

THE GASLIGHTING OF THE FOSSIL FUEL INDUSTRY



Shell knew about the consequences of Greenhouse gas use but kept silent

Read more about this in the sustainability section on page 22

Credits: Antonio Ross via The Mancunion



Student protesting the fences put up around their halls in order to prevent them leaving without permission at the University of Manchester

UK students protest lockdown; call for rent reductions

Isabelle Zhang Deputy Editor

A rent strike in Bristol University, which began on October 24th, has amassed around 1200 participants to become the largest student rent strike in British history. Organised by 'Bristol, Cut the Rent', the campaign protests the university's handling of students under lockdown in accommodation halls. Currently, over £1 million in rent money is being withheld from the university.

As of November 5th, around 1500 students and staff at Bristol have tested positive for COVID-19 so far. As a result, many students living in halls have been forced to self-isolate and their reported living conditions have been poor.

Food packages for students were often delivered late and insufficient for the number of people living in the flat – with stories of only two boxes of food allocated to last an eight-person flat for two weeks. Dietary requirements such

as vegetarian, gluten-free, and nut-allergies were also overlooked. Students report being confined to their flats for days on end without any opportunity for exercise, and in some cases with no access to natural light. There are also accounts about intimidation of students by the security services that have been present in halls to enforce self-isolation. In addition, there are reported instances of power cuts in flats,

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College affirms that new lockdown will not change teaching

Calum Drysdale Editor-in-Chief

Senior College staff have promised that despite the change in governmental Covid-19 restrictions, teaching will not change and multi-mode teaching will continue.

The College has said that work completed over the summer included precautions against further tightening of coronavirus public health measures and so say that timetabled teaching will not be affected as students will continue with planned, multi-mode teaching that incorporates both face to face and online teaching.

However, the new restrictions have affected students in other ways. From the 5th November, students will not be allowed to return home until the estimated date of 2nd December, though the government has admitted that this date is liable to change in response to infection rates in the country.

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WHAT IS FELIX?

Felix is the newspaper of Imperial College Student Union. We provide entertainment, information and news while also being a space that members of the Imperial College community can use to publish their views and respond to the views of others.

CAN I WRITE FOR FELIX?

Yes. We welcome all submissions and aim to publish everything we are sent. An editor will work with you to make sure your article is in the best condition it can be for publication. We also produce video and audio content if that interests you more.

HOW DO I SUBMIT AN ARTICLE TO FELIX?

- If you already have an article in mind or have written one already then send it to the section editors via email. These email addresses can be found at the top of each page in a section.
- If you want to write but don't have a topic in mind, check out or section specific writers Facebook groups that we update every week with topics we would like articles about or email the section editors

Send your article to us by 8 o'clock on Tuesday and we can then have it ready for publication that Friday!

We are also always recruiting editors, copy editors, photographers, artists and more. If you would like to get involved in Felix in a regular capacity, email Felix@ic.ac.uk

ICSMSU Pres leads pressure on College to make publicly funded medicines more affordable

Muntaha Naeem ICSMSU President

On Wednesday 3rd November, the Imperial College Union council met for the first full meeting of the academic year. For those that aren't aware, the Union Council is one of the main policy-making bodies of the Union with student representatives from across constituent Union leadership, the officer trustees themselves, and elected representatives from within each faculty. It's there to set the policy of the Union, vote on public stances and actions that the Union should take, as well as to provide a platform of scrutiny and accountability.

This year's council meetings are ably chaired by Alex Auyung. The agenda itself was relatively sparse, and after a few ice-breakers in breakout rooms, matters for decision included ratification of the proposed timetable for next year's leadership elections and a change in the name of the LGBT officer to the LGBTQ+ officer.

One of the papers proposed by a group of students within the Imperial College School of Medicine was a public stance on Access to Medicines. Universities Allied for Essential Medicines (UAEM) is an international organisation who simply believe that University-developed medicine and healthcare technologies whose research is publicly funded should be made affordable and accessible to the public. This is particularly pertinent for the preventable 'neglected tropical diseases' where publicly funded research commonly leads to drugs that cost little to make, but due to exclusive transfer of patents to often single pharmaceutical agencies, thus costs thousands of pounds to buy and heavily limits equitable global access.

The move of the Union to recognise this cause means we are now in a position to actively campaign for Imperial College London to sign onto the equitable technology access framework, a charter aimed at licensing transparency that has already been signed by many other Universities across the globe including Oxford, Harvard and Yale. The Imperial-specific UAEM chapter

have already been hard at work engaging with a range of important stakeholders including the Technology Transfer Office, and even promising early discussions with Professor Shattock; the leading figure behind Imperial's initiative to develop a vaccine for COVID-19. As ICSMSU President, and more widely as a Union, we look forward to helping further these conversations and lobbying for change in line with our new stance.

Another major part of these meetings is accountability. The Officer Trustees of the Union (both President and the respective deputies), as well as all the Constituent Union presidents and our Felix editor, were expected to write up and present a report on their activities and field questions from the board. Perhaps the most controversial moment of the meeting came from a renewed move for members to seek ratification of reports via a vote, and specifically whether this should apply to all reports including those by part-time student volunteers or as was originally suggested, only those of full-time sabbatical officers – a conversation set to be picked up at the next meeting on 1st December.

Arguably the best part of council is its open, transparent nature. Any member of ICU (in other words pretty much every student at Imperial) is welcome to come along to Council and propose a paper. It is ultimately a place where the voice of all students, and the issues you care about most, are genuinely empowered, a forum where voices can be heard, and where changes can be made.

All papers, reports and minutes from Council meetings are publicly available on the Union's website for all to read if you wish to see what was discussed in more detail.

The next Union Council meeting is on the 1st December and is open to any Union member. More information on the activities of Council and how it operates can be found on the Union website. Follow the Felix twitter for live tweeting of the meetings.

Bristol students on biggest ever British uni rent strike

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and accumulation of waste because cleaning services has not collected accumulated rubbish.

The key demands of the campaign are for no-penalty contract releases and deposit refunds for students who no longer want to stay in halls, and a

30% rent reduction for student choosing to remain - which reflects the lack of cleaning services and blocked access to communal facilities. Crucially, they also demand that no student participating in the strike should suffer from any disciplinary or legal repercussion.

Students were initially promised

by the university that they would receive mixed-mode teaching, with both in-person and remote methods to deliver course material, and thus would need to be on campus. Since then, increasingly students have been under lockdown and unable to attend any in-person sessions, and the University

reportedly has been slowly eliminating in-person learning. However, accommodation contracts bound students to pay the full year's rent even if they no longer have in-person sessions.

Organisers of the strike say this means that students are "paying for

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Credits: Epigram



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Lockdown 2 forces major changes to all student lives

In addition to this, students will no longer be allowed to meet up in doors with any inside with anyone not in their household and will only be allowed to see one person not in their household outside.

Students also face more restrictions on returning home for Christmas holidays with ministers proposing solutions including two weeks of quarantine before students may return to their families. Student social activities and society events have also seen a retightening of

restrictions. From 5th November, the Union has closed the 568 and Union bar as well as all Move Imperial facilities in accordance with government rules as well as informing students that they must move all society events online. The College has stressed that it fully supports the government's position. However, Imperial libraries will remain open, albeit with social distancing requirements.

Provost Ian Walmsley highlighted the

uncertainty of the situation saying "We will not always get our approach right the first time, but we learn from feedback every day, and adapt to make sure our community's needs are met. As we prepare for a second national lockdown, and continue our discussions with government regarding plans for the winter break, it is important we take a flexible approach."

Students who are struggling either emotionally, physically or financially are ad-

vised to talk to the Student Hub which will assist students in accessing the resources and support that they need. The College has also introduced new measures to proactively identify aerosol Covid-19 particles in order to minimise transmission.

More information about measures the College is taking to reduce Covid-19 transmission as well as infection rates can be found on the Imperial College Covid-19 pages

Angry students tear down metal fences

CONTINUED FROM PAGE 4

rooms they no longer need”, and that Bristol University overpromised because they “wanted students to come back so they could have our accommodation fees”. The Bristol Students’ Union has fully supported the strike efforts. The main message of the campaign is that the University “has a duty of care to its students” that isn’t currently being met.

Prior to the strike, the campaign with support from Bristol Students’ Union brought the issue to the University and did not receive satisfactory response, prompting the strike. The rent strike campaign officially launched on October 14th, with things moving swiftly and over 1000 students pledging to strike in the following ten days.

Other demands of the campaign address the shoddy self-isolation conditions that students are placed under. The University has been asked to commit to delivering food packages on time, that food packages cater for all dietary requirements, to provide basic cleaning and menstrual products, allow outdoor access for students living in flats with no positive cases, and regular mental health check-ins from the University’s Residential Life Services. Transparency on the role and actions of security staff have also been asked for.

The campaign organisers and student union have also been in contact with staff unions that represent the cleaning and maintenance staff in halls, and has included in their demands that the University do not dismiss any staff members as a result of the lost rent revenue.

Rent striking is not an action protected by law, however the campaign believes that the University will not take disciplinary action or evict its own students during a pandemic because of their concern for reputation and fear of public backlash. Bristol University owns most of the housing that students on strike reside in, although there are also some students under private housing providers, and the campaign has sought eviction resistance support from the community

organisation ACORN for these students.

Bristol University says that students are being provided with laundry services, welfare support, and hygiene products. The University also claims that food is being delivered that caters to dietary requirements, in contrast to student reports. The University assured that students taking part in the strike will not be sanctioned academically, bursaries and scholarships will not be affected, and international students should not worry about any visa issues.

Rent strikes in other universities around the country have also been planned. Students at the University of Manchester have also been organizing rent strikes since early October, with £300,000 being withheld as of October 13th. Their demands include no-penalty contract releases and a 40% rent reduction for students remaining in halls.

Strikes in UoM have been prompted by a range of similarly poor conditions for students self-isolating. In late September, over 100 students in West-on Hall of UoM were forced to sleep on the floor in communal spaces after their flats were flooded, challenging social distancing efforts. On October 8th, a 19 year old student was found dead in the UoM Fallowfield residence halls, having committed suicide due to deteriorating mental health and severe anxiety from lockdown.

More recently, on the morning of Thursday November 5th, students living in UoM Fallowfield campus woke up to find themselves fenced in by a chain of metal gates surrounding them completely. The University had put up metal fences in an effort to restrict entry and exit to the building to a single, security-guarded point, and no prior notification had been given to students. The fences were torn down by students the same day dur-

ing a protest held in the evening. The University already apologised “for the concern and distress caused” and had planned to remove the fences the following morning, but students had already taken them down.

Currently, 137 students have tested positive for Covid-19 in the last two weeks, however, these are not necessarily all students in halls and there has yet been no hall-wide lockdown. However, students in halls that have been found breaking social distancing rules have been fined £50 each, which is paid to the hall and as has been seen in previous weeks, what occurs in northern, badly affected areas of Britain is often repeated in the south a week or two later.

If you are experiencing any mental health difficulties or are affected by the content of this article, you can seek free and urgent services such as:

Samaritans is a 24/7 hotline that is open for, call 116 123 freely without any mobile credit, or email jo@samaritans.org. HOPElineUK is a confidential support and advice service for young people under the age of 35 who may be having thoughts of suicide or for anyone concerned a young person may be having thoughts of suicide, call 0800 068 4141 or text 07860039967 or email pat@papyrus-uk.org.

If you or someone you know is in immediate danger please call 999.

If you have information about COVID-19 at Imperial student halls, please get in contact at felix@imperial.ac.uk or through our Facebook page. We accept anonymity requests.

You can get tested for COVID-19 at Imperial College’s asymptomatic testing centre with more information at <https://www.imperial.ac.uk/about/covid-19/testing-scheme/>.

Firetrap hall students share moving issues

Calum Drysdale Editor-in-Chief

Students that were evacuated from Shalls in West London due to fire risks have revealed problems that arose during their move but have also praised the College for the speed of their response.

An anonymous student that spoke to Felix, said that they felt that while Chapter was an upgrade in terms of room quality, the evacuation should never have become necessary.

Responding to claims that there were signs of deficient fire safety measures that the College did not take into consideration when renting the rooms, the student said that “I would like to think they were looking out for us more than that”.

Another student that also agreed to speak to Felix, on the condition of anonymity said that the move itself had been chaotic with a number of students being forced to sleep without sheets, duvets or pillows for two days as the removals company hired by College failed to deliver boxes to the correct block of the building.

Despite a number of measures in place to prevent boxes being misplaced this student told Felix that when they found their box was not in the flat they had been assigned they were told by the company that the boxes had been placed in a flat the floor below. When the student went to investigate there were not boxes. In fact the flat was not even being occupied by Imperial College students. It was only after appealing to the halls-wide groupchat that the boxes were identified in a studio.

Students have expressed happiness, however, at the increased quality of room that they had received. Rooms in the halls they previously occupied costed £135 a week but the Chapter flats given to students cost between £209 and £279 a week at no additional cost to the student themselves. In addition to this students have been told that they will receive compensation in the form of a TFL travelcard for the inconvenience of having to evacuate.

UK's latest fusion reactor, MAST Upgrade, boots up

Ansh Bhatnagar Science Editor

The UK's latest £55m nuclear fusion experiment switched on last Thursday (October 29th) after a seven-year build.

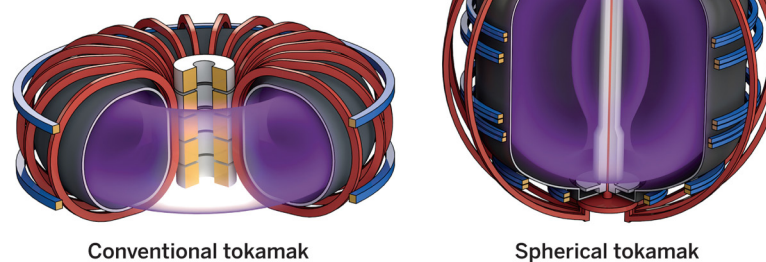
Located at the Culham Centre for Fusion Energy in Oxfordshire, the Mega Ampere Spherical Tokamak (MAST) Upgrade is a successor experiment to the original MAST, which operated from 1999 to 2013.

What makes MAST Upgrade unusual is its shape; while more well-known fusion experiments such as France's ITER are tokamaks based on a torus (essentially, a doughnut), MAST Upgrade is a spherical tokamak, which has a shape more akin to a cored apple.

Both designs operate on the same principle: confine a super-hot hydrogen plasma in the shape of a torus using strong magnetic fields, sustaining a steady rate of fusion reactions. However, the 'cored apple' shape of the spherical tokamak is expected to give multiple advantages over the torus shape of the traditional tokamak,

namely making it more compact and able to use magnetic fields more efficiently. The MAST Upgrade experiment aims to shed new light on the practicality of the spherical tokamak design for compact power plants.

- Vacuum vessel
- Electromagnets
- Central solenoid



Toroidal tokamaks vs spherical tokamaks: which is the future for fusion?

2040 UK Government target for first fusion power plant

MAST Upgrade is also the first fusion reactor to make use of the 'Super-X divertor', which is a system that aims to expel spent plasma by cooling it more than commonly used exhaust systems. With cooler material going through the divertor, materials used

on divertor surfaces should be able to last longer before needing replacement. The Culham Centre for Fusion Energy believe that this system, if shown to work successfully, will be a key design for commercial fusion reactors.

In a Government press release, Science Minister Amanda Solloway looked forward to the future: "We want the UK to be a world leader in fusion energy and to capitalise on its amazing potential as a clean energy source that could last for hundreds of years. Backed by £55 million of government funding... [MAST Upgrade] takes us another step closer towards our goal of building the UK's first fusion power plant by 2040."

However, the Government's commitment to the UK being a world leader in fusion remains in doubt. Despite calls from scientists for the UK to remain part of the European Atomic Energy Community (Euratom), the UK has not yet resolved this in the ongoing Brexit negotiations and is thus not currently party to the ITER programme, which aims to construct the world's largest tokamak and demonstrate that fusion is indeed a viable energy source.

What is nuclear fusion?

Nuclear fusion is a promising energy source for the future. Where nuclear fission splits heavy atoms in a chain reaction, fusion joins light atoms together. Both these processes release energy despite being opposites to one another: this is due to a quantity called the binding energy per nucleon. A graph of this quantity against atomic mass can be seen in Figure 1. This curve shows that it is energetically favourable for lighter elements to fuse to become heavier elements, and for very heavy elements to split to become lighter elements.

This is a powerful graph; not only does it show us that fusion releases a lot more energy than fission for the same mass of fuel, it also shows that iron is in a sense the most stable nucleus; it is not energetically favourable for it to split or fuse. This is why stars can only make elements up to and including iron.

