



University Challenge team dispel allegations of racism and misogyny

Sam Lovatt Editor-in-Chief

This week I sat down with this year's Imperial College *University Challenge* team, to chat about UC in general and as well as controversies that have arisen in the tabloids following the broadcast of the team's efforts.

Despite beating all, and smashing many, of their opponents so far, the team has drawn criticism on social media for what some observed as 'appalling' behaviour from team captain, Michael Mays.

The backlash was picked up by a number of papers, such as the *Mail Online*, the *Express* and the *Mirror*, including screenshots of tweets describing Michael's behaviour as "condescending", "rude", and "uncomfortable to watch", referring to what the viewers saw as Michael ignoring team mates Fatima Sheriff and Max Zeng. Taking the tabloid reporting with the customary pinch of salt, I reached out to the team to ask their thoughts on the matter, not knowing what to expect.

Suffice to say, the team does not see it that way. Far from the Mays-dominated narrative that the papers would have you believe, our hour-long chat became a casual meander through different topics, with each member of the team pitching in when they had something to add. If anything, the most outspoken were Fatima and Max, the two who Twitter had portrayed as sidelined by Michael.

"This has something that really seems to have risen in the last two years" said Gilbert. "Twitter has become much more vocal in criticising students".

"I think it comes from a good place" added Michael. "People are concerned about diversity in UC and the historical lack of it, but sometimes it just comes out the wrong way".

"It's frustrating" said Fatima, "I

Credit: Fatima Sheriff



shouldn't have to go on Twitter to let people know that I'm not a victim. There needs to be a bit more critical thinking".

I asked them what they thought had changed in the past two years that meant things were so much more heated on social media now.

"Everyone's been stuck inside for two years" said Fatima, "I guess they've had more time on their hands for things like this. I remember when I was just a viewer there were moments I'd seen on older series where it appeared that women were being ignored by male team mates and I actually tweeted something similar to the stuff we've been getting".

"What I've found funny is that there's an obsession of some people that Michael and I are in a homoerotic relationship" said Gilbert to much laughter. "To be clear for the paper, we're not". One of the

tweets highlighted by the *Mail* was "If Mays went on Mastermind his specialist subject would be Jackson's eyes".

"There's also a degree of editing within the programme, and each team only has two cameras on them. Half the time you can't even see me because the camera is focussed on Max and Fatima, and then close-ups tend to show a divide that's not really there" said Michael.

Fatima added "soon after our team was formed we decided what our specialist topics would be and focussed on them. We try to have as little overlap as possible between subjects to maximise efficiency. This is something viewers don't seem to realise and then pile on when it looks like someone's being ignored. The Birmingham team received similar criticism when it looked like a female member of the team was being ignored,

but she was a science specialist and none of the questions were related to science".

Max opened my eyes to further conflict surrounding the team which I'd not come across, having only done a preliminary Google search and assuming that was the extent of it.

"I've done interviews with the Singaporean versions of the BBC and The Times" he said. "After those went out, clips of me on the show got seven-digit views online. Some Singaporeans on the internet feel the need to flag-wave whenever the country is mentioned in the West. I've had YouTube comments describing me as "the rise of East Asia" and that I "represent the economy of China on the world stage".

"People have also quite crudely tried to guess where I'm from" added Fatima. "They say things like 'she looks Indian

EDITORIAL

Sir Gavin Williamson

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Stepping back from the war in Ukraine leaves no shortage of corrupt governments to critique on our own turf.

Shaken out like droplets from a post-piss penis, Gavin Williamson's knighthood was announced last Thursday, more than two months after the official announcement was made on New Year's Day. Though the reason is officially that it was a reasonable reward for five years of service in the cabinet under two prime ministers, anonymous Number 10 sources told *The Times* that the award was "hard to justify" and appeared "corrupt".

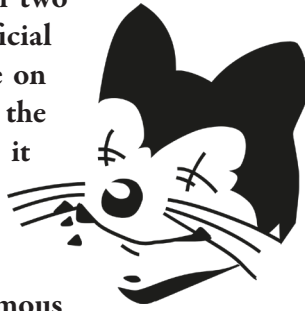
Further to this, reasoning given to *The Times* added "the announcement was delayed because ministers did not want Williamson to be knighted while a 2020 Christmas party in the Department of Education was being investigated by Sue Gray's inquiry into gatherings during the pandemic. In January the Metropolitan Police decided not to investigate the event, clearing the way for Williamson's knighthood". What's more, they added "that announcing the knighthood while war rages in Ukraine is also likely to minimise the political backlash".

What is going on? The government sneaking a knighthood through, for a crony *who already had a CBE*, in what we can assume is a bid to keep him from causing trouble on the back benches following his removal from Cabinet in the September '21 reshuffle. Williamson held the roles of Chief Whip and Defence Secretary in the May government, which gives reason to why the government would worry about the damage he could cause.

I believe Williamson was the worst member of the last Cabinet in terms of performance and public disgrace. Under May he was sacked over a leak of sensitive information pertaining to Huawei from the National Security Council. Amidst many minor blunders, he is most notable in recent memory for overseeing the so-called 'exam fiasco', where A-Levels awarded in 2020 according to an algorithm, that had been in the works for months, gave results glaringly biased towards students of private schools. Williamson rapidly U-turned and announced that teacher predicted grades would be used instead of those awarded by the algorithm, saying that he'd only just realised the built-in bias, despite the Commons Education Committee warning months before that it would cause "inaccuracy and bias against young people from disadvantaged backgrounds".

None of it makes sense. Back to back reasons essentially all just saying "we don't want bad press over this", and then seemingly multiple sources from Number 10 dish out the most corrupt reasoning you could think of. It's impossible to tell whether the Downing Street PR machine is running this in a way I simply just don't understand, or whether these anonymous "senior Number 10 sources" that have popped up since the beginning of Johnson's premiership are actual defectors and Johnson doesn't know who's giving all these undermining statements.

But at least he's on side in the Ukraine conflict; as Defence Secretary, he said Russia 'should go away and should shut up'.



Statement of Intent

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

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

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

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

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

Signed by Sam Lovatt
Editor-in-Chief

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Cover Art by Natalie Yu

...continued from page 1

but her name is Muslim, she's probably from an Arab country? It literally says where we're from at the start of the show".

Moving back to more generally looking at UC, I asked them about how the team is formed and how they compare themselves to past teams.

"There's a misconception that the captain is the highest scoring member of the team. Our captain was selected for being calm and measured, and for being able to converse with the team. Camera angles don't show it but we are quite democratic" said Fatima.

"I never find myself comparing us to previous teams, we're all just so different. We also know the last team fairly well, I'm not sure it would be normal for us to go around comparing ourselves to our friends".

When I asked how much time they spent on UC and quizzing in general, I got a resounding "too much" in response.

"We're all part of QuizSoc" said Gilbert. "Some of us hadn't quizzed before we got to Imperial, and when we started Max and I were always on the same team and always did really well. We did a bit of revision back then, but nowhere

near as much as we all did for UC".

Team selection is rigorous. It's done through a mock UC round where quizzers swap in and out between the audience and the panel. If no one knows the answer to a question on the panel, it's passed to the audience who then have the chance to prove themselves.

"The team is always selected by picking people who work well together. One genius can't win a whole match, and the last thing you want is four generalists".

"There are also a lot of tactics behind preparing for each round. I'll be honest, I've looked everyone we've played up on Facebook".

"We all have our specialities, so when a round comes up which is in our repertoire you have to be ready. In some rounds we'll buzz when we don't know the answer and then figure it out in the next couple of seconds, just so someone on the other team doesn't get there first".

Speaking to the group was heartwarming; a close group of friends who could seemingly laugh about things all day without ever repeating themselves. Don't believe what you read in the tabloids!

How to be a good quizzzer

The team were full of advice on how to do well in University Challenge. Like a lot of people, I assumed the contestants were natural-born geniuses, the likes of which I could never hope to emulate, however it turns out there's a lot more to their preparation.

What was interesting was the diversity in how the four tended to revise or learn things relevant to the quiz. Michael simply reads a vast number of books; Max, and I quote, 'stares at maps all day'; Fatima and Gilbert do a wide range from reading and talking about topics that interest them, as well as using flash cards on topics that they think require them.

They gave me a few tips on how to easily learn about topics you might not normally come across in day to day life, but that often come up on UC.

Resources

Scrolling through art pages on Instagram and re-posting stuff you like is actually a great way to learn. They recommended the account @daily_paintings as a good starting point, as they post quizzes and weekly themes of different art.

They also listen to a lot of podcasts. There's a consensus among some quizzers that the BBC series *In Our Time* has an impressive catalogue on Art, Literature and History. They also mentioned the trivia podcast *Miss Information*, presented by two museum curators working in New York who teach each other about common quiz topics.

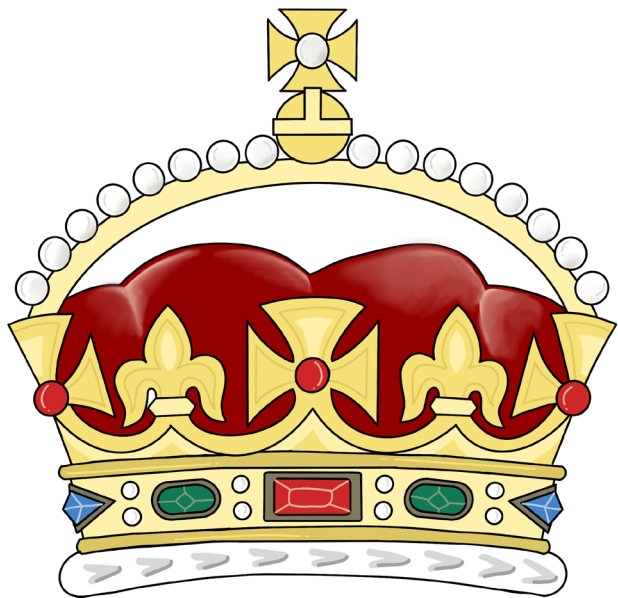
YouTube is also a great resource. The channel *AllThingsQuiz* does excellent teaching videos for quizzers on a variety of topics. On Tuesday there was a video on female leaders in history as it was International Women's Day.

LEADERSHIP ELECTION

CANDIDATES

Who are the nerds that
want to represent you?

PAGES
4 AND 5



Imperial College Union President

The 2022 election cycle sees a phenomenal eight candidates vying to be top dog

Hayley Wong



Widely seen as the favourite is Hayley Wong, ICU veteran with an impressive record of bringing about change, outlined in her manifesto.

Hayley's campaign video puts National Geographic to shame, so if nothing she's already won the publicity race.

Anvesh Rajeshirke



Coming of the back of his stint as the Union's International Officer is Anvesh Rajeshirke. Running with the slogan 'vote Anvesh, love Rajeshirke', Anvesh promises to find part time jobs for students who want them and to fund a disabled students hub.

Zixiao Wang



The ballot box's longest serving contender goes by Zixiao Wang. Zixiao was the final holder of the position of GSU President last year, before it was dissolved by the current President's GSU review. Zixiao resigned from his seat in council as GSU President near the end of the last academic year, though it was not clear that this was actually something he could do. He resigned from the role in its entirety once he learned that a Vote of No Confidence was being raised against him.

Wang Guo is the green boy of this election cycle. A first year in the Life Sciences department, Wang has diligently written an article for the Felix Science section every week this academic year, as well as further CSP and Halls roles listed in his manifesto. Wang has lived in both China and Spain, and advocates for 100% in-person teaching.

Ivan Busha



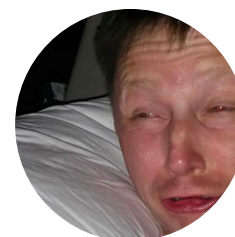
Bioengineering undergraduate Ivan Busha is running for President on a platform of constant change and improvement. He lists a mix of practical and holistic objectives for his time at the top, including improving the eActivities website and improving student support.



Wang Guo



Two candidates who it's possible to perceive as having not taken the elections completely seriously are Suhani Gujral and William Draper-Barr. Suhani chose to provide neither a campaign photo nor a manifesto, whereas William has opted to keep everything Limmy-themed.



Niamh McAuley



Deputy President (Finance and Services)

Only two students wish to wield the DPFS baton, and they are Niamh McAuley and Anvesh... again.

Niamh has accrued experience in multiple areas of the Union, including three years in 568/The Union Bar, and Arts and Ents Chair this year. She is running on a platform of diversifying Union events and improving response times from the Union to clubs and societies.

Anvesh's manifesto is eerily similar to his manifesto for President.



Anvesh part 2



Deputy President (Clubs and Societies)

Shivam Patel



Maths undergrad Shivam is running for DPCS on a platform of improving Imperial Athletes and streamlining communication between CSPs and the Union. He has held multiple roles within the Union, including in management groups and the RCSU.

