighter sunlight at a different emission spectrum. However, organic photovoltaics with a bilayer have been found to be well-matched to indoor light conditions and can suppress issues of trap-assisted recombination. See the previous issue of Felix (#1788, p. 4) for a News article on Dr Robert Hoye, who leads the research group.

#### Heat map of loneliness in London

A new project to heat map loneliness in London was launched in Hammersmith and Fulham on Monday, with the hope to highlight the scale of the issue and target existing services to those most in need. Data will be collected from thousands of Londoners asked to complete a short survey. If the project goes well, it is hoped it could provide a template that could be rolled out on a city or nation-wide level. Follow the QR code link if you live in Hammersmith or Fulham to complete the survey!



### FROM AROUND THE WORLD...

#### Moderna plans for single annual booster vaccination to protect against both COVID-19 and flu

Moderna CEO Stéphane Bancel said that within two years, the pharmaceutical giant plans to launch a single booster vaccination to protect against COVID-19, influenza and RSV, a common respiratory virus. The booster vaccine would be administered annually, in much the same way as current flu jabs. "Our goal is to be able to have a single annual booster so that we don't have compliance issues where people don't want to get two to three shots a winter," said Bancel, speaking at a panel session at the World Economic Forum in Davos.

#### Greater loss of red blood cells makes astronauts anaemic on return to Earth

Anaemia is a condition in which the body does not have enough oxygen, either because the level of red blood cells, or the level of haemoglobin in the body, is too low. Scientists have long known that travelling to space makes astronauts anaemic, but new research by a team from Canada has found that 50% more red blood cells are destroyed in space compared to on Earth. "Our study shows that upon arriving in space, more red blood cells are destroyed, and this continues for the entire duration of the astronaut's mission", said Dr Guy Trudel, lead researcher and Professor of Medicine, Surgery and Biochemistry at the University of Ottawa, speaking to the BBC. In space, this isn't an issue due to weightlessness, but upon return to Earth, it causes tiredness. Even a year after returning from space, astronauts were found to be losing red blood cells at a higher rate. The authors of the study say that finding the cause of the increased loss could help treat anaemic patients on Earth.

## ARTS

## MARRIAGE OF FIGARO REVIEW

By ALEXANDER COHEN

EDITOR ALEXANDER COHEN REVIEWS

THE ROH'S LATEST OPERA.

page

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Edited by:  
ALEXANDER COHEN  
ALEX JACKSON

## Theatre

## A day in the life of Peggy Ramsay

## Peggy For You

★★★★

Credits: Photo/ Helen Maybanks

**Where?** Hampstead Theatre  
**When?** Until 29th January 2022  
**How much?** Student tickets from £10

Reviewed by **Sofia Elizarova** Arts Writer

Eccentric, confident, strikingly honest and intimidating — the unique character of Peggy Ramsay (Tamsin Greig) has had a powerful influence on both 20<sup>th</sup> century theatre and the lives of those she worked with. Written by her friend and colleague Alan Plater and running since 1999, *Peggy For You* powerfully encapsulates a day in Peggy's life, with all its chaos, comedy, and absurdity.

Placing emphasis on Peggy's passion for her work, the entire plot unravels in the setting of her office. Richard Wilson, director of the play, expertly manages to transport the audience into the quaint world of endless stacks of play scripts, clicking typewriters, and deep-thinking dramatists. As the curtains draw apart, we see Peggy lying on a chaise lounge in the middle of the office in the dead of night. She is making a ridiculously early call to her client, criticising their play rudely and without hesitation, calling them 'darling', and telling a story with absolutely no regard for her client's interest in the tale.

Her comically outrageous behaviour immediately left me with a smile and admiration for her wit. As the day progresses, she engages in humorous exchanges with her secretary, whose name she can't seem to remember, and three dramatists at different stages of their careers. She first speaks to a potential golden boy Simon (Josh Finan), whose name she can't remember either, wittily discussing the question 'What is a play?';

then, to a dramatist at the peak of his success, Philip (Jos Vantylar), whom she tries to persuade to call off his marriage that she sees as merely a distraction from his work.

As the play draws to a close, she shares a touching conversation with an old dramatist Henry (Trevor Fox) heading towards the end of his career. The exchange exposes a deeper side of her character, beauti-

Credits: Photo/ Helen Maybanks

fully tying together the puzzle pieces of her remarkable personality.

Although I thoroughly enjoyed the atmosphere and humour of the play, I sometimes felt that the plot lacked a sense of suspense and drama. For an international student like me, it is worth mentioning that the many references to other British and American plays can sometimes obscure the meaning for those unfamiliar with these works. However, if you are well-versed in 20<sup>th</sup> century drama and enjoy light-hearted comedies, this play is a perfect choice for you!

Josh Finan and Tamsin Green as Simon and Peggy in *Peggy For You*.The cast of *Peggy for You*.

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## Opera

## Marriage of Figaro: It must be love

## The Marriage of Figaro

★★★★

**Where?** *The Royal Opera House***When?** *Until 27th January 2022***How much?** *From £25 (Under 25s)*Reviewed by **Alexander Cohen** Arts Editor

I am the kind of student who never misses lectures and always hands in essays on time. I could hardly believe it when I found myself skipping a lecture to see the revival of David McVicar's production of Mozart's

*The Marriage of Figaro* at the Royal Opera House. As Friedrich Nietzsche once wrote: "Live Dangerously."

But I'm glad I did. McVicar's *Figaro* is a musical cocktail, one-part sultry Spanish allure, one-part charming wit, shaken with a healthy dose of heartfelt passion for one of Mozart's most celebrated works.

With Sir Anthony Pappano, the Royal Opera House's musical director, at the helm conducting and playing the fortepiano, Mozart's swirling score and Da Ponte's poetic libretto are as vibrant and emotive as ever. The

result is three hours of gorgeously detailed period costumes, a beautifully ornate set that evokes a lazy mid-summer haze, and an international cast that bring a wealth of talent to the stage.

Riccardo Fassi as Figaro effervesces with a boyish buzz whose shrewd scheming is brought to life alongside his equally mischievous bride Susanna (Giulia Semenzato). They are perfectly suited to bounce off of each other; giving the production a bewitching warmth from the outset. Whilst Fassi's vocals are sometimes lost in the bustle, Semenzato's strength as a singer shines through. She is also able to shed light on the more melancholic side of the opera through with her

interactions with her graceful mistress — Countess Rosina Almaviva, whose philandering husband—Count Almaviva—plans to sleep with Susanna. Their rendition of "Sull'aria...che soave zeffiretto" ("On the breeze... What a gentle little Zephyr") was a particularly poignant highlight. Lombardi's tragic tenderness is on full display as the production crescendos to its heart wrenching climax as Germán E. Alcántara's devilishly delightful Count begs his wife for forgiveness.

Perhaps the greatest performance is that of Sir An-

thony Pappano. The Royal Opera House's musical director is in his element conducting an orchestra who collectively capture the emotional heart of Mozart's music. With his direction, they balance the comic vivacity and the soul stirring sentimentality that comes with the trials and tribulations of love. *The Marriage of Figaro's* combination of farce and emotional depth really does give it universal appeal; this production in particular, almost 7 years old, is perfect for both experienced opera aficionados and newcomers wanting to dip their toes into a new art form. What better place to start than an opera that celebrates love, that most fickle and amorphous of human experiences?

It's also worth mentioning The Royal Opera House's under-25 scheme, where anyone under 25 can access £25 tickets for performances. Considering most seats can cost up to £200, maybe you too should be skipping some lectures too to make the most of this incredible offer while you can.

“WHAT BETTER OPERA TO START WITH THAN ONE THAT CELEBRATES LOVE — THAT MOST FICKLE AND AMORPHOUS OF HUMAN EXPERIENCES?”

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Credits: Photo/ Clive Barda



The cast of *The Marriage of Figaro* at the Royal Opera House this January.

# ENVIRONMENT

Edited by: MONAMI MIYAMOTO  
MONIKA YORDANOVA  
MARIE MORI  
JACK CRIBB

## 10 NEW TERM'S RESOLUTIONS FOR A MORE SUSTAINABLE 2022

View online here! 

**Tom Cowperthwaite** Environment Writer

Ahhh, the time for resolutions has come around again, and you've told yourself that this year, you're going to stick to them properly (or maybe you're resigned to your fate and have already given up). Regardless of how well you usually do with new YEAR's resolutions, a more realistic goal might be some new TERM's resolutions.

In light of the ongoing climate emergency, I personally feel compelled to try to live more sustainably in 2022 and beyond, especially in terms of my carbon impact (I'm not going to call it a 'footprint' here, as the term was originally coined by BP to shift environmental blame onto individuals), so I'm challenging myself to stick to some carbon-conscious resolutions this term.

I found lots of ideas for resolutions and found they fell into three neat categories of reduce, reuse and recycle - as well as a bonus category, which focuses more on collective action than any impact we can make on our own.

### Reduce

#### 1. Reduce meat intake

As we know, food systems make up a considerable share of our global greenhouse gas (GHG) emissions every year; in fact, the latest figures suggest this share is a staggering 34%! It will also come as no surprise that plants contribute much less to our individual carbon impact than eating meat. This is particularly notable in the case of beef, which contributes 8.2 times and 80 times more CO<sub>2</sub> per kcal when compared to vegetables and cereals respectively.

A common resolution in this space is Veganuary, going vegan for the entire month of January - but as you won't be reading this until mid-Jan at the earliest, perhaps try going vegan (or vegetarian) for the next four weeks of term, and see



Photo credits: cottonbro from Pexels

how you get on.

If everyone simply limited their beef consumption to the equivalent of 1.5 burgers per week, it would go halfway to meeting global targets on agriculture emissions.

2. Switch up your commute  
Next, we have the commute. Imperial students are generally very good at minimising their carbon impact while at university, with most choosing either active forms of transport (walking or cycling) or taking advantage of TfL public transport.

That being said, there is always room for improvement - so why not try the Boris Bike instead of the tube once a week? With every ride, you will further incentivise the government to invest in accessible, affordable active transport.

3. Cut down on air travel  
I imagine most people haven't taken many foreign holidays over the last couple of years, but once normality returns, the 'new normal' we create will have to involve much less air travel. Comparing GHG emissions for travel to numerous European destinations, we find that taking the train rather than the plane decreases emissions by an average of 83.5%.