Fusion requires two nuclei to overcome their electrostatic repulsion by getting close enough so that the strong force kicks in. This initial repulsion is strong; stars manage to get hydrogen nuclei close due to immense pressure and temperatures at their centres thanks to gravity, however these conditions are difficult to replicate on Earth without huge inefficiencies. Due to these inefficiencies, fusion experiments currently take in more energy than they give back. In order for fusion energy to become a practical source of clean and safe power, these inefficiencies must be reduced.

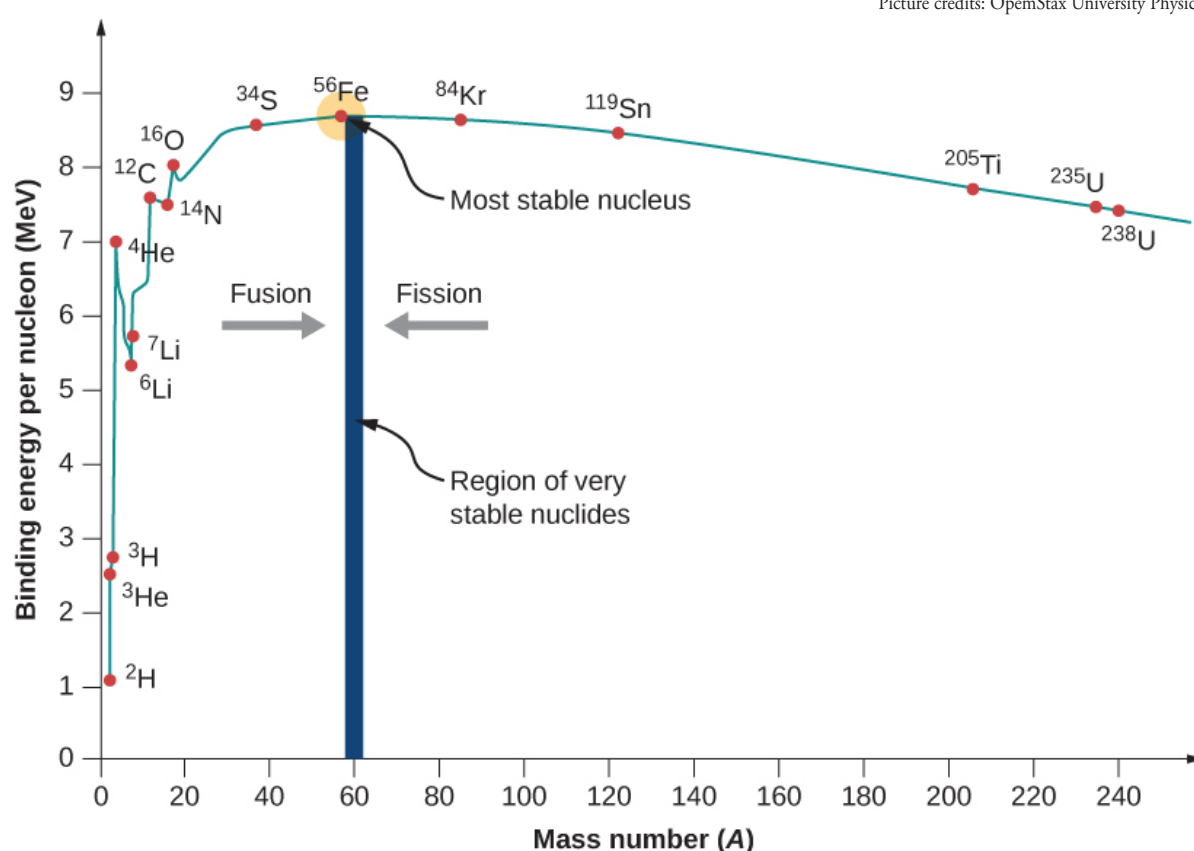


Figure 1: Binding energy per nucleon (MeV) against atomic mass number.

SCIENCE

Why Nvidia's ARM Acquisition Should Be Blocked

Shrey Bohra Tech Writer

Europe is not particularly well known for its tech companies, with the entire industry being valued at less than half of Apple alone. Local companies have stagnated or been acquired, leading to this side of the Atlantic having an almost complete dependence on the US for some of the most important things in modern society. There is one exception to this trend, however – ARM. ARM as a company is not very well known to the public but is hugely influential in daily life. With over 180 billion processors based on its designs shipped – including in almost every smartphone ever made – it may be the technology we interact with most. The company operates on a different model to most others; instead of selling its own products, ARM develops intellectual property which it licenses to others, receiving a small royalty on every product shipped that uses its technology.

This business model has become the driver behind its massive success. Known as the “Switzerland of the semiconductor industry”, ARM’s willingness to license its IP to anyone and everyone has meant companies have been confident

enough to spend billions on R&D underpinning their businesses with ARM technology – with Apple, for example, moving all of its products to ARM based designs in the coming years. This neutrality is something that is threatened by the proposed \$40 billion acquisition of ARM by Nvidia, a company best known

for its GPUs. This proposal, in my opinion, is not only detrimental to ARM, but also to the European tech industry and possibly even national security.

To be clear, ARM has not technically been independent in recent times – after a \$32 billion acquisition by Japanese conglomerate Softbank in 2016, the company was removed from the LSE and NASDAQ. Despite Nvidia offering the same promises as Softbank made in its deal – such as keeping the company headquarters in the UK, with the UK’s most powerful supercomputer thrown in as a sweetener – there are some key differences between the two companies.

Softbank, despite its massive \$100 billion “Vision Fund” for investing in technology, is not a player in the semiconductor industry, meaning it is in its best interests to make ARM as open to licensing as possible. Nvidia, on the other hand, operates in the same markets as many of the companies that license ARM technologies, such as Samsung and AMD. Nvidia could very easily restrict what licensees could do with their future ARM based

products, raising prices and stifling innovation – and with a reputation for anti-competitive behaviour, this is not inconceivable. Without any legally binding guarantees, Nvidia’s promises that it will do the right thing are meaningless.

The second issue with Nvidia taking ownership of ARM is the fact that it is headquartered in the USA. The Trump Administration has increasingly embraced protectionism, placing some foreign companies, such as Huawei, on what is known as the Entity List. Whether these sanctions are justified or not is beyond the scope of this article – what this means, however, is that all US-based companies are barred from trading with the members of the Entity List. The restrictions

do not stop there; any foreign companies are also barred from trading with the companies

on the Entity List if they utilise any technology of US origin – however little – in their products. Being a UK-based company, ARM is immune to this legislation, allowing it to continue

to trade with whoever it wishes to. This is a very powerful ability to have – immunity from US sanctions is something countries spend billions developing, for example through Russia, China, and the EU’s independent satellite navigation systems. Throwing away this influence is a clear detriment to national security.

Softbank is not selling because it wants to – it is selling because it needs to. Through some bad investments such as WeWork and the impact of the

coronavirus pandemic, the conglomerate is in desperate need of cash, and as such is selling off one of its jewels in a last-ditch attempt for some liquidity. One avenue to be pursued – favoured by ARM cofounder Dr Hermann Hauser – is for ARM to go public again, with the possibility of the

UK Government taking a stake in the company. Although the Government has shown an appetite for such deals recently – investing \$500 million for a stake in satellite communications company OneWeb – the technological illiteracy of our politicians means the importance of ARM is probably going to fly right over their heads, instead viewing the deal as another pawn in the post Brexit trade deal negotiations. Other options are likely to be equally as problematic as the one proposed by

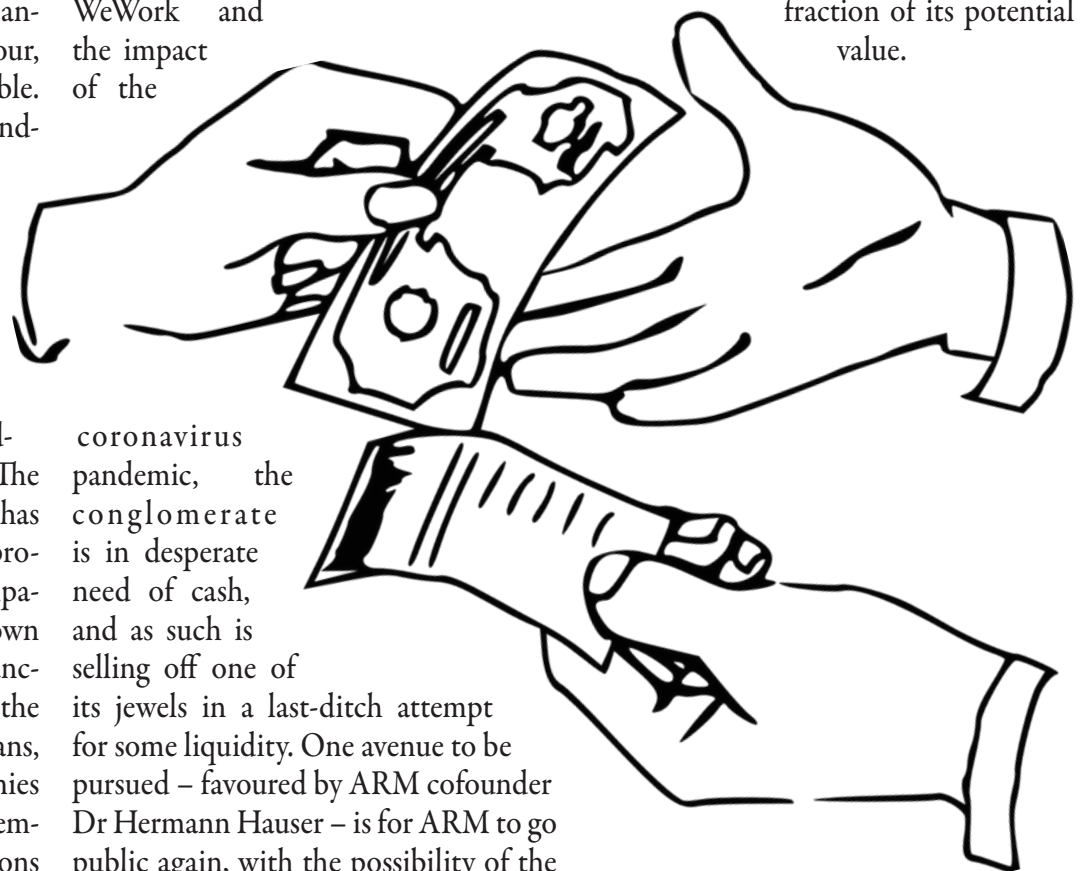
Nvidia – the kind of organisations with this kind of money tend to be American tech companies or state backed investment funds. The final, most likely option is for the acquisition to be approved, with regulators negotiating legally binding agreements to get around some of the issues with the deal. Unfortunately, it looks as if we will see yet another promising European technology company swallowed up for a fraction of its potential value.

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NVIDIA COULD VERY EASILY RESTRICT WHAT LICENSEES DO WITH THEIR FUTURE ARM-BASED PRODUCTS

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THIS PROPOSAL IS DETRIMENTAL NOT ONLY TO ARM, BUT ALSO THE EUROPEAN TECH INDUSTRY AND NATIONAL SECURITY



COVID-19 VACCINE TRACKER: Felix Edition

Julia Dabrowska Science Editor

In order to put an end to the global coronavirus pandemic, researchers around the world are working tirelessly to develop a vaccine to protect against COVID-19. While vaccine production usually takes multiple

years, a coronavirus vaccine is hoped to be developed within 12-18 months.

Vaccine testing can be split into 5 stages:

Pre-clinical – animal testing to see whether the vaccine elicits an immune response.

Phase I – healthy human volunteers to determine safety and evaluate immune response.

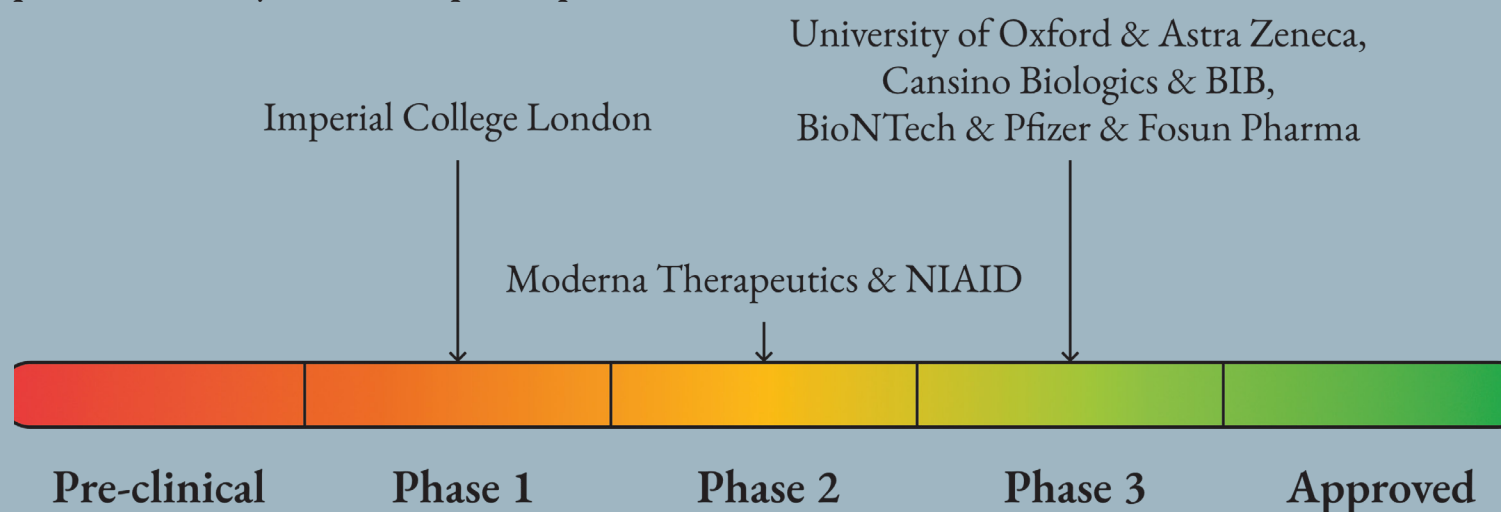
Phase II – hundreds of volunteers to identify correct dosage.

Phase III – thousands of volunteers to confirm safety and efficacy vs. a placebo.

Phase IV – studies on adverse effects, long-term immunity and vaccine usage following the approval and licensing of the vaccine.

The WHO is currently tracking the progress of over 170 candidate vaccines; at Felix, we've chosen 5 of the most promising candidates to follow, so watch this space!

New Update: This week, while there are no certain announcements, the NHS has instructed GPs to prepare for the beginning of a vaccine rollout in December - should one be available - to front-line workers and over-80s.



What the US Election Result Means for Science

Lily Shepherd Science Editor

The 2020 US Presidential Election was too close to call on the night, and will be confirmed in the coming days as the final mail-in votes are counted and finalised. It has been a strange four years for science in the U.S, and many scientists would rejoice at a win for Biden, but would that really be a win for science?

At the start of October, the prominent U.S. journal *Scientific American* released an article from “the editors”, endorsing Joe Biden for president. This was a jaw-dropping thing for an independent scientific journal to do, and *Scientific American* had never in their 175-year history endorsed a presidential candidate. The article set out several reasons why Biden is “guided by the science”, citing his policies on climate change and public health, and accused Trump of “rejecting evidence and science”. Similarly, *The New England Journal of Medicine* broke with 208 years of tradition and condemned Trump and his response to the global pandemic.

It certainly appears true that Trump’s approach to the pandemic has not been led by scientific advisers. On the same day that the WHO declared coronavirus

to be a global health emergency, Trump told a crowd in Michigan that it was “under control”. At a rally in February, he referred to the virus as the Democrats’ “new hoax”. And he regularly spread misinformation about untested treatments for the virus, including disinfectant and hydroxychloroquine. His

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BIDEN WOULD BE INHERITING A CHAOTIC PANDEMIC RESPONSE

consistent refusal to wear a mask, and mocking of those who do, suggested a complete disregard for the many scientists who support their use as a preventative measure.

So is Biden’s track record any better? His policies and general rhetoric do seem to favour a scientific approach to dealing with the virus. He has publicly named the leading scientists who are

advising him, all of whom are respected in their fields (such as the epidemiologist, paediatrician and FDA chief David Kessler), while Trump prefers to appoint experts in industry and business as his advisers. Biden has promised that he will hold daily briefings that “put scientists and public health leaders front and center” and has pledged to rejoin the WHO.

But it is easy to present an optimistic recovery plan when you are running for president. It is less easy to put it into action once you get to the White House. Biden would be inheriting a chaotic pandemic response from the incumbent president, which he would have to rapidly turn around if he wants to bring the fast-moving pandemic under control. He would also be inheriting a lot of public mistrust of national and international health authorities, such as the FDA and the WHO, as well as a politicisation of the pandemic that will be hard to undo.

Environmental and climate change policy will be similarly difficult to deal with. In his first few months as president, Trump signed an order directing the Environmental Protection Agency (EPA) to repeal limits on carbon emissions from power plants that had been

set under the Obama administration. A few months later, he withdrew the U.S. from the 2015 Paris climate accord. He later removed key scientists from advisory committees in the EPA and replaced them with industry representatives.

