

W W I L L

S O N ' S

HUMANITIES

ISSUE 4

I N T E R

I C U R E



A Letter From the Editors

As the world emerges from the COVID-19 Pandemic, the widely-held hope that things would return to normal has not yet come to fruition. Instead, the world faces new challenges from war, inflation, renewed efforts to suppress rights, and the increasingly severe impacts of climate change.

It is therefore safe to say that we continue to live through frighteningly uncertain times. Yet the study of the Humanities is vital in both coping with and combatting the greatest issues before us: history can teach us about the mistakes of the past and give us context about the challenges of today; geography can teach us more about the cultures of countries across the world and the importance of respecting the natural environment; economics can help explain the cause of our current financial woes and help provide solutions to these problems; politics can teach us how governments around the world work and how we can bring about change; philosophy can teach us about what is right and wrong and help separate truth from lies.

It is therefore the ethos of this magazine to help everybody broaden their knowledge of all these subjects through excellently written and well researched pieces spanning a breadth of topics that are accessible, relatable, engaging, and informative.

We hope you find the fourth issue of the Wilson's Humanities Intrigue useful and enjoyable.

For this issue, we were so pleased with the huge number of informative and accessible articles submitted for the magazine. This issue has continued to welcome creative pieces introduce some games into the magazine to supplement the reading experience. This magazine is the culmination of a creative process of huge collective effort over many months. Listed on the following page are all the students involved, who have each devoted hours of their time to the magazine, but a special thanks too must be given to all the following teachers for proofreading and verifying the accuracy of our writing.

Thank you to Mr Lissimore, Mr Fletcher, Ms Wells-Cole, Miss Denison, Mr Gore, Miss Riddle, Miss Grant, and Dr Meddleton.

This issue follows as the second half of a collection of articles and creative pieces written at the same time as those in Issue 3, the vast majority of whose work was completed in the 2021-22 academic year. For a number of reasons, publication of Issue 4 has had to be delayed until September 2022. As a result, many of the older authors have since left the school. Where this is the case, recognition is paid in the form of the 'alumnus' label, with year groups correct to 2022-23.

For a second issue running, it has been quite the challenge to pick out the very best from a selection of so many fantastic articles. After much thought, we chose the winner of the best article competition: Roze Rajput, whose brilliantly articulate article on free will can be found on page 29. Runner up to Roze was Haayed Aslam's fascinating article on the future of supersonic air travel on page 17. Both are excellent starting points for your exploration of the magazine.

This is the last issue we (Nick and Ben) will be Chief Editors, as we have now left the school after an excellent few years at Wilson's. We couldn't be more grateful to the excellent work of our writers, creative contributors, and our editors who have all done a fantastic job this year. We extend our gratitude to those taking charge of the magazine next year, and offer our very best wishes for what we know will be a very exciting year for the *Intrigue*.

We are happy to announce that Eeshaan Iyer and Atticus Fear will be the new Chief Editors of the magazine from Issue 5 onwards. Accompanying them will be a very capable editing team consisting of the next generation of *Intrigue* torchbearers, all picked for their dedication to celebrating student journalism and passion for the Humanities. We wish Atticus, Eeshaan, Shuayb Mohammed, Roze Rajput, Edwin John, Gabriel Gardiner, and Deevam Sharma all our very best!

If you would like to be part of future editions of the Wilson's Humanities Intrigue, please email IYERE@WILSONSSCHOOL.SUTTON.SCH.UK or FEARA@WILSONSSCHOOL.SUTTON.SCH.UK.

The eye-popping cover of the magazine was designed by Shahzeb Ahmed, overlain on an enchanting original photo. Though he leaves the school this year, Shahzeb has very generously offered to continue to give his time to the magazine in future design.

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ECONOMICS



Must war always have a negative impact on a country's economy and stock market? Read Aadin Patel's article to find out.

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AADIN PATEL Y13

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ARTICLE

LEWIS POTTS Y13

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Disappearing?

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ARTICLE

ROHAN AMTE (ALUMNUS)

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Traditional Politics on
Entrepreneurship

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World War II and the US Economy

How the world's strongest economy emerged from the ashes of the deadliest war in history.