So this summer, perhaps consider the UK for your next holiday, or if you're desperate to get abroad, compare different modes of transport where you can. This is also a factor to consider when travelling to conferences abroad.

4. Say no to 'fast fashion'  
The carbon footprint of the global

fashion industry is huge, and I mean HUGE. Emissions from fashion are the third largest of all supply chains, only behind food and construction. Most of the emissions are a direct result of using crude oil to make synthetic fibres for garments for the fast fashion industry - where huge volumes of clothes are bought, worn a couple of times, and then forgotten about when the next trend comes along. This incredible wastefulness is a product of cheap manufacture, targeted marketing, and market pressure on the largest clothes manufacturers today.

To reduce the volume of clothes purchased worldwide, most of the change will have to occur in developed countries (where most clothes are currently being consumed). We can all play a part in this transition by consciously buying clothes of higher quality and built to last - this is not only an environmentally friendly decision, but it will likely save you money in the long run.

### Reuse

5. Check second-hand first before buying new clothes

Clothes will still have to be manufactured in the future, and once they have incurred the carbon cost of production, our best shot at reducing their carbon impact is to REUSE them. Unfortunately, 41% of Britons are unaware that there are schemes in place in the UK to facilitate the reuse of

unwanted clothes, and this is likely why so much textile waste ends up in the landfill.

This is something I'm particularly guilty of myself, and so I am resolved to buy more second-hand clothing in 2022, as well as donating/selling my unwanted clothes whenever I can. If you want good quality stuff second-hand, there are some fantastic charity shops in South Ken that have a great selection.

6. Bring reusable bags on errands - and ACTUALLY reuse them!

Most of us have at least one bag-for-life sitting around at home, but how many of those bags actually end up being 'for life'? The more you use your bag before replacing it, the more carbon emissions you prevent - and studies show that to truly start saving carbon, you should use your bag-for-life at least five times before replacement. This statistic pales in comparison to that of cotton tote bags - where the savings only begin after using the bag 181 times!!

The statistic for cotton bags alone is staggering, so take a second to decide whether you need another tote bag next time you're at a careers fair or open day.

### Recycle

7. Recycle whenever and wherever you can!

This one is self-explanatory - but always read the guidance on what can and cannot be recycled and how the material has to be prepared for recycling. (Did you know that all the medical masks we've been using in the past two years can be recycled by bringing them to shops such as Wilko that do mask recycling schemes?)

### Affect change

8. Invest well  
Although specific data is difficult to

find, one study suggested that 30% of all new investors in 2016 were university students, and with the influence of the pandemic, I think that proportion may have significantly grown over the last couple of years. This means that together as students, we not only have the capacity to make significant investments in sustainable enterprises and technologies but also the power to send strong signals to financial institutions that may influence them into making more sustainable investment decisions too.

This year, why not explore investing in stocks if you haven't already, or if you

already do, take a look at your portfolio and consider how you would feel if your investments were reflected by one of the big investment funds - and whether or not you should make some changes.

9. Use your power as a citizen to influence policies with environmental impacts

Student turnout rates for elections have varied massively over time, but the most recent estimate suggests that 70% of all students would likely vote in an immediate general election in the UK. This reflects how politically engaged we are and shows just how important it is that we take the initiative to vote for the

most environmentally-friendly policies without being swayed too much by the idea of tactical voting.

Every election, the results of the so-called "student vote" are widely reported, suggesting that media outlets pay great attention to the political will of the younger generation, and therefore political parties are likely to factor it into policy decisions too.

10. Buy renewable energy

Similarly to investment habits, who you choose to purchase your energy from can help to send a signal to large energy providers that the younger generation of householders demand

clean energy, and they demand it sooner rather than later. By purchasing your energy from one of a swathe of green energy companies, you will be helping them grow, and so green energy will be taken more and more seriously by the industry giants.

So there we go; these are ten suggestions for actions you can take this term to help reduce your personal carbon impact and signal to those with influence that the next generation of leaders demands a tougher stance on the climate emergency than their current offering. Let's get 2022 off to a sustainable start!

# The curious case of climate activism

**Pranjal Mathur** Environment Writer

Climate action today singularly relies on the principle that present actions map onto a burden faced by subsequent generations. This centralizes a variety of socioeconomic and political changes that we welcome (most of the time).

We have supported our best thinkers to work relentlessly on deriving knowledge that points us towards answers on the cesspool of information that is our environment. Collectively, we have pushed on viably studying the links between nature and our actions. There is an irrefutable body of evidence to show that climate risks are disproportionately anthropogenic. In the new age of information, our ability to examine data has been productive - it drives a mode of apprehension. Within neomodern climate action, we have seen the rise of the Intergovernmental Panel on Climate Change (IPCC) as the aegis of truth.

More recently, the IPCC has become a celebrity of science - releasing seismic publications one after the other in the last two decades. The IPCC has endorsed, if not been the driver, of global collective action, which has become popularized through target-based superlatives such as "net-zero", "1.5/2C", "Carbon-neutral", and others. Eventually, these terms have sat well on the tongues of most of the educated world, particularly on those of politicians, academics, and corporate leaders. While the setting of global environmental targets has historically been shown to work (The ozone-hole

resolution in Montreal), we certainly have met a new wave of change - much bigger and much stronger. A force unlike anything from the past; a new definition of awareness and drive. This seems to be a positive manifesto for combatting climate change, given that most of the above goals are time-dependent. Unfortunately, this wouldn't be an article if it didn't present a different side of things.

I recently attended a talk by Prof. Mike Hulme of Cambridge University. Prof. Hulme is a climate academic who has dedicated his life to examining the evidence surrounding climate change and published journals and books on the social domain of climate science and engineering solutions for climate (quite literally). The title of this presentation was "(Beyond) Scientific Rationality and the illusion of Climate Governance". Upon reading the title, my immediate impression was that the talk would highlight a lack of climate activism post COP26 and suggest that the current regime of climate commanders is not doing enough. I was, however, met with a surprise.

Prof. Hulme presented an argument for why the current set of intergovernmental goals for driving climate change globally is flawed. He suggested the inclusion of political actors as an impedance towards understanding the nuances of climate change. He also indicated that the aforementioned global targets were political tools rather than evidence-based structures. His thoughts also surrounded the idea of radicals using moral coercion to suggest that a carbon



Photo credits: Nothing Ahead from Pexels

heavier action is inherently more devious than one of lesser carbon.

It is easy to immediately judge Prof. Hulme's perspective (as I did myself): he might seem like someone who is against climate progressiveness and has antiquated views on how to handle this pernicious crisis. This, however, is abated if you re-examine what he is saying. His purview on climatology suggests more complexities in this

problem than we might think. I want to clarify here; I am not endorsing or condemning his view. Instead, I am informing you of the existence of this different view on climate action. To better understand his perspective, I decided to speak to him directly.

In my conversation, I attempted to clarify the caricature he created surrounding global climate politics. We discussed the implications of social

## ENVIRONMENT

Photo credits: Miguel A. Padriñán from Pexels



action, the relevance of politics in climate, the IPCC, climate goals, and moral coercion. Below, I will attempt to summarize his opinions (if not clear, I am more than happy to share a transcript of the conversation with anyone interested).

In the opinion of Prof. Hulme, the role of the global climate narrative is far more political than it is scientific. He believes it is “inevitable that political actors would begin to influence global conversations to forward their own goals”. This, according to Prof. Hulme, stems from the preponderance of youth who “over-simplify” the role of climate. He suggests that “setting global targets is easy but not productive. They do not account for economic and moral synergies and can often create a culture of militantism”. He believes that the recent COP 26 in Glasgow is just an event where leaders morally coerced a narrative of climate justice using marketable instances such as a leader holding a photo of their grandchild to push climate justice.

Prof. Hulme highlighted a culture of “nudging” in which governments and international bodies can manipulate the behaviours of the public for a

certain objective. He believes that global temperature or emission goals do not have to be followed to the degree or ton respectively. He argues for a rationalist approach in which the path taken to emissions is questioned and modified rather than an insistence to remain coherent to a specific target. This, according to Prof. Hulme, evokes a cultural change in climatology rather than a race towards a hyper-specific achievement.

He highlighted the mechanism in which the IPCC does not set goals but is influenced to derive goals based on political narratives. He suggested that creating convenient temperature and carbon goals is an oversimplification of a much more complicated issue. “The suggestion that climate stability can be fixed by meeting an absolute temperature level is not accurate,” said Prof. Hulme. He also suggested that there are many engineering solutions that are applicable to contribute towards better climate management; however, those are not promulgated as much because of the same political influences mentioned above.

Prof. Hulme is one of the few voices in climate academia who has boldly

stood against the current global climate narrative. He has already received criticism for holding opinions that are not coherent with the consensus. Before I share my opinion, I would like to acknowledge that he should have the right to share his perspective; whether it is popular or not is secondary. I would also like to reiterate that he is not a climate-sceptic- he is far from it. He has a disagreement in the framework we should adopt but otherwise is still adept

to their interpersonal choices. It might be worth considering how exactly these goals are derived and what their true meaning is (more on this later).

At the same time, I do feel that Prof. Hulme’s perspective on climate activists assumes a hyper-stratum of activists, who might share more extreme views than the average individual. This leads to an Orwellian perception of climate action in which governance may appear more tyrannical and totalitarian than



with the science around climatology. That being said, I do have a different stance.

I think his opinion on climate extremism and the potential for manipulation is fair. There are instances in the past where governments have pushed for dogmatic conversations to pursue financial and/or strategic benefits. This is particularly true during times of war. Prof. Hulme raises an interesting point on how youth today might not realize the intricacies of climate change but only have a surface level understanding based on the goals that are pushed by the media. These goals and indicators become the sole basis for their activism and contribute

it is. I think that setting a global target is not a wild proposition; in fact, Prof. Hulme himself commended the Paris agreement when he referred to it as having “a positive approach for bottom-up management of key climate variables”. Debate on the implementation of such policies and the realistic demand from different countries is certainly on the table.

