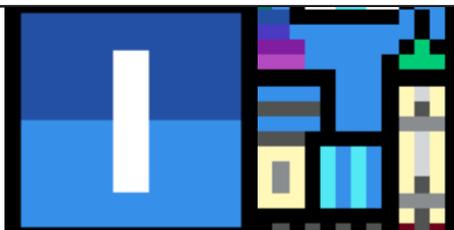


Felix



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ISSUE 1799

FRIDAY 6TH MAY 2022

Imperial College to host NATO innovation HQ



Sam Lovatt Editor-in-Chief

Imperial College has been selected as the host of the UK branch of the NATO innovation headquarters.

NATO's innovation programme, the Defence Innovation Accelerator for the North Atlantic (DIANA), is jointly hosted by the UK and Estonia and will encourage "transatlantic cooperation on critical technologies and help NATO work more closely with industry and academia", according to the UK government website. Imperial will host both the accelerator and the programme's HQ.

The government website continues that the programme will "accelerate, test, evaluate and validate new technologies that address critical defence challenges and contribute to Alliance deterrence".

Cyber innovation and vehicle testing are among the goals of the accelerator, which will also encourage cooperation between experts of different nationalities within NATO.

The host countries will provide "funding, guidance and business expertise" through their accelerators.

Furthermore, they will "work with NATO to develop a virtual marketplace to connect start-ups with trusted investors".

The White City i-Hub already plays host to a number of defence and technology entities, including the UK's Defence and Security Accelerator and the US Department of Defence's Tri-Service Office. These bodies form part of the College's Institute for Security Science and Technology.

An Assistant NATO Secretary General said "Imperial College London provides a fantastic ecosystem for DIANA's launch".

In the last week the UK's defence spending, and its alignment with NATO rules, has been called into question by a number of senior Conservatives. A leaked letter from Defence Secretary

...continued on page 3

Universities to lose access to student loans if they shun in-person teaching

Sam Lovatt Editor-in-Chief

The government crusade to force universities to return to in-person teaching continued last week, as Universities Minister Michelle Donelan said that universities may receive visits by officials from the Office for Students, to assess staff attendance rates.

Speaking to *The Mail on Sunday*, Donelan said that she had "not heard a reasonable rationale" for why students would still need to receive teaching remotely, where it was done in person before the pandemic.

"Students and lecturers will be going to the pub, going out for meals, they'll be going to parties, going to weddings, probably concerts, so it doesn't actually make sense that they can't then be in a lecture theatre" she added.

Sanctions for institutions not adhering to the government's standards risk being fined, with "the most serious ramification" being the loss of "ability to access money from the student loan system".

It is unclear why the minister cannot just ask the universities in question to self-report the number of staff working

on campus on a given day, as with every other metric. It is also unclear how Ms Donelan expects a small number of officials to build an accurate picture of staff attendance from a single visit, especially when some universities are sprawled across multiple campuses.

The news follows Education Secretary Nadhim Zahawi's call for universities to return to in-person teaching, in January this year.

Imperial College has been praised

...continued on page 3



Michelle Donelan MP

EDITORIAL

This issue was produced thanks to the work of

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Hungary

The 'World against Russia' picture painted by some media outlets is clearly quite far from reality, and as the war has progressed this has become more and more clear. However, more disguised and far more sinister is dissent occurring not just close to home, but within the ranks of the EU and NATO. Hungary's populist President Viktor Orban is currently the EU's longest serving leader, and at the beginning of April won a landslide fourth election, giving his Fidesz party a two-thirds supermajority in the country's parliament. As early as 2014, Orban's second election, the Organisation for Security and Co-operation in Europe described the ballot as "free but not fair" due to the playing field being extremely un-even, with Orban's government influencing much of the media, confidential campaign spending and bias in public life.

Maybe Orban's recent win is not the result of manipulation but of genuine support by the Hungarian electorate. After all, we are in the midst of a global cost of living crisis, and when times are hard countries often become more insular, and populism is flourishing across much of Europe.

However, the case in other European countries appear markedly different when compared with Hungary. Polls suggest that 25% of Fidesz party voters think the war in Ukraine is *Ukraine's* fault. By contrast, a *YouGov* poll in February shows that just 1% of Brits see Russia as 'generally a friend and ally'. It is, of course, unclear how much of this opinion is altered by the Hungarian government's pro-Russia messaging on state TV, however it would be surprising to learn that this had no effect.

The EU is a collection of democracies, founded on 'freedom, democracy, equality, the rule of law and respect for human rights'. Orban, by contrast, runs what *The Times*

describes as a 'populist kleptocracy and elective dictatorship'. Orban himself is a proponent of 'illiberal democracy'. The country is notably hostile towards LGBT people, with the EU having already voted in favour of taking action over Hungarian laws that marginalise them. Orban has been accused consistently of commandeering EU funds, which account for as much as

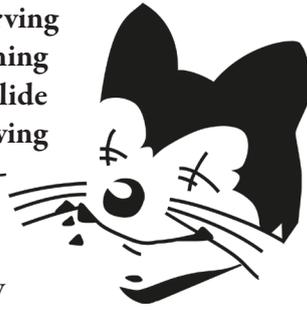
5% of Hungary's GDP, to finance personal projects and make his associates richer. He has built both a football stadium in, and a direct railway to, his home village, which at the time had a population of around

1,800 people. The railway connects his home village to another, and carries about a thousandth of the number of passengers 'predicted' when funding was allocated. He used €2 million in EU funds to do this. The recently changed constitution now makes it legally harder for opposition parties to succeed; the swamp needs far more than draining.

Hungary relies on Russia for 85% of its gas. Orban attacked Zelensky in his victory speech in April. He refused to allow arms shipments in support of Ukraine to pass through Hungarian territory. If Orban had just kept his head down and taken a neutral stance without saying anything, this would probably have blown over within the EU, but he is all but a Putin ally without saying it out loud.

Not to mention Hungary's NATO membership; there's not a snowball's chance in hell that Hungary would respect Article 5, 'an attack on one is an attack on all', if it came to it.

So, you may wonder, why is Hungary still in the EU? Because there is no legal way of removing a country from the EU! The most that can happen is an embargo on EU funds to the country, which the Commission is in the process of enacting. This needs to change. There is no place for parasites in the defence of Ukraine.



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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...continued from page 1

NATO

Ben Wallace to Chancellor Rishi Sunak stated that inflation and the cost of arming Ukraine could mean that the UK's defence spending will fall below the NATO-mandated minimum of 2% of GDP by 2025. Chair of the Defence Select Committee Tobias Ellwood told *The Times* on Monday that our current "peace time" budget was no longer suitable and that the UK should raise its defence spending to 3% of GDP. Foreign Secretary Liz Truss said last week that the 2% mark should be a "floor, not a ceiling". Such increases in spending could result in a significant uptick in productivity and usage of accelerators such as DIANA.

...continued from page 1

In-person teaching

since the pandemic began for its success in transitioning to remote learning. "When students could not attend labs, we mailed hundreds of lab in a box kits to students worldwide. With travel restricted, our geoscience students took a virtual field trip to the Pyrenees. We

conducted final medical exams online, allowing hundreds of new doctors to work on the frontline in public hospitals" said Provost Ian Wamsley in September last year. The College won The Sunday Times University of the Year 2022 award, with the editor of the Good University Guide crediting this transition as a major factor in the putting Imperial above the rest.

As of 28th April the College still encourages "all members of our

community to continue wearing face coverings indoors, especially in crowded, enclosed spaces, unless you are exempt", but has removed "capacity constraints in office, library, teaching and examination spaces".

Credit: Imperial College London



Universities Minister Michelle Donelan visits Imperial during the pandemic

In brief

Oyster Rooms close

Time has been called on one of the most iconic haunts of the Fulham dipsomaniac. A mainstay of Imperial College student life, mid-week drinks, consistently below-par food, and financial reprieve during otherwise £6.50-a-pint pub crawls, the Oyster Rooms Wetherspoons in Fulham Broadway has called last orders for the last time.

Wetherspoons suffered substantial losses through the pandemic, and the Oyster Rooms were highlighted as a particular loss-maker (I doubt the rent in the Broadway is particularly affordable). The pub closed permanently around a month ago, and the Wetherspoons website now says that the closest alternative is The Rocket, in Putney and on the other side of the Thames.



Hyde Park's value

Hyde Park has been ranked as the most valuable recreation site in England and Wales, with a value of £24.1 million, a DEFRA funded study suggests.

The study used an 'Outdoor Recreation Valuation' tool developed at Exeter University to balance the value of recreational benefits against associated costs, such as travelling to and from the location.

For many of us, it costs nothing to walk across the road and into more greenery and biodiversity than you can find almost anywhere else in London. Exposure to such environments has been shown countless times in studies to boost everything from mood to productivity.

Many of us are only here for a few years, best make the most of it while we can!