Lantian flouts her ‘bubbly nature, enthusiasm with a “can-do” attitude’ in her manifesto for DPCS. A postgrad in the aeronautics department, Pinkney promises to promote communication and improve event organisation.



Lantian Pinkney



Dylan Hughes

Aero undergrad Dylan Hughes comes from a football background and promises a plethora of improvements to CSP systems, as well as a clear path to net zero for the Union.



Tiffany Lim

Tiffany has held a variety of roles across the CSP ecosystem, as well as in the CGCU committee. She promises to improve representation of clubs that were badly hit by the pandemic, add infrastructure to club handovers, and to reorganise the storage spaces.

Deputy President (Welfare)

Nathalie Podder



Incumbent Nathalie Podder is running for a second year as DPW in the Union. Nathalie has an impressive track record in pushing for change within the Union, including an anti-spiking campaign and a review of the Union’s disciplinary system.

Lauren hails from the BMB department and flexes an extensive CV of welfare-related roles, including Mental Health Officer and Welfare Officer in the Working Class Network. Lauren promises to improve access to support services and implement a strategy of mental health and suicide prevention.

Lauren Wheeler



Anvesh once again finds himself in the throes of the electoral race, running for a total of three out of the five Officer Trustee positions.

Deputy President (Education)

Jason Zheng



Coco comes from the Life Sciences department and attests to her experience within the Life Sciences department, sitting on various committees and identifying areas that require improvement. She promises to focus on staff-student relationships and feedback quality, among other things.

Coco Benriassa

Jason has been an academic rep for two years during his time at Imperial, involving work on providing infrastructure to the way exams are rolled out. As DPE he promises to lobby to improve transparency in feedback and to find ways to help students cope with large workloads.

Lauren part 2



Lauren is running for both DPW and DPE, however appears on each ballot with a completely different photo and manifesto. As DPE she promises to implement channels that allow students to escalate work complaints within the Union and to lobby the College to introduce additional teaching modules.

Zixiao part 2

As well as the Presidential role, Zixiao is also running for the role of DPE. He promises to lobby for free English language courses for non-native speakers at the College and for minimum supervision hours.



Abandoned Chinese rocket launcher ‘Long March 3C’ crashes into the Moon

► *What’s being done to clean up space junk?*

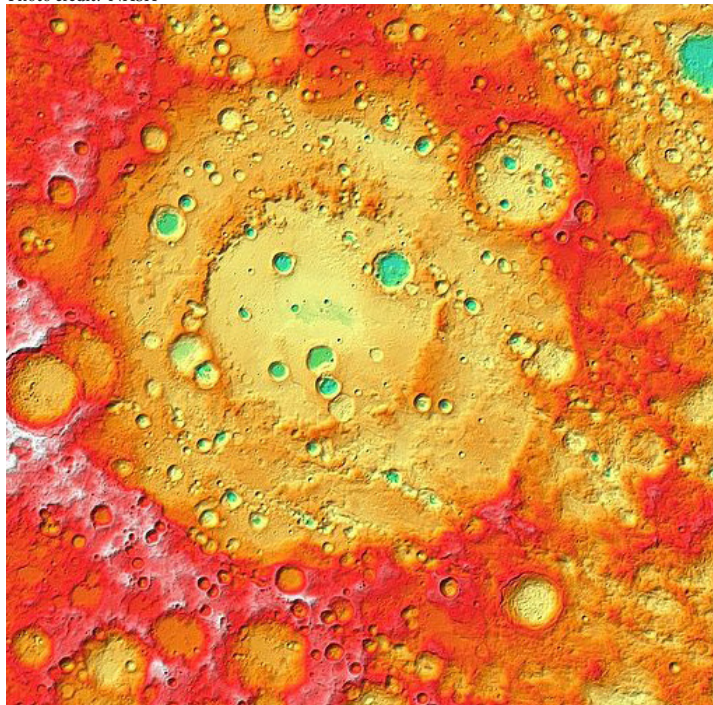
Taylor Pomfret Science Writer

A discarded rocket launcher belonging to the launch vehicle *Long March 3C*, believed to be a part of the third stage of China’s lunar mission *Chang’e 5-T1*, crashed into the far side of the moon on 4th March 2022, impacting precisely at 12:26 GMT.

The China National Space Administration (CNSA) launched the *Chang’e 5-T1* spacecraft to the moon in October 2014, with the payload being transported by the *Long March 3C* rocket and consisting of three stages. One of the three stages, a spent rocket booster, has been sent on a highly elliptical orbit around Earth since the launch, with the 3-tonne rocket part eventually impacting the Moon at a speed of approximately 9200 m/s (5,700 mph). This spacecraft served as a forerunner to CNSA’s *Chang’e 5*, the 2020 mission that performed a robotic lunar sample which was returned to Earth.

Initially, amateur astronomers thought it may have belonged to an upper-stage rocket from SpaceX’s Falcon 9,

Photo credit: NASA



Topographic map acquired by Lunar Reconnaissance Orbiter of Hertzprung Crater: the impact site of the Long March 3C booster.

which helped launch the Deep Space Climate Observatory Satellite in 2015. It was then confirmed, by NASA, that the booster did indeed belong to the *Chang’e 5-T1* booster, with the Space Agency stating: “The booster used to launch *Chang’e 5-T1* went into a highly elliptical Earth orbit after launch. Some calculations show it is on a trajectory to impact the far side of the Moon on March 4, 2022, although China’s foreign ministry has denied this identification, stating that the booster had already burned up in the Earth’s atmosphere. Estimated time of impact for the object is 12:26 UT (7:26 a.m. EST), estimated position at latitude 5.18 N, longitude 233.55 E.”

The rocket is believed to have impacted near the Hertzprung crater, a lunar crater consisting of a 570 km diameter on the far side of the moon, with the collision creating a plume of dust that makes this unplanned event a delight for planetary scientists. Once the dust settles from this collision, NASA’s Lunar Reconnaissance Orbiter will move into position to get an up-close view of the impact site and hopefully shed some light on the physics of impacts in space. The camera on board the orbiter will take pictures of the impact site with a resolution of 1 metre per pixel. The shape and ejected dust from the crater could return insights as to how the rocket was oriented at the moment of impact. On top of this, the amount of heat generated from the impact will also be of valuable information. There’s a possibility that the

lunar orbiter’s infrared instrument will be able to calculate the total amount of heat inside the crater, and thus the total amount of heat from the impact. Comparing before and after images of the orbiter camera’s findings and infrared heat sensor, scientists will look for any other subtle changes to the surface of the moon. Planetary impacts and crater formation are a pervasive and prevalent phenomenon in our solar system. With the physics of planetary impacts currently being poorly understood, observing the data from *Chang’e 5-T1* booster’s impact site will hopefully provide new insights that will prove critical to future missions to the Moon and beyond.

Whilst the collision can be hailed as an “exciting research opportunity”, there’s no escaping the fact that space agencies are facing a prevalent issue regarding such “space junk” – hardware discarded from missions that have run out of fuel or energy to return to Earth. The European Space Agency (ESA) estimates there are now 36,500 pieces of space junk larger than 10 cm, with 1 million objects ranging from 1-10 cm and 130 million objects ranging from 1 mm to 1 cm estimated to be rogue in Earth orbit. About 630 break-ups, explosions, collisions, or anomalous events resulting in fragmentation have also been estimated by the ESA. These statistics are damning since only 6180 rockets (excluding failures) have been launched since the start of the space age in 1957.

A number of organisations, which include the US military, use radar to track objects in Earth orbit – but almost no one tracks space junk once it leaves Earth orbit. Satellites are too small, bright objects such as the moon and sun make them difficult to track once they are too far away. With a further 15 missions currently scheduled to launch to the moon this year, it’s clear more must be done to avoid another accidental impactor in space. It’s suggested that better

regulations for the proper disposal of space junk should be imposed for future space missions, such as requiring rocket stages to perform manoeuvres that propel them into solar orbits, rather than elliptical orbits which leave satellites to tumble between the moon and Earth. This solution, however, is quite heavy and expensive, as it requires additional fuel. Ongoing research at the ESA is exploring new, innovative ways of dealing with space junk. The space agency is developing a subsystem that can be attached to a satellite which slowly unfurls a large aluminium-coated polyamide membrane, attached to four carbon-fibre reinforced booms, which is initiated once the subsystem recognises that the satellite has come to the end of its mission or has failed (for example if lost signal for a month). This membrane essentially acts like a sail, inducing a drag effect causing the space craft to decrease its orbital speed much faster than traditional de-orbiting techniques.

Space-junk clean up matters. 2590 inactive satellites are still orbiting the Earth in space. Whilst the lunar collision posits an exciting research opportunity, it still emphasises the growing need to manage our space junk. Going forward, it’s important to consider that the sustainability of space is pivotal in our future missions to the moon and interplanetary missions & spaceflight overall. Our “space environment”, is just as significant as our environment on Earth. Ongoing research conducted by the ESA and other space agencies alike recognise this issue. This recognition is critical, as by 2030, some estimates show that more than 100,000 satellites could orbit our planet. We’re in a fortunate position, though, as unlike many of our industrial processes on Earth, we are equipped with the knowledge and tools to resolve the situation before the accumulation of space junk will make outer space, quite like our earth, unsustainable.

3D-Printing: The Good, the Bad and the Ugly

► *A boon for prosthetics, 3D printing technology still faces challenges, both technical and from social misuse*

Anusha Narayan Science Writer

Since its conception in the latter half of the previous century, 3D-printing technology has developed rapidly and vastly expanded the realm of possibility for both the manufacturing industry and hobbyists alike. In 1981, Hideo Kodama used UV light to harden polymers into 3D objects. Charles Hull subsequently honed the process to create stereolithography, producing the first 3D printer. The technique was revolutionary. Originally a method for polymer application, it has expanded so far that now, it is possible to print food. This method has tremendous advantages, but like all technological growth, there are some issues. It is vital that we do not let them outweigh the positives that 3D-printing technology can provide.

Healthcare is one field where 3D-printing has had a tremendous impact. Patient-specific surgical models are made using scan data, providing doctors with a more effective tool for preoperative planning, intraoperative visualisation and fitting of medical devices. Generic models can cause complications; differences between the model and patient can cause issue in operations. The use of accurate models can significantly reduce this risk. The production of prosthetic limbs is another bonus of 3D printing technology. Prosthetic limbs cost anywhere from \$5000 to \$50,000, for a 5-year period – and typically only last for five years. The exorbitant price

Photo credit: ColbyCities, Wikimedia Commons, CC BY-SA 4.0



Personalised 3D printed limbs for children

cannot even be justified as being a one-time expenditure. However, 3D printed limbs can be sold for as little as \$50. 3D printing in healthcare has revolutionised the industry and is continuing to do so.

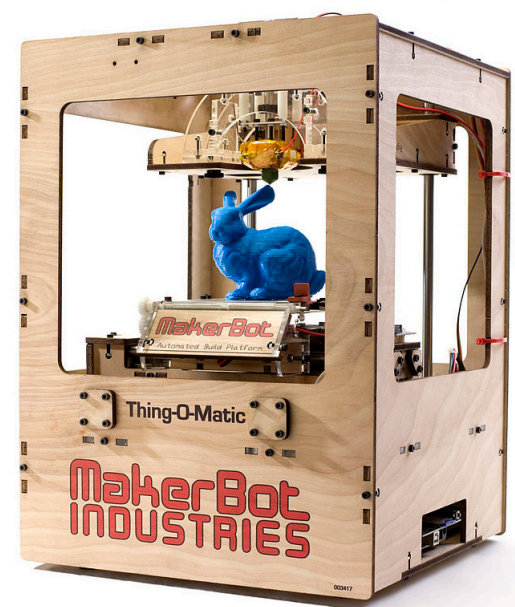
The last decade has also seen an increase in the application of 3D printing technology to the construction industry. In April 2021, a Dutch couple became the first inhabitants of a completely 3D-printed house. The most obvious advantage of this construction method is speed. The average house takes approximately a year to produce. Chinese company, Winsun, manufactured a 3D-printed villa complete with external fixtures in a mere 45 days. Increased efficiency is one of the biggest plus points of 3D printing technology. Another advantage is that there are noticeably fewer restrictions to the design of buildings. Curved buildings, while popular amongst some, do require a great deal of investment, planning and manufacture. If 3D printing is able to reduce these costs, many more people will be able to have the house or office they want. It could also reduce the volume of waste produced in construction projects, decreasing their environmental impact.

However, while 3D printing has developed at a phenomenal rate, we cannot dismiss its problems. In its current state, it is much better suited to the manufacture of bespoke components, not least because of the time associated with it. We are still quite a way from the technology being used as an instrument for mass

manufacture. Aside from the high cost of the printers themselves (\$50,000 for a professional, metal printing machine), the range of parts that can be manufactured by 3D printing is not quite as large as you might think. If a part is designed to be under stress, 3D printing is certainly not the best option. It is an additive manufacturing technique, where parts are created layer by layer. Whilst the layers adhere together during the printing process, constant stress is likely to cause the layers to delaminate, making existing manufacture methods a much better option for mechanical parts. Furthermore, whilst industrial grade 3D printers are to be marvelled at, those available for hobbyists still leave something to be desired. Over-extrusion, warping, stringing, blockages; 3D printing enthusiasts are all too familiar with these issues. Whilst this technology is undoubtedly revolutionary, there are still some wrinkles that need to be straightened out before it can become truly mainstream.