Biden has a lot of work to do to re-establish the U.S. international position in tackling climate change, and to undo the heavily pro-fossil fuel policies that have been pushed by Trump. He has pledged \$2 trillion to tackle climate change – the most ever pledged by a presidential candidate on this issue. He aims to develop the renewable energy industry and in doing so, create millions of new jobs. These plans are, however, incredibly ambitious. Biden will need to get this amount of spending approved by Congress, which could prove very difficult given the closeness of the election.

It is clear that Biden has run on a platform that is backed by science and scientists, and Trump has opted for economy and industry led politics. If Biden does get into the White House in January, he has a lot to do to rebuild relationships with scientists and restore public faith in science. The next four years could tell us whether he is the man to do that.

COMMENT

Student opinions on Lockdown 2.0

► *Perhaps an expected and inevitable move, but the decision to enforce another lockdown is not being welcomed with open arms*

Khama Gunde

Comment Editor



While many of us were trying to enjoy Halloween under the constraints of regional restrictions, the news of a second lockdown unexpectedly entered the celebrations. For me, it was if the party had been gatecrashed by an unwanted guest. If that guest was almost three-hours late, and they were called Boris Johnson of course. Because on Saturday 31st October, he officially announced new lockdown measures for England.

From Thursday 5th of October, England will be in lockdown until Wednesday 2nd December, but there could be extensions of the lockdown come 2nd December. Overall, the new restrictions will mean that people will need to stay at home unless they; have medical concerns, are shopping for basic necessities, cannot work from home, need childcare or education and other specific scenarios. People will not be allowed to mix indoors with friends or family from separate households, except for support bubbles. A support bubble can only be formed between a single-adult household and another household of any size, as defined by the Department of Health and Social Care. However, it is possible to meet with one person from outside your household when in outdoor public places. Also, certain businesses will be closed, or face restrictions on the services they can provide. Universities, colleges and schools will remain open.

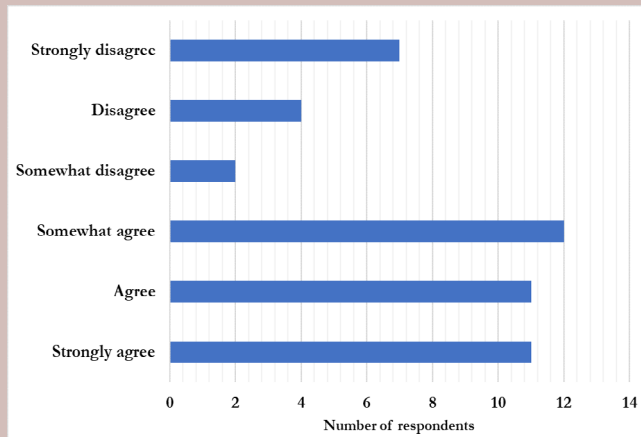
Given the threat of a death toll that exceeds the worst case scenarios, I can see how the decision was inevitable. In fact, I wasn't particularly surprised when I heard the announcement; for the past few weeks I have been anticipating a spark, something that would remind us that we are still living through a pandemic. While other students around me seemed to be trying to build a bubble of normalcy around them, I was waiting for the bubble to pop.

Pressure had been mounting for stricter actions for a while, but last week in Felix it was argued by Imperial student Marwan Riach that further lockdowns are not the best approach. Admittedly, at the start of the pandemic, I was confused at the hesitation to enter a lockdown. However, as the lockdown continued, I became more aware of the difficulties caused by the restrictions. In the article, Riach addressed issues with vaccine production, mental health, furlough and unemployment. Concerns I think are valid and widely shared, so I can understand the reluctance. The new lockdown restrictions aim to save lives, but this approach will not be a strictly positive change for all members of our society. I personally support the lockdown, but I also understand that it is not the perfect solution. This lockdown

will impact different sections of society differently. Even though it aims to protect everyone from COVID-19, it seems the blanket lockdown approach will not accommodate everyone.

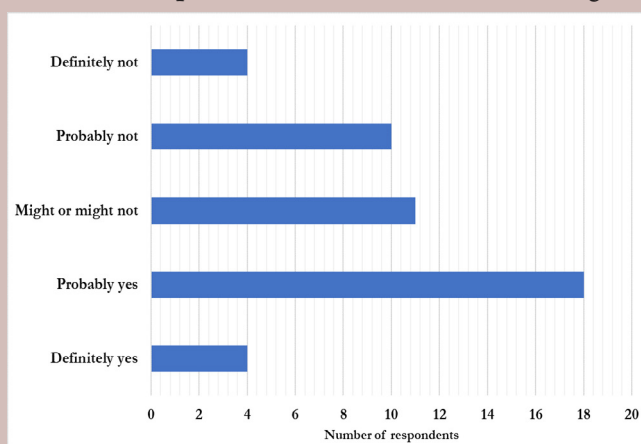
Clearly, there are other Imperial students who did not want a second lockdown. By now, this should be apparent to anyone who follows Imperial Secrets. So, I was curious to know what other students thought about the decision. Therefore, I created a survey, to which 47 people responded. I asked 9 questions, and the results have been compiled below. The sample size is clearly too small to be representative of all Imperial students, but I found that the honest written responses presented a valuable awareness into the consequences the lockdown will have for some students.

Q1. DO YOU AGREE WITH THE DECISION TO IMPOSE A SECOND NATIONAL LOCK-



DOWN?

The majority of respondents agreed with the decision, but just over a quarter did not. Despite the division presented, in later questions it became apparent that most respondents shared the same feelings of



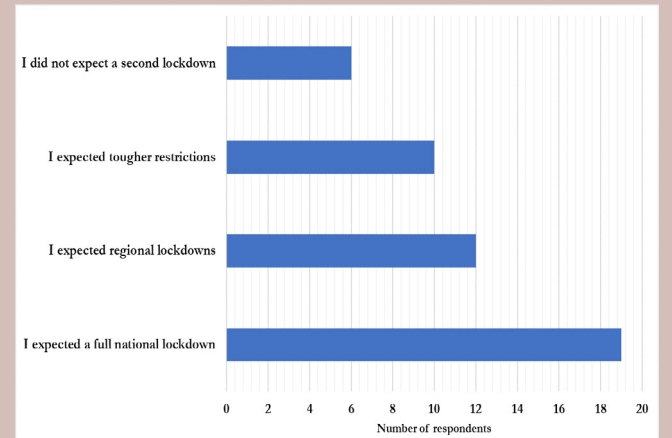
frustration.

Q2. DO YOU THINK THE SECOND LOCKDOWN WILL BE EFFECTIVE?

The spike for 'probably yes' is clear, but so is the fact that 23.4% of respondents were uncertain about the effectiveness. Followed by the 21.28% who selected 'probably not'. These responses pointed to a lack of optimism that was present across all the following

questions.

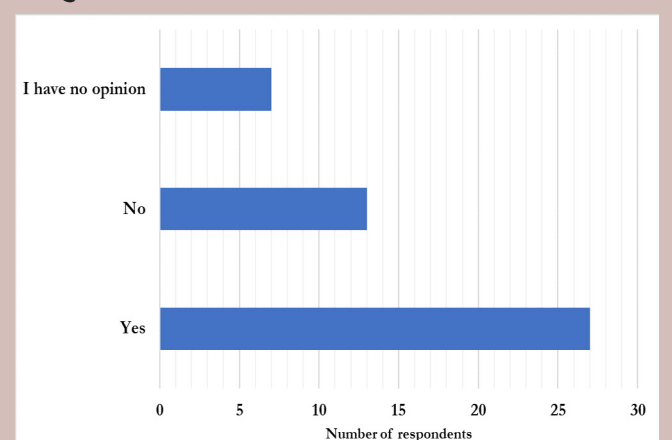
Q3. DID YOU EXPECT A SECOND NATIONAL LOCKDOWN IN ENGLAND OVER



WINTERTIME?

It seems that the news didn't catch too many by surprise.

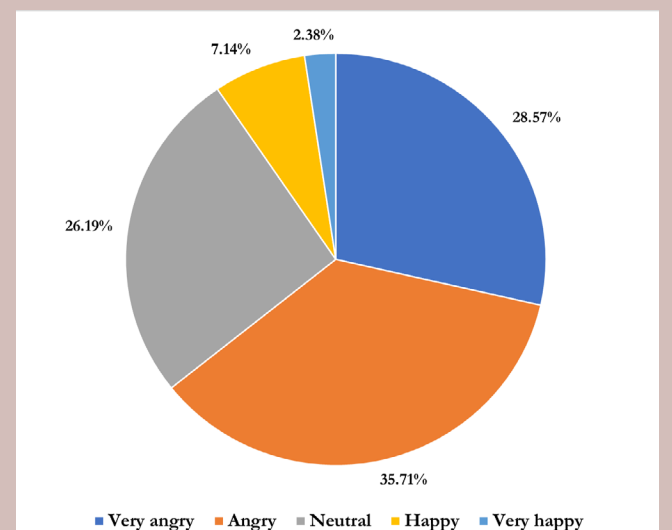
Q4. SHOULD UNIVERSITIES STAY OPEN



DURING THIS LOCKDOWN?

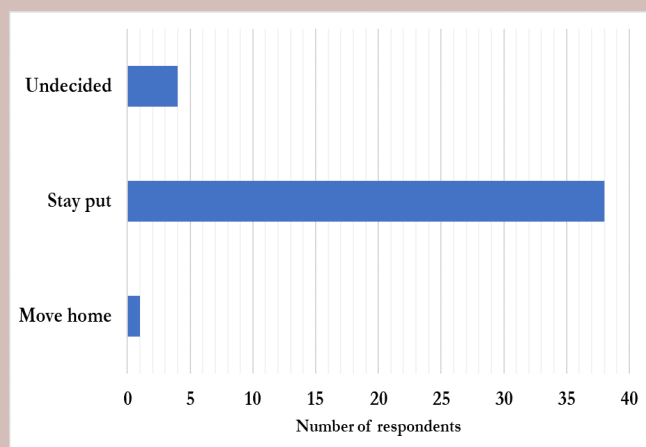
Over half of respondents agreed with the current decision by the government to keep universities open. Just over a quarter disagreed, with the rest stating they 'had no opinion'. Maybe the desire to remain open is out of concern for the potential disruption to education, or maybe some want to cling onto the little social life they still have.

Q5. HOW DID THE NEWS OF A SECOND LOCKDOWN MAKE YOU FEEL?



This question gave students the opportunity to select their feeling on a slider scale from ‘very angry’ to ‘very happy’. Only 1 person said they were ‘very happy’, followed by only 3 for ‘happy’. Although this reflects what I had observed among friends and family, I was still surprised at how negative the response was. At the same time, I do struggle to imagine that there would be overwhelming elation. University is expected to be a social experience, as well as an educational one of course, but COVID-19 has restricted a lot of freedoms since March.

Q6. IF YOU ARE CURRENTLY LIVING AWAY FROM HOME (HALLS OR PRIVATE ACCOMMODATION), DO YOU INTEND TO MOVE BACK HOME, OR WILL YOU STAY PUT?



It seems that despite the uncertainty around the exodus of students around the Christmas holiday, most respondents, except one, do not intend to willingly return home right now.

Q7. HOW WILL THE COMING LOCKDOWN AFFECT PARTS OF YOUR LIFE? (E.G. DAILY ROUTINE, RELATIONSHIPS, WELLBEING)

These responses provided explanations for why there was a common feeling of discontent. Across the sample, students seemed to share concerns around the effects of the lockdown on wellbeing, mental health, relationships and work.

On the topic of wellbeing, many felt that the lockdown would cause a dip in their mental health and wellbeing. It became apparent to me that the restrictions, coupled with the current state of remote learning, will leave some students feeling isolated. One student said that they expect to “feel lonely”, citing the fact they already have little social interactions, and they thought their mental health would take a decline. Some felt their work-life balance would become a struggle to manage, which is already a challenge for most Imperial students.

It was apparent that the likelihood of increased screen time and reduced face-to-face interactions have most reeling in anger. Surprisingly, there were a small number of respondents who were impartial or saw a silver lining in the dark cloud. One student said they have been living in a “personal lockdown” under the belief that most people should have been venturing outside for essentials only. Another saw this lockdown as an opportunity to spend more time to “work and

concentrate on studies”. Of course, students have been living under restrictions since the start of term so it is no surprise that one student claimed that they would see little change as they “barely leave the house most days anyways”. With another student responding with “not very much” since their course is online anyway.

Concerns around maintaining romantic relationships were also abundant. One student in a long-distance relationship that spans “several countries” said that they felt little motivation to endure this month.

The financial consequences of a second lockdown were also a concern for some of the 47 respondents. One student recognised that they personally weren’t affected by the news, but since it is not good for their family’s financial situation it will negatively impact them regardless. Another student shared they expected a reduced income, stating that “furlough only covers 80% of an average”.

Fitness was another popular topic, it was clear for those who regularly work out, the lockdown poses a hindrance to their fitness. Someone said that the closure of gyms would “destroy their daily routine”, another held out hope that sports will stay on but they also expressed a hopelessness at the removal of the freedoms that make their “life worth living”. I think the latter emphasises the role physical activity plays in the wellbeing for quite a large fraction of our student population. Although I cannot relate to the sports culture, I can see how the news will be a big blow to those who already had to go months without the gym in the first lockdown. That being said, there was an ambiguous response of “no more gym!!!”, which I still cannot decipher as a positive or negative reaction.

The impact of a second lockdown on daily routines for most students ranged quite a bit. It is important to keep in mind that not all students live in student accommodation and for respondents who fitted into this category, some expressed a frustration at the quality of their work environment. One person said that they expect their home environment to become “more hectic” if family members end up staying home instead of going to work or school. For one respondent it seems to be the restriction on simple, everyday things, like buying paper, that they will miss. They also expressed slight despair at the confinement of a world that only exists “inside the four walls of your flat”.

“Pret” also came up as a major concern for two respondents, but I think Pret is a bit overrated anyway so I will not delve into that.

Q8. AS A STUDENT, DO YOU THINK THE STRICTER MEASURES WILL NEGATIVELY OR POSITIVELY IMPACT YOUR STUDIES?

The majority felt that the lockdown would have a negative impact. For most of these students, it seems that the removal of their social interactions or daily routines will destabilise their general wellbeing to the point where they will struggle to focus on studies. I think this is pretty understandable, as a mechanical engineering student, I know how easy it can be to fall into the trap of spending every minute of every day on work. I try very hard to avoid that

trap, as do many people I know. However, soon the opportunities to take time away with friends or family will be very limited.

I can also imagine that for 1st year students, the news couldn’t be more anti-climatic for a cohort who so far have not experienced the true fresher experience.

There were a few who felt the positive however, and those that elaborated on their stance shared a hope that lockdown would improve productivity. One student said they will have more time to sleep which may in turn benefit their progress, at the same time they reckoned that they may end up being less productive than they hope.

There were a few who were neutral, stating that lockdown would make little difference to their current remote learning.

Q9. IF YOU DISAGREE WITH THE UK GOVERNMENT’S DECISION, WHAT ACTION(S) WOULD YOU HAVE PREFERRED?

I was honestly slightly surprised at the volume of suggestions in response to this question. I think I expected more people to think lockdown was the only way to go given the projections. For these respondents though, they seem to be aware of the severity of the situation facing us, its just that they would rather other rigorous actions were taken.

Some of the respondents clarified that they agree with the lockdown, but expressed that there could be more thought given to other solutions. For example, one person said that they agree with the move but think long-term measures such as “regular, targeted testing” should be employed to avoid the possibility of multiple lockdowns. Another student expressed more discontent with the management of the COVID-19 response, stating that the government is incompetent for letting cases rise to the stage they are “without ‘real’ interventions”.

There were a few other students who agreed with the lockdown but disagreed with the conditions under which it was placed. Three students reckoned that the lockdown decision came too late, with one elaborating on their stance by saying that university students should not have returned to campus. This respondent also echoed the thoughts of another who argued that a circuit breaker lockdown should have been enforced when SAGE recommended so in September.

Although universities and schools will remain open, which is a move most of the respondents supported, one argued that the move is unjustified since transmission rates are “too high to be ignored”.

Some respondents pointed to the approaches taken in other countries; Sweden, China and Slovakia specifically.

Most respondents pointed to stricter enforcement of shielding, social distancing and regional restrictions as opposed to a national lockdown.

In summary, I believe most understand why the second lockdown is happening, but the exasperation and anger are tangible. So, I think that this month will be one of intense anticipation.