For youth (like myself), this leads to a greater call for self-introspection; rampant activism exists with tremendous promise for change and can often contribute to a feeling of accomplishment. Quite often, attending a climate protest or being involved in a dialogue with authority helps

drive change. These steps are certainly meaningful in the context of climate change. The issue, however, arises when we take a step back and ask ourselves why. Most basal information for such activism stems from reaching specific goals within a sensitive period. Activists should stop and think: how do we understand the science behind these goals? Who makes these goals? What kind of knowledge is derived from these goals? What exactly do we know for sure?

Now, there's already a school of

philosophers that focus on just that. They call themselves epistemologists—people who think about why, what, and how we think. Scoping into the climate problem, we can begin to wonder why we think about climate issues the way we do. Personally speaking, this is relatively unexplored territory.

Our propensity to understand the severity of the problem, however, has been driven primarily by public information. Most people learn about climate risks through news-like sources and word-of-mouth. As a result, the

illustration of climate change as a concern has been repeatedly controlled by non-academic actors. Undoubtedly, we have learned valuable information through this practice and continue to learn more every day; however, have we stopped to think about why we know things the way we do?

Prof. Hulme's message is incredibly like that of an activist; it just differs in approach and methodology. Regardless of what you might think about Prof. Hulme's opinion on climate activism, he does relay a message worth considering:

when we invest our passion into climate, how well equipped are we to understand the incredible sensitivities of social impacts within. Knowing what we know might not be enough. There is a need for an even more critical response to knowledge around us. We should not take things at face value because sometimes they might have influences surrounding them. If anything, I hope that you contemplate what truly knowing about this issue means because, frankly, I still don't.

## Vision EQXX: a hyper-efficient EV prototype

Marie Mori Environment Editor

German luxury automotive marque Mercedes-Benz's latest unveiling has a strong focus on energy efficiency: the Vision EQXX is a prototype of an electric vehicle with an unprecedented battery capability of 1,000 kilometres from a single battery charge. This amounts to a trip from London to Newcastle and back, with a few kilometres to spare. It's a massive leap from current standards—according to NewMotion, the average range of a fully electric car as of today is around 291 kilometres, less than a third of what the EQXX boasts.

The Vision EQXX's boundary-defying efficiency is due to the engineering of a new lithium-ion

battery that uses 95% of its energy into turning the car's wheels and is reportedly 30% lighter than current batteries with similar capacities. It was developed in collaboration with specialists from other institutions, such as Formula 1 and Formula E engineers. The design of the EQXX also aims to achieve exceptional aerodynamic efficiency—it has a drag coefficient of 0.17, exceeding previous Mercedes EV models. The drag coefficient is important because it defines how much energy goes into countering air resistance—two-thirds of the electrical energy that cars consume is taken up with this job. EQXX's roof is also lined with solar panels that the Mercedes Benz website says will allow for 25 extra kilometres on a day with ideal weather

conditions.

The EQXX also hones in on sourcing the automobile's components sustainably—the body of the car makes use of low carbon, flat steel that is entirely made up of scrap metal. The noise-insulating material inside the EV's structural legs is provided by UBQ Materials, a cleantech company that turns household waste into thermoplastics. In this specific instance, the material is made in part from used nappies, of which eight million are disposed of in landfills each day in the UK. The interior is just as eco-conscious, with bamboo carpets, faux leather seat covers that use cactus leaf fibres, door pulls clothed with man-made silk (which is much more eco-friendly than natural silk), and recycled

PET plastic panels. Mercedes-Benz claims that this change from animal to vegan leather halves its carbon footprint.

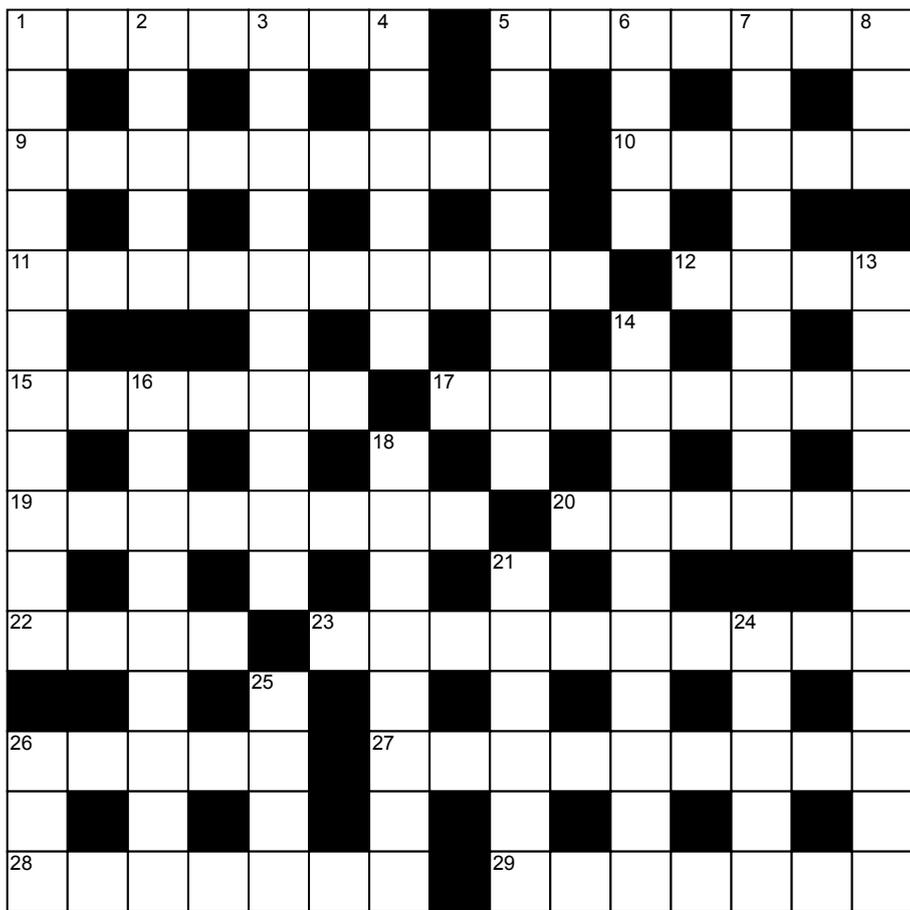
The electric vehicle industry will see rapid growth in the coming decade—a new study from the Platform for Electromobility has predicted that EV sales in Europe will overtake traditionally fuelled cars in three years. Although the Vision EQXX is only a prototype—it is not a model that will go into production and will most likely never be seen on the streets—Mercedes puts itself at the forefront of prioritising sustainability, and future models will draw on the design and technology of this concept car.



Illustrations by Karolina Wilgus

PUZZLES

**CRYPTIC Crossword Grid**



**CRYPTIC Crossword Clues**

**Across**

- 1) Recovering smoker pointlessly squints at lighter, losing his head. [7]
- 5) It'll puff up and fish about for fresh lobster, primarily. [7]
- 9) Beverage with no following from those across the pond? [9]
- 10) When playing Forty Forty, you might drop this! [5]
- 11) Strange reason for the bell's sound to ring like this. [10]
- 12) Reptile that bites the feet? [4]
- 15) Almost all stimuli set off this test. [6]
- 17) Moves to ambush when that rascal's awake [6 2]
- 19) In general, cut sleeves at the top of this garment. [8]
- 20) Emphasis of current unit. [6]
- 22) There's treachery at the heart of every one of them. [4]
- 23) Page on buggy code in agricultural data generation type. [10]
- 26) Call it what it is! [5]
- 27) Bound by experience changing to nickels. [5-4]
- 28) Wild last call before all-clear. [7]
- 29) I hear it reduces the classes. [7]

**Down**

- 1) Argumentative, disorderly squealer morally alienates friend. [11]
- 2) As an aside, that's crazy, to have those thoughts! [5]
- 3) Shape of the ring around a university looks about right from the top. [10]
- 4) Pretends again that she noticed. [6]
- 5) An action seen faintly? [8]
- 6) Slur Dutch into a different language. [6]
- 7) Fuels core so it glows. [7]
- 8) An animal, you heard. [3]
- 13) Concedes to limit it at around four joules. [11]
- 14) Like the look of the frock for that kind of party. [5 5]
- 16) A lot separates the racy chap at the top from his religious society. [9]
- 18) Alex the priest is at the office. [8]
- 21) Swipe parchment. [6]
- 24) Awake around noon and have a wash. [5]
- 25) In case of the cruellest ending. [4]
- 26) Holder of odd stance. [3]