The problems caused by 3D printing are not altogether technical or linked to implementation, either. It's free-for-all nature, in particular, is both a benefit and a burden. The open and free flow of ideas is an ideal worth pursuing, but the prospect of anybody producing any product they want without regulation is concerning to say the least. One case in which this is evident is the 3D printing of contraband, specifically firearms. There are no constraints on who can purchase 3D printers and trying to limit what can be produced on them is a futile task. This, rather frighteningly, circumvents the background checks which are usually carried out. Illegally obtained weapons cause enough of a problem in countries such as the USA, where illegal ownership of weapons is a major issue. While illegally obtained guns are extremely problematic, they can at least be traced. A 3D printed gun, on the other hand,

Photo credit: Makerbot Industries, CC BY 2.0



Consumer grade 3D printer with completed object

cannot be traced. Furthermore, since 3D printing uses polymers, 3D printed weapons evade conventional security measures such as metal detectors.

Right now, I sound like a pessimist, listing the problems that 3D technology presents. I am still of the opinion that it is one of the most brilliant inventions of recent years. I am an engineering student, and there have been many instances when 3D printing has made my life easier. Nevertheless, we just need to make sure that this fantastic technology has a positive impact on society and the world we live in, and that it is not used to destroy our safety and security.

Photo credit: NotLessOrEqual, Wikimedia Commons, CC0



An early model of 3D printed firearm, whose plans were shared extensively online

SCIENCE

This week in Science...

FROM IMPERIAL

Severe COVID-19 can make patients breathless for months. Scientists might finally have an answer as to why

Long-lasting immune activity in the airways could be causing persistent breathlessness following COVID-19. This is caused by the immune system failing to shut down which can cause inflammation. CT scans of 38 patients that had been hospitalized for COVID 3-6 months prior, and 29 healthy volunteers, found that there were more immune cells that were linked to cell death, epithelial damage and tissue repair in the lungs of post-COVID patients. These are only preliminary results, but could open the door for treatments if immune suppressing treatments are found to improve breathlessness in post-COVID patients.

Researchers develop faster, cheaper way of diagnosing prostate cancer

A new type of ultrasound scan, called multiparametric ultrasound (mpUSS), has been found to miss only 4.3% more prostate cancers that need treatment as compared to the more expensive and time-consuming MRI scans. The scans use sound waves in order to image the prostate. The study involved 370 men who were at risk of prostate cancer. They were given both MRI and mpUSS scans, then biopsies. With one in six men diagnosed with prostate cancer during their lifetimes, quick and cheap tests will be essential for reducing wait times, and could be particularly useful in low-income areas and as preliminary tests.

FROM AROUND THE WORLD...

Hello up there! Tiny “skyscrapers” can help photosynthetic bacteria generate electricity

Researchers used 3D printing to create tiny high-rise “nano-housing” to maximise the light received by photosynthetic bacteria (cyanobacteria). There has been a lot of research into extracting the energy produced by photosynthetic bacteria, but by providing them with the right home, these researchers managed to increase the amount of energy that could be extracted from the Cyanobacteria by over an order of magnitude. This energy could be used to power tiny electronics. There has been a bottleneck to how much energy can be extracted from photosynthetic organisms, and it is now thought that this bottleneck could arise from material rather than biological factors. Electrodes made out of metal oxide nanoparticles were 3D printed. They were highly branched, densely packed structures and very customisable, which could allow them to be applied to a range of fields.

Is that a jewel... or a beetle? Beetles with a mirror-like shine might look like that for reasons other than confusing predators

Mirrorlike surfaces are seen all over the animal kingdom and have been thought to confuse predators by reflecting the surrounding environment. One team of researchers have set out over 1000 models of scarab beetles in two regions across Australia, half of which had a matte surface and half of which had a shiny surface. After six days, beak marks from predatory birds were measured, and there was no noticeable difference between those with matte or shiny surfaces. They further tested these beetles with people pretending to be predators wearing eye-tracker rigs, and found that shiny and matte beetles were equally hard to find. Their look could instead have something to do with the microstructures that create this mirror effect, which may reduce the danger of cracks or pathogens.

Science Spotlight

Silwood Mesocosms and Freshwater Ecosystems with Professor Guy Woodward

Cara Burke Science Editor

96 freshwater ponds sit in neat rows, brimming with water, life, and chemical pollutants. In Silwood Park, Professor Guy Woodward is working with these ponds to look at how multiple stressors like warming, drought and chemical pollution affect freshwater biological systems. Ecosystems are complex, and when different stressors work together, they can have unexpected consequences. Species live in an interconnected food web, and different species perform different functions within the ecosystem. They have different lifespans, sizes and metabolic rates that will be affected differently by stressors. Impacts on species, particularly those with important functional roles such as breaking down dead organic matter like leaves into nutrients that can travel through the food web, will affect the entire ecosystem.

The ponds were established in 2015 with degassed tap water, sand and gravel. They were “seeded” with organisms collected from local waters, and these communities were allowed to stabilise. The Silwood Park mesocosms have been experimentally warmed since 2018 with temperatures ranging from 1°C and 8°C above ambient temperature, matching with climate change projections, and with “events” of periodic extreme warming that mimic heat waves. In 2019, chemical stressors were added. Field mesocosms provide a wonderful middle ground between laboratory experiments (where the environment is very unrealistic but controlled) and field experiments (where the environment is realistic, but it’s very hard to discern cause and effect given confounding variables and the lack of control). All of these experiments are important to determine how stressors affect ecosystems. Silwood Park is one part of the Ring of Fire Project that integrates information about the impacts of different stressors to ecosystems from research on natural systems, mesocosms around the world, and microbial experiments in the lab. Research on these mesocosms has already revealed ecosystem responses to drought and warming, and will continue to reveal key ecosystem changes in response to multiple stressors.



Hello there! Invertebrates like this fly have colonised these mesocosms



Rhys "testing the waters"

Photo credit: Theo Hembury

ic extreme warming that mimic heat waves. In 2019, chemical stressors were added. Field mesocosms provide a wonderful middle ground between laboratory experiments (where the environment is very unrealistic but controlled) and field experiments (where the environment is realistic, but it’s very hard to discern cause and effect given confounding variables and the lack of control). All of these experiments are important to determine how stressors affect ecosystems. Silwood Park is one part of the Ring of Fire Project that integrates information about the impacts of different stressors to ecosystems from research on natural systems, mesocosms around the world, and microbial experiments in the lab. Research on these mesocosms has already revealed ecosystem responses to drought and warming, and will continue to reveal key ecosystem changes in response to multiple stressors.



Working on the mesocosms

Photo credit: Rhys Preston-Allen

ARTS

THE COLLABORATION DISAPPOINTS

BY ALEXANDER COHEN

THIS NEW PLAY TRIES TO POKE FUN AT
THE ECONOMICS OF THE ART MARKET...

page

11

Edited by:
ALEXANDER COHEN
ALEX JACKSON
BOXHUAN ZHANG

Fashion

#Coalescence

Suraiya Haddad Arts Writer

Defined as coming/growing together to form one whole, coalescence was the theme of this year's Charity Fashion Show by Imperial College Fashion and Design Society. Reflecting the best of this collaborative spirit, with 36 student models representing all four constituent unions, from first-year undergraduates to PhD candidates, an exciting range of up-and-coming designers showcased their pieces on the catwalk in South Kensington. From ballgowns to lingerie, pretty floral to edgy punk, each featured designer's distinct appeal created a novel atmosphere with every walk, culminating in a thrilling coalescence of ambition and style.

Emerging from the shadows of lockdown and the pandemic, the event was hotly anticipated, with all nearly 250 tickets selling out within hours of release. The charity supported was Stop Domestic Abuse UK, and funds collected will lead contributions for the construction of their new refuge and support centre for victims. After weeks of preparation under the expert supervision of Tom Ribaroff, Marianne Gazet, and Sofia Patri, and with the help of passionate volunteers, Imperial College Charity Fashion Show began. Imperial's Great Hall, breathtakingly decorated, was transformed into a slick, exclusive event, attracting guests from all over London. As invitees arrived at the black-tie drinks

Credits: Photo/Aidan Cusack



BlenxCode, Port wine stain top, in partnership with Elissa Messi jewellery designs. Model: Suraiya Haddad



House of Aristocrats, Leopard dress and bold jacket skirt look. Models: Saran McElroy (left) and Asma Gowani (right).

reception, taking their seats amongst the many event photographers, DJ Lancelot Blanchard and DramSoc's technical team set the mood with smooth lighting, fading into a saxophone solo by Anish Ghanekar as the first models emerged.

The designers selected represent successful and emergent brands from across Europe and beyond. Highlights included French label Yaemes, showcasing the oh-so-cool, hand-made pieces of self-taught designer Marie, manifesting a powerful and self-assured energy. Inspired by research into Ancient Egypt and its excavation, with khaki coats and unique headpieces, Yaemes seamlessly blends the timeless and the futuristic.

Championing and celebrating body acceptance, Italian brand BlenxCode encourages us to "dare to bare" with ingenious use of latex and textured lace to simulate skin and its beautiful diversity. Her designs take inspiration from skin variations such as vitiligo, psoriasis, birthmarks, and port-wine stains. The BlenxCode looks were subtly accented and embellished by the stunning jewellery designs of Elissa Messi.

The youngest designer featured, London-based Hannah Dye, debuted her beautiful pieces. At the core of the Hannah Dye creative process is how the wearer will feel. From the tongue-in-cheek "let them eat cake" extravagance, to sexy '60s shifts and the playful straw-

berry dress, Hannah's pieces embody the power of the

Credits: Photo/Kam Murali



Yaemes, coat and headpiece. Model: Joseph Guillon.

ARTS

woman, communicating a message of pure self-expression and confidence.

Master of drag-couture, the Scottish brand House of Aristocrats' collection, "Epitome", popped from the catwalk. In celebration of the year of the tiger, a year of strength, one of Aristocrats' missions is for us all to stand tall and proud, rising above the competition with each other that society all-too-often promotes. With a fierce, daring attitude; animal prints, power-shoulders and vibrant colours made for a fun and sexy celebration of identity and power. Special mention for the structured yellow corset and the leopard dress with a tail - such interesting pieces really captured the identity of the collection.

Theatre

The Disappointment

The Collaboration



Where? *The Young Vic*

When? *Until April 2nd 2022*

How much? *From £10*

Reviewed by **Alexander Cohen** Arts Editor

Anthony McCarten's new play about Andy Warhol and Jean Michel Basquiat wants to poke fun at the economics of market, how feeble it is, and how fickle it is. Sounds from an auction are played over the end of the final scene as the stage fades slowly to black, familiar sounds for the real-life Warhol and Basquiat, whose artwork sold for millions in their lifetime, and even more today. Irony of ironies, Tracy Emin is sitting on the row in front of me. Tracy Emin whose unmade bed sold for \$3.77 Million in 2014. It was a bit like the play within a play in Hamlet. Hamlet re-enacts the murder of his father with King Claudius in the audience, who Hamlet suspects to be the killer, hoping to "catch the conscience of the King" by recreating the murder as accurately as possible. I surreptitiously glanced over to Emin to see if I could catch the conscience of the artist.

Except that this was not like Hamlet at all because the play never mustered the courage to say anything meaningful about the culture industry or anything in particular. Instead, it chose to recreate caricatured versions of Warhol and Basquiat, throw them in a room, and give them nothing to do other than spout pseudo-philosophical platitudes about the meaning of art. With nothing driving the first act, the play became tiresome quickly. The second act admittedly had more to wrestle with. Basquiat has a break down because of the death of his friend at the hands of police brutality. We see references to his heroin addiction that would eventually kill him. We see Warhol explain that he doesn't paint because second generation Czech immigrant An-

The sumptuous ballgown creations presented by Filipino designer, Kristina Onate, of Jugger Onate Couture scintillated on the runway. Kristina has showcased her exquisite pieces all over the globe, from Dallas to Abu Dhabi, LA to London, including this year's Spring/Summer London Fashion Week. The delicate details on each creation, tailor-made for 15 of our models, is a testament to her precision and eye for finishing touches that set the whole ensemble ablaze, the long trains and intricate artistry stunning our guests. The closing look of the collection was the show stopping champagne satin wedding gown and its layers and layers of tulle stretching out onto the catwalk.



Jugger Onate Couture bridal gown. Model: Katya Goodwin.

drew Warhol paints, New York Andy Warhol makes prints. But there is very little narrative thread to tie these concepts together to reach a genuine conclusion; the two just decide to be friends because the play needs an emotional resolution.