EDITORIAL

This edition was produced thanks to the work of

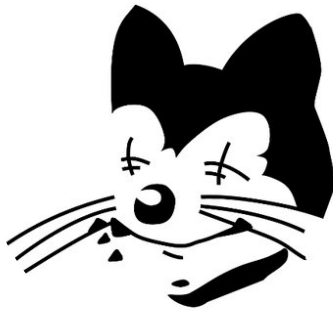
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Kavan Clark	Head of Copy

And our numerous contributors

The Felix Editor on

Premature celebration and an end to unfair rent

I feel something of a fool. My editorial, published last week on the 30th October was titled 'Half way through term, things are looking up'. That shows what I know and the foolishness of making off the cuff predictions. Instead we as a student body see ourselves once again thrown back into a tighter lockdown as if the intervening months between March and now meant nothing at all. Students have a right to be frustrated. They were lured back into halls with promises of 'mixed-mode' teaching that would keep them safe and able to attend face to face teaching but have instead been blamed in the national press for causing Covid spikes through careless disregard for the rules and been locked up in rooms to stew. (Though student areas have been shown to have higher Covid rates by The Times, a causation has not been established). Luckily students around the country are putting up resistance to their treatment. Reported in News this week Felix covers protests in both Manchester and Bristol against lockdown restrictions and the Bris-



tol university 'Cut the Rent' campaign that aims to make the university allow students to end contracts early and the reduction of rents in acknowledgement of the reduced facilities available to halls residents. We here at Felix strongly support efforts by

University of Bristol and University of Manchester students to demand a reduction in fees to a level that is commensurate with the service provided.

We also call on the Union to advocate on the behalf of students. While the College has postponed planned rent increases until next year in response to the Covid-19 pandemic they have shown no inclination to reduce fees this year. This is unacceptable and we will keep calling for reductions for students in halls.

With Interim Vice-Provost (Education) Emma McCoy calling mixed mode teaching equivalent in value to face to face teaching when Felix spoke to her and Provost Ian Walmsley at the beginning of term, it will be difficult for the College to keep up this argument when students are locked up.

No journalism please, we're scientists

Watching the US election over the last couple of days I have been struck time and time again how poorly polling and probability predictions have been interpreted. With the arrival of Nate Silver's *FiveThirtyEight* and the widespread adoption of quantitative poll aggregation techniques, it had appeared to me that the commentator had learned how to read polling data. Yet, time and time again I was struck by how badly pundits on both British and US media interpreted the 90 and 97% probability of a Biden victory given by *FiveThirtyEight* and the

New York Times. A 90% probability means only that 9 times out of 10 the election will fall one way. It makes no prediction on the type or strength of that victory. While it is clear that there has been institutional error in polling data, the misapplication of probability was what struck me the most.

Wanted!

People that understand probability to enter into journalism and political coverage to present clearly what a 90% probability means and how to interpret that. We here at Felix can't stand another night of coverage like that.

Statement of Intent

We here at Felix believe that it is always in the interests of the students to know. That cover-up and paternalistic obfuscation is never right and that as intelligent people students should be treated with respect and given the ability to make up their own minds. Therefore, I, the Felix Editor, on behalf of the team promise that:

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

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

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

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

Signed by Calum Drysdale
Editor-in Chief

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Votes finally in: Gore declared winner in Florida

Beve Stannon Election Correspondent

After 20 years of careful counting, the Florida electoral commission announced this week that the Democratic candidate Al Gore has secured the state's 29 crucial electoral college votes in the 2000 election.

This will come as a huge blow to Republican candidate George Bush's chances of being the next leader of the free world. However, some pundits were quick to point out

that Bush Jr, having already served 8 years of the 4-year term may not be too perturbed by the result.

The Florida electoral committee, who operate out of a Tampa trailer park, explained the unusual tardiness by describing in breathless terms that "a damn gator just up and ate all the damn ballots. Then we straight up just lost them down the back of a sofa in Cletus's front yard."

As a result of this turn of events, It is expected that Mr Gore's environmental platform will bring huge change to the North American energy sector. When

approached for comment, an Enron Mobil representative stated "Fuuuuuuck." When pressed for further clarification he went on to ask "If Gore won the election, by what mandate did we invade Iraq? Now we just look like idiots."

The campaign manager for the president-elect announced the line up for the inauguration party will remain largely as planned at the time of the vote, with appearances from Ja Rule and Destiny's Child, and a special stand up set from beloved comedian and convicted sex offender Bill Cosby.

However, it is not all rosy for the Gore administration, which has already faced harsh criticism for its inaction over the 9/11 attacks, the subsequent wars in Iraq and Afghanistan, and the collapse of the global financial system in 2008. When pressed for comment, a spokesperson for the Democratic candidate said "Fair play, it did look a lot like they had WMDs." It was at this point that the representative turned violent, and the interview came to a swift end. An additional sticking point has come from Gore's involvement in the 2006 film 'An Inconvenient Truth', which critics say betrays a conflict of interest with regard to the president-elect's environmental policies. As one Republican pundit put it to Hangman, "climate change has clearly been invented by Mr. Gore to sell more DVDs". The administration declined our request for comment on the matter.

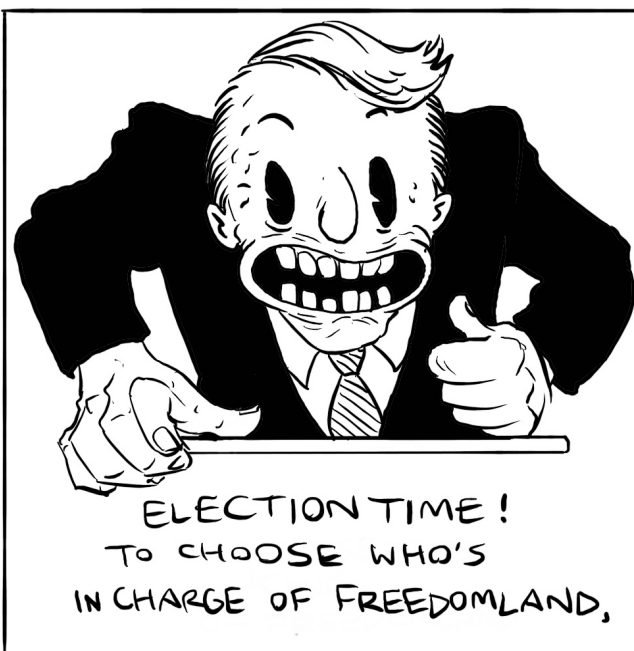
It is expected that vote counting in Nevada for the 2020 presidential election may take a similar length of time. Pundits predict that by the time a winner is announced, the victor will be retroactively held responsible for a Latin American coup, several baseless middle eastern wars, and the collapse of the global financial system.

“
A DAMN GATOR JUST UP AND ATE ALL THE DAMN BALLOTS...”

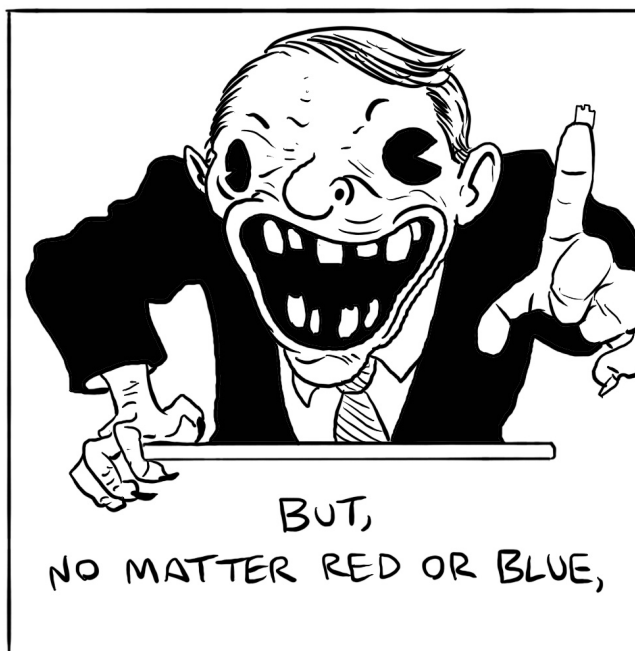
Credits: wikimedia / Robert Scobel



Al Gore (middle), with iPhone legend Bono



SUPERPOWER



- NIC G-T

NegaFelix Predicts...

NegaFelix Psychic Reporter

As Felix has changed its release cycle to 'random', Hangman has this week decided to take matters into its own paws and predict the events taking place during the week we *think* this issue will eventually be released. Without further ado, this is what we think might have happened this week:

Nevada decides to secede from the Union, rather than finish counting the untallied ballots. Don Jackals, a spokesperson for the electoral committee, stated "There's just so many. Like a lot more than we expected. It's just easier this way."

The Queen celebrates her 98th Diamond Jubilee. Prince Phillip observed to be "malting more than usual" in run up to his annual sacri-

“

**UK TERROR
LEVEL RAISED
TO "IN
PROGRESS"**

ficial consumption of Phillip Schofield.

COVID is revealed to be 'DIVOC' backwards. Experts ask, "is there any way we can maybe do something with this?"

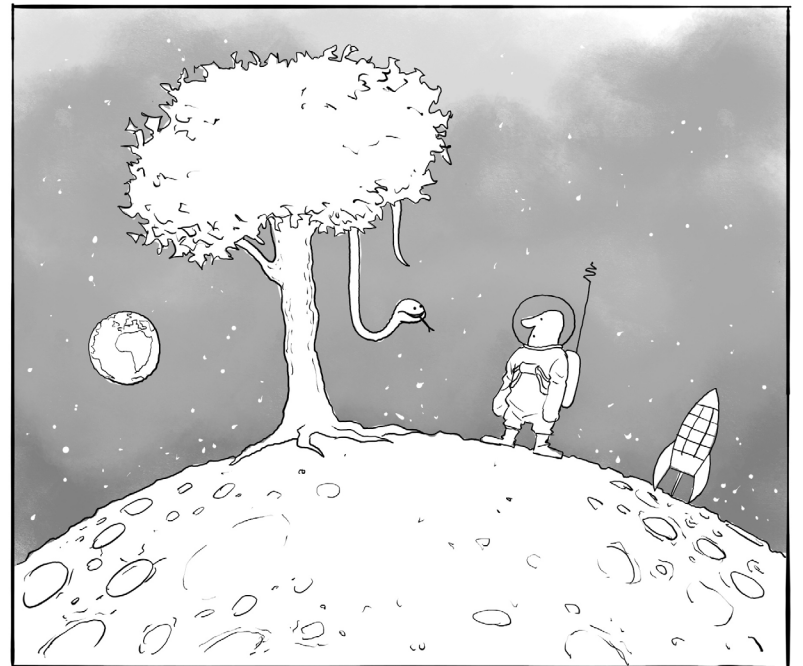
Fans are dismayed to learn that the new Fast and Furious film 'Too Fast, Not Enough Furious' production has been delayed due to issues with Paul Walker hologram technology. In other news, Paul Walker presented with posthumous award for 'Best Dead Actor'.

Keir Starmer somehow turns governments announcement of 'Tier 10 Lockdown' into an anti-semitism row.

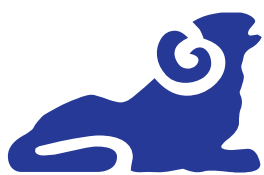
Finally, the UK raises its terror threat level to 'In progress'.

So there's our predictions. For extra points, make these headlines happen yourself!

Caption Contest

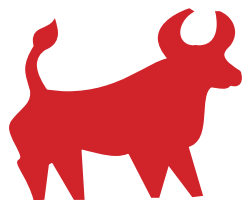


Due to publishing difficulties, we're extending last week's deadline. Submit up to 3 funny captions to the above comic to felix@ic.ac.uk before 6pm on Wednesday 11th November. The winning



ARIES

This week your self-esteem takes a further blow when you realise that your Tyler Durden is just your weird housemate.



TAURUS

This week seems as good a week as any to get into the bond racket.



GEMINI

This week if you liked breakout rooms, you'll love Microsoft Teams' breakout rooms, made for existential crises and high-intensity choreography.



CANCER

This week you're excited to have a threesome until you realise that it just means you'll cry twice as hard after.



LEO

This week they come for you.
-
You're not in, so they will attempt kidnapping tomorrow between 10am and 7pm.



VIRGO

This week your sandwich maker breaks down after you forget to feed her for a few weeks.



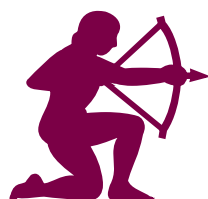
LIBRA

This week the 27th Corbyn brother tries to induct you into his fragrance-based pyramid scheme.



SCORPIO

This week you get two ribs put in to stop yourself from sucking your own dick.



SAGITTARIUS

This week's paper will be released next week.



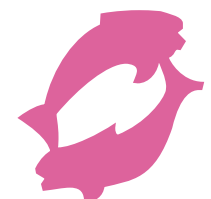
CAPRICORN

This week your morning affirmations become dangerously letter-bomby.



AQUARIUS

This week the immortality promised by your haunted Aztec gold will be called into question when you are diagnosed with heart disease.



PISCES

This week's national lockdown means you picked the wrong week to quit masturbating.

Feature

Bringing Classical Back To The Masses

Michael Kohn Music Writer

So often, when people talk about Classical music, many will either zone out, or groan. It's somewhat alien, elitist, and many can find it boring. Elitist- yes, classical music has a problem, though this is starting to change over the summer, with some fantastic underrated composers being discussed in a recent BBC4 documentary (along with the rest of the arts programmes that no longer feature on BBC1 and 2). Much progress is needed though, as the Vienna Philharmonic rejected what would have been their first female principle flautist just this year. Alien- that's what I hope to address in this column. The people who teach classical music have it wrong. They start with Mozart and Beethoven- the largest two names, but often with what can seem to young people as ancient and, well, boring. I was forced classical music from



a young age by a very musical family, however when it was my turn to listen to music it was (60s) pop, until the age of 16. What happened? I listened to more 20th century classical music, which is what most young classical musicians prefer anyway (I read about an orchestra in Norway, I think, that plays only 20th century composers and enjoys a large audience with an average age in the 20s).

My goal in this column, as a conductor of my own student orchestra, will be to piggyback on the small rise in popularity that classical music has had in the recent months and recommend pieces that people without much exposure to classical can actually enjoy. I'll also spotlight an underrated composer each week with one of their works. I'll try to keep the pieces I recommend quite short, at least to begin with). I may also get some friends (and anyone interested) to discuss some of their favourite works here too!

Stravinski - Rite of Spring

I may as well start with my favourite piece of music- and it's one I played to a friend who never liked classical music, but fell in love with this piece. Stravinsky's Rite of Spring, originally a ballet, tells the story of ancient Russian Pagan tribes in their rituals, several dances that culminate in a young girl dancing herself to the death. The raw power of this piece has inspired many composers, and indeed many rock groups, and legendarily was so groundbreaking for 1913 France that it provoked a riot outside the concert hall.

Nothing quite comes close to Stravinsky's own recording in terms of the energy that comes from this piece, so check out that. I said I'd keep it short so listen to part 1, starting with the Augurs of spring (about 2 minutes in) if you can't wait for the action to start!

Lili Boulanger - Psalm 24

And now for something completely different: The early 20th century French composer Lili Boulanger is not quite as well-known as her sister Nadia, but is (in my opinion) the better composer, winning the Prix de Rome for her cantata "Faust et Helene". Unfortunately, an early death aged 24 due to tuberculosis meant her works are very limited, but check out her psalm 24, which mixes a large orchestra with medieval chords for something quite different to the normal "canon" of Western Classical music, or her Vielle priere bouddhique, which is similar to Stravinsky's style.

Feature

Passing the Aux to Gabriela Zibikowska

Jamie XX - Loud Places

Interview by Guthrie Ruby Music Editor

When did you first hear this song?

I was at my first festival and Jamie XX was headlining. There was a couple making out in front of me, one pushed me, apologised, and offered to take me on his back for the next song. We were close to the stage and there was a light drizzle which only added to the insane visuals of rainbow led lights.

How old were you when you first heard this song?

17

In a sentence, describe the song

Pure happiness, it switches off everything else

Is there a specific lyric you connect with?

"I go to loud places to search for someone to be quiet with"

What initially drew you to the song?

The lyrics were very relevant to a reconnection happening in my life at the time.

Is there a killer moment?

3:05 – after the second chorus, when many elements are stripped back, and the song becomes less crowded

Is there another sense you associate strongly with this song?

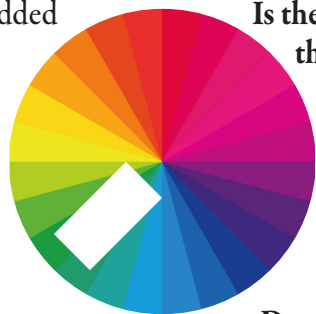
Rain, soft rain, like a drizzle

How often do you listen to this song?

Nearly every day, I do take breaks, but I listen to it especially during the summer

Do certain situations give you the urge to listen to this song?

I have moments when I have the urge to be by myself, to take a moment outside. I try to only ever listen to it when I'm already happy/not sad, it's the perfect thing to accompany cherishing a moment.