**REGULAR Crossword Clues**

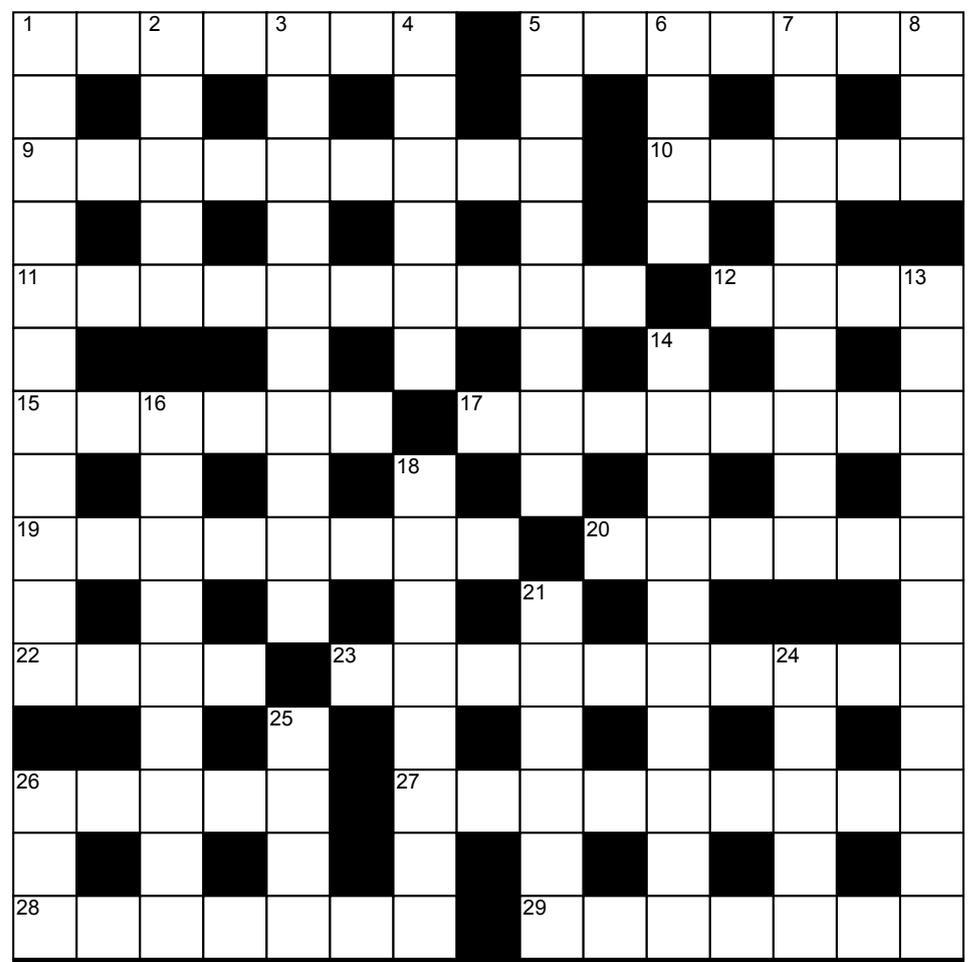
**Across**

- 1) Quake. [7]
- 5) Diagonally cut at the corner. [7]
- 9) Have children [9]
- 10) Application. [5]
- 11) Island nation with pentacolour flag. [10]
- 12) Vital clause part. [4]
- 15) \_\_\_\_\_, \_\_\_\_\_, potato, potato. [6]
- 17) Animal dyed pink by its diet. [8]
- 19) Cuban, Bahamian e.g. [8]
- 20) Like the face of an ill person. [6]
- 22) Subculture characterised by dark clothes and makeup. [4]
- 23) Impenetrable, insurmountable. [10]
- 26) Thin, or like wetland plants. [5]
- 27) Curses. [9]
- 28) Partygoer at Number Ten. [7]
- 29) Propellant for spray paint and shaving foam. [7]

**Down**

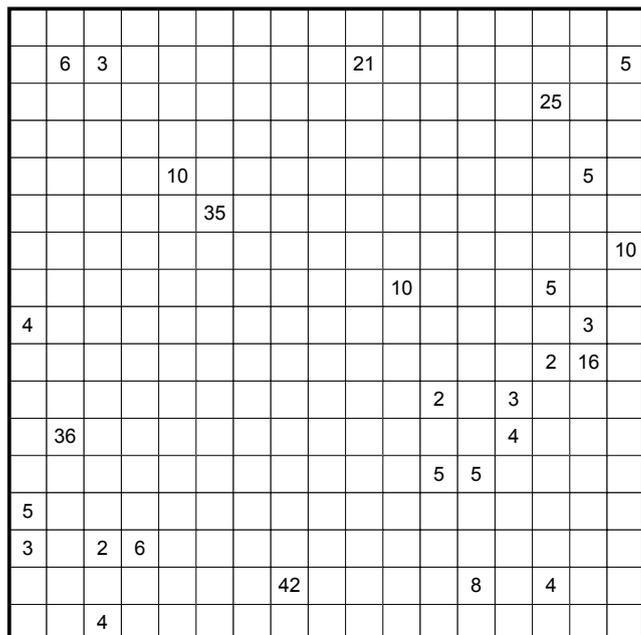
- 1) Laying out text on a page. [11]
- 2) Ivory partner. [5]
- 3) Aquamarine, peridot e.g. [10]
- 4) Office correspondences. [6]
- 5) With cunning. [8]
- 6) How water is called on ingredient labels. [4]
- 7) Brotherly. [9]
- 8) What the good old boys were drinking, according to Don McLean. [3]
- 13) Aorta, e.g. [5 6]
- 14) Nation's representative abroad. [10]
- 16) Children lose and replace them. [4 5]
- 18) He steers the boat. [8]
- 21) Coffee liqueur brand. [6]
- 24) Kicks back, as a horse. [5]
- 25) Storms and potatoes have them. [4]
- 26) Old British rule in India. [3]

**REGULAR Crossword Grid**



**Shikaku**

Split this square into smaller rectangles and squares, such that it also contains a number equal to the number of little squares in that shape.



**FUCWIT**

- 1. Plont Palace
- 2. Deep-Fried Charizard
- 3. Pancakes, surely?

- 44
- 33
- 32

Re: Mines.. we've had a bit of trouble assigning points in issues 1788 and 1789, so teams' points may change. Congrats to last week's leaders (this week's points haven't been totalled yet)! As always, you can send your solutions to fsudoku@ic.ac.uk before Wednesday 26th at 12:00.



CATNIP

## THE HEADLINES THIS WEEK...

**“I wish that were me” sighs gardener, glancing through window of colonoscopy clinic**

**Irritable bowel offended at being labelled a syndrome. “It’s just who I am!”**

*Detective discovering murderer burying latest victim regrets leading with line “uh oh, stinky”*

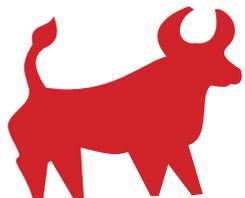
**A mechanic repairing a truck can now be referred to as ‘nursing a semi’**

**At the end of a Metric night, tallying up the bags of confiscated ketamine, the bar manager finds herself in the role of ‘K counter’**



### ARIES

This week you do a perfect job defending communism to your bourgeois friend. Congrats, full Marx.



### TAURUS

This week you score zero in a remote exam despite heavily consulting your home testing kit



### GEMINI

This week Ukraine secures admission to the African Cup of Nations in ruse to deter Russian aggression



### CANCER

This week you get arrested for J-wanking



### LEO

This week your friend tries to be funny by inviting you to a BYOB Boris bash on Facebook



### VIRGO

This week you stick it to big toothbrush by chewing on a twig



### LIBRA

This week your girlfriend tells you she’s just not that in to your best friend



### SCORPIO

This week a necklace and a tattoo do not turn your dating life around



### SAGITTARIUS

This week your mum walking in on you wrapping your lips round the living room cactus



### CAPRICORN

This week the only thing missing from your life is that you’re not smoking hot



### AQUARIUS

This week wearing a plaid jacket doesn’t help the lumberjack look, as you have roughly five beard hairs in total



### PISCES

This week a travel lozenge gets stuck between your malleus and incus

# IMPERIAL FAMINE COMES TO LIGHT

A new front in the culture war ravaging UK campuses opened this week after members of the Imperial College Left Forum published a letter to the Union demanding that all students be issued with free meals in order to reduce incidents of malnutrition and hunger among undergraduates.

In an interview with the president of the group, Alyssa Brown told NegaFelix that “you only need to go to the Union bar or 568 on a busy evening. Our research shows that 43% of people, when they get their food will say something along the lines of ‘Thank God, I am starving’. This is the next frontier in ensuring students have the most conducive environment to learn in”. The letter was also based on a 2019 paper by Dr Invagen, an Imperial researcher studying nutrition in undergraduate model organisms. The paper

reported that “the average nutritional content of an undergraduate meal was 12 calories” or slightly higher than a piece of A3 paper and slightly lower than five licks of the keyboards in the JMC computer labs.

When consulted, Dr Invagen told NegaFelix that he still doesn’t really know how undergraduates survive and is currently seeking funding from the Bill and Melinda Gates Foundation in order to seek real world applications for his findings.

An early trial of the scheme produced mixed results after large amounts of waste were produced as a result of students eschewing the free food in favour of queuing for Kimiko. Left Forum declared victory, however, after finding that many academics and post-grads were going through the bins and taking the left

overs home with them.

When queried about what they thought of the plan, third year Mech Eng student, Feb Senton said that while he appreciated the idea he would not take advantage of the opportunity. “I have had such a bad diet now for such a long time that I can now only eat partially defrosted ready meals. Fully cooked food is too soft for me”.

The letter also received criticism from members of the Imperial Conservative association who called it “more woke nonsense being peddled by radical Marxist academics and naïve students” and have called for a boycott of food in general, calling it “tainted by woke nonsense”.

## *Artistic interlude*



Jacopo Hu



Aim Kumpusiri

# Your Union



## New year, new beer?

Wondering what's better than a nice cold beer after working all day at your dissertation (besides sleep, of course) - How about a few different beers?

Hop along to h-bar on Tuesday 1 February, from 7PM to sample some of the finest beers on offer. Get the lowdown on each beer from our beer sommelier. Gather your friends, colleagues and supervisors, and find your favourite brews. Cheers!

Tickets are only £5, don't miss out!

[imperialcollegeunion.org/whats-on/event/10454](https://imperialcollegeunion.org/whats-on/event/10454)



## Union Town Hall

Review of Student Disciplinary Procedures

## Union Town Hall

In last term's Town Hall we discussed important issues around student safety and wellbeing in the Union Venues, and what we can do to combat the spiking epidemic.

Your DP Welfare is working on reviewing the College's Student Disciplinary procedures in the spring term, so we can establish a set of clear expectations for student conduct which would define what constitutes unacceptable behaviour. Having clear and immediate consequences for an individual that breaches Imperial's values is an important precedent for cultural change.

Join the Town Hall on 24 January, from 6PM, to give feedback on how the student disciplinary procedures currently operate, and what needs to be changed in order to ensure that they are fit for purpose. Sign up on our website [imperialcollegeunion.org/whats-on/event/10443](https://imperialcollegeunion.org/whats-on/event/10443)



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MATCH



## Student Discipline Review

Wondering why our DP Welfare called a Town Hall? Read on:

The College's Review of its Disciplinary Procedures aims to examine a number of different aspects of the Student Disciplinary Procedures and examine whether they are fit for purpose. It will consist of a core working party that the Union President and DP Welfare are a part of, and will include senior members of the College like the Academic Registrar, the Head of the Central Secretariat, and the Director of Student Services among others. Importantly, it will also include an experienced barrister who has had extensive experiences with disciplinary cases in the General Medical Commission (GMC).

Feeding into this working party are a number of evidence groups, whose role will be to provide written pieces of feedback that the working party will consider in its decision-making. One of those evidence groups is defined as "new and existing relevant student networks".

The Review is set to begin at the end of January 2022 and will conclude in May 2022.

Read more about this on our website.