Is this some kind of post-ironic metafiction performance of one of Warhol's famously vacuous artworks deliberately lacking meaning or plot I see before me? Probably not. In reality it is just not well written, another irony given Anthony McCarten's background as a screenwriter. The writer is behind most big budget biopics from the last five years (*Bohemian Rhapsody*, *The Two Popes*, *Darkest Hour*) McCarten has won BAFTAs and been nominated for two Oscars.

On the subject of art and money, Paul Bettany plays Andy Warhol. Bettany is an actor who probably doesn't have to work another day in his life now that he has cashed his Marvel films pay checks. Bettany gives a solid impression of Warhol, but cannot go beyond the

surface to explore Warhol's depth as a character thanks to the limited script. His Warhol is the kind you will see parodied on *The Simpsons* rather than a genuine human being. Jeremy Pope is less cartoonish as Basquiat. He convincingly portrays the artist as someone who cannot cope with his demons bouncing around the stage with a childlike energy to deflect the inner turmoil. The two share one moment of emotional fragility: the revelation of both artist's scars, Warhol from an assassination attempt, Basquiat from being hit by a car. But nothing becomes of the moment.

The problem with trying to poke fun at the relationship between art and money is that there is nothing to say that people do not already know. Yes, the art market is insane. Yes, most art is subservient to market demand. Whether it is graffiti artists, cinematic universes, or Hollywood biopics, where the money goes, art will follow. Just ask Tracey Emin. She did not seem to enjoy herself. But then again, neither did I.

Credits: Photo/Marc Brenner



Jeremy Pope (Basquiat) and Paul Bettany (Warhol) in *The Collaboration*

Theatre

The Hothouse: DramSoc's latest cerebral play

The Hothouse

**Where?** Imperial College DramSoc**When?** Until 8th May, 2022**How much?** £15 (Students)Reviewed by **Disha Bandyopadhyay** Arts Writer

It's Christmas Day in a mental asylum, sometime in the '60s, but instead of presents, the statuses of patients 6457 and 6459 are being reviewed. One has died, the other has given birth to a child, and Dr Roote (Federico Lucas)—a kooky yet maniacal chap—is having a field day trying to figure out how this has all happened. His subordinate, Gibbs (Elana Todd-Miller) rushes around trying to mitigate the chaos to no avail. The patients escape their cells after the Christmas feast, and murder majority of the administration.

A tragicomedy, *The Hothouse* is just as hilarious as it is dark and twisted, exploring a tyrannous institution that perpetrates injustice and brutality. At least the naïve and convulsing Benjamin Meacher as Lamb

would agree, that is, if he were able to.

Despite being the catalysis for the commotion, patients 6457 and 6459 are barely seen on stage. They are heard by the audience just as thinly veiled cries and wails of despair (kudos to Ayoush Srivastava and Harman Chang for splendid sound design and Kacper Neuman and Maximus Wong for brilliant lighting design), and an artistic segment where the patients move on the stage uncomfortably in a motion akin to baby deer taking its first steps. The "death" and "birth" in the asylum transform into a dastardly "murder" and "rape" inflicted by a largely blasé authority where majority of the staff meet similar gruesome endings of stabbings, hangings, and on some occasions, both.

Although there are clues that the patients were in fact political dissidents, *The Hothouse* makes us wonder – were the higher authorities aware of the atrocities? Will the violence cease with new administration? Is this that far from reality?

Federico Lucas gives a stellar performance as the director of the institute. From laughing along as he tried to remember patient 6457's lovely face and left buttock,

to his serious and somewhat instigating Christmas speech to the patients, I was convinced and thoroughly entertained by his speeches. His chaotic chemistry with Lush (Ioana Duta) and Gibbs is potent, however, Gibbs' and Cutts' (Trinity Stenhouse's) duo was far less digestible, encroaching on a certain awkwardness unattributable to the otherwise smooth performances. The scenes were dotted with monologues, some superbly delivered by the practical Gibbs, while others mumbled and less coherent by Lamb.

I am amazed and inspired by the cast and crew who put together such a cogent show amid coursework and exam deadlines and I cannot wait for DramSoc's next show!

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ENVIRONMENT

Edited by: MONAMI MIYAMOTO
MARIE MORI
MONIKA YORDANOVA

Here's what is missing in current climate narratives

View online here!



Pranjal Mathur Environment Writer

The Intergovernmental Panel on Climate Change (IPCC) is the central authority on climate change, and a medium for disseminating evidence and conceptualising the impacts humans have on ecosystems at-large. Famous for ringing the alarm on apocalyptic futures, the IPCC has become the aegis of all credible discussions on climate change.

The IPCC's reporting structure splits into several working groups—some specialise on scientific exposition, while others measure sociological variables. Combined, the IPCC provides an interdisciplinary purview for anthropogenic impacts. In 2021, the release of AR6—the 6th edition of a meta-study on climate science—produced shocking figures on the sheer magnitude in which climatological variations are occurring and the risks they pose to humanity. The latter is the theme of the latest publication titled: “Impacts, Adaptation, and Vulnerability”—eponymous for the working group that produced it (WGII).

Climate adaptation is one of the two broad research foci in the environmental space, the other being climate mitigation. Climate mitigation is the subject of most discussions: How do we reduce our impact? What can we do to change our lifestyle to prevent harm in the future? It is an integral step towards a sustainable society and everyone's eyes are focused on it. Climate adaptation, on the other hand, is very much like the neglected sibling—a segment that garners fewer academic publications, funding, media-coverage, and awareness from the masses. Essentially, climate adaptation answers how we can deal with the risks posed by climate change

and provide us with solutions on what to do about climate risks that are already on the way. This typically comes in the form of infrastructural development and safeguarding sectors to sufficiently defend communities from the next natural calamity.

“**THIS IS NO LONGER SOME DYSTOPIAN FUTURE FOR US TO WATCH ON THE BIG SCREEN**”

longer some dystopian future for us to watch on the big screen. We are living in a world with disproportionately higher climate risks for workers in agriculture, especially for those who live in equatorial countries—the least

financially prepared for such changes (this is the basis for climate injustice, which is a whole article on its own). The impacts faced are only going to get worse, and are going to homogenize to the rest of the world within the next few decades. To understand more about climate adaptation and the IPCC's latest report, we sat down with Prof. Richard Betts, lead author for the chapter on water, and a co-author for others. Along with his global contributions, Prof. Betts is a leader in the UK's climate fora—he is the head of UK's most recent Climate Change Risk Assessment, which is in conjunction with the MET office. Out of the conversation with him, we gained a deeper understanding of the issue at hand.

For Prof. Betts, the key message of this report is that “There is a vast amount of evidence for anthropogenic climate change. The IPCC can now affirm with even more certainty than before that we are the cause for sharper changes

in temperature in the last year—a very straight line being drawn from our fossil fuel consumption. This has resulted in humanity being in a position of great risk which requires tremendous changes in our way of living.”

Within this global climate narrative, climate adaptation becomes a greater imperative than ever before. Specifically, “for temperature targets such as 1.5°C by 2050. We now know—with even more accuracy—what a 1.5°C world is going to look like. It's already filled with higher extreme weather events as compared to before. The good news is that we can adapt for quite a lot of it—there are some success stories of adapting to climate and there will be even more with better financing. A lot of adaptation is often derived through tacit skills—socio-cultural norms in the agriculture industry especially—who have proven to be quite resilient at times. While climate adaptation is a good shield, it still has to be mixed with very

Credit: Roxanne Desgagnes, Unsplash



strong mitigation strategies, and that is obviously something that needs more and more awareness.”

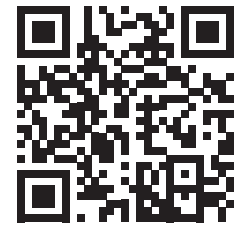
In particular, when it comes to the climate adaptation landscape in the UK, Prof. Betts feels that we are falling behind in the readiness to adapt to severe weather events. “Just recently, we witnessed historical windspeeds in Scotland and England. In some of my work with the government, we have found that the UK lacks innovation for climate adaptive strategies—especially for wind and cold, but also for rise in

sea levels and heat. The UK needs more work on adaptation and it certainly requires more awareness at-large.”

But it is not all doom-and-gloom. Prof. Betts also left us with an optimistic note: “Young people have a powerful voice in climate narratives. They need to be a part of discussions and are increasingly being given more opportunity to declare their concerns. To increase the strength of such messages, young people need to be more aware of adaptation issues as much as mitigation ones. The need for increasing awareness of vulnerable

communities is very high. This will allow for more financing to come into play. Going into COP27 this year, the contents of this recent report will freshen stances and allow for more discussions—a continuation of last year. The youth will also play a strong role in this as a key stakeholder. Basically, don’t stop learning and keep working towards enacting change through your local policymakers and politicians!”

View the full IPCC report here



Ecology, Conservation and ‘The Lion King’

What we can do to help maintain the Circle of Life

Credit: Zdeněk Macháček, Unsplash

Zanna Buckland Books Editor

The Lion King was the first film to spark an emotional response in me. Mufasa’s heartbreaking, untimely demise was a tearjerker, but I was also enthralled by the portrayal of relationships between animals and the pristine lack of human intervention. While the application of anthropomorphism—arguably the easiest method of interpreting non-human behaviour—detracts a little from the wildness of the film, it places the real-life hierarchy of African ecosystems into an understandable format for children and adults alike.

Watching it again as an adult, I am struck by how relevant it is to our planet’s current situation. The beauty of many Disney films is that the fun, animated characters and colourful musical numbers conceal subtle humour as well as underlying societal commentaries that allow adults to engage with them, as much as the children they are accompanying do.

I took the liberty of pinpointing a few lines that resonate with some of the fundamental features of conservation and climate change action.

“

EVERYTHING EXISTS TOGETHER IN A DELICATE BALANCE

‘When we die, our bodies become the grass, and the antelope eat the grass. And so, we are all connected in the Circle of Life.’ – Mufasa



Mufasa’s speech to Simba about his role on the Savannah is, on the surface, simply a moral lesson about understanding he must rule with an awareness and respect for his subjects (all organisms below apex predators). On a deeper level, it could be interpreted as a commentary on our own treatment of the creatures many

humans believe to be ‘below’ us. Despite being physically weak, our innovativeness has led us to become the ultimate apex predators. We evolved from hunting down individual animals and gathering small

numbers of plants to domesticating them for consumption on huge scales, and, often ignorantly, causing the decline of millions of other species besides the

ones we consume.

Our sense of the ‘Circle of Life’ is extremely skewed—we can no longer observe circular interconnectedness between us and our surrounding environment. Rather, humanity seems to press on that circle’s borders, steadily shrinking it. When humans die, we don’t ‘become the grass’ and provide nourishment to the planet; instead, our bodies are either buried in caskets, blocking the nutrients of decay from entering surrounding soil, or cremated, releasing pollutants into our already-saturated atmosphere. Our ability to recognise and regulate each other’s behaviour hasn’t been sufficiently utilised to protect other creatures from ourselves either. Our irresponsible, disrespectful treatment of many of the valuable resources the planet affords us is now circling back to bite us. Through the

increasing rate of severe and disastrous climate events and the persistence of Covid-19, Earth is clearly trying to hunt us back, and yet we still aren’t learning our lessons.

The recent IPCC report stated that current plans of climate action from most governments and corporations are still insufficient to meet the ‘1.5°’ goal, and that is under the unlikely assumption that these plans will be followed to the letter. It presents a bleak dissection of our current trajectory, but one positive conclusion that was reached is that working in harmony with nature is our best option for combatting the climate crisis.

‘Everything you see exists together in a delicate balance...you need to understand that balance and respect all creatures, from the crawling ant to the leaping antelope.’ - Mufasa

The delicate balance of ecosystems is epitomized by the decay of the Pride Lands following a change in leadership and in the behaviour of the lion pride. When Scar takes control, the lionesses refuse to hunt for him in defiance, and the land becomes overrun with the hyenas he has promised it to.

‘Rewilding the World’ by Caroline Fraser discusses the concept of ‘mesopredator release’ in the context of a study done by biologist Michael Soule, surveying coyotes living in the canyons of San Diego. A decrease in hunting by apex predators (the coyotes) leads to an increase in mesopredators (e.g., foxes and domestic cats), leading in turn to overhunting of prey (e.g.,

ENVIRONMENT

birds). A decrease in prey eventually results in insufficient sustenance for the number of mesopredators in the habitat, and their population would decline as well. The loss of growth stimulation by herbivorous species' also causes flora to be stunted and disappear, and in this way the entire ecosystem can shut down, leaving a barren, uninhabitable landscape in its stead.

This is bleakly illustrated in the film, but ultimately natural order is restored as Simba is reinstated as 'King', with the post-war and post-fire Savannah flourishing again. Nature does have the capacity to bounce back, but only if we allow it to—the perpetuity of human activity means that often, when natural ecosystems are destroyed, they are eliminated until there is no more grounding for regrowth and restoration.