Gabi - 3rd year medicine, Bobby - tree with swag

Are there specific activities you do to this song?

I drive a lot of people around. This is a perfect song for driving someone home from a party.

Is this song one that you share with other people?

To me this song is about capturing the best moments, when I share this song it means that I want to save a very positive memory. Listening to it now reminds me of my "collection of moments".

Final comments?

If someone knows Jamie XX's phone number could you hit me up pls

FILM

Reviews

New Movie From An Imperial Filmmaker

By **Philip Chen**

Degenerate (RenJianJiE)

My suspenseful short film “Degenerate (RenJianJiE)” tells the story of the butterfly effect—which links a pyramid selling gang leader, a film director, and a director of a mental hospital. It took around 4 months to create, and comes out at around 34 minutes. It is available via the QR code, I hope that you enjoy it!



My name is Yanlin Chen—although people normally call me Philip—and I am a 4th student at Imperial on the Msci Physics course. Directing short films, as well as screenwriting them, is a major hobby of mine. Although I do not get to film regularly, I have kept up the tradition of returning to China each year to make my yearly film. This year, be-



cause of the COVID-19 situation, I returned home earlier than in previous years. The inspiration for this film came to me just after my final exam on Plasma Physics in late May. The idea was to combine the ‘film within a film’ technique with a two-line plot—this technique is novel as far as I know, although these techniques have been used separately in movies like Memento. The main line of the movie is the positive order, following the positive time axis, and the secondary line is the flashback. These two lines intersect at the end of the plot. To make a plot one must first have a structural frame, then one can fill in the content and double-check the story’s logic and character’s motivations. It took about half a month to conceive, as well as write a finalized 10,000 word script, for Degenerate. However, all of that was only preliminary work. We encountered many hurdles while filming, from venue coordination to the deployment of temporary personnel. This film is longer than any of my previous works; as such, the difficulties encountered in the filmmaking process

“
THE IDEA WAS
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WITHIN A FILM’
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WITH A TWO-
LINE PLOT

increased exponentially, confirming the old saying that “film is the art of execution”.



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Fortunately, we were able to release this film just before the start of term. It is a suspenseful story with an almost perfect murder plan (except for Wen Jiang, the mental patient with a cross-mask). What I am most proud of is the storyline and the fact that the behaviours and motives of the characters have no bugs as far as I’m aware. The film received some negative feedback at first, but most feedback was based on the audience’s perception of the film as a regular-length film rather than a micro-movie—this made me pleased in a way as it showed they were still drawn into the story. As you can imagine, making a movie is costly. In my first few works, except from advertising fees and bonuses for award wins, I have not thoroughly considered the issue of fund flow. Thus, our focus for the next film is to consider profitability and to include a professional production stage.



Scan to watch!

On Fatherhood and Family

Calm with Horses



Directed by: **Nick Rowland**

Year of Release: **2019**

Starring: **Cosmo Jarvis; Barry Keoghan; Niamh Algar; Ned Dennehy; David Wilmot; Simone Kirby**

Reviewed by **Oliver Weir**

Calm With Horses came out earlier this year, but it has now made its way on to Netflix. Set in Ireland, it tells the story of Douglas ‘Arm’ Armstrong: a father to an autistic child in a broken home and the loyal enforcer for the Devers crime family. As the Dever’s requests of Arm become more violent, he must pick between his loyalties and decide how to play his rotten hand. Cosmo Jarvis brilliantly reflects the

two halves of Arm’s life. While he is constantly struggling to prove himself to the Devers and to meet their needs, the people he really tries to impress are his ex-partner and his son. Around them he is thoughtful, witty, delicate, and vulnerable—a stark contrast to his brutishness when he is around Dymphna (one of the young leaders of the crime family, played by Barry Keoghan). *Calm With Horses* is both immensely exciting and hilariously funny; however, what sticks out most is the bond between a father and a son. Arm is not the man his son deserves, and while he knows this all too well, he struggles to break the cycles of error that trickle down the generations. In his son’s happiness, and in his isolation, he sees himself and Arm discovers that being a father is not about giving, it is about sacrificing. It is this

Credit: DMC Film/Film4 Production/Element Pictures



transformation of personality that makes this movie a great little watch. The depth of the cast and the skill of the filmmaking do not let on that it is in fact Nick Rowland’s first feature-length movie.

Calm With Horses is a fabulous 90 minute movie, and it’s streaming on Netflix now.

Editor Recommends

A Short Defence of Surrealism

Eraserhead

Oliver Weir Film Editor

Directed by: *David Lynch*

Year of Release: 1977

Starring: *Jack Nance; Charlotte Stewart*

Praises for *Eraserhead* are often concluded by a catalogue of asterisks. These clarifications often say something to the effect of ‘good...for an experimental movie’, or ‘good...for a surrealist piece’, or ‘good...for an abstract work’. They act as though surreal movies ought to be judged by a different criteria than ‘normal movies’. I heartily disagree. Surrealism is not some disconnected, modern invention. Producer Steven Kovács said “Surrealism was the first literary and artistic movement to become seriously associated with cinema”; it precedes Disney, the zombie genre, the Wilhelm scream, the Cannes Film Festival, and the Academy Awards themselves. Surrealism seems more modern than it is partly because it refuses to offer easy explanations. It has taken on a recalcitrant quality, never being shackled by convention or cliché, for those are the very things it so effectively dispenses of (though that is often not its primary aim). I think this is, in part, the reason for its enduring liveliness compared to all other genres, some of which are going stale. Contrary to popular opinion, surrealism is a simple extension of the artistic tradition, not something at odds with it. As T. S. Eliot said “The progress of an artist is a continual self-sacrifice, a continual extinction of personality”—is it so surprising that when the artist is finished with himself, that he should then turn on reality?

All this is to say that the correct approach when

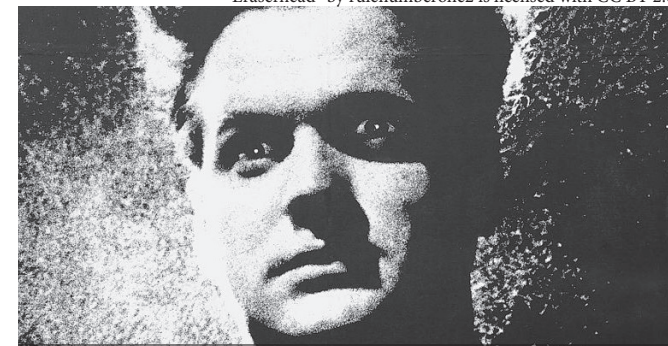
going into a surreal movie is not to hold your nose. The mindset most conducive to the enjoyment of surreal cinema is that of understanding what it aims to do. Film—being only images in sequence—is but a means to approach truth tangentially. By presenting some sort of objective correlative—be it a story, a shot, or a symbol—some truth is evoked by experience, without any recourse to logic or analysis. For more obscure truths, feelings, and emotions, more obscure modes of transit are required. Do you think a movie that attempts to capture the essence of the subconscious is going to turn out like *Titanic*? Of course not. The best surreal movies will be as strange as the truths they seek to uncover, and no stranger.

When one ignores the context, the route up Mount Everest seems unnatural and absurd, far-removed from what we normally get up to. And yet, after years of normalisation, that route is now the obvious method for obtaining the unique exhilaration one feels at the top; it has become less absurd, and is now simply thought of as ‘the way you go to get to that place’. So stands surrealism in cinema, and the dismissal of it as strange and far-flung is true only when one neglects its context. While it doubtless aims at uncommon ends, its uncommon means are no less valid than the tactics of other genres.

David Lynch is intimately aware of these facts. He justified his casting of Jack Nance as Henry Spencer in *Eraserhead* by saying: “If you’re going into the netherworld, you don’t wanna go in with Chuck Heston”. In that choice there is a clear understanding of aim. Conversely, Lynch’s meticulously crafted soundtrack of clanging and crying, knocking and whistling, and his dreamlike aesthetic of shadows

Credits: Konstantin Lopushansky

“Eraserhead” by rulumberone2 is licensed with CC BY 2.0



Henry surrounded, not by dust, but rather by bits of his own skull

broken by spotlights, is not jarring just to be jarring—it is due to a clear understanding of an aim. In terms of filmmaking only, these constructions are those of a master, not an eccentric. What does one expect when the movie’s tagline reveals its aim: “A dream of dark and troubling things”? No, Lynch, like Buñuel or Jodorowsky, is as conventional as they come; he is simply an extension of a now century old tradition of using unfamiliar, but apposite, methods to capture strange and distant truths.

It may take some time to see the utility in a director’s choice. On first viewing, *Eraserhead* is a handful. But, on all subsequent viewings, a deeply emotional and deliberately crafted film takes shape on screen. Lynch didn’t call it his “most spiritual film” for nothing. *Eraserhead*, like many great surreal pictures that get neglected, is a repository for some of the most delicate themes ever depicted on screen. In order to see them, one need only find the rationale behind the madness. When that rationale is understood for what it truly is, all abstractions fall away, and what remains are those elusive truths which lie unperturbed by conventional form, only ever becoming detectable in the unreality of a dream.

Free Film of the Week: Un Chien Andalou

Un Chien Andalou

Reviewed by *Oliver Weir*

Directed by: *Luis*

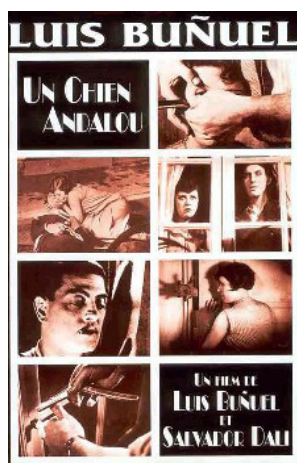
Buñuel;

Salvador Dalí

Year of Release: 1929

My brief defence of abstract movies and surrealism is predicated on them genuinely seeking to capture a feeling or convey some truth.

While this generally holds for surreal movies, there are of course exceptions. Perhaps the most famous of these exceptions is *Un Chien Andalou*. It



was a film intended to deliberately steer away from rational interpretations and actively resist the process of seeking to capture truth on screen. Buñuel said that he and Dalí had only the following principles in mind when writing the film: “Do not dwell on what required purely rational, psychological or cultural explanations. Open the way to the irrational. It was accepted only that which struck us, regardless of the meaning”. I will not ruin the surprises by listing all the shocking scenes, but suffice it to say that Buñuel and Dalí succeed at both confusing you, shocking you, and at mocking the ‘avantgarde cine’ of the time. I hold up *Eraserhead* as an example of convincing you that there is truth in surrealist cinema, as a defence of the genre. But *Un Chien Andalou* serves as a criticism of the “inane herd”, as Buñuel called them, who see truth in



The most shocking scene in all of cinema according to many

anything. It takes aim at those who pass off their lack of vision as abstraction, and in that sense is an attack on the genre. For those interested in getting into classics, *Un Chien Andalou* is a great place to start. [Versions of this short exist on Youtube and on the Archive.]

BOOKS

Book Review

“Genius, Billionaire, ~~Playboy~~, Philanthropist.”

Elon Musk

By Ashlee Vance



Reviewed by Hari Kumarakuruparan Books Editor

I don't know about you, but the only bit of innovation I've been seeing in recent years are the questionable software updates and Instagram icons that constantly shell my phone, which I try to ignore; until of course the notifications become physically unbearable – and don't get me started on TikToks. It's pathetic. This then led me to ponder on Huebner's famous quote – “innovation is a finite resource.”

So, is this it for mankind? Will our sci-fi fantasies of travelling space with fellow aliens only be just that, a fantasy; or is there someone out there, crazy enough to make this a reality. Ladies and gentlemen, meet Elon Reeve Musk.

Elon Musk is well known for his quixotic business ventures, which include but are not limited to: Tesla, SpaceX and SolarCity. Vance's portrayal of Musk has been accused of being



“THE CEO IS SHOOTING AT US WITH ROCKETS AND PLASMA GUNS!”

Borderline hagiographic, which is true in some respects; however, that comment alone significantly discredits how well put together the book is, and the challenge of writing about a character such as Musk. Some also may argue that the book is more a biography of Tesla and SpaceX, which is also true; however, one can view these intentions differently. We see that Tesla and SpaceX, as companies, describe Elon Musk's character and ideals almost entirely. They embody him. They represent forward thinking, innovation, risk, technology and the future. Thus, based on Vance's depiction, and to suit the occasion, I thought I'd give innovation and forward thinking a go and list four ways in which you can be like Elon Reeve Musk in this quasi-book review.

Play against the odds

Musk entered two industries that were once impractical and very high risk – electric cars and rockets. At a time where you were better off walking than driving an electric powered car, it seemed as though this technology hit a dead end in its application in vehicles. However, Musk played against the odds and soon won big. Tesla didn't invent the electric car but undeniably reinvented it. The same goes for his ventures in SpaceX, where a start-up rocket company was unheard of. Musk's tenacity and belief that space travel could become much cheaper resulted in him once again, reinventing a once static industry dominated by large companies. Although this sounds awe-inspiring, Vance's vivid descriptions of Elon's mental state, failures and

near bankruptcy just makes it clear that play against the odds will require one to handle the large potential failures. Musk proved that. “He is just different than the rest of us.”

Work like hell (expect everyone to do the same)

Musk spends every working hour of his time working between his two main companies, and he expects everyone to do the same. With the great task of making humans multiplanetary species, it is understandable to see why Musk is always thinking at 100mph, going as far as to spending his visits to the bathroom like formula 1 pitstops. He's restless, hungry and expects his employees to share the same mentality. Vance often depicts Elon as ruthless and quite comical, including a time where Musk let one loose on an employee who missed a company event to witness his baby being born. Musk was in genuine rage that the fellow employee didn't have his 'priorities in check.' As absurd as

it sounds, Vance tries to grasp and empathise with Musk's personality. The case that, ‘...he does not dislike them as people...’ they're just ‘getting in the way’ and do not see the urgency of Musk's vision.

Vision

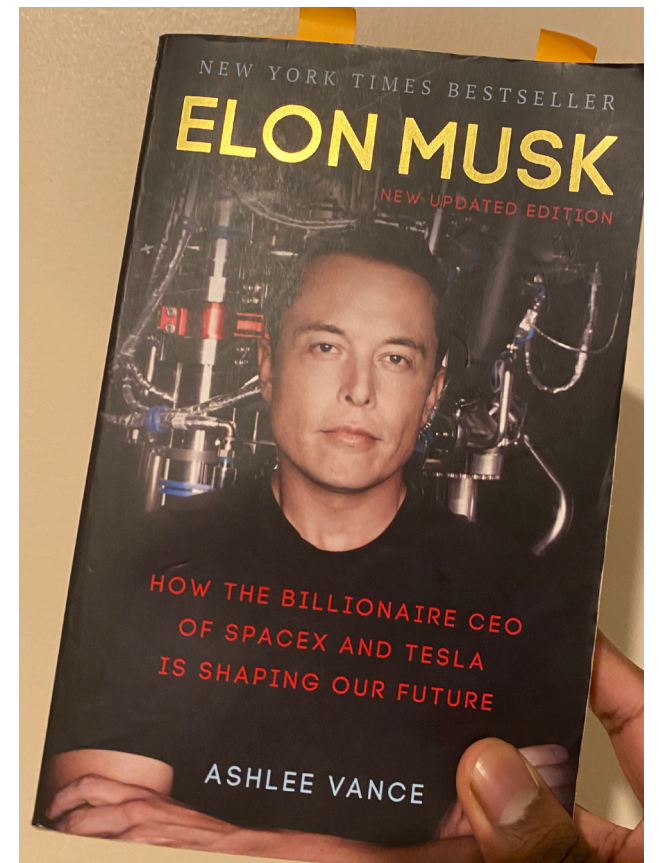
Musk's ridiculous work ethic can be explained by his vision and his approach to make this vision come to fruition; be it replacing petrol cars, making space travel cheaper or moving to Mars.

These ideas may seem quixotic, however Vance's depiction of Musk's outlandish obsession with these technologies from a very young age make sense of, and makes you believe that maybe Musk's plan for Mars will actually work, no matter how absurd they may sound.

An appetite for knowledge

Running a rocket company and an electric car company on the side requires an amazing mind, and Musk's appetite and ability to absorb information has often been described as being amazing to witness by mere mortals. An example Vance uses is Musk being engrossed by an old, tattered Soviet rocket manual when he was starting out at SpaceX. The fact that he had no underlying knowledge of rockets didn't stop Musk. Musk truly believes that any problem, no matter how complicated, can be brought down to the pure fundamentals, and that's exactly what he did when thinking of what it takes to build a rocket. He started with the raw material costs of building a rocket and realised that rockets were just too overpriced and needlessly superfluous. He saw a new market. It also subtly highlights the fact that Musk takes the initiative. The information

is out there; you just need to have the appetite and hunger for it.