## Your Union



### **IMPERIAL CINEMA: THE FRENCH DISPATCH**

Tuesday 25 JANUARY 2022 | 19:00 | Union Concert Hall (Beit Building)

Come along for a screening of The French Dispatch at Imperial Cinema! Starring an insane number of A-List actors and directed by the legendary Wes Anderson, it is an unmissable film... Tickets can be bought in CASH on the door, or from the Cinema Union page. Membership is not required to attend screenings!  
[imperialcollegeunion.org/whats-on/event/10444](https://imperialcollegeunion.org/whats-on/event/10444)

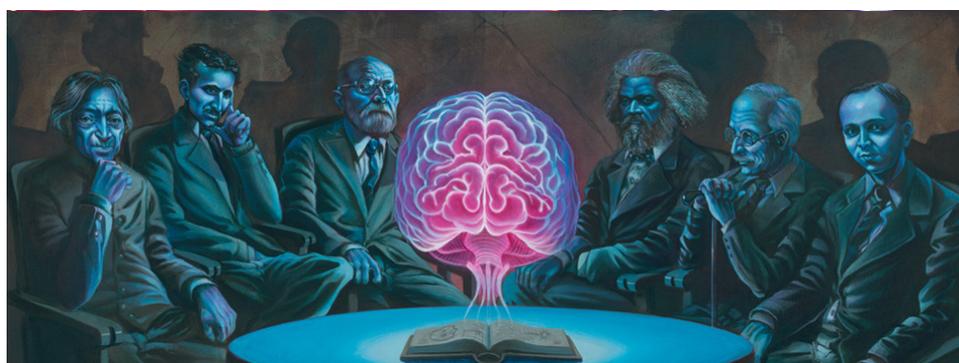
## ANNUAL INDUSTRY NETWORKING EVENT

Wednesday 26th January 5-7:30pm (GMT)

### **WSET ANNUAL INDUSTRY NETWORKING EVENT**

Wednesday 26 JANUARY 2022 | 17:00 -19:00 | Online

Join to hear presentations from a variety of companies (Bloomberg, Arm, Google etc) and industries about their daily work, internship and graduate roles, and what you can do to make you stand out in the application process. Companies will giving 10 min presentations with Q&As, followed by networking sessions.  
[imperialcollegeunion.org/whats-on/event/10440](https://imperialcollegeunion.org/whats-on/event/10440)



### **MEETING OF THE MINDS**

Saturday 29 JANUARY 2022 | 08:30 | SAF

Meeting of the Minds 2022 will bring you talks, seminars and workshops spanning across the many disciplines within neuroscience; from computational to real-world applications.

[imperialcollegeunion.org/whats-on/event/10398](https://imperialcollegeunion.org/whats-on/event/10398)



### **NT LIVE: LEOPOLDSTADT**

Monday 31 JANUARY 2022 | 19:00 | Union Concert Hall (Beit Building)

Filmed live on stage in London's West End, 'Tom Stoppard's masterpiece is magnificent' (Independent) and should not be missed. Tickets for Imperial students are only £6, while for anyone not an Imperial Student, they are £10.

Run-time is 150 minutes with no interval and has a rating of 12A.  
[imperialcollegeunion.org/whats-on/event/10446](https://imperialcollegeunion.org/whats-on/event/10446)

More info & events: [imperialcollegeunion.org/whatson](https://imperialcollegeunion.org/whatson)

## FILM

# The work of Mamoru Hosoda

## Film Review

### Wolf Children

Directed by: *Mamoru Hosoda*

Wang Guo Staff Writer

*Wolf Children* (2012) tells the story of Hana, a lonely university student in Tokyo who met a mysterious man and fell in love with him. After some time, the mysterious man reveals to Hana that he is a werewolf, and instead of running away, Hana accepts his condition and they have two children together called Yuki and Ame (both werewolves). The father suddenly dies while hunting food for their children, which leaves Hana to raise two werewolves on her own, with no guide. Not surprisingly, the problems did not wait to arrive: Hana could not take them to any public space like a park to play as they were changing to their werewolf state. Because of this stressful situation, she decided to move with her children to a rural area, where she learned how to make a living. In parallel, Yuki and Ame were growing: Ame was initially the weakest of the siblings, but he gained more self-confidence. On the other hand, when Yuki was a kid, she was impulsive and had a hobby of collecting insects, but she started worrying more about her appearance and fitting into a group after going to school. However, the desires and objectives of the children are constantly fluctuating and there are unexpected decisions. At the end, Yuki and Ame must decide whether they prefer living as humans or as wolves.

The supernatural element of the werewolves is surprising when revealed, but it is after relegated to a second plane because the film is focused on the

relationships between character and their psyche.

Indeed, the werewolf children were an allegory of the crisis of identity that everyone undergoes throughout their lives. Yuki and Ame would find out that many activities they enjoyed as children were not enjoyable anymore and vice versa when they became teenagers.

Hana is the model of the resilient mother who worked hard and learned from her mistakes to guarantee that the needs of her children were satisfied. The scenes of her working while taking care of her children are inspiring and incentivise us to reflect on the unconditional love and support our mothers gave to us. In the last part of the film, Hana showed an incredible willingness to allow their children to decide their own destiny, whether living as wolves or as humans, with the important sacrifice that she would never see them again. Hana, in short words, is an exaltation to all the mother of the world that impulse their children to find their own path in life, which is the only that can bring them true happiness.

Another detail is the tribute to the rural life: when Hana lived in the city, no one supported her, and she was one of the millions of Tokyo citizens living in those living blocks. The alienation of the character in the city was contrasted with her new life in the countryside. Not only did she gain an identity and position in that small community, but she also renovated an old and dirty cottage to a comfortable one, symbolising the transition of the family to a better life with Hana as the engine of it.

The period of the films starts from the birth of the



children to their complete maturity, we could witness a complete evolution of the characters physically and psychologically, making the characters seem more real and plausible. This organic development of the characters causes the emotional intensity in the drama scenes more heart touching and meaningful. The animation is simple, not detailed in the shadows or the contours, in exchange for more fluidity in the body movements and face expressions - wise choice considering the main theme of *Wolf Children*: family. The general pace of the film is slow, the music and the dialogues are not over exaggerated, focusing on being as realistic as possible. However, the naturality of the relationships between character and the development of these did not bore the audience at any point.

Overall, *Wolf Children* is a nice contrast to all the Netflix films saturated of action and death. It is also a film to remind us to be grateful to our parents, who gave us everything we have.



*Belle* is the 6<sup>th</sup> film by director Mamoru Hosoda and is loosely inspired by «*The Beauty and the Beast*». If you feel like you already know the story, fear not, it is vastly different from the original fairy tale.

Now what is the premise? The meek Suzu has been unable to sing since a tragic event. But when she joined the virtual world of U, she finds her voice back and becomes the most famous singer of the platform, Belle. There, she meets «The Beast».

The film tackles the difficult subjects of grief and abuse but also teenagers' awkward first love and standing up for yourself and others. One can argue that the movie is too simple when it comes to solving real-

world problems but on the other hand it fits the overall soft and positive atmosphere.

Another important theme is the Internet, presented through the virtual world U. While Mamoru Hosoda acknowledges issues such as cyber bullying, the world of U is a positive depiction of the Internet. It connects people and encourages them to care for others. Similarly, it is also where Belle first finds the courage to build her confidence back up.

Visually, it is a feast for the eyes. The world of U is vibrant with colours, the design of *Belle* and *the Beast* is stunning, and the animation is smooth. It is definitely worth seeing on a big screen!

The songs included in *Belle* are absolutely beautiful.

## New Film Release

### Belle

Directed by: *Mamoru Hosoda*

Aurélia Bordes Film Writer

You do not even need to read the subtitles to appreciate them. *Belle's* voice actor, Kaho Nakamura, has done an amazing job and if you want to check one of the movie songs, I invite you to search for «Gales of sound».

If you are familiar with Hosoda's works you might find some similarities especially with *Summer Wars*. For example, both movies have half of their actions happening in a colourful virtual world while the other half is more of a family and friends' drama. However, it would be a mistake to think that if you have seen one no need to see the other. Both have their own plot and I encourage you to check them out.

Next time you want to go to the cinema but don't know what to see, don't forget about beautiful *Belle*!

FRIDAY 21ST JANUARY 2022

# MUSIC

Edited by: ROSIE MILLNS  
TARA PAL CHAUDHURI

## DON'T MISS THE GIG - YARD ACT @ 100 CLUB, 22ND JANUARY

IF YOU AREN'T  
BORED OF POST-  
PUNK YET, LEEDS  
QUARTET YARD  
ACT ARE FOR YOU.  
FEATURING ON  
BBC'S SOUND OF  
2022 LIST, THESE

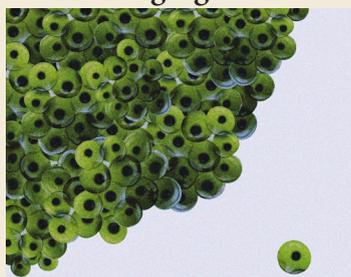


ARE NOT A GROUP TO MISS! THE BAND  
WILL BE PERFORMING AND SIGNING THEIR  
DEBUT ALBUM *THE OVERLOAD*, RELEASED  
21ST JANUARY. TICKETS COST £10 VIA THE  
SISTER RAY WEBSITE, OR £5 WHEN YOU  
BUY A LIMITED-EDITION GREEN LP.

## Single of the Week

### 'Marbles' by Lime Garden

Brighton's Lime Garden are back with another wozy indie-pop track, 'Marbles'. The B-side to the dark-and-brooding 'Clockwork', 'Marbles' is a refreshing change of pace. Subdued verses highlight singer Chloe Howard's gorgeous vocals, before leading into a bright and driving chorus ("I think I have lost my marbles"). Catch them supporting FEET at Scala on 3<sup>rd</sup> March!



Lime Garden

## TODAY IN MUSIC HISTORY

IN 1978 THE  
SOUNDTRACK  
TO *SATURDAY  
NIGHT FEVER*  
GOES TO NO. 1  
IN THE CHARTS,  
WHERE IT  
REMAINS FOR 24  
WEEKS. THE BEE  
GEES WROTE 5 ORIGINAL TRACKS FOR  
THE SOUNDTRACK INCLUDING 'NIGHT  
FEVER', 'STAYIN' ALIVE', AND 'MORE THAN  
A WOMAN'. THE ALBUM HAS GONE ON TO  
BECOME THE SECOND HIGHEST-SELLING  
SOUNDTRACK OF ALL TIME.