Fixing the hole in the ozone layer

► *This week, Science has gone Environmental! Humanity's best friend is the planet and its liveable atmosphere, so restoration projects and policies like this one should be our top priority.*

Zanna Buckland Science Writer

Over the past few years, and especially since COP26, news outlets and social media have served up slews of unsavoury facts and statistics relating to the planet and its climate, with few positive stories among them. Unfortunately, the nature of the media is that negative and sensationalist news tend to trump positive stories. Nonetheless, there has been one recent example of global restoration efforts being successful. The hole in the ozone layer has begun to heal itself and is predicted to be fully repaired by the end of this century.

The ozone layer is a region of high ozone concentration in the stratosphere that absorbs a large amount of UV radiation (particularly harmful UV-B rays) before it reaches Earth. This protects the Earth's surface from scalding, as well as shielding humans (and other animals) from a source of skin cancer.

By the late 20th century, parts of the ozone layer had been severely damaged and thinned by the continuous release of ozone-depleting chemicals such as chlorofluorocarbons (CFCs), methyl bromide, carbon tetrachloride, hydrobromofluorocarbons, and more. These were mainly the by-products of aerosol sprays, coolants for household appliances, and agricultural practices such as soil fumigation. Ozone depletion occurs by introduction of chlorine and bromine molecules into the atmosphere. These are highly reactive and damaging to ozone molecules. According to the US Environmental Protection Agency, a single chlorine atom can destroy millions of ozone molecules when released into the stratosphere.

The first research on ozone depletion was published in 1969 and 1974, by Dutch scientist Paul Crutzen and American chemists Mario Molina and Frank Sherwood Rowland respectively, in papers which explained how ions

of nitrogen, chlorine, and bromine interact with ozone molecules. Parts of Crutzen, Molina, and Rowland's work also identified links between human activity and these molecular reactions in the atmosphere.

The ozone hole – the area of most significant depletion – was observed in a later paper by Joseph Farman, Brian Gardiner, and Jonathan Shanklin - British scientists involved in Antarctic surveying. The paper explained that one area of Antarctica had ozone levels that were much lower than the rest of the ozone layer. This area, which became known as the Ozone Hole, was shown to be more depleted every year, and had noticeable effects on temperatures in the Southern Hemisphere, particularly Oceania and Antarctica. This triggered campaigns and protests all over the world, led by environmental organisations such as 'Friends of the Earth' and the 'Sierra Club'.

In 1987, the Montreal Protocol was formed by the United Nations, and was ratified by 198 countries around the world (every member state at the time). The Montreal Protocol regulates the use of ozone-depleting substances (CFCs in particular), which forced corporations to find alternatives. This agreement - which significantly reduced the amount of ozone-depleting chemicals released in the following years - was a vital step on the road to the ozone layer's recovery, and many of its original policies are still being followed today. Its most recent amendment, the 'Kigali Amendment' (2022), regulates hydrofluorocarbon (HFC) emissions. While HFCs do not contribute to ozone depletion, hence their exclusion from the original agreement, they are greenhouse gases, and so contribute to global warming and climate change.

Since the implementation of the Montreal Protocol, the Ozone Hole

has slowly but steadily started to repair. Although this is a major win, both for us and the planet, maintenance of the ozone layer relies on the stability of the delicate relationships between UN member states. Sadly, the world's current political climate (what with the Russo-Ukrainian war, the effects of Brexit, and the continuing pandemic) is proving to be a significant barrier to making sound and successful regulatory agreements on climate change. While Glasgow's COP26 furthered the discussion around international environmental policies, it looks like there is still a way to go before we are collectively on track to direct our focus towards the climate crisis, let alone keep global warming to 1.5 degrees Celsius. No individual country has or will solve climate change alone, and Egypt's COP27 this year will be another opportunity for world leaders to not only speak up, but to step up and make powerful moves like the Montreal Protocol. The moral of this story is not to give up hope; it shows that collective effort and decisive policymaking can

The largest Antarctic ozone hole ever recorded, on September 24th 2006

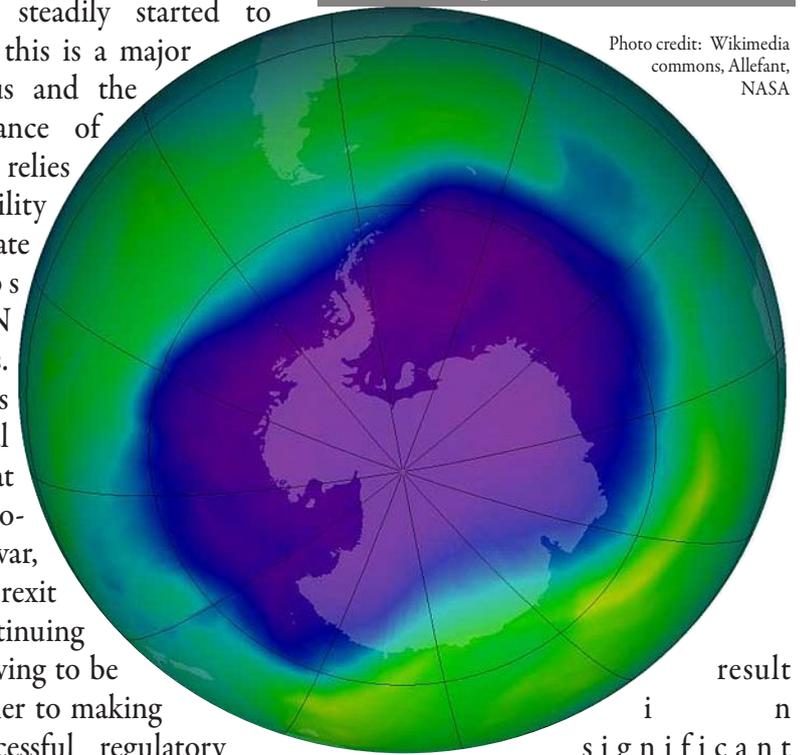


Photo credit: Wikimedia commons, Allefant, NASA

result in significant achievements when properly, forcefully implemented. It may seem that nothing can be done to change the possible disaster in our future, but the ozone layer's restoration is proof that change is possible, if only political and corporate leaders find the will to commit to it. As individuals, the most significant contribution we can make is to spread positive and reliable information about combatting climate change and to put pressure on governing bodies and corporations to do more for us and the planet.

AUTHOR'S RECOMMENDATIONS

If you want to see more positive news and/or reliable updates about climate change (the good, the bad, and the ugly), have a look at these news outlets and accounts:

Nature.com; Positive News @positivenewsuk; Carbn @carbn__; Grist @grist; @futureearth (Good News Tuesdays!); @earthlyeducation; @climate_science; @earthrise.studio; @nasaclimatechange; and climate-/earth-specific accounts for major news outlets (@cnnclimate, @bbcearth, etc.)

How an undergraduate changed our understanding of genetics overnight

► *Sturtevant drew the first genetic map whilst working under the supervision of Dr Thomas Hunt Morgan*

Wang Guo Staff Writer

Alfred Henry Sturtevant was an American scientist born in Illinois in 1891. His father was a maths teacher but he quit his job to start a farm, where he bred horses. Sturtevant was fascinated by how the traits of horses were inherited by their offspring. This enormously influenced his career. He went to the University of Columbia, where he took a biology introductory course given by Dr Thomas Hunt Morgan, who was studying the mechanism of inheritance in fruit flies. Thomas Morgan was a key geneticist of the 20th century because he showed that the chromosome - structures that carry DNA in cells - was the basic unit of inheritance. Sturtevant was astonished by Thomas Morgan's class, and sent him a paper about the mechanisms of inheritance in the horses he saw during his childhood. Morgan, impressed with Sturtevant's work, offered him a position in his lab in 1910. There, he and Thomas Morgan spent hours breeding thousands of flies and recording their offspring's traits. One day, Sturtevant took home the huge stack of papers containing their data, and worked through the night drawing the first genetic map at the astonishingly young age of 19!

But what is exactly a genetic map? First, let's give a bit of biological background. DNA encodes for proteins, which express our traits such as the colour of the eyes, or our height. When a cell is getting ready to reproduce and split into two, DNA is first packaged in highly condensed structures called chromosomes. The chromosomes look like 'sticks', and the genes are linearly located in specific locations of those 'sticks' called loci. Different parts of the chromosomes have different genes. Due to the linear distribution of genes along the chromosome, some genes are closer to each other than other genes.