Image by Hans Veth, Unsplash



However, there is still some hope on the restoration front; Indonesian organisation 'Blue Corner Marine Research' has found ways to encourage new coral reefs to grow around their islands, and the once-near-extinct takhis (wild horses) now thrive on the Mongolian steppe, where there is limited human development. Coral reefs and takhis are crucial to their respective ecosystems—the reefs providing homes, hideouts, and nutrition for other aquatic creatures, while takhis stimulate plant growth and support the survival of smaller animals through winter periods. It is these kinds of balanced, mutualistic relationships that we must aim to preserve in the world's ecosystems.

'Fire is a killer. Sometimes, what's left behind can grow better than the generation before...if given the chance.'

– Simba

Again, in the context of the film's plot, this line is primarily a metaphor for inter-pride relations. However, the literal meaning of the metaphor is realistic—it has been shown that wild forest fires promote fuller, healthier growth once extinguished—provided remnants of life are still present—by targeting unruly diseases and insect populations. The crucial part of the line is this—'if given the chance'. The world's ecosystems have the capacity to grow back and flourish, but driving their constituents to extinction eliminates that possibility.

A prime example of this recovering capacity is in the 'Exclusion Zone' of the 1986 Chernobyl disaster, described in David Attenborough's 'A Life on Our Planet'. There is some morbid irony in humans being driven out by a man-made accident, but miraculously it allowed surrounding forests and surviving wildlife to creep back in and reclaim their land. Herds of the same takhis (also known as Przewalski's horses) that were reintroduced in Mongolia are also living contentedly, alongside brown bears, lynx, deer, badgers, birds, and many more, in the Chernobyl exclusion zone that was expected to be uninhabitable for thousands of years. This phenomenon is mirrored in the exclusion zone of Fukushima and proves that human intervention is only necessitated by our own existence and errors. So surely it is our duty to mitigate our collective impact on this earth by any means necessary. The Angkor temples in Cambodia are another example of post-human areas that are now home to rehabilitated wildlife such as monkeys and otters, with ancient stone buildings engulfed by huge 'strangler' and silk trees. It is a testament to nature's adaptability that it is unperturbed by the presence of man-made structures, and that such adaptability can be overshadowed by human oppression shows the gravity of our influence.

Unfortunately, humanity has lost touch with nature to the extent that many of us are bound in unsustainable ways of living—even those of us that strive for eco-friendliness struggle to maintain it in today's world. Nowhere in *The Lion King* is there a fitting analogy for the concept of money and consumerism, and I believe this reflects how unnatural it is.

Consumerism is truly a societal

construct, and one that we are all constrained to; it is too ingrained to be stamped out. Our reliance on the media is also detrimental; mainstream news outlets don't highlight environmental issues and solutions nearly enough and social media acts as a sneaky perpetrator of consumerist values. The desire for continual acceleration of economic development is inviting our own downfall; sustainably produced goods are exorbitantly priced and fossil fuels still reign supreme. Spotting greenhouse gas emissions allows current production practices to continue as long as they are seemingly 'carbon offset' or 'carbon neutral', bypassing other issues such as resource management and habitat destruction. Technologies like carbon capture and nuclear fusion reactors are still in their infancy, but we need remedies now, and they need to be holistic.

Personally, I feel as restricted as anyone else by society's existing format, and that changing my lifestyle won't have much impact while actionable power still lies overwhelmingly in politicians' and CEOs' hands. Nevertheless, I still make some effort to live more sustainably. In lieu of becoming tree-hugging hermits deprived of everyday comforts, I urge you to try at least one of the following:

1. Recall and implement the 3 R's (reduce, reuse, recycle, in case you needed reminding).
2. Be a conscious consumer; maybe spend a little less on unnecessary/superficial items, a little more on eco-friendly essentials.
3. Read up about climate change and ecology, and not just the depressing stuff—the optimistic too.
4. Simply consider the planet, your place in it, and how you might be impacting it throughout your day.

You'll naturally become more aware of your personal sustainability and consumption habits, and you'll be all the better for it, as will Earth's Circle of Life.

Recyclable, compostable, biodegradable - what's the difference?

Lea Haber Sustainability Writer

So, what's wrong with plastics? I don't want to overwhelm anyone, but it's quite a lot. Plastic polymers were created for their sturdiness, malleability, lightness and low cost. According to Plastics Europe, plastic is a "term commonly used to describe a wide range of synthetic or semi-synthetic materials that are used in a huge and growing range of applications. ... The raw materials used to produce plastics are natural products such as cellulose, coal, natural gas, salt and, of course, crude oil."

The low cost of plastics has enabled the emergence of single-use items where convenience and low cost overtake reusable items. This has been convenient for medicine and increased the safety of some processes and interventions. This got me wondering, for instance, what medicine used for IV drips before plastics—the answer: reusable rubber that gets cleaned or glass. However, the use of plastics has gone far beyond what is necessary, with almost every product being available in plastic.

To assess the impact of our plastics on the planet, you need to consider the Life Cycle of the product: this involves evaluating how it is produced, used and discarded to quantify the impact.

Plastics start as a polymer, as explained above, and is subsequently transported to be manufactured. The product is then used, discarded, put in landfill, burnt for energy recovery or recycled. It is cheap and produced for a high growth linear model. Therefore, the cost does not bear the social and environmental cost of the produce.

The durability of plastics means they do not biodegrade into non-toxic elements. Plastic breaks down or degrades after centuries into tiny plastic or powder elements – microplastics. Calling fossil oil-based plastic compostable or biodegradable is false. This very property of plastic has caused a widespread plastic and microplastic overflow, considering that 90% of plastics ever created have not been recycled. At the current growth rate, the

plastic industry could be responsible for 20% of all oil consumption.

So what's the alternative? Bioplastics have grown in popularity and may replace oil-based plastics in their previous uses.

Bioplastics are plastic materials produced from renewable biomass sources, such as vegetable fats and oils, corn starch, straw, woodchips, sawdust, recycled food waste, etc., instead of fossil-based. Bioplastics can be compostable, biodegradable or recyclable. Although bio is in the name, this is due to its manufacturing from bio-based elements, not its biodegradability. Some plastics are a combination of both, which doesn't seem to make sense to me. For example, Coca Cola's 'PlantBottle™' uses less fossil fuel but isn't biodegradable; with this misleading name, my greenwashing radar is going red. Recycling bioplastics is an option put forward by companies, but they cannot be recycled with fossil-fuel plastics. Instead, the bioplastics will be recycled together. Therefore, this method requires differentiating the plastics from the bioplastic and having a good enough recycling system to have separate streams.

Compostable material is certified to break down into non-toxic elements. It does so at a predictable rate and may need certain conditions such as high humidity or temperature. This can be at home or in an industrial compost site with a specific temperature or moisture level. Microorganisms break it down into carbon dioxide, water, inorganic compounds and biomass at the same rate as other organic materials in the compost pile, leaving no toxic residue. It is independently certified to prove its compostable status.

Biodegradability is the capacity for biological degradation of organic materials by living organisms, down to the base substances such as water, carbon dioxide, methane and basic elements. So all compostable plastic is biodegradable, but not all biodegradable plastic is compostable. Furthermore, it is fairly misleading because there is no requirement for not leaving toxic residue during the decomposition process.



Credit: Naja Bertolt Jensen, Unsplash

Neither compostable nor biodegradable bioplastics will biodegrade in landfills due to the lack of oxygen, light and bacteria. Instead, they may release methane as food scraps do in landfills. So you get difficulty in assessing these bioplastics. They also do not biodegrade in the ocean or forest etc.

Some biodegradable plastics do not disappear but become too small to be seen (oxo-degradable). To be called biodegradable, they should become nutrients. They damage the recycling quality if mixed with plastics during the recycling process. The European Commission banned them as it is not considered a solution to the plastic problem.

To avoid misleading consumers, companies should quantify any environmental benefits claimed. While there are applications where bio-based plastics may be excellent, such evaluations should be based on life cycle assessments (LCAs) and not on simplistic assumptions or claims that 'bio' signifies lower environmental impact. Further improvement in the LCA methodology should be researched.

For instance, in assessing life cycle greenhouse gas (GHG) emissions, Nova Institute (2017) calculated GHG emission reductions of around 27% (relative to fossil fuels) in producing PLA, while Shen et al. (2011) estimated that assembling PET bottles from bioplastic emits on average 25% fewer GHGs. Furthermore, comparing fossil and bio-based PET bottles, Chen et al.

(2016) suggested a potential reduction in global warming potential of 21% when using woody biomass relative to fossil fuels.

My suggestion is to avoid single-use items as much as possible. When using biodegradable or compostable items, use them instead of plastic packaging and look at how to dispose of them. This is either through an industrial compost facility or a home compost. If you do not have access to a separate compost facility, this is still a better option. Still, the lack of appropriate disposal options seems that it could outweigh the advantages by releasing methane and using more resources other than plastic.

The production of the item does remove CO₂ through the growth of the crop but also uses resources such as land, water and transport. The biggest drawback may be growing the crop instead of food in lower-income countries. The big issue with plastics is the disposal mentality making us go through so much and not recycle. We need to educate the users that bioplastics cannot be disposed of in the streets or rivers.

However, I believe the composting options will increase worldwide, enabling us to make the most out of bioplastics. Given that toxins released from plastic are still largely unknown in their impact, it would be wise to reevaluate the uncontrolled use and disposal of plastics.

Cryptic Crossword Clues #1

Across

- 2) Have a Pimm's, perhaps, while you bask. [5 2 3 3]
- 8) Higgs' particles changing direction in the cores. [6]
- 9) Begin having your inner ankle ache in your sandal. [8]
- 11) Unwisely widens jurisdiction in the centre, causing damages. [7]
- 12) Get you into sorting through Tinder, only to nose in on whom you're looking at! [7]
- 13) We use it to exchange information about that nutrient light on the applicable part. [5-5 5]
- 18) Fourth cousin, e.g., dependent on your remote position? [7 8]
- 25) Small weapon? [7]
- 26) Pig, cuts of which you don't get cuts, but in front of which you might want! [4 3]
- 27) Get a man just in case he's kinder than the others. [8]
- 28) Informed of about five hundred spam programs. [6]
- 29) Calculating with Portuguese unit, plot AA battery. [13]

Down

- 1) Warned in advance, without underwear. [9]
- 2) Most bad jokes made by a receptionist. [7]
- 3) Comedic mimes in hospital provide captivat-ing experience. [7]
- 4) Sounds like nothing'll lie with the curled-up creatures. [7]
- 5) One who doesn't be-lieve in etheric energy. [7]
- 6) Yield from uneven source in Cumbria. [7]
- 7) Seen to talk back to your relative. [5]
- 10) Convolutedly proves consonance in their reply-ing letter. [4]
- 14) Ditch honesty at heart. [3]
- 15) Thick toxic liquid first trialled as repellent. [3]
- 16) A different key? [3]
- 17) Have the nerve to mostly agree to switch to that sort of plant. [9]
- 19) Put another way, it's only half-reflected in silvered mirror's surface when it has oxygen con-tent. [7]
- 20) Poet crashed on a luge. [7]
- 21) Is one in the canned fish country? [7]
- 22) Goes off-course when pirate's calls heard between the East and South. [4]
- 23) Highest-scoring group, regarding wild-ness! [7]
- 24) Mail she sent off to Abraham's son. [7]
- 25) Enchanting publica-tion I see. [5]

Regular Crossword Clues #1

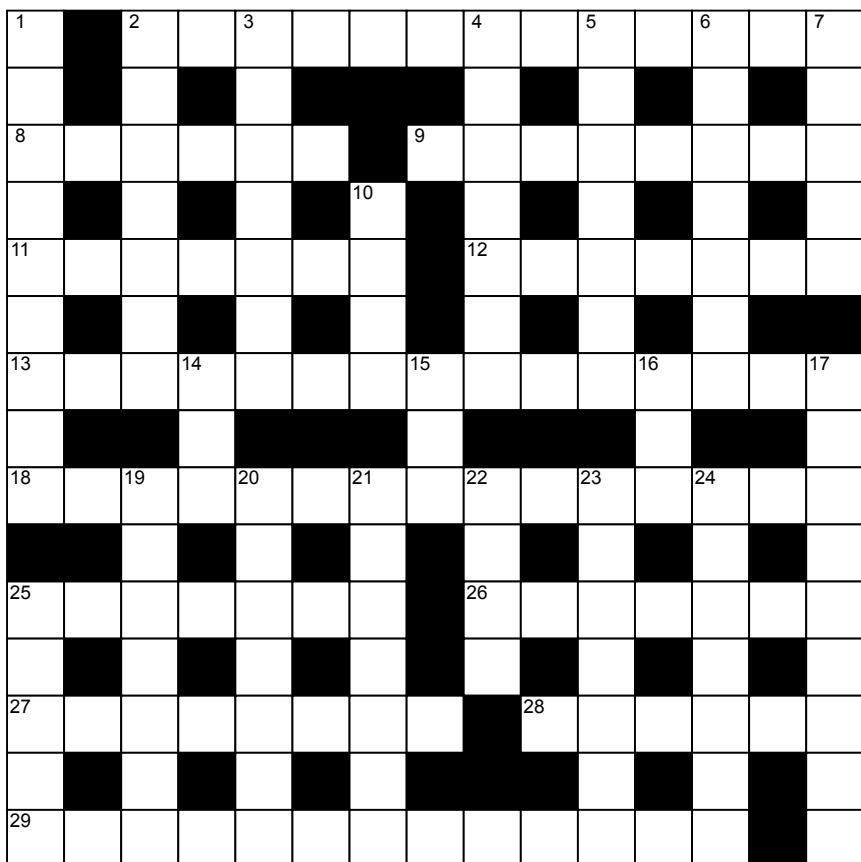
Across

- 2) Places of Harald Bluetooth's inscrip-tions. [7 6]
- 8) _____ heroes. [6]
- 9) Noblewoman ranking below a duchess. [8]
- 11) "Please", to Shakespeare. [7]
- 12) Aircraft with two propellers. [7]
- 13) Group including Fester and Morti-cia. [3 6 6]
- 18) Removals of organs. [15]
- 25) Type of rice. [7]
- 26) Win over with words. [7]
- 27) Charged-up language. [8]
- 28) Inclined. [6]
- 29) Filament structures in cells. [13]