## Album Review

# The Weeknd is back with *Dawn FM*



View online here!

Written by **Jamie John** Science Editor

*The Weeknd's star-studded follow-up to After Hours does not disappoint*

Nearly two years after the chart-topping, double-platinum-certified *After Hours*, Abel Tesfaye, better known as The Weeknd, returns with another masterpiece.

The Weeknd's latest release, *Dawn FM*, features acclaimed actor and comedian, Jim Carrey, as the host of a psychedelic radio show for listeners in purgatory, journeying towards the "light at the end of the tunnel." I imagine something like Charon ferrying Greek souls across the River Styx, except instead of Charon, it's Jim Carrey and his (surprisingly) dulcet tones.

The concept comes with an expectation of grandeur, and the Weeknd delivers, enlisting a star-studded cast of producers: pop maestros Max Martin and Oscar Holter return from *After Hours*, alongside Swedish House Mafia, Calvin Harris and Oneohtrix Point Never (OPN).

*Dawn FM* follows on from the synth-heavy sound established in *After Hours* but broaches new sonic territories for Tesfaye, and for 21<sup>st</sup> century pop music. The swelling, atmospheric melodies heard in the former album are still very much here but are joined by a refreshing disco-inspired sound. The able hand of new-age experimental artist OPN can be heard across the album, most notably on 'Gasoline', where the exquisite instrumentation sounds like something straight out of Blade Runner. The half-spoken, half-sung sections on this track have received flak from some critics, but they have grown on me with each listen. They contrast strikingly with the silky-smooth singing elsewhere and fit well with the electronic sound of the track, and existential motifs of the wider album.

Lyrically, the trademark hedonism that has become a hallmark of The Weeknd's work is still very much there. However, the new album follows in the vein of *After Hours* in that it features less prominently than it did in his earlier work, taking a back seat to the bursting, indulgent soundscapes.

There are two spoken-word tracks on *Dawn FM*: 'A Tale by Quincy' is a piece by music legend Quincy Jones, who reflects on his upbringing, and 'Phantom Regret by Jim' concludes the album, with Jim Carrey



musing on the themes of purgatory and death present throughout. Both are welcome inclusions, and in addition to what they bring in terms of lyrical substance, they serve to pace the album.



## DAWN FM FEATURES JIM CARREY AS THE HOST OF A PSYCHADELIC RADIO SHOW FOR LISTENERS IN PURGATORY

A mention must be given to one of the features on *Dawn FM*. 'Here We Go... Again' is one of the highlights of the album, and sees Tesfaye teaming up with Tyler, the Creator. It sounds exactly like what I'd expect a Weeknd-Tyler collab to sound like – which is a compliment. The soaring delivery of Tesfaye relaxes into the unique psychedelia-tinged sweetness which Tyler has become known for, with sumptuous results.

What this album does so well is to combine the myriad strands and influences into a cohesive package. The eclectic tastes and sounds of its producers come together to produce something greater than the sum of its parts. Like its predecessor, *Dawn FM* demands listening to from start to finish, as an album, rather than a disparate collection of hits. It pushes the boundaries of what a modern-day pop album can be and cements the Weeknd's status as one of the genre's greats.

## MUSIC

## Single Reviews

## Back To Basics: Hippo Campus Return To Their Roots

Written by **Joe Riordan** Music Writer

*Hippo Campus Drop 3rd Single, 'Ride Or Die', From Upcoming Album LP3*

We are one month away from *LP3*. Hippo Campus' hotly anticipated third studio album drops on February 4<sup>th</sup> 2022 and the band have dropped a new single which itself was teased with a limited edition flexi-disk single at selected record stores the day before its release.

Let me set the scene. I am feeling productive on a Tuesday afternoon, so I head to the library to try and finish off some lectures and problem sheets. Slightly distracted, I'll admit I wasn't paying full attention to the thermo lecture and was scrolling through Instagram when I see a purple map of the UK with locations highlighted across the country. It's a Hippo Campus post from 6 minutes ago. Reading on I discover they're releasing a free limited-edition flexi-disk of the new single at selected record stores and I'm lucky enough that the London store is Rough Trade West. Disregarding my degree, I plot a route on CityMapper, close my laptop, and head off on



## HIPPO CAMPUS ARE EMBRACING THEIR EARLY DAYS WHILE EXPLORING NEW IDEAS OF GROWING UP

a search. I did not need to act so hastily. When I get to the shop, I ask if they have a Hippo Campus single and the lady behind the counter calmly hands me a clear floppy single from a pile of about twenty. My search was complete, and it was absolutely worth it: 'Ride Or Die' is beautiful.

The new single takes everything that catapulted the band to where they are today and honours it. Jake Luppen, the lead singer, said "It's one of my favourite songs on the record - you can really hear everyone in the band doing their thing." Nathan Stocker on guitar has his signature twinkly lead riffs which complement Luppen's vocals throughout the track before ending the song in an ethereal outro, and Whistler Allen on drums drives the track with low tom rhythms that are reminiscent of the band's early hit 'South'. By taking their sound back to basics, Hippo Campus are embracing their early days while exploring the new ideas of growing up that are prominent on all



the singles from *LP3*.

With less than a month until *LP3*'s release, which is the day after Hippo Campus' London show, excitement is building here in my flat. A nightly plea that they won't have to cancel their show because of restrictions (which I hope you all join me in) and hopefully the band will grace our shores soon.

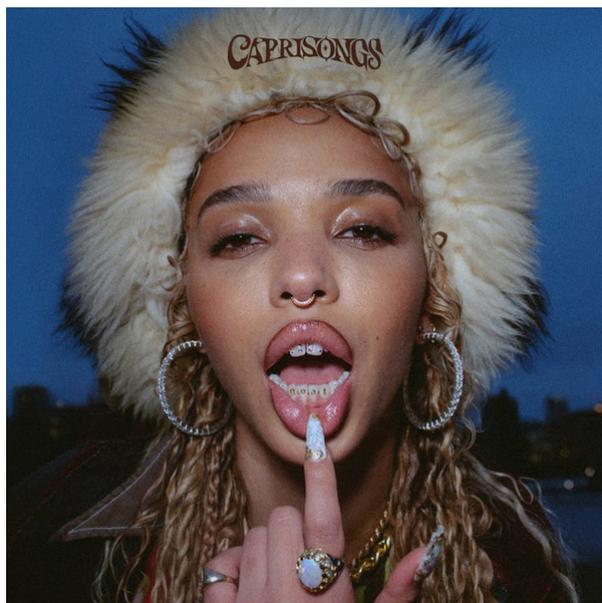
## FKA twigs disorientates and astounds in *CAPRISONGS*

Written by **Pallavi Ojha** Music Writer

*"Saggi-moon, pisce-vene, capri-sun" - FKA twigs' new mixtape features astrology, healing, and some truly beautiful songs*

With each album release, Tahliah Debrett Barnett, aka the artist Formerly Known As twigs, unfurls layers of herself. *CAPRISONGS* gives us a window into FKA twigs' process, community, and inner voice. This mixtape is no stranger to twigs' distinctive soprano vocals and murky, alt-RnB beats. But where *MAGDALENE* and *LPI* have strong themes and a clear structure, *CAPRISONGS* playfully switches energy, claiming no theme or genre.

Twigs sets the mood in the first track, 'run the dragon': "when I feel you, I feel me, and when I feel me, it feels good". In earlier releases, twigs adopted a character and performance, but here she is intentionally revealing, creating a dialogue between artist and listener. These first two songs are marked by a magnetic pulse. The intoxicating, syncopated rhythms of 'honda' lean heavily on grime influences, calling back to her London roots. The atmosphere switches suddenly in 'meta angel' to something a little more melancholic,



similar to what we have already seen in *MAGDALENE*. But twigs refuses to fulfil expectations, cutting through with a warm and revealing interlude. As someone who's been listening to her since 2015 and seen her rise to fame, it's meaningful to see that she remains entirely authentic. Twigs remarks "I don't think I'll make it on my own", a welcome break from the isolation of her previous album. It's a recognition of the necessity of her community; something she was stripped of during her last relationship that the artist says turned abusive.

Barnett flexes her skills as a producer in 'papi bones'. Shygirl adds a much-needed intensity to this deconstructed club track; her voice acting as a debauched dark-horse against a backdrop of pounding afrobeats. This is one I wish I could hear on a night out.

'Careless' returns again to her classic sound, this time with the exceptionally tender vocals of Daniel

Caesar. I love the quiet confidence and newfound power in 'which way', as twigs states: "I'm not the rockstar's girlfriend, I'm the rockstar girlfriend. / I'm not the accessory to the rockstar, I am the rockstar". 'Darjeeling' enshrines her teenage years in London, documenting her search for identity in her formative years.

Alright, I know I'm meant to be a pragmatic, logical, scientific-method-loving engineer, but the astrological reading in 'christi interlude' is excellent. It's fun and silly, and yet it's also quite beautiful. Twigs suggests astrology can be a way to find meaning and light in trauma or define a path in her creative process.

*MAGDALENE* was such a heart-breaking album, but *CAPRISONGS* takes that misery and searches for something joyous within it. In the last track, 'thank you song', twigs is finally unafraid to address the darker parts of herself and admits to struggling. She also recognises that these difficult truths can ultimately be restorative.

I think it's tempting to compare *CAPRISONGS* to previous albums. However, there's a reason twigs describes this as a mixtape. It's experimental, playful, and not at all serious. I am excited to see a conceptual album release in the future, but for now, it is so wonderful to see she is healing.

FRIDAY 21ST JANUARY 2022

# INVESTMENT

Edited by: AHMAD DANESH


**Investment Society**  
Imperial College London

## Central Bank Digital Currency...

# Another crypto... or is it?

Image credits: Unsplash



Will Central Banks' Decentralised Currency really have an effect on monetary policy?