Nowadays, it is relatively easy to find out a gene's location thanks to the development of genome sequencing techniques and bioinformatics that allow

us to sequence the entire genome of an organism and track the location of its genes. However, there were no ultra-powerful computers in Sturtevant's time. "Mapping" the locations of genes required diligent study of the traits of that offspring inherited from their parents. Traits that tend to pass to offspring together are more likely to be linked to genes closer to each other in the chromosome. Using this information, we can find out the relative positions of genes. This works because of how genes are passed onto offspring. This is explained through meiosis and recombination. Meiosis is a process by which a parent's genes are distributed into gametes (in humans, gametes are sperm or egg cells). The gametes of the opposite sex fuse with each other during fertilisation and create what is known as a zygote cell, which eventually develops into an individual. In meiosis, the amount of DNA found in a parent's cell is divided in half to make the gamete. This means that when gametes fuse, the amount of DNA in the resulting zygote is the typical amount of DNA found in the cells of your fully-grown body. For example, humans have 46 chromosomes in their cells, but human gametes have only 23

chromosomes. When a sperm and egg fuse, each one contributes 23 chromosomes to the final zygote, so that $23 + 23 = 46$ chromosomes. This ensures that the future offspring will have the same number of chromosomes as their parents.

Having explained the significance of meiosis, we must explain its signature event: crossing over. DNA is packaged into chromosomes: 23 inherited from a sperm, 23 from an egg. These chromosomes pair up into homologous chromosomes. These pairs contain the same genetic information, which interact to give you a certain trait. For example, your mother could have given you a "blue" eye colour gene, and in the equivalent chromosome from your father, you could have received a "brown" eye colour gene. You would end up with brown eyes as this gene is more strongly expressed, but you still have both copies of the gene. During crossing over, these chromosomes come together and "swap" fragments of each other, to create completely unique chromosomes that can pass on to your offspring. Genes that are closer together are less likely to be split up during crossing over. The traits that they influence are therefore more likely to appear together in offspring. Genes

that are further away from each other are more likely to be split up during crossing over, and so you will be less likely to see their traits together in offspring. Imagine two people are holding onto a piece of rope that has been stretched out. If you take a pair of giant scissors and cut the rope at a random spot, you are much less likely to separate the people if they're close together than if they're far apart. Note that crossing over is a random event that can happen to any part of a chromosome. Sturtevant studied the fly traits that tended to be inherited together, and based on how frequently certain traits were inherited together or separately, he drew the first gene map of a chromosome, and revolutionised the field of genetics.

Nowadays, knowing a gene's location means that you can find out the gene sequence and location of, for example, a genetic disease. Then, you might be able to use some genetic engineering tool to target and repair that DNA sequence, curing the disease. This is one of the many applications of gene mapping, which all started with a 19-year old undergraduate student.

EXPLAINER BOX

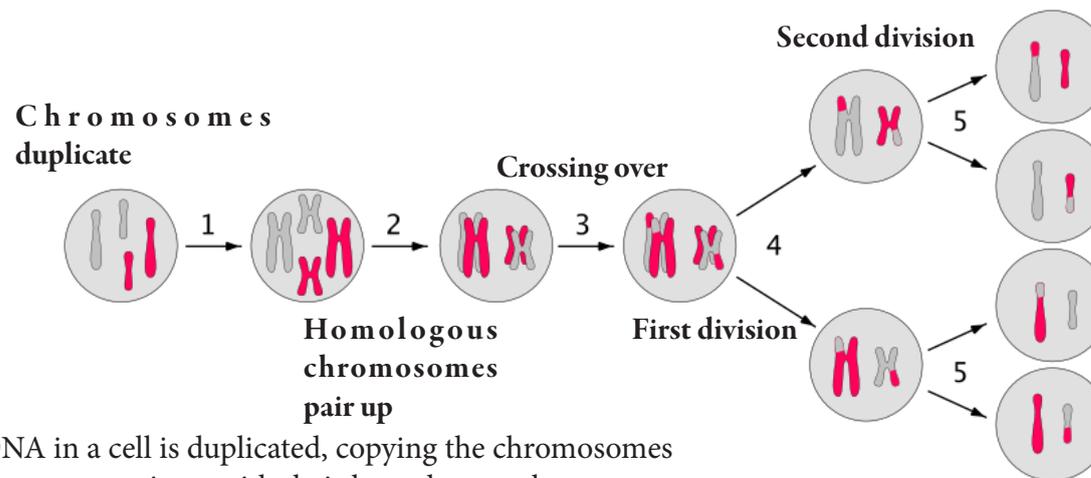


Photo credit: Wikimedia commons, Peter Coxhead, CC0

- 1) The DNA in a cell is duplicated, copying the chromosomes
- 2) Chromosomes pair up with their homologous chromosomes
- 3) Chromosomes "swap" fragments with their homologous chromosome in a process called crossing over
- 4) The homologous chromosomes are split and divided evenly when the cells splits into two
- 5) The chromosomes are split in two, so each gamete (egg or sperm) contains different genetic information, allowing offspring to have variety. This is why you're different to your siblings, and not copies of your parents!

SCIENCE

This week in Science...

FROM IMPERIAL

Clean water at the push of a button

MIT researchers have built a portable desalination unit that generates clean drinking water. It removes particles and salts simultaneously using ion concentration polarisation, by which an electric field is applied from above and below a channel of water to repel both positive and negatively charged species, which include salt, bacteria and viruses. This eliminates the need for high-pressure pumps and filters, which affect the transportability and cost of filters. It requires less power to operate than a cell phone charger, and at under 10kg, it has a lot of potential to be transported to remote locations.

Pterosaurs may have had bright feathers on their heads

A new analysis of an 113 million year-old Pterosaur fossil revealed it had two types of feathers. These were indicated by whisker-like single filaments, and more complicated branching structures. They have thin films that allow them to fly and so do not require feathers for flight, which suggests they were present for warmth and visual signalling, such as attracting a mate. This settles a long-running debate over whether Pterosaurs had true feathers. As dinosaurs also had feathers, they could have had a common ancestor that evolved feathers, which pushes back the estimated origin of feathers by around 100 million years to 250 million years ago.

FROM AROUND THE WORLD...

Magic mushrooms “open up” depressed brains

Analysis of fMRI brain scans from close to 60 people has revealed that psilocybin, the psychedelic compound found in magic mushrooms, 'opens up' depressed people's brains. Patterns of brain activity can become rigid and restricted. Psilocybin was found to alter the connectivity between brain regions. This effect was correlated with self-reported improvements in depression, and was not seen with conventional antidepressants. This is the first time psilocybin has been found to work differently from conventional antidepressants, and it could treat other mental illnesses.

Hydrogen fuel cells made cheaper with iron catalyst

Hydrogen fuel cells convert hydrogen to electricity with water vapour as the only by-product, making them attractive sustainable alternatives for portable power. Researchers at ICL have created a catalyst that uses only iron, carbon and nitrogen, which are much cheaper and more readily available than the platinum catalysts that usually make up 60% of the cost of a single fuel cell. The iron catalyst was dispersed as single atoms, which are particularly reactive and act as a old substitute for platinum.

Insect wings could inspire future wing designs

Researchers studying damselflies and dragonflies have constructed the most complete description of an insect wing sensory system. Mechanosensors on insect wings allow them to monitor the state of their wings and deform them to enhance lift, flight control and mitigate damage. The team found high numbers of sensors on the insect wings, with 3,000 sensors on the four eastern amber wing dragonfly wings, and 1,500 sensors on the blue-fronted dancer damselfly wings. The second stage of research, which is ongoing, involves recording neural signals from the wings whilst an airflow is applied over them. The third stage will explore ways this research could be applied to wing design.

ICL's moment of fame on r/place

Oscar O'Flanagan Science Writer

Isabelle Mattia Science Writer

Xiang Yan Science Writer

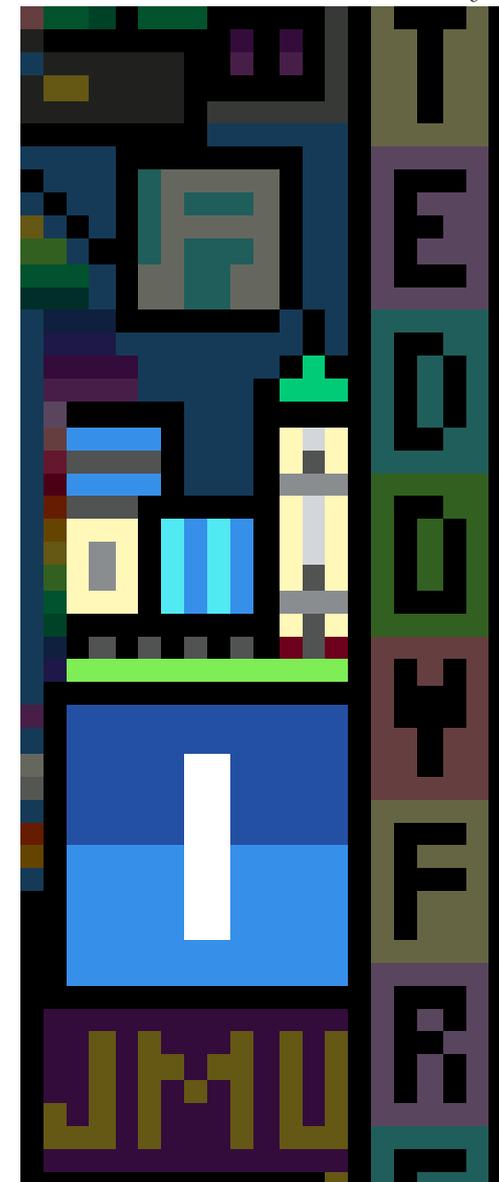
Reddit often has a unique approach to April Fool's, with 2017's r/place being one of its most memorable events. It gave users the opportunity to place a single coloured pixel on a large canvas every five minutes. The event was revived in 2022 over a period of four days, and found internet communities congregating and working together to promote themselves. By the last day, few universities had been represented on the final canvas, the demand for space being extremely competitive. Here is the story of how a small group of Imperial users were able to secure a place and earn the College a little spot in internet history. The first Imperial logo was created by a few anonymous Design Engineering students, and gained traction after being mentioned on Imperial Secrets. With more people aware of the project, it could grow beyond its humble 5x5 size. However, with larger borders came increased competition. When supporters of the political party La France Insoumise began constructing a tortoise in our vicinity, we quickly lost ground – but on the third day, an expansion of the canvas and a new dedicated Discord server provided an opportunity for relocation and better coordination.