AADIN PATEL Y13

World War II has indisputably influenced many modern economies and societies heavily. While war has had shocking and severe social impacts on the lives of many citizens, we rarely analyse its effects on a country's economic status and success. One of the economies influenced most by the global war was the US economy. So, how was the US economy changed by WWII?

With the USA entering a global war in December 1941 after the Japanese attack on Pearl Harbour Naval Base, the American government seized control of infrastructure and focused all of its resources on the war effort. Factories were repurposed to support the demanding needs of the military and these often helped to mass produce armaments for the military. At the time, there was a large boom and growth in automobile manufacturing. For example, General Motors and Ford provided a good basis for military production, making investment into wartime capital minimal and allowing for immediate national change in production. Post-war infrastructure also helped to grow this industry further and it reached its peak in 1965, when 11.1 million new vehicles were produced.^[1] The need for growth was desperate as the economy was still facing the harsh uncertainties of the consequences of the Great

Depression that had occurred only a decade earlier.

Overall, a 'wartime bubble' of economic growth took place, in which output grew drastically, which was largely attributed to a significant rise in government expenditure. During 1942, GDP skyrocketed by 17% from pre-war levels of as low as \$57 bn (the lowest ever recorded in US history).^[2] This was largely due to the repurposing of capital and the redistribution of labour within the country; men who traditionally had worked in the manufacturing plants were now being sent to serve in the armed forces abroad: approximately 20% of the population was employed in the armed forces. This opened up the space for labour within the country, which was assigned to women who traditionally stayed at home.^[3] This helped to increase employment drastically as seen by the fall in unemployment to 1.9% from pre-war levels of 25%.^[2]

While this increase in government expenditure led to successful economic growth, it also increased government debts up to 120% of the country's GDP. This was recovered by carefully managed interest rates and using the post-war economic growth to reduce deficits. The American government used the success and growth of the post

-war economy to help restore financial stability alongside restrictive fiscal policies to manage debts—this involves the central bank, in this case the Federal Reserve, raising bank reserve requirements and reducing capabilities for banks to loan out and borrow as it becomes more expensive to do so. This increases available funds and helps a country to recover from large-scale debts.

While there was a notable increase in employment, the population preferred to save a higher proportion of their disposable income, before the war and during it, and this reduced the overall amount of money within the economy, even as output increased. This could be seen in the sizeable contraction of the economy after the war: by 1945, Americans were saving an average of 21% of their personal disposable income, compared to just 3% in the 1920s.^[1] There was also a reduction in consumption and investment during the war from both firms and consumers, reflecting their lack of confidence.

This was, however, somewhat beneficial for the American post-war economy as consumers who had been saving and firms with high levels of capital enjoyed a boom in demand and firms quickly shifted production to meet consumer domestic needs, such as with the aviation industry, which thrived and developed rapidly as the need for newer aircraft and upgraded technology grew, particularly because of the Cold War's longevity, lasting until the late 20th century.

This paved the way for the USA to become one of the largest economic superpowers of the modern world. This economic growth not only helped to end the impacts of the Great Depression, but also helped to propel the economy to global superiority.



EDITED BY EESHAAN IYER



Why Are Nike Boots Disappearing?

A mainstay sponsor of football's biggest stars has started to vanish from European pitches.

LEWIS POTTS Y13

Neymar. Sterling. Lewandowski. Three of the world's biggest footballing stars, all previously key names in the Nike Football franchise—but also three of the many high-profile names that have departed the American outfitters in the last eighteen months. There has seemingly been an international split from Nike sponsorships for many of Europe's elite, but is this a concern for the biggest sports retailer in the world, or is it part of a wider, smarter scheme from the company to adjust to society's ever-changing demands?

The departure's origins

On the 21st October 2020, the footballing world learnt of Neymar's switch from the Swoosh, Nike's iconic logo, to Puma, in a deal that amounts to nearly £22m a year for the Brazilian icon (the biggest player sponsorship deal in sporting history), sending the public into shock at Nike's decision not to renew their deal with the man ultimately tipped to take over from Cristiano Ronaldo as their footballing cover star.^[1] However, Neymar wasn't the first star to switch from the market leaders to their rivals, with English star Raheem Sterling making the same move just a month prior. The PSG talisman isn't the only player to leave Nike either, with Sergio Ramos, Raphael Varane, Marco Asensio and many other key

stars of the brand also seeing greener grass elsewhere. But why are these huge names leaving sport's biggest sponsorship player?