**What does a Central Bank do? What is Decentralised Currency? Ana Inês Lajas Pereira explains...**

**Ana Inês Lajas Pereira**

Writer // Financial Senior Analyst



The first thought that pops into most peoples' minds when they first hear about Central Bank Digital Currency (CBDC) is that it is just another cryptocurrency, this time issued by a Central Bank (CB). However, this idea couldn't be more wrong, as it contradicts both CBs' mandate of price stability and the definition of crypto as a privately issued and decentralised digital currency.

### What's the difference between a CBDC and cryptocurrency?

In most economies, we can distinguish Central Bank Money (banknotes and reserves) from commercial bank money (deposits). Deposits are the prevalent type of money supply in developed economies: in the UK, 97% of the money supply comprises commercial bank deposits and only 3% correspond to cash. In most countries, banknotes are the only form of Central Bank money accessible to the general public, which would change as CBDC to be issued. Central Bank Digital Currency would work as "digital cash", that is, CB money which would be stored on our e-wallets, instead of on our physical ones. This way, CBDC would not be a new currency, but essentially a digitalization of the already existing banknotes. Therefore, CBDC would be highly different from a cryptocurrency: a privately issued and decentralised digital asset. In practice, few cryptocurrencies have the properties of traditional currency (means of exchange, store of value and unit of account). They are instead traded as speculative assets (stablecoins, whose values are pegged to a currency such as USD, are exceptions to this), which makes them unsuitable substitutes for cash and bank

deposits, while CBDC represents a better option, posing as a not flawless but considerable substitute.

### What's the importance of the CB's control of the monetary system?

The critical role of Central Banks is to conduct monetary policy in order to achieve price stability, that is, low and stable inflation (around 2%) and to help manage economic fluctuations. Under a deflationary scenario, agents (people who play a part in the economy) postpone their consumption and investment decisions, as purchasing power increases over time, thus deterring economic growth and weakening financial stability. Conversely, hyperinflation urges consumers to spend their income as fast as possible, thus decreasing marginal propensity to save, which hurts long term economic growth. This way, it's easy to understand the importance of low and stable levels of inflation, which promote healthy levels of consumption and investment. Central Banks achieve price stability through adjustments of the money supply: in economic booms, CBs conduct restrictive monetary policy, i.e., decrease the money supply such that interest rates increase, leading consumption and investment to decrease and inflationary pressures to cool down. In recessions, CBs conduct expansionary monetary policy, promoting the increase of consumption and investment. This way, we see that Central Banks' ability to control money supply is vital not only to maintain prices stable, but also to help manage economic fluctuations.

### What's the benefits and risks of the introduction of CBDCs?

One of the main arguments in favour of the introduction of CBDC is the risk private money creation represents for the Central Banks control of the monetary system. If tech giants introduced digital currencies capable of competing with CB money, that would significantly harm the impact of

monetary policy on price and economic stability. Meta's Diem project and the recent sizable increase in stablecoin supply are examples of such a threat. Other possible advantages of the introduction of CBDC are the anticipation of the CB necessity to meet the future payment needs of a digital economy and the foreseeable ease of cross-border payments. However, introducing CBDC would raise concerns in terms of privacy, as preventing criminal activity would require non-anonymity in CBDC transactions; financial disintermediation, as it is inevitable that some people would transfer money out of their bank deposits into CBDC wallets, meaning that there would be less deposits available for commercial banks to concede as loans; and creation of a centralised point of failure that would be a target for hackers.

### What's the UK's status on CBDCs compared to the rest of the world?

Although over 90 central banks are exploring CBDCs, most are still in a pure research phase. That's the case of the Bank of England, which made clear that "Bitcoin" is still under study and, even if the UK's CB decides to advance with its creation, it's unlikely to arrive until 2025. However, 9 countries have already launched CBDCs (7 countries in Eastern Caribbean, The Bahamas and Nigeria) and 14 others, including China, South Africa and Saudi Arabia, have pilot versions of CBDCs. You can see this with the map over on the next page.

All in all, although it is not clear whether in 5 years' time we will have Bitcoin in our digital wallets, it is still essential to understand what it is and to follow the debate on what could be the next evolutionary stage of centralised money.

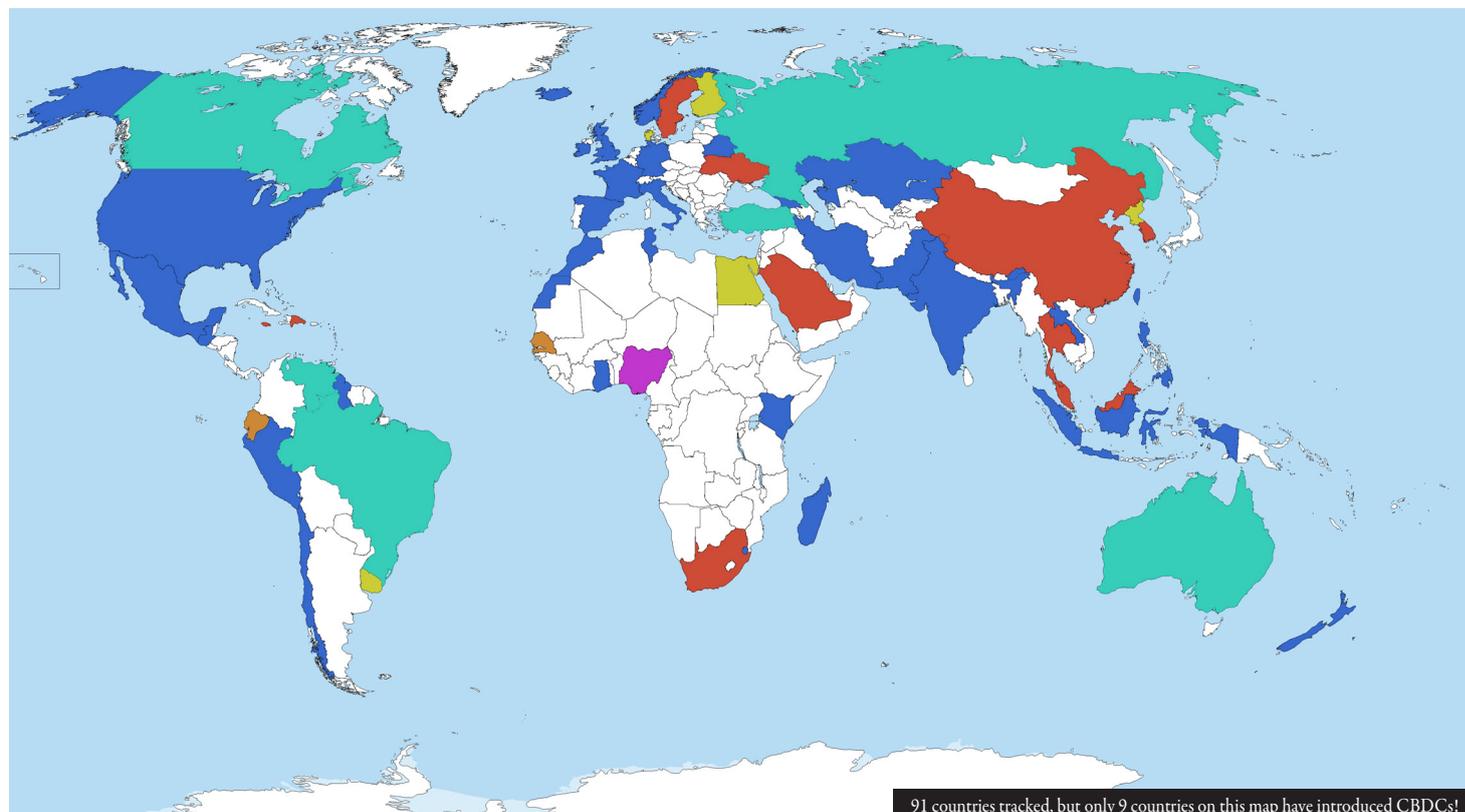
*Ana is one of the Senior Analysts at the Investment Society's Capital Fund, QT Capital whilst studying MSc Finance at Imperial College Business School.*

## 'MONETARY POLICY'... I'M A BIT EMBARRASSED TO ASK, BUT WHAT DOES THAT MEAN?

As we've seen before, Central Banks conduct monetary policy by increasing or decreasing the money supply (MS) in the economy.

**But, what do we mean by money supply?** If you think about the amount of money you own, you will realise it is split between the notes and coin you have in your pocket and the money you have deposited in your bank account. **Thus, the money supply of an economy corresponds to the aggregate (i.e. the combined) amount of cash and deposits that its economic agents own – that is, you, other consumers, firms and the government.**

## INVESTMENT



91 countries tracked, but only 9 countries on this map have introduced CBDCs!

## Event Listing Volume 7 – we’re back and we’re ready to do it all over again!

### Discounted Cash Flow (DCF) Workshop Coming Soon **IN-PERSON/ONLINE**

Since we’ve delivered the SEC, we’ve had a few questions from members and students about what a DCF means and how to navigate through one.

We’re happy to announce that we’re planning a four-session workshop on a DCF where we’ll be covering the fundamental accounting theory with the three main accounting statements, and then show how they can be manipulated to calculate cash flows and the elusive Net Present Value (NPV) that you’ll be asked to calculate at the

end of any DCF. The sessions will be delivered by our Real Estate Senior Analyst, Justin Wong and supported by the team at Investment Society and the portfolio, QT Capital.

Announcements to the final dates and registration will be coming in the next week, along with prior reading and lecture material that you can read to familiarise yourself with the purpose and technicals to complete a DCF.

We look forward to seeing you there!

For more information, please contact us at [icu.investmentsociety@imperial.ac.uk](mailto:icu.investmentsociety@imperial.ac.uk).

**Investment Society**  
Imperial College London

Events at Imperial coming up

### Real Estate Workshop Coming Soon **IN-PERSON/ONLINE**

We’re happy to announce that we’re delivering a session-long introduction to the world of Real Estate for people interested in how property and commercial estate work in the world of investment and the different ways that such investments are structured.

It’ll be led by our Real Estate Analysts Lasen Wannan Arachcharige and Raheed Ali, and supported by our main fund equities team at QT Capital.

More details to be announced soon!

### Crypto Debate Coming Soon **IN-PERSON/ONLINE**

What a time we had delivering the crypto lectures – more than 200+ attendees to each session, with £1000 worth of bitcoin given out to attendees in our memorable first session!