The move was going well with the new 14x14 logo nearing completion. Having allied with our Oxbridge neighbours, there were no threats nearby to destroy our hard-claimed territory, until suddenly, a void of thousands of black pixels swarmed our area, courtesy of the streamer XQC. We were grossly outnumbered and losing faith. However, to our right, we noticed a beacon of hope: the H3H3 Podcast. We quickly formed an unexpected alliance with its viewers, and were now under the protection of thousands.



First Imperial logo on r/place, would later be destroyed

Photo credit: Xiang Yan



Completed Imperial College pixel art with Queen's lawn, Central Library and Queen's tower

The Imperial logo was not only repaired, but our borders widened as our alliances grew to include Pokémon and Tamagotchi fans. With their help, the logo survived the night. Soon enough we were in a position to build the famous Queen's Tower accompanied by the library. We were a stone castle, and our enemies were mere wooden arrows. The empire was undefeatable. Or so we thought...

On the final evening, the colourful spectrum of placeable pixels suddenly became white. The canvas started dissolving before our very eyes and soon enough the Imperial logo had disappeared into the night. It was an artistic end to an artistic masterpiece, and if one thing was accomplished during this event, it was the four-day intense procrastination and entertainment this journey had gifted us. A twisted victory.

FRIDAY 6TH MAY 2022

ARTS

FIVE STARS AND FREE!

By VAIDHISWARAN RAMESH

A CELEBRATION OF NARRATIVE IN
FORM AT THE TATE BRITAIN page

8

Edited by:
ALEXANDER COHEN
ALEX JACKSON

Theatre

Ultimate urban planning? *Straight Line Crazy* review

Straight Line Crazy

★★★★

Credits: Photo/Manuel Harlan

Where? Bridge Theatre

When? Until the 18th of June

How much? From £7.50

Reviewed by Alexander Cohen Arts Editor

There is something antiquated about David Hare's new play *Straight Line Crazy* at the Bridge Theatre. Ralph Fiennes plays Robert Moses, the real-life urban planner whose infrastructure projects dragged New York kicking and screaming into modernity with parks, tunnels, and highways, and is (say it with me) straight line crazy (because he built his roads in straight lines). On paper, this seems interesting, and it is. Only that it is more interesting than entertaining with a predictable structure and formulaic approach to storytelling.

Ralph Fiennes is brash and boisterous as Moses. Under Nicholas Hytner's simple but precise direction he is undeniably intoxicating to watch, although his American accent is sometimes questionable. The supporting cast stand their ground beside him; Siobhán Cullen as Finnuala Connell, Moses's long time assistant, is grounded and candid in her portrayal of a woman infatuated by Moses's philosophy and sense of civic duty. In the first act she, alongside Samuel Barnett's equally strong Ariel Porter, clashes with Moses who plans to build roads on the privately owned Long Island, grant-

Ralph Fiennes as Robert Moses in *Straight Line Crazy* at the Bridge Theatre near Tower Bridge.

ing the growing urban population of New York access to the recreation areas. But this conflict is inorganic, carefully designed to allow Fiennes as Moses to divulge his utilitarian, and sometimes Machiavellian, world view. Interesting to hear, not as entertaining to watch.

The second act skips forward thirty years where his world view has deteriorated into the delusional pipe

dreams of a cantankerous old man blinded by corporate greed, losing sight of the communities who he supposedly serves. His plan to build a highway through Washington Square is met with resistance by local activists. Support for their cause germinates and sympathy for Moses wilts. The seeds of the inevitable hubristic downfall at the end of the second act are sown early on. But because his downfall is so predictable, the emotional force of it is nullified.

Hare toys with the nature of duty and democracy, but this never sinks deeper than one of Moses's witticism laden rants. There is a question about the effectiveness of the "strong man" to rise above the bureaucratic governmental administration. But Hare merely contemplates the idea rather than firmly exploring it. The moral ambiguity of Moses's decisions is also unexplored. The real-life Moses was accused of racism, moving communities out of deprived areas to make way for transport links. Again, this is only briefly touched on as part of his undoing.

Straight Line Crazy brings nothing new to the theatrical table. Yes, it is interesting to learn about biographical details of Robert Moses and urban planning, but Robert Caro's 1974 biography of Robert Moses *The Power Broker* does this far better. Probably written knowing that Nicholas Hytner would direct and Ralph Fiennes would star, David Hare's 39th play risks complacency in a time when theatre is in need of dynamism.

Credits: Photo/Manuel Harlan

Alisha Bailey as Mariah Helert in *Straight Line Crazy*.

ARTS

Exhibition

The Procession: A celebration of narrative in form

Credits: Photo/Joe Humphrys

The Procession**Where?** Tate Britain**When?** Until 22nd January 2023**How much?** FreeReviewed by **Vaidhiswaran Ramesh** Arts Writer

Envisaged for the Tate Britain by Hew Locke, famed British sculptor and Visual Artist, *The Procession* is a parade of elements. Each item has been intricately designed and sculpted using thoughtful paraphernalia that collectively speak to a much greater truth as an ensemble.

Resembling something out of a Day of the Dead celebration, *The Procession*, a carnival of form with some 150 statues marches the thoroughfares of Tate Britain marking the whole the Duveen Galleries theirs, vehemently telling (and yelling) their story. The parade is nothing short of a dream sequence. With a perfectly balanced tone of horror and narrative, these life size figures meander through the gallery donning intricate masks and costumes, telling a poignant story of pain and anguish with an eye to past and present events.

With obvious inspiration from Carnivals and the many west indies cultural influences, Hew Locke has managed to pack the procession with a lot of telling narratives. In the very first statue of the parade, we see contemporary narratives surrounding the Ukraine crisis and Russian oil influence brought to surface with a child carrying a drum lined with a share certificate issued by the Russian General Oil Corporation from the 1900s. And as we progress through to the end, we see the emergence of similar narratives of regressed histories. Sugar plantations, shares of exploitative colonial enterprises (the West Indian Improvement corporation), caricatures donning lion medallions and battleship insignias and symbols shepherding people with ropes! We see signets of Winston Churchill and Stalin are marked on either side of the statue whose face is 'stamped' with a colonial era commemoration coin. Paintings and photos of the colonial past are fashioned as flags and textiles to be worn and carried by these statues as they wade through the very halls that house the original works.

While these elements, particularly those pertinent to colonial history, have been common fodder of reflective exhibitions (especially over the last two years), what is different here is the subtlety and the nuance of the characters sketched. There is no screaming visage of a person in chains nor is there a glowing archetype of a villainous western entity. Rather - the statues seek to present the confusing effect and weight of the trauma of these histories, steering well clear of judgement.

As I said, the procession contains some 150 statues, each constructed and presented in such a detailed and



The Procession is free to view at the Tate Britain until January next year!

intricate manner, and the narratives told by them are aplenty, that to delve into each in the space of an 800-word essay is meaningless. This is not an exhibition to be taken in with one sitting. But perhaps the best way to savour it is to criss-cross the permanent exhibition galleries adoring the procession on either side and sampling it with some time to let these elements breathe.

The props and the dresses adorning the statues are all hand sewn and the statues themselves are fashioned out of simple materials like cardboards, papier mâché, and repurposed plastics. Interestingly, despite the enormity of the emotional anguish being conveyed through these statues, we rarely see the true face of any one in this procession! Consistently behind masks and beads we see them largely as members whose identities have been done away with. Most of them are even dressed in bonds and shares, and have any individuality erased. This is not to say that the procession is muted, with identical caricatures walking a zombie land. The outcome is anything but that, with a large tapestry that echos myriad voices only spoken and presented with a

juxtaposed tone.