Down

- 1) Was a member of a swing band, e.g. [9]
- 2) Title for a member of the Supreme Court. [7]
- 3) Dined in the afternoon. [7]
- 4) Peers. [7]
- 5) Spirit and name of fa-mous Champs song. [7]
- 6) African capital. [7]
- 7) Slender, fitting. [5]
- 10) Prefix representing a trillion. [4]
- 14) Woodcutting tool. [3]
- 15) Gaping mouth. [3]
- 16) Bartender in The Simpsons. [3]
- 17) Before midnight today. [9]
- 19) Have an inkling. [7]
- 20) Grassy areas. [7]
- 21) Green rock. [7]
- 22) Make smooth, as a handover. [4]
- 23) Souvenir. [7]
- 24) Doughy strings. [7]
- 25) Type of acid contain-ing boron. [5]

Crossword Grid #1



PUZZLES

Cryptic Crossword Clues #2

Across

- 7) The line inside: one at the bottom of company rose to the top, but it went South and it's dissolving. [15]
- 9) It could be a sink, he writes. [4]
- 10) #self-referential ! [10]
- 11) That settles it – of 150, 2.5 centimetres were not covered. [8]
- 13) Scalp a caribou crosswise, or some other animal. [6]
- 15) Bear with us returning from Berlin. [7]
- 17) Clasp it forcefully and it's malleable. [7]
- 19) The top ten most violent and powerful. [6]
- 20) Clear the area so the planes can fly through it. [8]
- 22) I pray they were shipped soundly. [10]
- 25) Really unclean silver trinket begins to tarnish. [4]
- 26) Awesome constructions are built on top of others. [15]

Down

- 1) Could he be the Spanish cat? [6]
- 2) Tension put down on an English religious institution. [10]
- 3) This, this, this! [4]
- 4) Marked performer of ballet or jive. [10]
- 5) Laugh and behold a glow. [4]
- 6) Explorer has day of celebration spurring some abandon in the year 201. [8]
- 8) Spin on your heels again and walk back. [6]
- 12) Cure the believer by disentangling their innards, prolonging life most effectively. [10]
- 14) Must pop-art manifest a form of depres-sion? [10]
- 16) Support for lumberjacks voiced in the introduction. [8]
- 18) Basket that might weigh you down? [6]
- 21) It sounds like a sneeze when you nut. [6]
- 23) His back-stroke's got pace! [4]
- 24) You'll often find a tear in it. [4]

Regular Crossword Clues #2

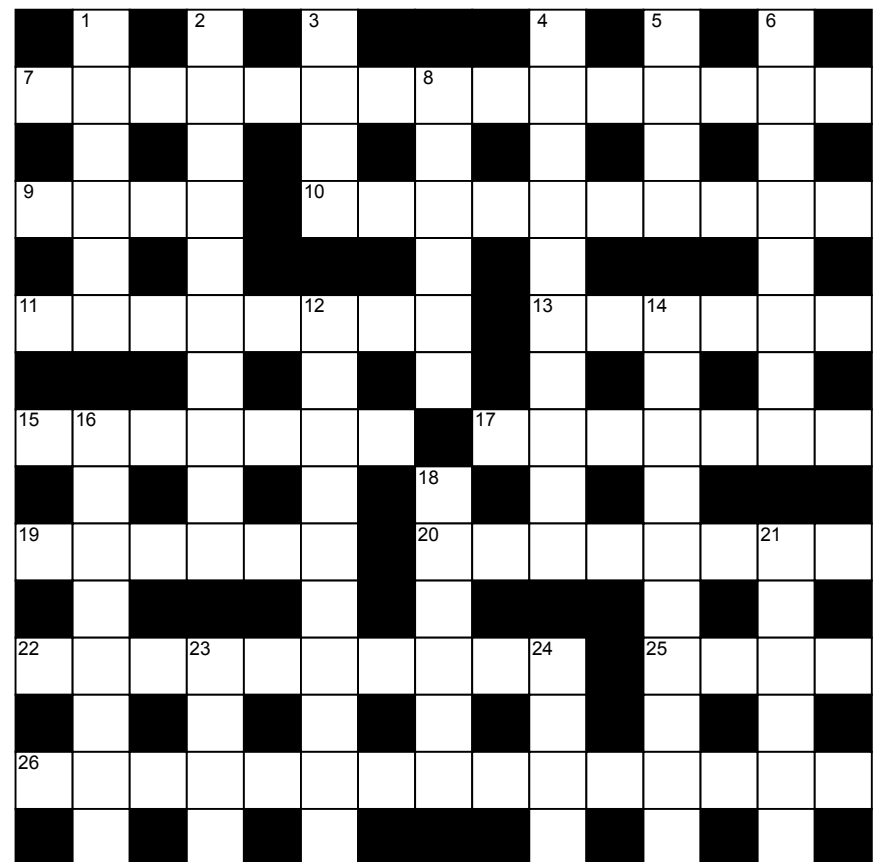
Across

- 7) Danger to space telescopes. [15]
- 9) Eye up. [4]
- 10) Pertaining to that which maintains its rotation. [10]
- 11) Guards. [8]
- 13) Distribute accordingly. [6]
- 15) There's one green one and many a Chi-nese one. [7]
- 17) What something might do after being buffed. [7]
- 19) Having a pH of less than 7. [6]
- 20) Disgusted, nauseated. [8]
- 22) Beats. [10]
- 25) Asian desert. [4]
- 26) Physically beautiful. [15]

Down

- 1) Follower of 'bell' or 'dead'. [6]
- 2) Having gathered one's bearings. [10]
- 3) Competitor of Miele or Russell Hobbs, e.g. [4]
- 4) Complete rot. [10]
- 5) Writing instrument named after its inven-tor. [4]
- 6) Ingredient in pavlova and key lime pie. [8]
- 8) Driving force. [6]
- 12) Grottesque imitation. [10]
- 14) Tools used to put up posters. [10]
- 16) Bright star in the Northern Hemisphere. [8]
- 18) Audition. [6]
- 21) One of the four elements named after the Swedish village of Ytterby. [6]
- 23) Gather dust, as a Hoover. [4]
- 24) Not the main dish. [4]

Crossword Grid #2



CATNIP

James junta announces concession of power

NegaFelix Reporter

A collective mopping of the brow took place across campus when, at 2pm on Wednesday, it was revealed that the James junta would cede power. A year on from when the regime won a landslide, in what is widely perceived to be a rigged election, Flames has not put himself forward again to maintain his grip on Beithall.

Rebel politician Wayley Hong was relieved to learn that she would be released from the Guild City Penal Colony, where she had been placed around two years ago due to trumped up charges of smuggling walkie talkies into Beithall inside a giant spanner.

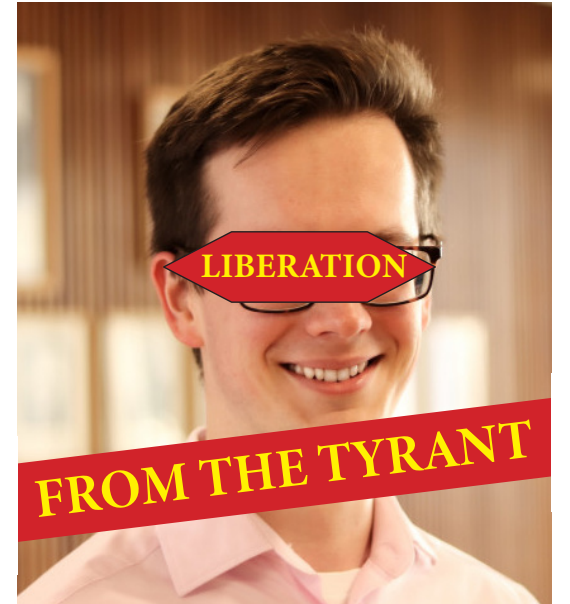
The junta, spearheaded by the dissident physicist turned puppeteer Floyd Flames, has in the last year been heavily sanctioned by the Union Nations. Protest took its most heated form in the Republic of the Union of Graduate Students, though this was

quickly quashed and the republic annexed by the James regime. A puppet government now stands in place.

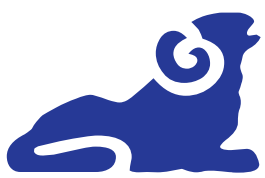
Shortly after Flames seized power, a barrage of book burning was ordered across the Union to remove ideas that didn't fit with the junta's ideology. Titles such as 'The Intelligent Investor', copies of The Economist, and any other tomes that suggest that money is real were thrown onto large bonfires across the Imperial campuses.

Civil servants remaining in place through the transfer of power have already promised that the portraits of Jeremy Corbyn, Lenin and Bernie Sanders would be removed from the Beithall offices, and that the head of procurement was already looking for a decent bulk deal for tattoo removal so they could all get rid of the Che Geuvara tattoos they were forced into.

Said Flames "The James junta assures the good

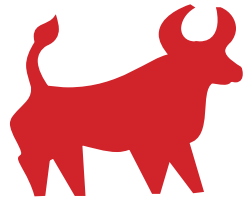


people of DPRICU that there will be a peaceful transfer of power. Any attempt to interfere with this process will be dealt with swiftly and brutally by DRO Nom Tewman".



ARIES

This week you admit you're a workaholic, despite having never touched a drop of workahol in your life



TAURUS

This week you take a "if you can't beat 'em, join 'em" approach to global warming



GEMINI

This week you take a calculated risk, and your contrarian friend takes a riskulated calk



CANCER

This week you give yourself a competitive advantage in a pint race by caulking over the top of your opponents' Guinness



LEO

This week your arachnophobia and your botanophobia come to a head where you soil your pants at the sight of a spider plant



VIRGO

This week you're outraged when you run tests on last night's kebab and find traces of meat



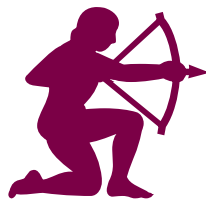
LIBRA

This week your wife is slightly angry that you threw out the baby with the bath water, and downright perturbed that you finished it off with a shotgun



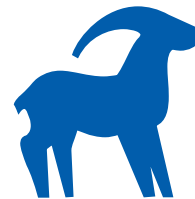
SCORPIO

This week a smattering of bleach leaves your asshole resembling something of a dartboard



SAGITTARIUS

This week you go to Union Council because you find it exciting



CAPRICORN

This week you respond to your girlfriend asking if you'd still love her if she was a worm by saying that you don't love her at all



AQUARIUS

This week, failing to make yourself cry on stage, you discretely punch yourself in the nose



PISCES

This week a blowjob from a giraffe makes you deeply ponder the meaning of the phrase "deep throat"

FRIDAY 11TH MARCH 2022

FILM

Edited by: EVA BORRAS

Highlighting Women Filmmakers

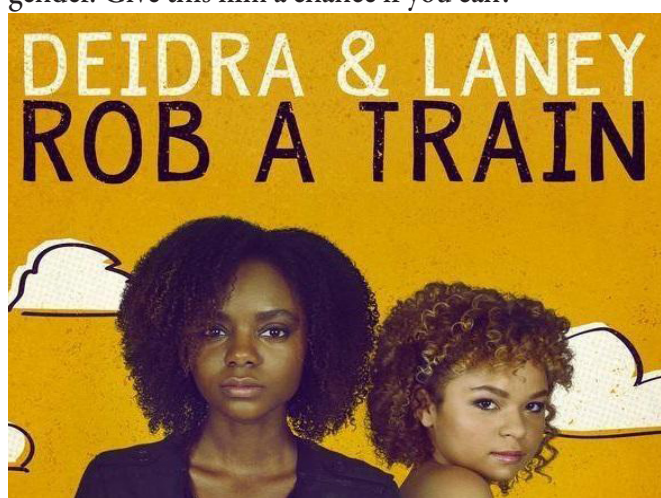
Eva Borrás Film Writer

Sydney Freeland



Starring: Jeremiah Bitsui, Carmen Moore, Morningstar Angeline

Drunktown's Finest was Sydney Freeland's feature film in 2014. It tells the story of three teenage Native Americans willing to escape the hard life that awaits them on an Indian Navajo reservation. Freeland does an excellent job at bringing to life such a touching story, with the characters feeling like real people on the screen. At the core of the movie is respect for cultural traditions and explores the idea of gender. Give this film a chance if you can!