Musk's reading list

1. Steve Jobs (upcoming review)
2. Superintelligence: Paths, Dangers, Strategies
3. The hitchhiker's Guide to the Galaxy
4. Benjamin Frankling: An American Life
5. The lord of the Rings
6. Einstein: His Life and Universe
7. Howard Hughes: His Life and Madness
8. Zero to One: Notes on Startups, or How to Build the Future

PUZZLES

Mild cZeus

		36^x		63^x		56^x	
20^x							
						12^x	
	20^x		16^x		96^x	24^x	
8^x			96^x		72^x	12^x	
		64^x					

Medium cZeus

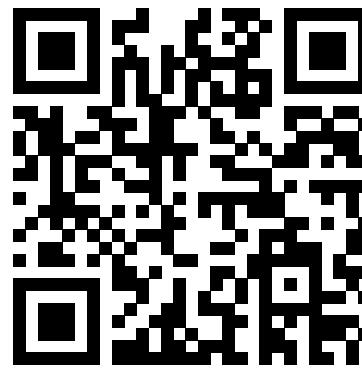
				45^x			
54^x			18^x			70^x	
						15^+	
				16^x		112^x	28^x
	10^+						
						72^x	
		8^x				9^x	

Hot cZeus

		17^+		23^+		12^+	
		21^+		20^+		9^+	
6^x							
		26^+		16^+			
						16^x	4^x

Felix is proud to announce a new type of puzzle. Never before seen in a newspaper in the world, cZeus was developed by the Mathematical Games company and provided to Felix.

RULES
cZeus is a mathematical puzzle formed of four simple rules - follow this QR code for an explanation of how it works.



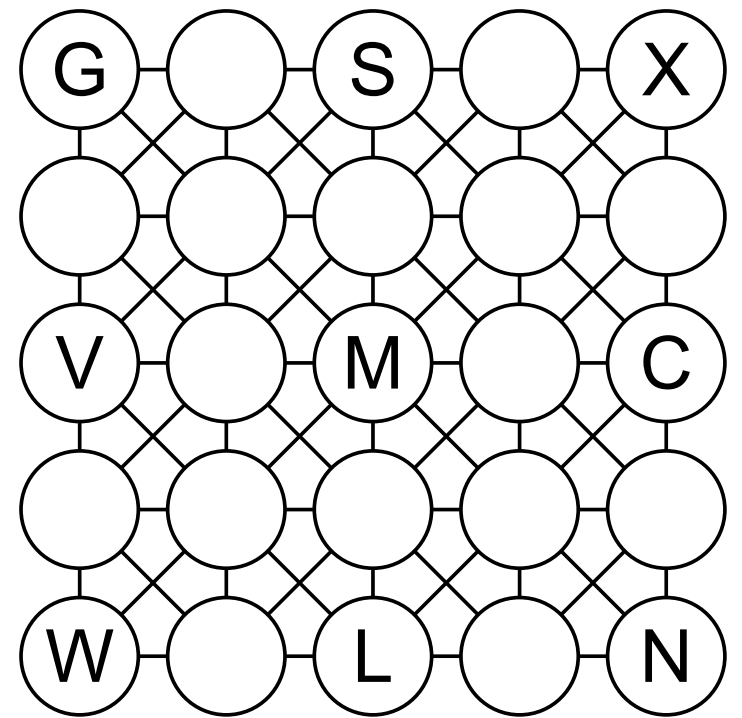
Last Week's Answers

4		4^x	1		6		24^x	4	7	9^+	2		3	4^+	1	4		5		2		1
		11^+						32^x			14^+				5^x	32^x		540^x		72^x		
20^x		20^x								8^x												
5		1			8			8	7		4		5		5	8		9		6		6
										10^+			18^+					12^+				
		18^+			15^+			56^x					36^x							1296^x		
		135^x			72^x		24^x															
9		3			3			7	3		9		6	12^x	2	8		3		6		6
											25^+				10^+							
		18^x			81^x						24^x							16^x	192^x		288^x	42^x
2		3			3			12^x	4	8		5	12^+	7		8	2		4		4	7

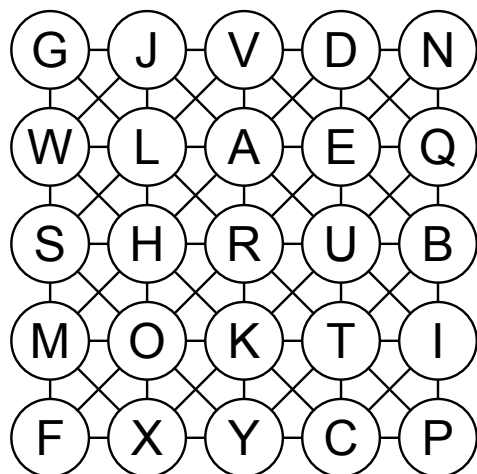
Gogen

RULES
Write letters into each circle to form the listed words. Letters can be linked by moving between adjacent cells horizontally, vertically or diagonally in any direction. You may use each letter in the alphabet only once.

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

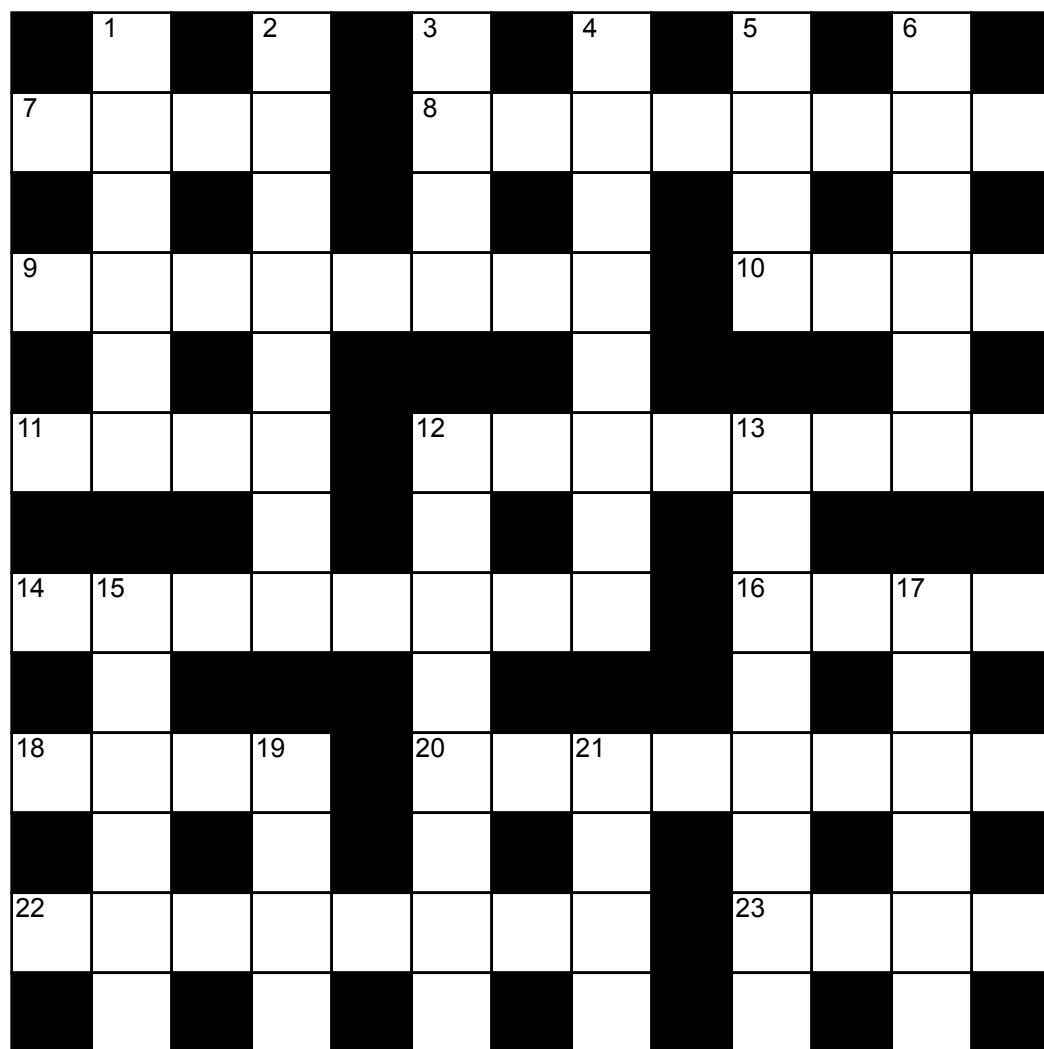


FAIR-FUME-GHOST-JUMPY-LIMBO-NECK-PYX-SQUALID-TOMB-VAMPIRE-WAIL



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

Concise Crossword



ACROSS

- 7 Latin man (4)
- 8 An act of resistance or rebellion (8)
- 9 Ineffective or incompetent(8)
- 10 The first man (4)
- 11 Ctrl + Z shortcut (4)
- 12 366 days (4,4)
- 14 Very popular plant (8)
- 16 Public swimming pool (4)
- 18 Capital of Norway (4)
- 20 Medicine dissolved in alcohol (8)
- 22 To pass on from one person to another (8)
- 23 A shabby or sleazy bar (4)

DOWN

- 1 To be in charge of a country (6)
- 2 The confining of people (8)
- 3 Olympic tobogganing (4)
- 4 To unlawfully enter somewhere (8)
- 5 The largest continent (4)
- 6 Capital of Turkey (6)
- 12 Archaic psychological surgery (8)
- 13 Christmas season (8)
- 15 Ridiculous or wildly unreasonable (6)
- 17 To obtain something from (6)
- 19 Pig sound (4)
- 21 Musical symbol (4)

Want more crosswords to solve? Head over to the Sport section to see this week's Cryptic Crossword!

Points Available

- Cryptic Crossword: 10
- Concise Crossword: 5
- Hot: 3
- Medium: 2
- Mild: 1
- Gogen: 3

Points are available for partially solved cryptics!

Leaderboard

- 1. The Flots (58 Points)
- 2. Mr Puzzles (40 Points)
- 3. Cryptic Ed (10 points)

Send in a picture of your solutions and your entry to the cryptic clue writing competition by Tuesday 12pm to puzzles.felix@imperial.ac.uk to take part.

Clue Writing Competition

Your word is **CONDIMENT!**

Send in an original cryptic clue to puzzles.felix@imperial.ac.uk for a chance for it to be published in next week's issue.

Mild Sudoku

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

Medium Sudoku

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

Hot Sudoku

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

A deep dive on tech

Nikhil Narayanan Investment writer
Geoff Sang Investment editor

In this week's issue, we take a closer look at how major stock indexes have been affected worldwide due to a variety of drivers, in particular with what is going on in the European and US markets but we also have an opinion on Chinese indexes following suspension of the Ant Group IPO, due to have been the record-breaking IPO with \$37 billion USD raised from institutional investors. Here is a look at technology in global markets through the lens of stock indices.

Europe

As for some recent especially recent news, STOXX Europe 600 (a European stock index) fell almost 6% this week. This pushed the index to its lowest point since May this year. We can likely attribute this to the fact that investors reacted to the further lockdown measures being announced due to the second wave of COVID-19 in countries like Spain and Italy, and now also the England national lockdown, as well as the upcoming presidential election.

The negative impact to European markets was especially prominent in the software giant's, SAP SE's, 20% drop in share price last week. This cloud based business operations company saw a far worse-than-expected

third-quarter earnings update. Its shift from license software (with a one-time upfront payment) to the more typical subscription based cloud infrastructure means that profits will flow

in less quickly. Furthermore, the German company said "Lockdowns have been reintroduced in some regions, recovery is uneven and companies are facing more business uncertainty." Its mid-sized (businesses) clients were, as a result of COVID-19, moving towards cloud causing a need to improve on their services. Christian Klein, one of the two new CEOs of the firm, said "We will speed up the modernisation of our

cloud delivery infrastructure, this will require additional investments in 2021 and 2022, but it sets us up for a cloud cost margin of approximately 80 percent by 2025." This added investment into the software combined with the reduced revenues shot down SAP's share price. However, Jefferies analysts say that the subscription services could make up to 85% of turnover by 2025; so it's not all doom and gloom!

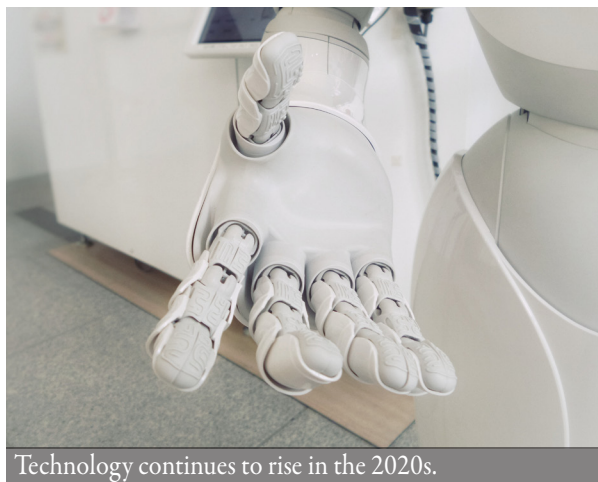
The reason we dive into SAP SE is that it is Europe's largest software company, and the STOXX Europe 600 Technology Index (an analog of NASDAQ for Europe) fell 10.5% over the past week. Looking at the companies and contributors of a stock index can help us more easily understand the movements of the index itself as these trends can often apply to similar companies.

US

Again looking at technology, the US-based tech heavy NASDAQ index was down 5.5% this week despite the big tech companies doing well after revealing their Q3 earnings reports. As I mentioned above, it is important to look at the actual companies which contribute to a stock index; 49% of the NASDAQ

100 is governed by Apple, Microsoft, Amazon, Facebook, Alphabet (AKA Google), and Tesla. These companies have been through a

lot over the past 2 weeks, from growing pains related to the pandemic, to antitrust issues, the Section 230 hearing and electoral politics. Despite this, they are booming due to the rising market for online advertising and the obvious increase in screen time. "All of these companies have just returned an absolute killer of a quarter," said Youssef Squali, an internet analyst at Truist. "The recovery curve is just a lot sharper than any of us expected. Online



Technology continues to rise in the 2020s.

Credits: Photos Hobby

is taking a tonne of market share from offline."

The contentious hearing on Wednesday was truly a roller coaster. Roger Wicker, a Republican senator, opened the hearing by accusing Twitter and the other platforms of "selective censorship... in the midst of the 2020 election cycle". (continued on the next page)

This is because a New York Post tweet was taken down as it looked like a hacked tweet. On the other hand, Tammy Baldwin, Wisconsin Democrat senator, said "I believe the Republicans have called this hearing in order to support a false narrative fabricated by the president to help his re-election prospects, the tech companies here today need to take more action, not less." Outside of political debate, the hearing served as an evaluation of Section 230 of the 1996 Communications Decency Act, a law that gives tech platforms immunity from being sued over user-generated content. Speaking to Section 230, Mark Zuckerberg called on Congress to "update the law to make sure it's working as intended". On the other hand Jack Dorsey said that eroding the foundation of Section 230 could collapse how we communicate on the internet, leaving only a small number of giant and well-funded technology companies." This would be a terrible situation for tech companies worldwide if not dealt with carefully. Furthermore, the hearing could result in additional pressure on companies to more carefully censor political ads which could have an impact on the election. However, the latest polling average puts Biden ahead of Trrrrrrrump nationally but again this does not guarantee a Democrat victory.

Market Summary

Riccardo Pierre Investment writer

1. Shopify will ring its e-commerce to TikTok
2. AMD looks to buy chip peer Xilinx for \$35 billion in data centre push
3. Dunkin' Brands shocked investors this week as talks overtaking it rose
4. The Google parent company was the star of the evening after crushing expectations with revenue of \$46.17 billion and EPS of \$16.40
5. The world's largest e-commerce platform posted sales growth of 37% to \$96.15 billion, with earnings per share smashing expectations at \$12.37 versus the \$7.41 estimate
6. The Australian firm topped analyst estimates with earnings of \$0.30 per share on revenue of \$459.5 million
7. Everyone wants a pickup according to Ford's blowout Q3 earnings, which saw EPS come in at a whopping \$0.65 versus \$0.19 expected, on revenue of \$34.71 billion versus \$33.51 billion
8. The American sports equipment company topped expectations today, reporting revenue of \$1.43 billion versus the \$1.16 billion expected. EPS rose to \$0.26
9. Despite strong Mac and iPad sales, Apple's earnings disappointed as iPhone revenue of \$26.44 billion missed estimates, while EPS of \$0.73 on overall revenue of \$64.7 billion barely beat the Street
10. Microsoft got the ball rolling for Big Tech on Tuesday after reporting expectation-beating earnings of \$1.82 on revenue of \$37.15 billion. However, guidance for the current quarter disappointed at between \$39.5 and \$40.4 billion, causing shares to fall on Wednesday
11. The virus showed us yet again this week that it's in charge. Global yields had only just started climbing, with polls suggesting Democrats have a shot at a clean sweep of the White House and Congress and an unfettered decision on a large spending package
12. Christine Lagarde didn't mince words in Thursday's European Central

More on US market indexes

Credit: Chris Li

Nikhil Narayanan Investment writer
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At the same time, the Department of Justice received bipartisan political



Fear and volatility in US market indexes have rose steeply with the anticipation for US election results.

support in filing an antitrust suit against Google (and similar things are happening in the EU). Google was accused of anti-competitive practices. Ironically after the news hit, shares of Google’s parent company Alphabet Inc. climbed 1.4%.