Speaking to Elean Crippa (Senior Curator, Tate Britain) about the exhibition, Locke notes how he likes to see 'Time as non-linear and lingering'. By returning to his earlier work for *The Procession*, he has captured this feeling quite well in the exhibition. We can always feel the movement in these statues, frozen in frame with their passion and dynamism of action intact (that one would see in Bernini's work).

There is some two hundred or more years of history depicted in this parade — spoken in simple truths. The halls of Tate Britain hold some of Britain's most famous and cherished work — and with this temporary exhibition there is an addition to these quarters, of a work of equal talent and vigour... trying to tell the confused stories that are oft missed in between the cracks. So go one afternoon and attempt to unpack it! Wade through the parade as you would in an actual carnival, taking in the fresh breath of perspective and narration — and walk out with a story or two to recount!

FRIDAY 6TH MAY 2022

ENVIRONMENT

Edited by: MONAMI MIYAMOTO
MARIE MORI
HAHYUN LEE

Heatwaves in India surpasses 44 °C – fiction or reality?

Monami Miyamoto Environment Editor

In March of this year, my course convenor gifted his students the book *The Ministry for The Future* by Kim Stanley Robinson. It falls under the relatively new genre of cli-fi (climate fiction – not to be confused with climate change denial) and has received stellar reviews from numerous prominent figures in the field.

'It was getting hotter' - the novel starts in the Indian state of Uttar Pradesh with a grotesquely vivid, gut-wrenching description of one of its protagonists, Frank May, experiencing the worst heatwave in the history of humanity. Frank is an American man working there as an aide but finds himself on the brink of death. In one scene which describes his desperate attempt to cool down by going into a lake, Robinson writes, 'People were dying faster than ever. There was no coolness to be had. All the children were dead, all the old people were dead. People murmured what should have been screams of grief; those who could still move shoved bodies out of the lake, or out toward the middle where they floated like logs, or sank (...) Everyone was dead.'

As readers, we are thrown into the deep end of the horrors that the climate

crisis could lead to. But the book goes beyond that. As a result of the heatwave crisis, an international organisation called "The Ministry for the Future" is set up, charged with representing future generations in climate-related discussions. Its leader, Mary Murphy, is another protagonist whose narrative runs through the novel – and her story sheds light on the challenges of climate change politics and economics.

It is the interweaving patchwork of narratives, including that of Frank, Mary,

climate scientists in the Arctic, youth activists, even some non-living entities (e.g. a photon) and other individuals being ground down by climate change, that enables readers to truly imagine and, on many occasions, relate deeply to, the crises in a profound way. Whilst some critics have argued that the novel is too utopian or unrealistic in its conclusion – aimed to inspire hope – it is nonethe-

less a fascinating and worthwhile read. Of course, as the title of this article suggests, the deadly heatwaves portrayed in *The Ministry for the Future* are no longer just fiction confined to the pages of a book. This past week has seen headlines of an actual heatwave in Northern and Western India – including, as life imitates art, Uttar Pradesh - across multiple media outlets. India's weather departments, including the India Meteorological Department (IMD), have already raised alarms of expected temperature rises in the coming weeks. The month of March this year recorded the highest average temperatures in 122 years, according to the IMD. In the capital of New Delhi, temperatures will surpass 44 °C.

The tragic reality of the climate change crisis is that the first ones to bear the brunt of the consequences will be those in poorer regions – often whose lifestyles contribute relatively little to total carbon dioxide emissions compared to those in developed countries. Dr Chandi Singh, the senior researcher from the Indian

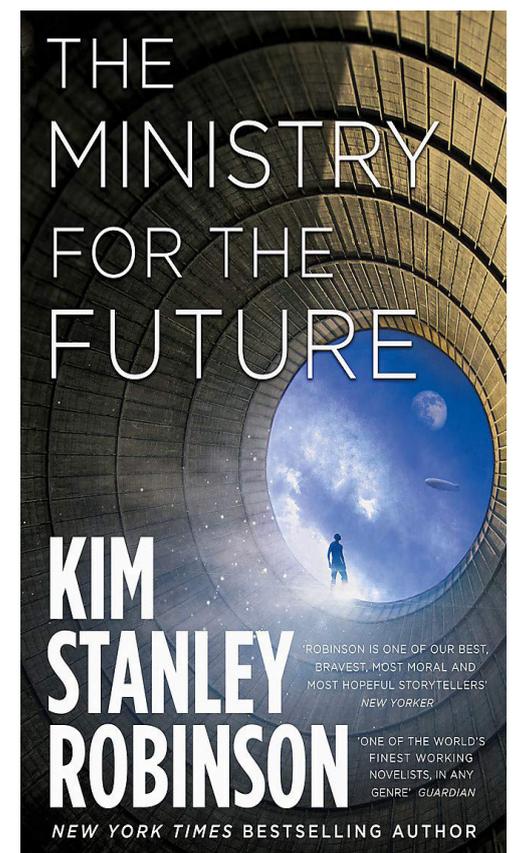
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Institute for Human Settlements, said that "Poor people have fewer resources to cool down as well as fewer options to stay inside, away from the heat".

As students living in one of the most expensive cities in the world, with relatively few discomforts in our day to day life (at least nothing compared to that of a deadly heatwave), it can be uncomfortably easy to be not only geographically distant but also emotionally detached from such events. Perhaps this is the greatest struggle in solving the climate crisis – the challenge to empathise with those already experiencing the consequences, as well as our future selves who will eventually be in the same position if we remain on the current trajectory.

Novels like *The Ministry for the Future* offer a way for us to use our imagination in ways that bring forth the empathy that is crucial to fighting climate change. If news headlines and statistics are not enough to trigger action, then perhaps it is time we turn to stories – both fiction and non-fiction – and absorb them with the intent of responding through action.



Easy Sudoku

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

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

Normal Sudoku

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

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

Difficult Sudoku

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

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

Points

Easy, Normal, Difficult sudokus 2, 3, 4 pts each

As always, you can send your solutions to fsudoku@ic.ac.uk before Wednesday at 12:00!

Sorry

No leaderboard this week
-again , sorry we all have
exams :/

President spotted looking at tractors in Union Council

In a revelation that has shocked members of the College and Union alike, the Union President has been seen looking at tractors at a Union Council meeting, when he should have been looking at porn.

Beginning his career as a stalwart of the Free the Nipple campaign, Dr Floyd Flames slowly evolved from body positivity to verified perversion, which played extremely well with the younger College electorate, much to the surprise of the commentariat.

Flames, who has now resigned, began his fall from grace when Deputy President Sam Lezard glanced over Flames's shoulder and saw the thick rump of a John Deere staring back at him. Lezard, who told NegaFelix that he could scarcely believe what he had seen, conferred with a colleague, who remains nameless, but who told him that they'd also seen Flames the previous day, eyes glued to a YouTube

video of a combine harvester taking as much seed as it could.

When confronted about the incidents by Union ethics officer Nom Tewman, Flames initially remained calm, explaining that the viewings had been mistakes. "I was looking for some country girl-themed filth, and all of a sudden my tabs were filled with images of pristine farmyard machinery" said he.

"Autocorrect scuppered my quest for a nice warm-up video when 'dirty talk' was changed to 'dirty torque' and I found myself watching the day-to-day operations around a slurry pit".

NegaFelix's first clues that Dr Flames was lying came when he started defending himself against accusations that hadn't actually been made yet.

"Then there's this whole 'inappropriate age'

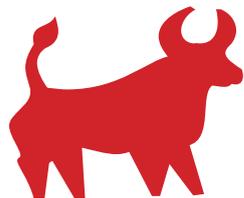
malarkey. When I type in 'teen takes a rough ride in field', it's obvious what I'm looking for, and yet somehow I'm shown a video of an 18 year old tractor pulling a trailer of silage across some bumpy terrain".

Dr Flames, who achieved his PhD in 'Theory and Simulation of Ion Drag on Dust in Threesomes' last October, achieved a landslide majority when elected, on a mandate of consistently watching porn during Council meetings, and doing little else. Having not taken the time to read Flames's manifesto before the first College Council meeting, Council Chair John Allan caused quite the ruckus when Flames began doing what he does best. Flames has not been invited to any College Council meetings since. Flames's application to become chair of the People of the Arduous Working Group was also swiftly rejected.



ARIES

This week you trip whilst walking across the stage at graduation, but play it off by doing 15 press-ups



TAURUS

This week you try growing your own salad - the locusts are coming



GEMINI

This week you lie to get another booster jab early just to feel something



CANCER

This week you celebrate Cinco de Mayo by eating three jars of full-fat Hellmann's



LEO

This week your dad says 'May the 4th be with you' and you punch him in the nose



VIRGO

This week your flatmate pisses in the kettle



LIBRA

This week your boosted immunity to covid does little to protect against being hit by a moped



SCORPIO

This week you give it a bit of elbow grease and end up with slippery elbows



SAGITTARIUS

This week your grandfather's inheritance arrives in roubles



CAPRICORN

This week, to spice things up, you decorate your room like the House of Commons before having a wank



AQUARIUS

This week you get re-christened in anticipation of the release of Bible 2



PISCES

This week you forget what LFT stands for

FILM

Edited by: EVA BORRAS

Film Review

It Must Be Heaven

» *The latest feature from Palestinian director Elia Suleiman*

Directed by: *Elia Suleiman*

Starring: *Elia Suleiman, Gael García Bernal*

Jonah Hewett Film Writer

I don't know if I'm the only one here who gets adverts for Mubi on Instagram – although, if you're reading the film section, it's more likely than not. Regardless of the potentially unfortunate personality implications there, for me there's at least one benefit to targeted advertising – and it's being recommended this film.