Starring: Ashleigh Murray, Rachel Crow, Lance Gray, Danielle Nicolet, Arturo Castro.

Now streaming on Netflix, the second feature directed by Freeland called *Deidra & Laney Rob a Train*. The film begins with the introduction of the main characters, two sisters have to take care of their brother. This film focuses on the importance of words and how they end up influencing your personality and development to an adult. Make sure to check it out!

Ava DuVernay



Starring: Melina Abdullah, Michelle Alexander, Cory Booker, Dolores Canales, Gina Clayton

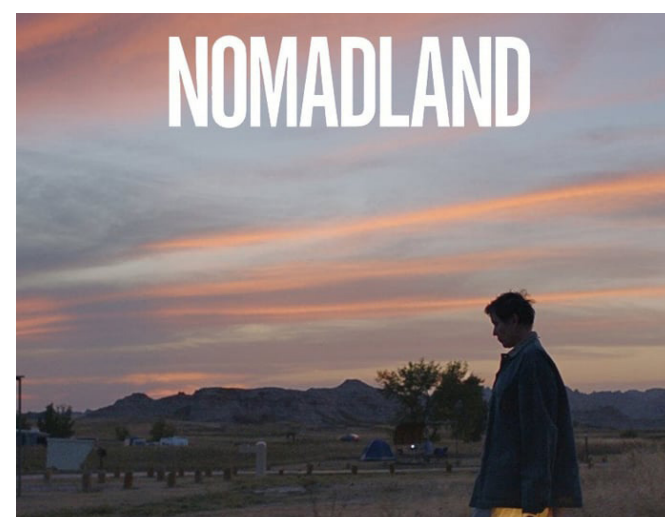
With the *13th*, Ava DuVernay became the first Black woman director to be nominated in the Oscars in 2017 in the Best Documentary category. This documentary gathers real life experiences about the prison system in the United States and takes a deep dive on the nation's history of racial inequality. A hard piece to watch, but definitely worth taking time to reflect on. You can watch now on Netflix.



Starring: Storm Reid, Oprah Winfrey, Reese Witherspoon, Mindy Kaling, Levi Miller

A Wrinkle in Time is after all a children's movie - as an audience we follow the journey of Meg and her brother in trying to find their father. But they are not alone, three magic witches come to help and accompany them. Overall, this adaptation for the Madeleine L'Engle's 1962 book is an entertaining watch for a Sunday afternoon.

Chloé Zhao



Starring: Frances McDormand, Gay DeForest, Patricia Grier, Linda May, Angela Reyes

Nomadland is Zhao's feature film, premiered in 2020. Winning several Academy Awards last year, this overall quiet movie explores an alternate to living in a city, being a nomad, or as explained by Fern the main character, being houseless - which is not a synonym to being homeless. Very personal and intimate stories from the actors in the film will surely make you question philosophic aspects about dealing with grief and life after retirement.



Starring: Gemma Chan, Richard Madden, Angelina Jolie, Salma Hayek, Kit Harington

Eternals is about an immortal race living in the planet Earth for more than thousands of years. Despite having a complicated plot, it is visually stunning and the ensemble cast will not be unfamiliar. The second feature by Zhao was a fun watch.

FILM

New Film Release

Uncharted

Directed by: *Ruben Fleischer*

Starring: *Tom Holland, Sophia Ali, Mark Wahlberg, Antonio Banderas, Tati Gabrielle*

Zanna Buckland Books Editor

I've never played any of the Uncharted games that the movie is based on, but the disturbingly accurate algorithms of the Metaverse enticed me to watch it through constant bombardment with snippets of the trailer. I hate to say it, but the algorithm was successful yet again, and I found the adventure-action film wildly entertaining.

As in any blockbuster action film, the main cast is filled with familiar faces: Mark Wahlberg [Ted] and Tom Holland [Spiderman] play the main duo (Victor Sullivan and Nate Drake), with costars Sophia Taylor Ali [Grey's Anatomy], Tati Gabrielle [You], and Antonio Banderas. Considering this is your run-of-the-mill explorer adventure, following mysterious journals, maps and ciphers towards an ultimate goal of 'buried' treasure, Wahlberg, Holland, and Ali do a great job building up the complexity of their characters' relationships. There is a fair amount of backstabbing and 'every person for themselves' mentality between

them, interspersed with lots of humour and a few heartwarming moments. Unfortunately, Ali and Gabrielle's roles are a little lacking in depth and fulfilment, but as action films go, Uncharted does alright on the female representation front.

Even though the plot moves slowly at times, the scattered action scenes more than make up for it, comprising multitudes of impressive, well-choreographed stunts and rooftop chases, in the leagues of *Mission Impossible*. Holland himself has claimed they were the 'biggest and toughest of his career', which is saying something coming from the most recent spiderman to grace our screens. He spends a lot of time behind bar counters, starting off with neat bartender tricks and progressing into a full-on bar fight involving a bottle of gin, fire-blowing, and some acrobatics. The trailer gives you a glimpse into one of the key action sequences, in which Holland clings to a trail of cargo being whipped around in mid-air, somehow managing



to fend off bad guys in the process.

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



ICU Cinema: The Return of the All-Nighter

It has been years since our last All-Nighter. Some of you have never had the chance to attend a single one. It pains me to know that most of student body has not known the trial of staying up all night, trying to catch up on all the movies they missed during an entire term of extenuating work. Most of you do not know the rush to the food buffet during the pauses between each film, the cups of coffee that become your lifeline in an ocean of sleep past the third feature, the sight of students who, for once, are pulling an all-nighter for their pleasure rather than their work. Yes, it saddens me that most of you have not experienced this terrible decision that you will definitely not regret making.

My friends, we can now dry our tears! Indeed, our next All-Nighter is scheduled for **March 22nd 2022**. We are delighted to present our carefully selected line-up!



Death on the Nile (18:00)

Embark on this vintage party cruise with Hercule Poirot (Kenneth Branagh): meet the newlyweds, enjoy the champagne, admire the pyramids, and ... uncover the murderer hiding among the guests before they strike again.

Uncharted (20:30)

Join our favourite male Lara Croft for his newest adventure: the search for the lost treasure of Magellan. Tom Holland takes up his next iconic role, to the pleasure of the PS3/4 losers, such as I, who can now say they played Nathan Drake before he became a Hollywood franchise.



Scream (2022) (23:00)

Phone calls, horror movie references and knives. Twenty-five years after the original series of murders, a new Ghostface appears and starts targeting a group of teenagers with links to their previous impersonators. This is where the night gets difficult, you might need the shot of adrenaline.

Belle - Subtitled (01:00)

Discover the virtual world of U, where you can be anyone. Suzu takes her chance, and starts singing again: she becomes Belle, U's globally famous diva. However, there is danger in U and she might become the next target for the mysterious beast who threatens her new world.

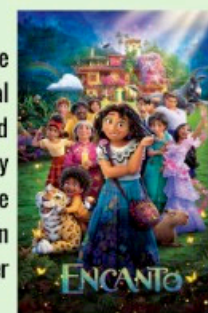


Licorice Pizza (03:30)

At 15, Gary Valentine meets and becomes friends with Alana Kane. Licorice Pizza is the story of how they grow up, running around San Fernando Valley, 1973. Watch this Bafta and Oscar nominated coming of age story by Paul Thomas Anderson to the best tracks of the 70s.

Encanto (06:00)

Finish your night with the Madrigal's fantastical house, which has gifted every member their very own superpowers since Mirabel's abuela settled in it. That is, every member except Mirabel, and it seems that she is the only one who can see the cracks appearing in the walls. A guaranteed high and musical note to wake us up before we go to classes, or home to sleep.



Like the sound of these? Then scan the QR code to get your ticket, grab a friend, and come join us on the 22nd!

All-Nighter ticket with food: £17

All-Nighter ticket films only: £12

Ticket for one film: £4 - On the door and subject to availability

FRIDAY 11TH MARCH 2022

MUSIC

Edited by: TARA PAL CHAUDHURI
JOE RIORDAN

DON'T MISS THE GIG - DOUBLE BIG BAND CONCERT @ GREAT HALL, 19TH MARCH

REMEMBER NOT TO MISS IMPERIAL COLLEGE BIG BAND'S DOUBLE BIG BAND PERFORMANCE IN CONJUNCTION WITH THE SYD LAWRENCE ORCHESTRA.



Single of the Week

'King' by Florence + the Machine

Florence + the Machine's single, "King", is the band's most recent feminist anthem illustrating the differences



the singer has with her partner about the kinds of lives they lead: "We argue in the kitchen about whether to have children/About the world ending and the scale of my ambition". Florence Welch rejects these imposed gender roles, insisting, "I am no mother/I am no bride/I am king" against a string arrangement that juxtaposes the domestic origins of the argument against the regality of being a king.

TODAY IN MUSIC HISTORY

It's 2006, AND (FRANKLY) THE BEST SOUNDTRACK EVER TO BE MADE, HIGH SCHOOL MUSIC, TOPS THE US ALBUM CHARTS. IN FACT, NINE



TRACKS FROM THE ALBUM MAKE IT TO THE HOT 100, PROBABLY MAKING IT A NIGHT TO REMEMBER FOR ZAC EFRON AND VANESSA HUDGENS. MEANWHILE, IN 1997, PAUL MCCARTNEY IS KNIGHTED BY QUEEN ELIZABETH II TO CELEBRATE HIS CONTRIBUTION TO POPULAR MUSIC.

Opinion

The Epic collapse of Bandcamp?

Bandcamp acquired by Epic Games, should we be worried?

Written by **Ben Bateman** Music Writer

So, just a few days ago, Bandcamp announced that they will henceforth be under the watchful eye of Epic Games. For those unaware of either of these two companies, Bandcamp is (was?) a platform on which artists could sell their music – both digitally in FLAC/MP3 format, and physically as CDs, LPs and even cassettes. They even offered a vinyl printing service for smaller artists wanting to have their music on a shiny black disk as well. The best part, though, was that on average, 82% of the money a user spent on the website went straight to the artists they were supporting. Contrast this to the most 'artist friendly' streaming service, TIDAL, which gives an extra bonus to your top artist every month, and it's easy to see why Bandcamp was considered the absolute best way to directly support artists that otherwise don't get that big of a payout from streaming services, better even than heading to your local record store and picking up the LP from there!

Epic Games, meanwhile, is a game development company, obviously. They're most famous for the widely successful Fortnite Battle Royale which made them \$1 billion in nine months from the game's release in September 2017 from microtransactions alone. They also made the widely adopted and renowned Unreal game engine, which, along with Unity, is one of the most popular commercially available game engines on the market today. Needless to say, Epic Games is a pretty large company with lots of value behind it – though up until now, most of their acquisitions have been solely game-related. Their acquisition of

Bandcamp is a strange outlier to this trend.

Of course, the tale of a small company getting acquired by a monolithic megacorporation is nothing new. Epic has promised that Bandcamp will remain functionally independent, with their revenue model continuing to work the same way it always has. Bandcamp Fridays, where all revenue fees are waived by the company, will remain as well. But count me amongst those skeptical about whether Epic will stay true to their word over the years. Epic's largest investor, Tencent, has a 9% stake in Spotify, which (I'm sorry to say) is the Evil Co. of music streaming. Besides this, one of the best things about Bandcamp was its true independence of sorts. It was a haven from the otherwise brutal nature of the modern music industry where you could be guaranteed that you were indeed supporting the artists you were listening to.

Now with Epic in charge, and obviously a media giant with its fingers in every pie like Tencent pulling some strings too, I no longer think I'll be sure in that belief when buying through Bandcamp. Or at the very least, I don't think that it will stay 'The best by a long, long way' forever. It is, unfortunately, in the nature of capitalism to extract every morsel of value possible from the creative talent behind music, as history has taught us with regards to the predatory contracts of the largest record labels around. I'd suggest to folks wanting to give support to their favourite artists, to go and take advantage of Bandcamp while it's still around in its present form. Who knows what the 'Epic Music Store' and its revenue model will look like in a year.



View online here!