We’ve decided to take things further and organise a crypto debate to cover both sides of the crypto conversation – is crypto the way forward in terms of a decentralised currency system? Are the flaws outweighed by the benefits that could come from crypto? More details coming soon!

### Weekly Stock Pitches Every Tuesday 18:00 – 19:00 **HUXLEY 308**

While some of you have certainly been enjoying our events, we also have other ways that you can learn about Investment... mainly through our stock pitches!

For those of you who are unaware, our analysts from our own student-led portfolio QT Capital pitch investment proposals every week to you guys for you to cast a vote on!

**Come join us every week to learn more and meet people who share similar interests!**

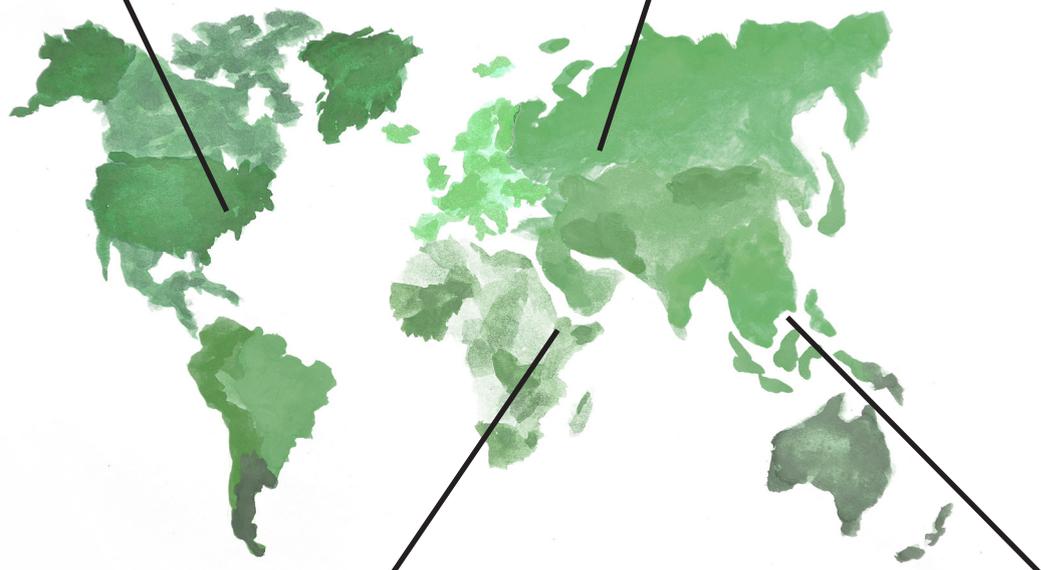
# ...in the world this week

## *5G row between airlines and mobile networks*

5G use in the US has led to conflict between airlines and mobile providers, who both require the same frequency for their instruments to work. The proposed frequency is used by 5G networks, as well as Boeing aircraft for measuring altitude when landing. The controversy led to airlines, most notably Emirates, to cancelling some flights to the US, though service has recently resumed following the all-clear from the American Federal Aviation Administration.

## *Russian-led troops withdraw from Kazakhstan*

Troops of the Russian-led CTSO pact have withdrawn from a disheveled Kazakhstan. CTSO took action in the country at the request of the besieged Kazakhstan government, following severe unrest in the city of Almaty, the country's capital. Protests over the price of oil erupted early in the new year and quickly grew in size and calibre of demand. The country's president Toqaev reversed the removal of an oil price cap and fired his whole cabinet in attempts to quell the protesters, however this did not work. 227 have died.



## *Pleas for insulin as medical supplies run out in Tigray*

The conflict that has clutched Ethiopia for 14 months now shows no signs of stopping, as medics in the Tigray region send calls for emergency insulin to prevent the "agonising death" of diabetics. Humanitarian supplies have been cut off by the Ethiopian governmental army, led by Prime Minister Abiy Ahmed who won a Nobel Peace Prize in 2016. The conflict has persisted between the government and the rebel TPLF, who have previously attempted to retake the capital of Addis Ababa. Both sides have been accused of committing war crimes.

## *China accuses US of "provocative actions" in the South China Sea*

China has said it tracked a US ship through the disputed waters of the South China Sea, between China and Taiwan. This is the latest in a string of tensions that many fear to be the most likely cause of the next world war, were China to invade Taiwan. The Chinese government views Taiwan as a break-away state and inherently Chinese, whereas Taiwan sees itself as a sovereign state, and is allied to many strong Western powers. US hostility to China has been maintained through both the Trump and Biden administrations. Last year Lithuania officially recognised Taiwan as a sovereign state, and China restricted its trade and diplomatic ties with the tiny country as a result.

# ... in this issue's year (1789)

Quite a lot, considering this is the first time we've done this section and the year was essentially selected at random

## **FRANCE**

The French Revolution begins, with the Storming of the Bastille.

## **FRANCE (again)**

The first pedal-powered tricycle is invented by Frenchmen Blanchard and Maguier.

## **SOUTH-EAST ASIA**

Vietnamese Emperor Quang Trung defeats Chinese Qing forces in one of Vietnam's greatest military victories.

## **THE UNITED STATES**

George Washington is elected as the first President of the United States of America. John Adams is his vice-president.

## **BELGIUM**

Brabant revolutionaries defeat Austrian army and declare independence from the Austian Netherlands

## SPORT

Edited and written by: AMANDA BARDEN  
KONRAD HOHENDORF

# Talking to Melissa Hexter - strongwoman

In this article we catch up with one of Imperial's most impressive athletes, Melissa Hexter. This isn't the first time we've spoken to her – Melissa's impressive feats of weightlifting have now graced the pages of Felix several times. Melissa recently competed in Lithuania, however, in her own words she "epically failed".

This was Melissa's first international competition and while cutting for her weigh-in to compete in the 57kg category, she depleted her body of salt so badly that she ended up hyponatraemic and her body stopped functioning properly. "I've always been able to get away with pushing my body to the limits... this is the first time my body has given up on me".

For the first and second lift for the bench press, she missed her opener. Somehow, on the third lift, she got it, but collapsed right after into her coach. "Overall, it was just really embarrassing... the sad part is if I had competed in the weight class up and lifted my PB, which I have done at a lower weight, I would have won". The reason why Melissa attempted to compete in the 57 kg class was because she felt that she had a real chance of breaking the world record. However, from this experience, Melissa said she learned a lot and prepared very differently for her next competition, and the results of that competition prove her success in her training.

"I took what I learned from the competition in Lithuania and re-evaluated how I was going to prep myself nutritionally for this next competition. I used a completely different strategy for this competition and it worked absolutely beautifully...". Melissa does all her nutritional planning on her own. "It's a lot of trial and error based on your personal needs... I think by the European championship in Sweden I found the formula... I was the strongest I have ever been in my life on that day. You want that extra 15% out of your body from a peak while also cutting weight, and I got that, which was really awesome."

She went on to tell us "I could have lifted more at this competition... I left kilos on the platform. And yet, I won the gold for the total, and that's what I went to Sweden to do!". As her total for the competition, Melissa lifted an astounding 427.5kg.

Melissa told us that she's been competing in the 57 kg weight class since she started lifting, and during that time has managed to put an impressive 120 kg onto her total lift while not gaining weight. However, this year she's moving up to the 63 kg weight class. "Moving up to 63kg will be a lot of work because I have a lot of weight to put on... but I am really excited to have strengths that I never had before. Everyone who I have talked to who has moved up a weight class always says they wish they had done it sooner".

Melissa's big competition for 2022 will be an invite only meet called ABS Pro in Dublin. "I am really

excited because it's different than other types of meets that I usually do. I compete in the International Powerlifting federation, where you compete in weight classes. But with the ABS Pro, all weight classes are competing against each other, but they are scored by something called the Wilks Formula, which allows you to compare lifters of different weights and different sexes as well... I am really excited to see what I can do against some of the best lifters in the world. I would definitely want to give it everything I've got. There is also a pretty extensive cash prize, and you get a Viking helmet and a nice ring, so that would be kind of cool."

More generally, Melissa took us through her favourite lift, as from our perspective, she is more than successful in all of them. "My bench press is my best lift but it is not my favourite. My favourite lift is probably my deadlift, because I don't think I am as good at it, and because of that I have the most to improve and spend time on it. Given that my bench press is 110kg, my deadlift at the same calibre should be 215-220, whereas now it stands at 170." She went on to tell us what her goals for the ABS Pro are. "I would really like to squat around 190kg. I think 120kg bench is definitely attainable. With the deadlift, it depends on how much I can optimize my technique, so I would want to lift 190kg. That would put me at 500kg total".

Melissa also told us why she chose powerlifting. "It's very black and white, you put the work in and you see outcomes on the bar. As a scientist, I really like it, because everything you put into it has a measurable response". On top of her incredibly busy schedule of powerlifting and completing her PhD, Melissa has also taken on the role as a GTA this year. "I get

to meet and teach these students that are absolutely wonderful. I get to learn something new every time. It can be really stressful, particularly when students are hard on themselves, which happens a lot of the time, especially at Imperial. Kids tend to be really hard on themselves, and they are a lot more prone to having mental breakdowns... to get to a place like Imperial, you have to have the self-motivation and the grit, and you have to work really hard."

Her advice to Imperial students: "Imperial kids, stop being hard on yourselves. Give yourself more credit. It'll all be fine". I think I can speak for all of us when I say Melissa's schedule appears incredibly busy, and she is very successful in managing it all. She says her support system helps her through all her busy schedule, making it easier for her to perform at the level she is at, in all aspects of her life. "I am really lucky I do have a really good support system. I have some really lovely friends in my lab, and I have a pretty strong friend group in my departments, and an amazing husband. My husband also powerlifts, and he's also a software engineer, so he also has the scientist mindset and he understands. He gets the little things, like my caloric needs. I'm not a normal person, like when I am training heavily, I eat every three hours. But he gets it."

Melissa Hexter is one of the most impressive athletes we have met, as well as being a successful scientist, and she will, without a doubt, be an excellent GTA. We are looking forward to publishing more articles about her successes in the powerlifting world. Even though you don't need it, best of luck in the ABS Pro this year Melissa! We'll all be rooting for you!