It Must Be Heaven is a film by Palestinian director Elia Suleiman. For those who haven't heard of him before, as I hadn't, his style has often been compared to the visual comedy of Buster Keaton and Jacques Tati. For those who haven't heard of them before, think of the trademark visual styles of Wes Anderson and Edgar Wright. What I'm doing here though, in trying to frame Suleiman's work through a familiar Western lens, is kind of what this film is satirising from the beginning. Before making his first film, he says, he'd never heard of any of them.

It Must Be Heaven is a satirical comedy that follows a fictionalised version of the director, playing himself, on a quest to find a studio to produce his latest film. The story begins in Nazareth, as all good stories do, travelling first to Paris and then on to New York. Mostly though, the narrative – if you could call it that – consists of a string of absurd and existential vignettes that the 'fictional' Suleiman silently witnesses along the way. The cinematography of the film lends itself very well to these vignettes, with charming colours and interesting framing that feels strangely comfortable. This style works well with the starkly sparse dialogue, resulting in a cohesive film that really does show rather than tell.

Suleiman's career spans roughly 30 years but contains only four feature films - although, having never made a feature film, I hesitate to judge his work ethic. His work is characterised by vignettes of Palestinian life, centred – understandably - on important themes of cultural and geographical identity. But in a funny way. As Gael García Bernal (also playing himself) phrases it to a producer in the film, "he's making a comedy about peace in the Middle East". "That's funny already", says the producer.

A Palestinian comedy seems like a bit of an

oxymoron to a Western audience. About halfway through the film, Suleiman visits a different Parisian producer. The man politely explains to him how pleased they would be to make a film about the Palestinian conflict and how sympathetic they are with the subject, but that unfortunately they could not produce his film since it wasn't "Palestinian enough". "It takes place in Palestine, but it could take place anywhere - it could even take place here", he says. The implication is clear that audiences expect Palestinian art to say only one thing, if they even expect it at all.

Despite being very funny at times, it's a quiet and lonely film - and deliberately so. Suleiman is evoking the alienation that he has felt as a stateless traveller all his life. But in the same instance it evokes a real sense of community; not only that of a common cultural identity, but as a foreign viewer too. Suleiman's silent observer presents a ready canvas on which the viewer can project themselves. Whilst I'm sure I missed a lot of the nuance in the depiction of Nazareth, the segments in Paris and New York contain many irreverent and recognisable caricatures of Western culture. Parisian police whirl through the street on roller blades (they really do that) and measure precisely how far a restaurant's tables extend onto the pavement, in a classic display of *liberté*. Locals battle for possession of green chairs in the Jardin des Tuileries, as tanks roll through the streets on Bastille Day. Police wrestle a woman in Central Park to the ground, a Palestinian flag painted across her bare breasts – all a sort of symbolism, maybe, of Suleiman encountering the same exact tension abroad as he is used to back home.

At times some of the metaphors can feel a little tired or forced – a supermarket in the US where every shopper and employee sports an array of automatic weaponry, both an obvious stereotype of American culture and a clear parallel to our perception of Palestine. Maybe that's deliberate – perhaps 'tired and forced' is exactly how Western depictions of the Middle East feel, whichever side of the debate they happen to be on. Another scene, when Suleiman arrives in Paris, sees him at a café staring quite contentedly whilst attractive, stylish women walk past him in slow motion to the tune of 'I Put a Spell on You' for over two straight minutes, does feel more than a little weird. It's an unfortunate stumble in a



film that otherwise feels very complete and polished.

Overall, *It Must Be Heaven* is a film with a message, and it's one that Suleiman seems to have been saying for his entire career; that, outside of politics, Palestinians are indeed a people with a rich culture and artistic heritage. It might seem like an obvious message, but I think it's one that still needs to be said. Elia Suleiman is an older man now, but he seems to be saying it still, maybe for the good of the younger generation. The film ends with him returning to Nazareth and visiting a club, where he watches young Palestinians singing, dancing, and living.

BOOKS

Edited by: ZANNA BUCKLAND

Book Review

How To Walk On Water and Climb Up Walls

Fiona Zhang Books Writer

What constitutes biological research? When considering 'biological research', renowned projects such as the Antibiotics Resistance Project and ground-breaking discoveries such as Watson and Crick's DNA model usually come to mind. While such works are undoubtedly remarkable, they represent a mere fraction of all biological research, most of which serves as under-appreciated bases for subsequent prize-winning findings.

'How to Walk on Water and Climb up Walls' by David Hu can both inspire biologists to appreciate the broad scope of biological research, and help non-biologists understand the basic stages in biological research, and the importance of curiosity and detail-orientation in this process.

The book acts as a magnifier, taking readers to the most inconspicuous corners and overlooked aspects in

the world of animal motion. For example, one chapter explained why the urination durations for all mammals, from humans to elephants, are approximately the same, despite bladder volume differing by magnitudes. The author's inspiration for this study derived from a time when he was changing diapers for his son, and his son decided to urinate as his diapers were being changed. In counting the seconds to calm himself down, Hu noticed his son urinated for approximately the same amount of time as himself, while the amount of urine their bladders were able to hold were clearly different. He then, with his students, decided to collect data of urination time and volume from a variety of mammals in the zoo, including those of dogs, pandas, and rhinoceros. Though all other variables, such as time of day and diet, were different, the animals showed strikingly consistent urination times. Though his students were disappointed and largely discouraged by the lack of variation across all animals, Hu believed this was the most interesting result of all. After examining the anatomical diagrams for the urinary systems of hundreds of mammals, Hu noted that their systems' structures were remarkably consistent. Most importantly, the ratio of urethra length to diameter, 25:1 in males and 17:1 in females, was conserved in not only humans, from newborns to adults, but also across all mammals, from mice to elephants.

At the time, research on the necessity of urethras in mammals was unprecedented. Moreover, there was the question of why urethras are so conserved while other aspects of the mammal body, such as thicker legs for elephants, change so drastically with respect to changes in body size? To further investigate the function and structure of the urethra, Hu used Pascal's Barrel experiment, which showed that a fluid's pressure is dependent on its configuration, not the amount involved. Applying this to urethras, increased length utilises gravity to increase the pressure that is driving urination. Therefore, the length: width ratio of the urethra is the determining factor in mammals' urination time, rather than the amount of urine involved,



which explains how the constant proportions of the urethra result in urination time being approximately the same across all mammals.

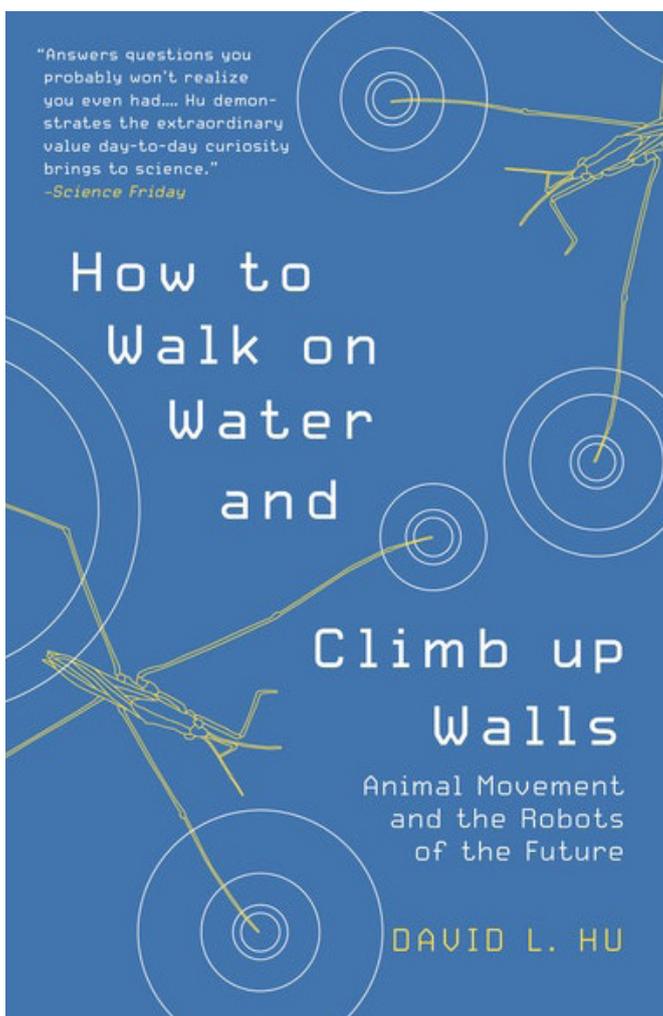
Although this was criticized as being a waste of scientific research, understanding mammal urination time can in fact be used to preliminarily examine patients' urinary health before resorting to more expensive tests. This example also highlights the importance of noticing and investigating seemingly plain and unexciting data.