Why did this happen? Firstly, the lawsuit was already expected by investors and it was ‘priced in’ to the share price. There is also speculation that the lawsuit won’t hurt Google’s revenues from its leadership in search advertising. Mark Shmulik, an analyst at Sanford C. Bernstein, told investors on Tuesday that the firm sees “limited risk” to Google from the suit. However, it could

also end much worse for Google if it gets split up into separate, smaller companies such as Maps, Search, Youtube, Android OS and Chrome.

In conclusion, these are truly volatile times and especially for tech stocks which are renowned for their high beta values (standard deviation from the mean share price), and this can be seen also in VIX (Chicago Board Options

Exchange’s CBOE Volatility Index (this reflects stock market’s expectation of volatility based on S&P 500 index options)) reaching high values of almost 40. The aforementioned fall in NASDAQ could be due to the worse-than-expected earnings released by many companies. Be sure to keep following the markets closely through the remainder of the election period, as very interesting things will undoubtedly happen.

Major stock indexes play a huge role in investment as we saw with Ant Group’s suspended IPO earlier this week, with so much demand among institutional investors as Chinese investors saw them as a must-have. Had the IPO not been suspended following a call from Chinese regulators, the stock price would have shot up further following public trading on the indexes.

Even on Wednesday, a few days after this was originally written the extreme volatility with the election pushed tech stocks in NASDAQ up by 4%. However, option prices for VIX indicate that investors are pricing in less volatility for after the US presidential election.

“ US ELECTIONS ARE NOT PRETTY FOR MARKETS

I’m too embarrassed to ask - what is a market index?

A market index effectively follows the performance of a basket of stocks, using a collection of numbers which are representative of different components’ weighted values.

Here, the kinds of components can consist of shares, commodities and bonds. However, investors often follow different market indexes to track market

movements due to the fact that market index numbers are able to indicate the rates of both GDP growth and inflation.

Major market indexes that investors are familiar with include the Dow Jones, Industrial Average, NYSE Composite Index, Financial Times Stock Exchange Index and Nikkei Stock Average.

Market indexes are used by investors as a basis for portfolio or passive index investing, in that they are treated as benchmarks so then alpha returns can be tracked relatively to show profits or deficits. Constructing individual indexes would depend on the relevant party yet most fund managers utilise weighted average mathe-

tics via several constituents. In recent times, many sustainable investments funds employing ESG (environmental, social and governance) factors have made the shift to track more environmentally friendly indexes such as the MSCI (Morgan Stanley Capital International) ESG indexes.

Take part in a climate change initiative

Vanessa Tang Sustainability Writer

“Cities are our homes. Cities need their citizens as much as citizens need their cities. The only way forward is together. With over 100 Climathons happening on six continents, thousands of people are taking actions across cultures and countries. As our community of citizens, governments, and businesses grows, we see that local climate action is truly transformative. People like you are giving rise to a wave of change, a wave of creativity, and a wave of hope. Hope that is fiercely rooted in actions.”

This quotation is from the Climathon 2019 Promo Video. Buzz words pump the adrenaline, make me feel excited about this mission. We are taking a global and urgent problem and trying to solve it from the ground up with everyone’s contribution. Yes, everyone plays a part in this, including an undergraduate student living in a foreign country like myself, or a Felix reader like yourself.

I believe in the power of collaboration

and providing people with the platform to do so.

In 2019, a couple of undergrad students and I came together and organised two impact-focused Hackathons to encourage students to tackle social issues, fuelled by the belief that Imperi-

like a glove.

We knew that organising such an event has its challenges: How do we create a way for ideas and projects to continue after the event? How can we ensure diversity so that the climate discussions are not an echo

Seven months later and countless overrun meetings, three main things were in place. Firstly, a strong organising team with passionate students and professionals from Imperial College, Impact Hub, and Terra Institute. Secondly, local problem statements set by local councils and social enterprises who understand the pain the best. These partnerships will enable participants to brainstorm solutions for real problems, with the possibility of continuing the project post-Climathon. Lastly, thanks to Covid, we could cut on catering costs and eliminate the frustration of sorting pizza delivery logistics.

And here we are now, counting down to the event. So... why don’t you join us on the weekend of 13th to the 15th of November? Meet some cool people, solve some problems, and play your part in the climate initiative!

Problem themes: Sustainable Living, Food System, Urban Development, and Supply chain.

Sign up at:

<https://bit.ly/LC2020tickets>



al students have the skills to do good in this world. We invited mentors, organised workshops, and supported social ventures for international competitions. Transitioning the knowledge about setting up hackathons into a Climathon was a very welcomed challenge that fit

chamber between the same group of people? How can we engage different stakeholders when their priorities were not this during the Covid pandemic? These were the questions we had to address since the preparation started in April.

Why is climate change a social justice issue?

Flora Dickie Sustainability Editor

This topic isn’t news to anyone interested in worldwide justice issues, but this question seems to get on the nerves of climate change deniers, so I feel like we should address it.

When we conceptualise the climate crisis in the Global North, we primarily see the effects of climate change as environmental. Still, since we, the people, and the environment are inextricably connected, the impacts of climate change are also social and economic. More frequent extreme weather events and climate changes affect the local agricultural production, safe water access, productivity, and end up forcing people to migrate to other regions and sometimes other countries.

The consequences of climate change, such as flooding, rising sea level, drought

and increased temperature, are disproportionately affecting low-income countries and poor people in high-income countries. People who can move away from at-risk areas are already moving, but those who cannot afford to are left but eventually are forced to move and can be put into an unstable living situation. By the end of the century, we expect that more than 180 million people will be displaced due to climate change.

Further-

more, the climate crisis will disproportionately affect people of colour, as more people of colour live in areas vulnerable to environmental degradation (as a result of climate change). This is in addition to the effects of environmental racism from

polluting systems and corporations.

So, what can we do? We can reject this destruction of the planet as the norm. The status quo serves to displace people and creates significant uncertainties already in countries in the Global South. We in the Global North haven’t felt the same level of effects as the south, but we continue to uphold the systems of oppression that create the problems. Support climate justice now by joining your local community action group. No movement or community network is too small.

Some examples of climate actions that you can take are: Switching to renewable energy, improving the energy efficiency of your house, swap to a climate-friendly bank, eating a plant-rich diet and reducing food waste.



SUSTAINABILITY

Shell loves to gaslight us

Flora Dickie Sustainability Editor

On the 2nd of October 2020, Shell (that big energy company) tweeted to its 550,000 followers, ‘What are you willing to change to help reduce emissions?’ with an attached poll for people to choose between 1) Offset emissions 2) Stop flying 3) Buy electric vehicle 4) Renewable electricity. This poll sparked outrage on Twitter from environmentalists, scientists and activists alike, including big-names Greta Thunberg, Alexandria Ocasio-Cortez and the Rainforest Action Network.

In an attempt to maintain their social standing, Shell hid some of the replies from the Twitter thread. One popular response that was hidden by Shell was from climate scientist Professor Katharine Hayhoe, ‘What am I willing to do? Hold you accountable for 2% of cumulative global GHG [greenhouse gas] emissions.’

Shell has produced 1.7% of all greenhouse gases emitted since 1988. This percentage may seem small, but this is just from one corporation. There are

many other corporations, just like Shell. When we put these corporations together, we get the horrifying statistic of 1/3 of all carbon dioxide emissions being produced by only 20 companies.

In a follow-up tweet, Shell stated that ‘Changing the energy system requires everyone to play their part’, trying to shift the accountability onto the consumers and spread the blame across us all a whole body. This is pure manipulation of the reality that Shell

and other fossil fuel companies have created over the past couple of decades.

Shell knew in the 1980s that the burning of fossil fuels would lead to global warming. In 2018, a 1988 confidential Shell report was unveiled. This report highlighted the mechanism in which using fossil fuel as energy would create sea level rise, habitat losses, destruction of ecosystems and the melting of the Antarctic. It also highlighted how pursuing this industry would cause changes greater than ever recorded, and I assume they would have been able to predict the disproportionate effects on people living in the Global South from such changes. Yet, Shell still went ahead and risked the health and the environment all in the name of profit and ‘development’.

The media have not ignored their role in ecocide, but Shell continues to greenwash (make themselves appear more environmentally responsible by sharing disinformation) their mission. For example, Shell claims that ‘they are part of the solution to transitioning’ to

net-zero carbon dioxide emissions by 2050, while at the same time they refuse to take responsibility for the harm that they have caused across the globe.

According to a report from Influence Map, since 2015, the corporations Shell, Chevron, ExxonMobil and Total have spent more than \$1 billion on misleading climate messaging and lobbying. Furthermore, this kind of manipulation is not a new marketing strategy; it is something integral for the survival and profitability of

their extractive business. In 2007 Shell ran an ad declared misleading by the Advertising Standards Authority, with the slogan ‘We invest today’s profits in tomorrow’s solutions’ for the advocat-

ing of their oil sands project in northern Canada as a sustainable energy project.

Even worse, in 1991, Shell produced a documentary called ‘Climate of concern’ showing the effects of fossil fuels. But at the same time Shell has been lobbying against global warming since the early 90s.

Additionally, Shell claims that human rights are central to its business. However, this is the same company that turned the Niger Delta into a disaster area, was complicit in the murder of Ken Saro Wiwa, and polluted Curaçao’s waters. Amnesty International is calling for Shell to be held accountable for their crimes.

All of this goes to show how Shell cannot greenwash on Twitter and get away with it. We do have power in holding big oil companies accountable, and we should continue to use it. Shell cannot be trusted as a responsible corporation when it consistently opposes accountability and believing that ‘Profits and Principles’ can go hand in hand.

This is an important topic of concern for all Imperial students considering that Imperial invests in Shell and has a valued relationship with them.

“

SHELL KNEW THAT BURNING FOSSIL FUELS WOULD CAUSE GLOBAL WARMING IN THE 1980S, BUT THEY WENT AHEAD ANYWAY KNOWING THE HARM IT COULD CAUSE FOR PEOPLE AND THE PLANET



INSPIRATION OF THE WEEK

Things we love

Shado Magazine



I have recently started reading the third issue of Shado [See. Hear. Act. Do.] magazine, and I love the variation of essays on climate justice, racial justice and social justice. It isn’t just a magazine though. It is a self-described multimedia platform driving change at the intersection of arts, activism and academia.

The publication is accessible reading for everyone and spotlights people who are not usually shined upon in the traditional media. It is a fusion of stunning contemporary art and writings by a wide variation of people from all over the world. The themes covered in

the latest issue range from Indigenous Philosophy in contemporary climate activism to dismantling capitalist systems in the climate crisis. The previous issue centres the topic of Global Womxnhood, and it also on my reading list.

If you are interested in climate justice, if you care about climate action, or if you want to learn more about the effects of climate change, I thoroughly recommend reading this. Shado share content on their Instagram @shado.mag and articles on their website, www.shadomag.com, where you can also buy the magazine (in print or PDF form).

WHAT MY EYE'S ON...

Black Ops Cold War - Nov 13
Activision (Xbox, PS, PC)
Zombies are back, and for the first time Modern Warfare and Black Ops exist in the same world. The beta seemed like a rough diamond, but will Cold War deliver on the hype? Only time will tell, although it looks promising so far.

Spider-Man Miles Morales - Nov 12
Insomniac Games (PS4, PS5)
One of the true PS5 reveal gems - the graphics look stunning, the storyline appears engaging and the fight scenes look well choreographed. Insomniac games might have delivered the game of the year.

Assassin's Creed Valhalla - Nov 10
Ubisoft (Xbox, PS, PC)
One of Ubisoft's greatest titles. The nostalgia is what brings me back to the series, but it seems recently with new footage that the game engine renders the graphics from the 2004 era - what on earth were they thinking?!

Forza Horizon 4 - Nov 10
Turn 10 Studios (Xbox, PC)
Very few driving simulators match the authenticity and the range that Forza offers. One often argues about the duel between it and its Playstation alternative: Gran Turismo. Turn 10, however, pulled out the stops this time.

It's game over for FIFA loot boxes, EA.

Ahmad Danesh Games Editor

It appears Electronic Arts (EA) are feeling the heat in recent times, but how have they got to this point? Our gaming editor, Ahmad Danesh discusses.

"Hey Dad look! I spent five grand on this game just within this first minute and look! I packed Ronaldo, Messi and Ben Yedder! Wow! So much skill! I love FIFA!", say an increasing proportion of unwitting, uninformed and admittedly guiltless video gamers in the age bracket of 10-15.

I love football, and I love video gaming. The only game I've ever known of which collides the two realms together to enjoy them simultaneously in one sitting is FIFA. EA, however, don't seem to feel the same.

Right, I should admit at this point that someone reading this paper will think "EA? FIFA? Wait, I know about a team in red and white called Arsenal but apart from that, what on earth is he talking about here? And what are loot boxes? Where is this going?!"

So, to sort this all out, I'll briefly explain who EA are and what FIFA is.

EA (or "Electronic Arts" to spell out in its entirety) is a Canadian game developer based in Vancouver, and they

publish some of the gaming world's most prominent titles — Battlefield, Need For Speed, Plants vs Zombies and even Simcity.

FIFA is its biggest seller. When you think FIFA, think of the big daddy i.e. the McDonalds to your local Chinese takeaway — it is huge! Just for one of its titles, FIFA 18, 24 million copies were distributed within a 12 month period. The game itself is a football simulator, designed to replicate all aspects of a 90 minute football game alongside curated modes for the hardcore gamer in Ultimate Team and the casual gamer who wishes to play with his friends for a laugh in Pro Clubs.

Now comes the crux of the problem, or the heart of the matter: EA have changed FIFA. Ultimate Team is its greatest asset when it comes to revenue streams. Players buy specific iterations of player items (often referred to as "cards") with in-game currency that they can access using real sterling, euros or dollars. Before April 2015, this wasn't

necessary. It was possible to make a living on the video game if you had an incredibly poor team but if they were all able to run at the speed of Usain Bolt, you could beat anyone, anywhere no matter the team in question. However, EA changed this after 2015 so that the game became increasingly dependent on the quality of your team, which in turn is proportional to the size of the bank... account one writes off to fund their extraordinarily short-term virtual asset.

FIFA rewards players specific player and club related items using "packs". When you think of packs, think of a

slot machine. When you put in a pound coin and pull the lever, you'll see some result, whether good or bad it belongs to you. Legally in the gaming world it's known as "loot boxes", and this is where the problems begin. Kids love gambling. "Ooh I want to put in a pound coin and get the best outcome for my money!", and we can all attest to some moment of our lives where this felt true. The sense of euphoria when you receive more than what you paid for is the feeling we crave for as human beings as it lets us indulge in a sense of achievement and improved position in the world... [CONTINUED]



Big titles in FIFA's history

FIFA International Soccer

Released: December 15, 1993

The first of its illustrious history. The game was well received at the time, being described as "the complete simulation of the sport" by Computer Gaming World. Of course, this was 1993 so its retro aesthetic is of no match to the current iteration in FIFA 21, but it marked the first big step for EA into the football simulator world.

FIFA 06

Released: September 30, 2005

Yes, the game for 2006 was released in 2005. However, that's not really the point. FIFA 06 offered a complete rewrite of the base game engine, yet more importantly, the ball physics felt smoother at the time compared to its previous counterparts - no surprise really that it was awarded a 'double platinum' award for sales.

FIFA 17

Released: 29 September 2016.

The last great FIFA. Low driven shots were ridiculously overpowered and it was the first title with the new Frostbite game engine, which previously supported EA's Battlefield series. However, the gorgeous appeal of the stadiums and the balance of the players made it worthwhile to play (for most of the time).

GAMES

... In FIFA, it's much the same.



Gamers want the best football players on their team, whether that be Ronaldo, Neymar, Messi or Ben Yedder. The chance of such outcomes are so slim, you'd probably stand more chance of winning the lottery (but please don't quote me as fact, it's just hyperbole). The fact is, gamers spend hundreds, if not thousands on attaining such bespoke and highly lucrative items (which to make things worse expire at the end of September of the next calendar year after release). An accountant would say you would be mad to make such a foolish expense on such a short term asset. This isn't a game, this is pseudo-gambling addiction the way I see it.