Album Reviews

There's no cyanide in this Peach Pit

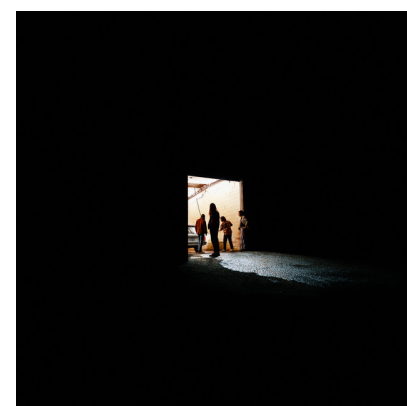
Canadian indie rockers Peach Pit drop third album From 2 to 3

Written by **Joe Riordan** Music Editor

You all know how much I like Peach Pit because you obviously have a carefully catalogued collection of every single issue of Felix and take time every Friday to especially pore over the music section. If that isn't you, you're in the minority, let me tell you simply – they're my favourite band. The lead guitarist, Christopher Vanderkooy, is one of my favourite guitarists – to listen to and to learn his parts. Way back in November, you'll remember I was fretting about getting tickets for the band's London show and you'll be pleased to learn I secured them, and you can too. As far as I know the show on May 19th is not sold out yet, and it would be

worth it, considering the beautiful additions to the set that will come from new album *From 2 to 3*.

While there have always been folksy hints in Peach Pit's sound, their third album *From 2 to 3* leans heavily in this direction, with



MUSIC

slide guitars around every corner and harmonicas in every nook and cranny. Lead singer Neil Smith's soft vocals have told many stories throughout the band's discography but in this third outing they seem to have found the place where they belong. Sparkling lead guitar, campfire acoustic rhythms, and country-style drums combine bewitchingly to provide the mellow backing for Smith's tales of love and loneliness and heartbreak.

As much as I love the singles that the band released in the run up to the album (I'm looking at you 'Up Granville'), the standout tracks for me are ones that

didn't reach our ears until the album release date. 'Give Up Baby Go' epitomises the new sound that Peach Pit explore on the new album. It's bouncy, it's fun, and – as with most Peach Pit songs – it has a certain melancholy in the lyrics. The lead guitar has a perfect jumpy trebly part in the song which I like to imagine being sung in the middle of nowhere in the Rocky Mountains.

The whole album encapsulates this sense of isolation and wilderness. I don't know if it's down to the pandemic and the way the band wrote their parts – perhaps affected by restrictions or if it's down to finding a sound that they love and has been produced

on purpose. Whether the new direction of the band was purposeful or circumstantial, I can't say but either way it works beautifully. *From 2 to 3* is the most personal and relatable album Peach Pit has released to date. The stripped back sound of many songs such as 'Last Days of Lonesome' and the longing 'Everything About You' fits Smith's voice to a tee.

In my opinion, this Peach Pit album has finally found a sound that works for everyone in the band. The sound comes so naturally that everything else fits into place, creating an impressive record that I'm looking forward to watching live on May 19th.

Felix Recommends

Five songs about friendships that just dissipate and the unresolved grief that comes with it

For when you cannot stand the fact that there are people out there whom you love that you don't even say happy birthday to anymore.

Written by [Ambika Bharadwaj](#) Music Editor

I have spent 22 years of life trying to be okay with the fact that humans fade in and out of each others' lives, and no matter how much I think about it, I can't make it sound romantic or poetic. You spend years building up encyclopedic knowledge on them, and then they're gone and it's outdated and into the museum of memories it goes. So here's a list of songs about long lost friends.

always, I'll care by Jeremy Zucker

In true Zucker fashion, "always, i'll care" is a heavenly tune written from the deepest parts of his heart. With a delicate piano introduction, "always, i'll care" sets the stage for Zucker's angelic vocals that come to life in the melodic chorus. Against the airy beats, Zucker sings about platonic love and makes a meaningful promise to his dear friends.

White Ferrari by Frank Ocean

"White Ferrari" is four verses, no hooks, and all emotional gut. The song bleeds from the first words. It feels like a journey through a longstanding fool's errand, one we all embark on despite knowing better. "I care for you still and I will forever / That was my part of the deal, honest / We got so familiar." Perhaps the three most painful lines on "White Ferrari," here, Frank Ocean deals with regret and memory within memory.

*hope ur ok* by Olivia Rodrigo

For the whole album to feel very teenage angst-y (as it should be allowed to be and does so amazingly) and then end with *hope ur ok* - about missing old friends and being distanced from them that it's not the same and you can't find that familiarity but you still love them and wish them well and hope with your entire being that they're okay. That even if it's been years you hope they know how proud of them you are from a distance. How happy you are that they got wherever they wanted to go or are continuing to move forward. Just the sense of all the ways distance and time can dissipate

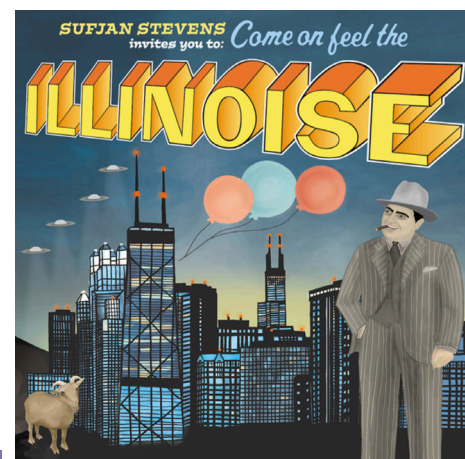
a friendship and yet they still matter so much to you. the love you have is still there. You still care, like that's not a strictly adult emotion, but it becomes more apparent and common as you get older. And to take an album riddled with anger and hurt and frustration and end on something as simple and complex as love—that love is tangled and threaded throughout the album and all the feelings of it—is so good and powerful and her ability to write about all of these feelings so succinctly and vividly! Yes, Olivia! Yes!



Yes!

The Predatory Wasp of the Palisades is Out to Get Us! By Sufjan Stevens

The song starts with this beautiful, sweet and soft melody, spilled among acoustic guitars, flutes and



cellos, to which Sufjan Steven's voice matches perfectly. These soft yellow sounds keep growing to evolve into a beautiful overwhelming orchestra that makes the scenes in your head get more and more tangible in a matter of seconds. To a relationship that is now dead, this song remains, as a beautiful three-minute-long revival — a homage — to never let that person die in your mind. Not to romanticize the person strictly, but everything good in the whole experience itself, just like Sufjan reminds you, "my friend is gone, he ran away, I can tell you I love him each day".

*The Asp at My Chest* by The Pains of Being Pure at Heart

"Serpent friend of mine/ your venom sweet as wine", with this beginning, 'The Asp at My Chest' is an impressionistic

and atmospheric track featuring a slow, entrancing tempo and the group's signature hypnotic vocal blend, which, along with the hissing percussion, create quite a serpentine effect.

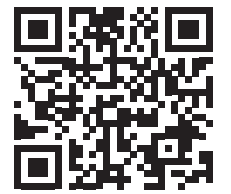
FRIDAY 11TH MARCH 2022

FOOD

Edited by: BENCAN YALCIN

Restaurant Review

Roti King - Rise and shine and get into line



Price range: £



Signature dishes: Roti Canai

Style: Casual

Reviewed by **Bencan Yalcin** Food Editor

Greetings and salutations to everyone for this week's column, in today's piece we will be taking a look at Roti King, an uber popular Chinese Malaysian restaurant tucked away in between the stations of Kings Cross and Euston. The restaurant is 30 minutes away from Imperial College via the District and Victoria Line and definitely worth the visit if you have a few hours to spare in the afternoon or evenings. However! - be aware of the super long lines for this place. Prior to me visiting the place, I was warned by my Malaysian friend but I did not understand how bad it was till I went there myself, so be prepared to potentially wait for 20 - 30 min before being served. To avoid this monstrosity of a line, I decided to come 20 minutes before the restaurant opened at 12pm, and I would suggest you to do the same.

Photo credits: Bencan Yalcin



Roti Chicken Canai

Once we were seated, we decided to order 3 things from the menu: Roti Canai (Chicken), Nasi Goreng and Mee Goreng. We felt like this was a good selection of rice and noodle dishes and of course we can't just go to Roti King and not get any Roti so we did just that.

To quickly start off, for those of you reading who do not know what Roti is, it's a flatbread dish originating from India, but is now widely eaten in other parts of Southeast Asia. This naturally leads us to our first dish, the Chicken Roti Canai (£7.75). The dish comes with two pieces of roti served with a bowl of Chicken Curry which we found to be fragrant, creamy and light, considering it is a curry and is perfect for sharing between two people. You can see the Roti being freshly made so no need to mention how fresh it is, all there is to add is that the Roti was perfectly cooked being light

and was easy to pull apart, with the roti holding onto the curry nicely once it was dipped. Given the price point and the freshness and authenticity of this dish, the Roti Canai is a must get!

After finishing our Chicken Roti Canai, we swiftly moved onto the next dish, Nasi Goreng (£8.50). Nasi Goreng is an Indonesian/Malaysian fried rice dish, traditionally served with a fried egg. It includes ingredients such as chicken, prawns and beansprouts, garnished with finely cut spring onions and red chillies to add a pop of colour and heat. Roti King serves different types of Nasi Goreng, with the option to choose from either seafood or chicken. Although it may not seem like a lot is included, the Nasi Goreng was light, flavourful and fragrant with the prawns providing a nice texture and taste. Coated with different sauces such as kecap manis - a sweet soy sauce, it harmonised nicely with the rice and ingredients making it a pleasure to eat. Furthermore, for those who like a bit more of a kick, a side of chilli paste is provided. It should also be mentioned that Roti King also serves vegetarian and vegan substitutes.

Photo credits: Melis Efecan

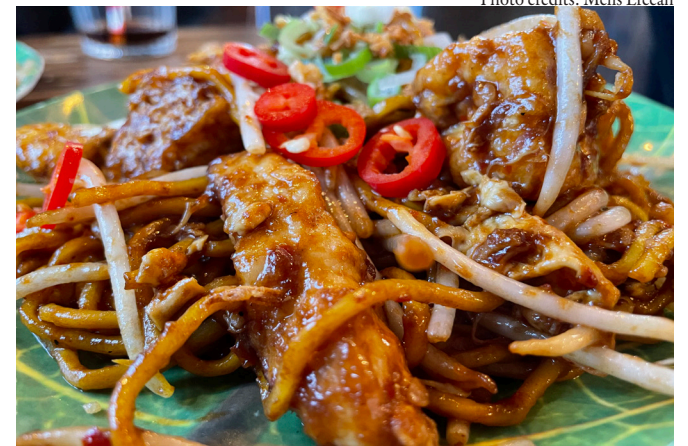


Nasi Goreng

Our final dish was the Chicken Mee Goreng (£8.50), which is a simple yet delicious stir fry egg noodle dish with chicken, beansprouts, red chillies, green onions and served with a slice of lemon for a nice tangy and zesty flavour. Like the Nasi Goreng, the Mee Goreng didn't include many ingredients but it was the sauces which elevated the dish. The tangy flavour from the lemon slice, combined with the soft and tender chicken, coated with a generous amount of sauce and a slight kick from the chillies was an overall pleasure to eat. For those who want to explore other options, the

Mee Goreng comes with the option to include prawns and tofu.

Photo credits: Melis Efecan



Chicken Mee Goreng

Overall, I understand the hype surrounding Roti King, the dishes were simple in essence, delicious and quite affordable. Although it should be added that the restaurant itself is pretty small, hence why there is always a long queue even 20 minutes before the store opens (12pm). If you come at peak lunch or dinner hours, there is a possibility of sharing a table with someone, although I believe this isn't an issue as a barrier is placed in between. With all that being said, the service here was very fast and the staff work very hard to make sure you are handled with care and that your food comes promptly on time. Just a heads up - because of how busy it is, once you make an order you cannot add to it afterwards.

WRITE FOR FOOD!

If the article above has got you interested in writing about delicious restaurants or you simply want to share your own food recipes, please email us at:

food.felix@imperial.ac.uk

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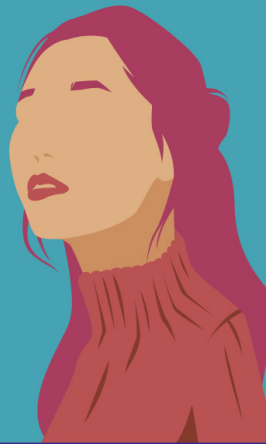
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Biology / Biochemistry / Chemistry / Mathematics / Physics

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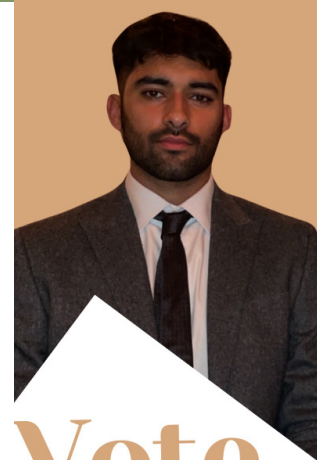
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