Well, it could be part of Nike's response to the COVID-19 pandemic and a realisation that the football boot sponsorship market is not one they can always dominate. Budgetary issues became a priority for the business. Nike had previously gone above and beyond to tie an overwhelming majority of Europe's elite down to sponsorships to maximise advertising opportunity, but it became clear that after the pandemic, new strategies had to be put in place with limited capital available. Co-founder Phil Knight explained that Covid 'hammered' Nike in 2020 and that as a result of this they had to undergo an exodus of their star-studded roster of names, effectively funnelling out any that weren't so significant that their dismissal would rock the business for years.

It's not just Nike.

Rival business Adidas experienced a similar situation, seeing sales fall by 90% in the first three months of 2020, even if they did rebound well soon after.^[2] This massive fall in revenue for these companies triggered the exodus that has seen many of the Champions Leagues' best pictured in blacked out boots amidst their struggle to find a new sponsor (like we saw from Thiago Alcantara in the 2020-21 campaign, who had worn Nike Phantom Venom boots in the 2020 Champions League Final when he was still contracted to Nike).



Financially, Nike simply cannot afford to pay the astronomical demands of all the stars they had been sponsoring—and particularly in the quantity in which they were—with fringe stars such as Chelsea's Ross Barkley and Celta Vigo's Iago Aspas being cut from the Swoosh brand. This makes the new financial restraints placed on Nike by COVID-19 an impossible scenario for the brand in which several stars simply must make way.

Perhaps Nike's disappearing boot deals result from another cause, though. Since 2020, Nike have expressed their commitment to a major realignment in a market they have dominated for a long time. In many of these cases, Nike have taken the decision not to renew contracts of their stars. A well-placed industry source told The Athletic that "the approach at Nike is not related to the pandemic ...

it's believed to be several years in the making, with new focus on a smaller number of diverse elite athletes and with themes of social justice incorporated into campaigns."^[3]





Examples of these clients include Kylian Mbappé, Marcus Rashford and Jadon Sancho, who Nike hope will be at the heart of their promotions for the next decade. With Marcus Rashford being awarded an MBE and honorary doctorate for his work regarding school meals in UK primary schools (the youngest to receive the honour in the University of Manchester's history), and Jadon Sancho being the youngest recipient of a custom boot range in footballing history, Nike continue to receive a return on their investment into elite creative talent—but they have decided to move away from the signature of less important figures. An agent told Tifo Football that

“these brands want a return on their investment, which they know they can get from elite senior talent, but are you recouping six figures because an Arsenal defender is wearing your boots?” [2]

This begs the question: why would Nike sign these players if they don't offer enough benefit to the brand?

It's a similar story for the players too.

Another agent told The Athletic:

“You can sign my player, but what will you do for him? Will he be in the adverts or will he stand at the back behind the other star players? Players also need to be satisfied with their sponsorship deals to make sure they can grow their own personal brand.” [3]



Gone forever?

So, what's really the reason for Nike's disappearing boots in European football? Is Nike adjusting to the unprecedented circumstances offered by the pandemic, or was this a marketing plan devised years ago in order to maximise investment returns? Truthfully, without being an insider of the company, we'll never know.

However, the inescapable fact of the matter is that the pandemic caused over 42 major Nike stars to leave the brand in the space of six months in 2020.^[4]

Nike's boot deal future remains unclear. While Nike was very unlikely to be maximising their returns from fringe stars that don't attract the young, contemporary football audience, there can be no doubt that the conditions of the pandemic accelerated the emergence of the policy. Will we one day witness the return of Nike boots to European pitches? Only time will tell.

EDITED BY AARON STACE

The Economic Effect of Traditional Politics on Entrepreneurship

Are past and present so far apart?