A video game that requires a larger expenditure than simply purchasing the disc itself is not a game but more of a gambling machine. Spend £55 on release day for FIFA and you'd still need to spend more than £50 per month on average just to attempt (not even guarantee) to get the best players in the game for your squad. It's purely

gambling and although other people might stand differently to the view I've delivered so far, it is not sustainable for a 13-year-old to empty more of his account just to earn players that would last him the best part of 12 months.

Again, a video game should be about having fun at no more of an expense than purchasing the title itself. If you pay £50 for the new edition then that's all you should pay to enjoy the experience like everyone else. Take Infinity Ward's Modern Warfare and Warzone as an example: all the guns are accessible, some from the start and others are unlockable by completing in-game challenges. The only purchases that you are free to make are purely cosmetic e.g. new soldier skins, bullet tracers that shoot bullets with rainbow colours or camos for cars. Even if you purchase the battle pass, which for those unfamiliar is like a Tesco Clubcard that offers rewards based on how much you play (or in Tesco's case, pay) you still earn enough points to purchase the next battle pass, so in essence it's a one off purchase for a lifetime of free cosmetic assets.

When parliament demanded EA to explain why loot-box mechanics were prevalent in FIFA, vice-president Kerry Hopkins described them as "surprise mechanics" akin to "Kinder Eggs". That simply is a flawed argument at best — you're guaranteed chocolate and a toy in Kinder Eggs, but in FIFA it's not even a certainty whether the chocolate will be rewarded to you.

Overall, EA has adopted a pay-to-win structure, and it's killing the fun out of a gaming series well embedded in modern culture. Pro

clubs, which is a game mode where friends play together against other teams, has simply been disbanded and only refined once in the past 5 iterations. A gamemode where there isn't a pay-to-win structure is simply left to rot with countless bugs and glitches while EA are catering to Ultimate team in conjunction with the eSports scene, where obscene fees are paid to obtain the best items in their Ultimate Team squad. Professional eSports athletes fight it out with the very best items in the game, even after expenditures upwards of £10,000 simply to start off with. When I started FIFA 21 the other week, I was running with a 3 star team, whereas my opponent already spent enough money in 24 hours to obtain Ronaldo, Messi and icon Del Piero. Game publishers and eSports deserves its own discussion since there's too much to discuss regarding the matter in simply one article.

FIFA needs to change. Their monopoly on the game allows them to get away with such pseudo-casino-esque practices. Whilst online names such as Kurt0411 are trying to raise their voices on the matter, EA take the short road and simply ban their accounts on mention of the matters that they're being required to answer. The game is encouraging gambling, and without intervention, the problem will get much bigger until livelihoods are ruined.

After the time of writing, it was reported that EA was fined up to €10 million by the Netherlands Gaming Authority (KSA) for failing to "heed the KSA's call" to adapt their games by removing gambling elements in their titles.

GAME REVIEWS

Manual defending finally, but bugs live on

FIFA 21



Created by: *Electronic Arts Vancouver*
Published by: *EA Sports*
For fans of: *Football, the beautiful game*

Reviewed by **Ahmad Danesh** Games Editor

Lockdown meant that FIFA 20 was one of the top sellers, and EA had an opportunity here to fix the bugs and requests of die-hard players in the FIFA community. Manual defending yields the opportunity to defeat the 10-year-old wallet warrior by playing attractive football without the AI-defending to rescue, but the lack of any real fixes to the bugs mean the game just isn't worth the time or money it's asking for.

The Haunting comes to haunt Verdansk

Warzone S6 Special ★★★★★

Created by: *Infinity Ward*
Published by: *Activision*
For fans of: *Everything Call of Duty and Horror*

Reviewed by **Ahmad Danesh** Games Editor

Warzone grew to being an entertaining game, even more so with friends during late evenings. The season 6 special introduces a halloween-themed Haunting edition of Verdansk, where soldiers are killed and revive as zombies to scare and kill remaining players. With friends, the jumpscare can be immensely enjoyable, but playing the solo mode is akin to a horror show - one wrong turn and you're either getting mauled by a disfigured zombie or sniped from distance, rendering you dead. Infinity Ward allegedly also confirmed that the current gaming engine will exist for Season 7 when Black Ops Cold War is out.

MY FIRST GAME

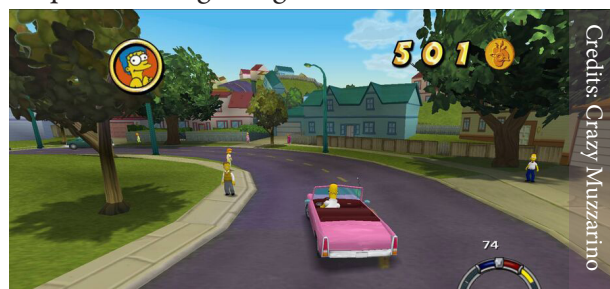
The Simpsons: Hit and Run (2003)

Radical Entertainment (GameCube, PS2, Xbox, Windows)

Reviewed by **Ahmad Danesh** Games Editor

Very few people seem to remember this title, which I find profoundly bizarre given it earned PlayStation Platinum status. A child's edition of Grand Theft Auto, being able to run amok in Springfield with Homer Simpson, Bart Simpson and other legendary characters of the show at the wheel made the game a lifelong child memory. Many hours were spent completing challenges as part of the

extraterrestrial storyline, but the arcade nature and relatively sophisticated graphics for a PS2 title in 2003 of all years takes me back to my first foray into the utopia of video gaming.



WRITE FOR GAMING

With 2021 appearing to be a new era in video gaming, times have never been more exciting. If you have article ideas and want to write for the Gaming section, contact the Felix editor, Calum Drysdale or email us at:

Games.felix@imperial.ac.uk.

Writing for Felix is a wonderful experience, and you'll be able to write about what you feel most passionate about - We'll help you along the way!

Interview with Zhengli Lim, aka 'Ribbon Guy'

Konrad Hohendorf Sport Editor

Following on from the interviews we have had with imperial athlete, we present the following interview we had with the BNOC that is Zhengli Lim, aka 'Ribbon Guy'. I am quite lucky to have known him from the beginning of my time here at university. I, along with many mechanical engineering students in the years directly

above and below me, owe a significant part of our degree success to this man. He spends uncountably numerous hours dedicated to running tutorials, creating tutorial sheet solutions and answering questions from students. On top of this he has also DJ'ed at major London clubs, extensively fundraised for charities and put a smile onto the face of many of us who see him roller blade into university. I share this information so that you can fully grasp the nature of Zhengli and the love that is felt towards him in the Mechanical Engineering Department and throughout the university.

Who are you?

Originally from Malaysia, I accepted an offer to move to a Singapore at the

age of 12 for my studies. I went alone, and while it was difficult being away from family at first, I soon grew to enjoy the freedom to live independently. I didn't do any competitive sports, but I did have a lot of energy which I expended by running up and down the stairs between classes.

What's your university academic background?

What's your sport background?

I did my undergrad here in Mechanical with Nuclear Engineering which I quite enjoyed. It was tough, and I kept a record of study notes that I shared with my friends who were also struggling at the time. Together we created an independent group called Mechnet which encourages a culture of collaboration between students so we can get through the degree, to great success! I have chosen to stay on as a PhD student in the same department and I'm now in my second year, studying Thermoacoustics.

What's your sport background?

I don't have a background in competitive sports. However, I am naturally at-

Credits: Aleksander Ziolkowski @ alekziol.com

tuned for endurance activities due to my low weight and do random sports for the fun of it. I used to run cross-country when I was very young, and then tried out gymnastics, swimming, ice skating, roller blading, skiing, cycling, football, badminton, table tennis and climbing. I wanted to try out multiple activities to see if there was one that I could stick to. I guess I found mine!

How did you come across the idea of starting ribbon?

A part of my personality is chaotic energy, so I'm not joking when I say that I stumbled upon it randomly because I thought it would be funny to try. Last November, my latest hobby was dancing to electronic music. Then the idea came to me that instead of just

punching the air with my bare fists I could also hold a ribbon at the same time. My activity is an odd fusion which draws from the elements of Rhythmic

Gymnastics, Dance, DJ and Martial Arts (see 'chaotic energy' above). I don't follow any instructions on this; I do exactly what I feel like doing at any given time. When you make an activity your own, the only standards to adhere to are yours!!

How do you get the confidence to do what you do in front of strangers and some people you do know?

Confidence doesn't really drive me; gratitude does. Truth is, I almost didn't get my PhD offer and I wouldn't be here in London right now. I thoroughly enjoyed my undergrad here and all the friends I made in this city. So much that I was visibly shaken when people I knew were getting their offers and I was resigned to the idea that I wouldn't be staying here any longer. But a mere two days before I had to leave the country,

the offer came!! I was so happy I ran out and started dancing on the street and clearly haven't stopped. I guess it's only when one faces the real threat of losing what they have that they understand what truly matters and what ultimately doesn't.

How has COVID affected your life?

I intentionally refused to return home for the summer even though my family requested me to (since London's cases were rising exponentially at the time). This was for their own good, and I still make a firm rule that I refuse to meet anyone over the age of 40 without PPE. My ribbon activities though are entirely unaffected. When you think about it,

it's the perfect social distancing sport! I spent the six months of isolation practicing in Hyde Park, and appeared randomly on the front page of The Times for it. I made friends with many kids, several doggos and a swan that took my ribbon for a swim in the lake. I had to chase that swan for four hours while calling wildlife services. Let's just say that I've had many strange encounters in these odd times; half of them involving birds.

What is the music you listen to while you do it?

I listen to a mix of Pop and Electronic Dance Music. My favourites though are mashups that I create myself with music production software. If you have seen me performing as a DJ, you would know what I'm talking about!

I hope you enjoyed this interview as much as I did. If you know of anyone who you think we should talk to next please do get into touch with us at Sport.felix@imperial.ac.uk



Zhengli doing what he does best, putting smiles on the faces of anyone around Queens tower

SPORT

Exercise in Lockdown 2.0

Konrad Hohendorf Sport Editor

Here we go again. The next four weeks will be tough for all, many hoped that the first lockdown would be the only one that we would have to go through. Many of us, including myself, found it very difficult to keep up with any sort of normal exercise that we did before. This greatly affected many people's mental health and lifestyle. It is a great shame that all of the university sports teams had to shut down, especially as we are expected to continue on with studies as we did before, but it is understandable that as people's lives outside of universities are being affected so greatly by the current situation we cannot expect to keep on as we did. We all know that exercise can help with mental health, that is why we as a sports editing team are going to try our best to write half an article every week on suggestions and tips to help people keep going through this lockdown. Our first recommendation is to set up a routine and try your best to stick to it; remember variation is the spice of life and this is especially true in sports. Motivation will be severely lacking at points, I know this is especially true for me, which is

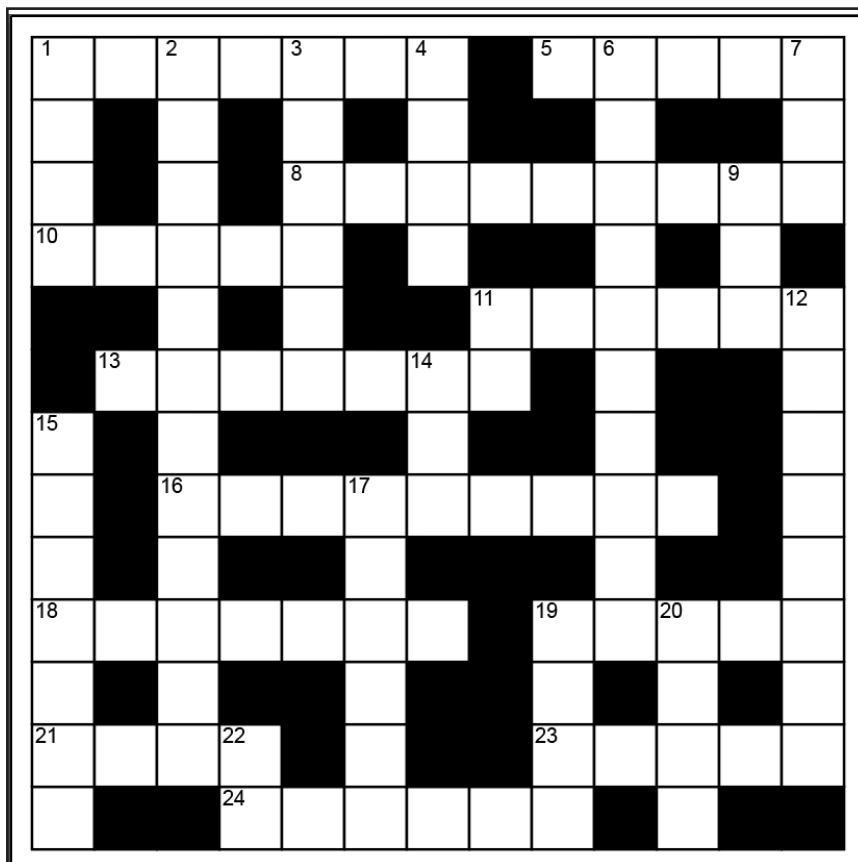
why doing exercise shouldn't be seen as something to do when you're motivated, it should be thought of as daily medicine to do as part of your routine. Obviously, you must always listen to your body, if you are too tired and simply cannot face the idea of doing anything then you must of course rest and prioritise recovery. A good trick to get over the lack of motivation is to promise yourself that five minutes into that run/cycle/whatever, if you still feel bad and don't want to keep going, you can turn around and come home. Often, since you're already outside or have setup stuff at home and changed into sports kit, motivation will kick in and keep you going. However, if you really do feel rough and you still want to come home, you can do so without feeling any guilt; you'll know that you tried your best. There are plenty of social media influences who continuously post exercise ideas, and these can be helpful, however it should definitely be noted that during lockdown you should not be comparing yourself to these people who are only posting a glorified version of themselves and what they do; remember, sport is individual

and you have to compare yourself to who you were yesterday rather than someone else today. This could be an ideal time to try that first 5K or 10k that you've been thinking about for a very long time; obviously only do so if you can stay within the regulations of the lockdown and feel safe to do so. I for one struggled for most of my life with running and cardio in general but once I came to university and started rowing I realised how beneficial a quick run with my headphones on, blaring out my favourite music, can help me at the most stressful and anxious periods in the year. When starting to run, you should be focusing on the length of time you are running rather than the speed or distance you are doing. I'd highly recommend if you're starting off to try and keep your heart rate as low as possible and treat those initial few kilometres of your first proper run as a marathon: focus on pacing. There is no point going out at what you think is a "normal pace" but still feels like agony, blowing up in five minutes, and never doing it again. If you have a heart rate monitor it would be a great idea to try and do this run at roughly 70% to 80% of your max heart

rate (a rough rule of thumb is 220 minus your age to find your max heart rate) which should come out to roughly 140-160BPM. At this heart rate, no matter who you are, you should be able to run for thirty to forty-five minutes straight; I can't guarantee that it will be fun or that it won't be one of the most boring things you have ever done in your life, but I promise you it is possible. However, it would probably be best to start with a 20-minute run. Remember to increase your length of time gradually and consistently. With running the payback and real fun only comes after you have put in the time but making sure you stay in those heart rate ranges will make it far easier and enjoyable to do that time. Of course, there are many different types of exercises to try and we will hopefully go through a few more; running is quite a nice one to start with, but going into winter and lockdown, we fully understand the hesitation of going outside. If you have any recommendations for exercises that can easily be done in a room, with limited equipment and is not too complicated then please do get into touch with us and send us an email.

Felix cryptic Crossword No. 6

Horatio



Think our clues are too easy? Too hard? Write crosswords for Felix puzzles. See page 17 for more information on our clue writing competition

Across

- 1 Courier delivers end of goalpost to bloke (7)
- 2 Record unsteady dive after falling ring (5)
- 3 Soft rock music sound after mixing slime (9)
- 4 Odd trio reel, dangerously worn-out (5)
- 5 Jumbled menu I'm reading is disease proof (6)
- 6 Tardis rupture! Emerging theme is industry shake-up (7)
- 7 Peer at kind chap (9)
- 8 Anarchists convert bald red blimp (7)
- 9 Loudly set off towards rising sun for banquet (5)
- 10 Size is alternative to article (4)
- 11 Corroded girder trusty no longer (5)
- 13 Music in Georgia is furious (6)
- 2 Getting over distressing gestating art is the first hurdle (8,4)
- 3 Blander lemon and herb sauce with the queen (6)
- 4 Identify the goal of Vietman experience tour please (4)
- 5 Cow is imitated in bad impression (10)
- 6 I am referring to myself (3)
- 7 Sister hears pastry (3)
- 8 That looks like the town centre (2)
- 9 Divorcee has impudent manner. Practiced? (8)
- 10 Friend overtakes in the other direction (3)
- 11 Light can mean USB needs turning over (7)
- 12 Mortar shakes (6)
- 13 To release passion (4)
- 14 Sear mirror's behind (4)

Down

- 1 Writer of verse see uneven characters in protest (4)