The remaining chapters discuss other research Hu was involved in, including how water striders can walk on water, how snakes can glide in the air, the aerodynamics of eyelashes, how dead fish can 'swim', and how ants can create ant 'rafts' to float on water. The contents of this book allow readers to realize how seemingly basic or peculiar research can be used in unforeseen ways and to understand the boundlessness of biological studies. Hu uses a casual tone to explain complicated concepts in a way that makes it accessible to scientists and non-scientists alike. In a story-telling manner, Hu reveals details about his academic career and the sources of inspiration and people with whom he worked, giving his book a distinctive voice by incorporating his own humour.

This book not only discusses the biophysics behind animal motions ranging from walking on water to flying in the rain, but also reveals the typical "fail, try again, repeat" journey of biological research, and, most importantly, inspires readers to "see the world a little differently, with an eye for the details, a heart open to strangeness and wonder, and a commitment to always asking why".



THE BOOK HIGHLIGHTS THE IMPORTANCE OF NOTICING AND INVESTIGATING SEEMINGLY PLAIN AND UNEXCITING DATA



BOOKS

Book Review

Brave New World

Justin Macharia Books Writer

Imagine a world free of all the ills known to man. Pain, depression, loneliness, and adversity would have no foothold in this utopia. However, this comes at a price. Any attachments you might have must cease to exist. But what good is the family unit when the state can provide all your needs? What good are long-term relationships when you can engage in copious recreational sex? Brave New World presents the reader with a seemingly great utopia, underpinned by a dark and grim reality.

The main tool of oppression used in Brave New World is sensuality — recreational sex, hallucinogenic drugs, and feelies (pornography which can be seen, heard, and felt). In contrast to brute military force, sensuality is a deceptive, insidious form of oppression — it distracts the masses from their pitiable state and renders them physically and mentally incapable of fighting back.

Similarly, in the real world, hook-ups, recreational drugs, and online pornography are spreading like cancer amongst Western youth. Despite the standard of living in the West being higher than anywhere else in the world, it seems that escapist outlets are being sought out at an unprecedented rate. This rise of sensual escapism is indicative of a crumbling moral fibre.

Moreover, dictatorships run rampant in the East. Most of these consist of a police state, a military su-

pervision of the life of each individual in the country. But military might alone is not sufficient to rule over a people. In the face of unfavourable odds, people have, and people will, mount an armed resistance to oppression. Breaking the will of the oppressed, and using sensuality as a tool to do so, is key to achieving total domination.

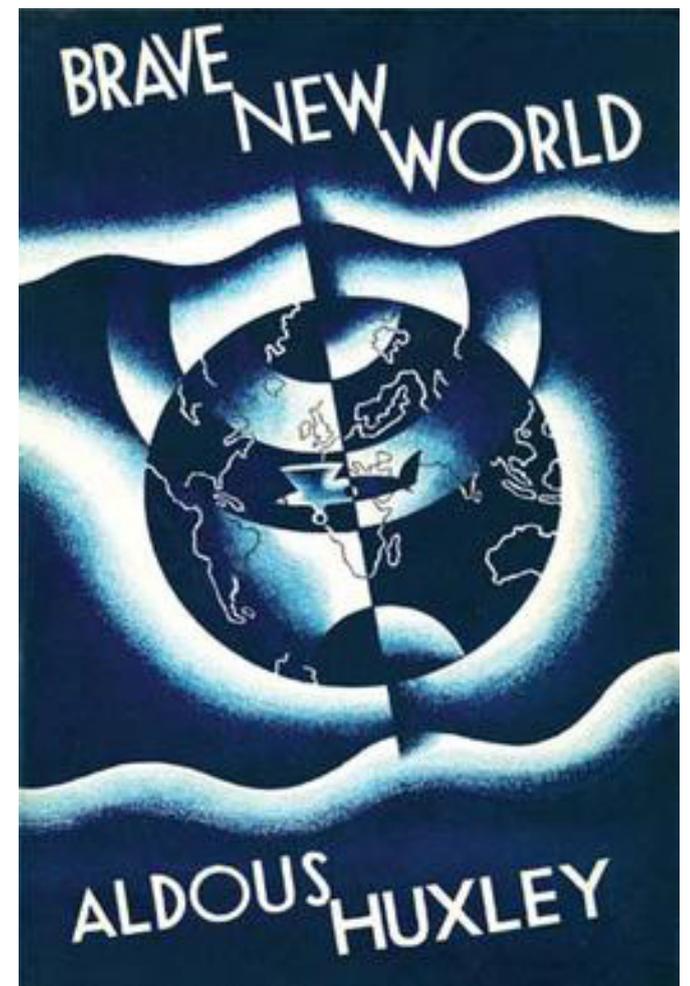
“
**THIS RISE OF
SENSUAL ESCAPISM
IS INDICATIVE
OF A CRUMBLING
MORAL FIBRE**

Another prediction made by Huxley is that social mobility would cease to exist. There are five castes in Brave New World: alphas and betas, which serve as society's intellectuals; and gammas, deltas, and epsilons, which serve as manual labourers. Each individual in Brave New World is manufactured on an assembly line which is unique to each caste. For example, the

foetus of an epsilon would be imbibed with alcohol and deprived of oxygen to stunt their physical growth and lower their intelligence. An epsilon would therefore lack the faculties required for social ascendancy, and an alpha would maintain his status as a result of this.

The American dream — the right of each American to pave their way in life — attracted millions of immigrants across the Atlantic in the 19th and 20th centuries. Carnegie and Rockefeller were titans of American

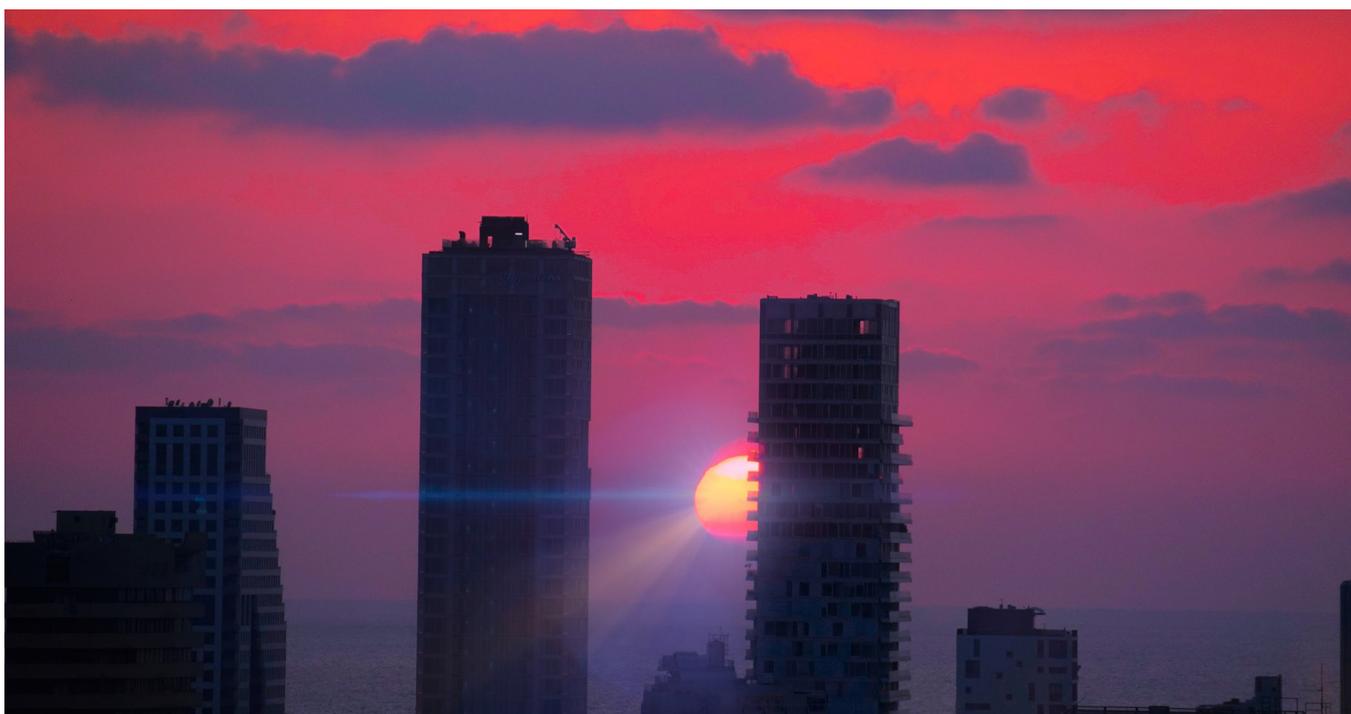
“
**I MUST ADMIT
THAT HUXLEY'S
WORLD IS
ATTRACTIVE —
SUPERFICIALLY
SO**



industry and are cited as proof that even the lowliest man can make his way. However, two individuals do not represent 300 million. For most Americans; 99% of Americans; the paths of Carnegie and Rockefeller are distant and elusive.

Things do not look much different on this side of the Atlantic. Privately educated individuals make up the bulk of the cabinet, the bulk of partners at city law firms, and disproportionately attend top universities. The establishment of a Huxley-type class system, in which social mobility is non-existent, is not out of the question. Whilst Huxley's world is intelligence-based — the more intelligent you are, the higher your socioeconomic position — the real-world is inheritance-based — the better off your parents are, the better off you will be.

Overall, I must admit that Huxley's world is attractive — superficially so — perhaps more attractive than periods in our history. But a world that represses the very things that make us human — our desire to pursue our own interests, to form meaningful relationships, and to fulfil our God-given potential — is not one that I would want to live in.



FRIDAY 6TH MAY 2022

COMMENT

» HAVE AN ARTICLE IN MIND?
EMAIL YOUR IDEA OR PIECE TO:
COMMENT.FELIX@IMPERIAL.AC.UK

Edited by: KHAMA GUNDE

Beit must be seen through a clear lens

► *Sir Otto Beit is the man after whom Beit Hall and Beit Quad are named. He was connected to South Africa's diamond mines through his brother, Alfred Beit. Here, Professor Stephen Warren reasons that Beit cannot be judged on this connection alone without addressing the historical context of the mines, and how his wealth continues to benefit Imperial College London and, through the Beit Trust, Southern Africans.*

Professor Stephen Warren
Professor of Astrophysics



One of the outcomes of the recent History Group process was, with reference to Beit Hall, “The College will consult with students and explore whether to add an African scientist to the building’s name.” I hope this will be a well-informed decision, and I am writing this short article about the Beit brothers to contribute to that decision.

The statues outside the RSM building are of Sir Julius Wernher and Alfred Beit who both worked at the Kimberley diamond mine. The first diamond in the region of what became Kimberley was found in 1869. Geoffrey Wheatcroft, author of *The Randlords*, states “Until that moment it is hard to exaggerate how remote, how poor, how unimportant, and how empty South Africa was”. The journey to Kimberley from the coast took two weeks by ox-cart. Julius Wernher arrived there in 1873, aged 23, and Alfred Beit in 1875, aged 22.

In my own contribution to the History Group dialogue I wrote quite a lot on the history of Kimberley because the charge against Alfred Beit was on “the treatment of workers during the expansion of the Kimberley mines”. But Beit Hall and Beit Quad are in fact named after Alfred Beit’s younger brother, Sir Otto Beit, who had rather little to do with Kimberley. The picture shows the plaque to Sir Otto near the entrance to Beit Quad.

I have found the history of Kimberley fascinating, reflecting a lifelong interest and love for sub-Saharan Africa (I was raised in Nigeria, and later worked in Malawi and Gabon). *The Randlords* is one of the best sources on the history of South Africa’s mines. In fact, I also corresponded with Geoffrey Wheatcroft in the checking of details. Another good

(and positively reviewed) book is Patrick Harries’ (1994): *Work, Culture, and Identity: Migrant Laborers in Mozambique and South Africa, c. 1860-1910*. Also, a colourful eyewitness account of the early days at Kimberley written by Anthony Trollope is worth seeking out.

I actually think that the charge against Alfred Beit is mistaken, and I will say a little bit about it here before returning to Otto Beit at the end. You can find more details in my essay which I published at Quillette (simply Google ‘Quillette Stephen Warren’ to find it). Conditions in the (later) Rand gold mines were not as good as those at Kimberley, and this became a concern of Julius Wernher. The

system at Kimberley was seen as a model to emulate, particularly after improvements were made to reduce overcrowding in 1903. Wages were also lower in the Rand gold mines. The wages at Kimberley were the highest in South Africa, and Harries states “It was with some justification that the manager of De Beers claimed in 1888 that ‘our natives are better paid than the miners in any of the European countries’”.

Segregation by race actually happened before Alfred Beit arrived at Kimberley and was forced on the authorities by an armed uprising of the diggers, the Black Flag rebellion.

The problem of labourers secreting

diamonds often by swallowing them was never completely solved. Before the compounds were implemented it is estimated that about one-third of diamonds were removed from Kimberley in this way. In the compounds, at the end of their stay, labourers were isolated, strip searched, and purged with castor oil. The scale of the problem is shown by the fact that this process yielded an average of 100,000 carats a year.

The compounds were a major improvement compared to the disorganised and unhealthy conditions that existed in the early years of Kimberley. They provided good sanitation, washing facilities, dormitories, a refectory, a hospital, a chapel, and some organised sport. Nevertheless, until the improvements of 1903, overcrowding was certainly a problem that led to an excess of deaths from pneumonia (a consequence of the hot conditions underground). After 1903 the mortality rate became lower than in the town of Kimberley itself.

Referring to the compounds, the editors of the missionary publication *Outlook* wrote in 1906 “The de Beers Company have set an example of just and reasonable treatment of their Native employees”. Even more positively, another visitor to Kimberley in 1906 wrote that he considered the compound system “as near perfection as it was possible to make it”. Maybe this sounds exaggerated, but it is in fact the voice of an African, a Xhosa man, the political activist John Tengo Jabavu (1859-1921). He was South Africa’s first black newspaper editor and is a national hero. On the website of the President of South Africa, recording that he was posthumously awarded the Order of Luthuli (Silver), Jabavu “is remembered as one of the most influential Africans of the 19th century”.

When Alfred Beit died in 1906 he was one of the richest people in the world. One estimate (applying a conversion fac-



Plaque to Sir Otto Beit

COMMENT

tor of a few hundred) puts his wealth at equivalent to four billion pounds today, of which he gave more than a quarter to charity. Many universities benefited from his generosity but Imperial was the most fortunate. However, his largest bequest went to the creation of the Beit Trust (as it is now called), a charity formed “For the Benefit of the People” of Malawi, Zimbabwe, and Zambia. The Trust still exists, providing funds for education, health, and the environment - all sourced from investments from the original bequest. I encourage readers to visit their webpage to appreciate the work of this wonderful organisation. The Beit Trust was formed and nurtured by Sir Otto Beit in his position as the first Chair of the Trust. This passed successively to one of his sons, Sir Alfred Lane Beit, and then to one of his grandsons, the current Chair, Sir Alan Munro.

In the original History Group report, Appendix 9 provides a history of the association of Julius Wernher, Alfred and Otto Beit with Imperial, and it is well worth reading. They are by a long way the most generous philanthropists of the College. Again, it is impossible to translate accurately what these sums mean in today’s money, but my best guess is that the total is equivalent to something like 200 million pounds. In 1931 the Rector (i.e. President) Sir Henry Tizard wrote “practically the whole of the endowment of the College since its incorporation [in 1907] has been provided by Sir Julius Wernher, Mr Alfred Beit and Sir Otto Beit”.

Since it is Sir Otto Beit after whom Beit Hall is named, I encourage students to read the sections about him in Appendix 9. Of particular relevance is the fact that he took a special interest in the welfare of the undergraduates of Imperial, and because of this he funded the construction of Beit Hall and Beit Quad. His list of donations to the College and the details of his close involvement with the running of the College, including his appointment to the Governing Body (now Council) for 18 years, runs to three pages of the Appendix. In his obituary of Otto Beit, Tizard said “He interested himself not only in the government of the College, but also in the life of the students, many of whom are indebted to him for unobtrusive acts of kindness.”

The benefit of adding another name to that of Sir Otto Beit on Beit Hall is unclear to me personally. It is supposed

to be that of an African scientist - but do they have any connection with Otto Beit? Both names would be distracted by each other in joining them together. And a great African scientist connected to Imperial deserves their own unique recognition I would think. This would have much more impact.

The College is asking the trustees of the Beit Fellowship for Scientific Research, founded by Otto Beit, to repurpose this PhD studentship to be specifically for African students. It seems to me that Beit Hall embodies three very positive things that link together students and Africa: Sir Otto Beit’s championing of, and generosity towards, Imperial’s undergraduates; the work in Africa of the Beit Trust that he formed and directed and devoted much of his energy to; and the new Beit PhD scholarship for African students (assuming it goes ahead). An imaginative display in Beit Hall illustrating these connections would cultivate interest in Africa in the College, and if the College wishes to foster growing links with Africa in a serious way, Beit Hall might become a focal point for this. The suggestion of naming it Beit Africa Hall would draw attention to this and celebrate it.

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