ROHAN AMTE (ALUMNUS)



In basic economics there are four factors of production: land, labour, capital, and enterprise. The last of which is certainly the hardest to quantify and assess by businesses when they seek to achieve their respective goals. Enterprise is simply defined as a business's aptitude to use the other factors of production in the best way possible in order to make a profit. Entrepreneurs' job and function in a free-market economy is to come up with creative ideas to implement in goods or services that will be sold for a profit, i.e.

"someone who demonstrates initiative and creative thinking" [1]

The word which will be examined here is the idea of profits. Despite these new innovations being designed to assist the consumer, the end aim and motivation for investment and creation of these goods is certainly profit. Therefore, entrepreneurs are seen to create value in their products by seeking profits so they can sell them above the cost taken to make them.

What is essential to understand is that in this entrepreneurial drive largely driven by self-interest (but not greed), consumers still receive benefits in the form of novel goods for their use.^[2] This is the clearest element of contrast between these profit-seeking entrepreneurs and rent-seeking political entrepreneurs.

What are rent-seekers and how do they differ?

Rent-seekers (otherwise known as political entrepreneurs) use government funds in the form of subsidies to become entrepreneurs which assist their business endeavours but end up damaging taxpayers^[3]. Where our regular, profit-seeking entrepreneurs hire engineers and marketing agents to sell their goods to consumers at a reasonable price which can be seen to have a positive societal impact, political entrepreneurs hire lobbyists to sell to the government. This distinction is essential to understanding why rent-seeking can be so detrimental to an economy by impacting the extent to which conventional entrepreneurs can innovate and sell their goods. Rent-seekers attempt to eliminate competitors

through the medium of lobbying politicians to pass legislation such as patents for their benefit—demonstrating clear greed as opposed to the self-interest based capitalist system. Alongside the damaging of innovative entrepreneurs' interests, the increased prominence of rent-seeking has made it more attractive in comparison to the established productive activity that help businesses thrive. This makes a pertinent case of how the existence of rent-seekers hampers both productivity and economic growth, despite limiting the latter more with the restriction of innovative potential causing significant damage to long term growth.^[4]

As a result, rent-seekers are not entrepreneurs at all as they do not create or add value to their products through innovation, but instead diminish the value of competition to promote their own products to the government. For example, those who sell cocaine and other illegal drugs can be seen as rent-seekers as they not only explicitly harm other industries due to a loss in general productivity but the great profits made by these sellers also come at a government expense of law enforcement.^[5, 6]

Therefore, the cost incurred by the government to regulate the illicit drug trade as a consequence creates a welfare loss and makes them rent-seekers. Hence, we have established that rent-seekers not only hurt the regular profit-seeking entrepreneur but also the state at large—so what steps can be taken to limit their influence?

How is politics at fault?

Traditional politics seems to be a more conservative policy with a moderate emphasis, i.e. politics operating at the median, otherwise known as the median voter theorem. This may be a simplistic view of politics that the median person's views and beliefs are expressed and the majority are forced to compromise as the state finds this 'middle way' the most profitable with the majority not content but at least not enraged by supposedly radical policy.^[7] Let's take the small scale example of a vote in a local town for how much funding should go towards mowing local lawns:

Person	Desired funding for lawns
Person A	£0
Person B	£100
Person C	£1000

As shown above, the median is Person B's £100 worth of funding, but this means a significant compromise from what Person C wants which is ten times more but still allows minor funding which keeps all three parties from outrage. However, what impact this may have on an economy with regard to innovation and rent-seeking is quite clear. Innovation by definition is radical and seems to always operate the margins as these are perceived to be outlandish. Therefore, adoption of this median policy which ignores the extremes reduces the potential for future innovation and more so protects and retains the status quo.

As a result of politicians' intent to preserve tradition which hurts the profit-seeking entrepreneur, more moderate policies can also boost the power of rent-seekers. This is due to subsidies and restrictive legislation such as patents being moderate and something the median voter may approve of (to an extent) which can facilitate rent-seeking; substantial government funding towards the innovation of new technology is something more radical that is not in the median voter's interests. For example, in the 1950s the MITI (the Japanese Ministry of International Trade and Industry) gave subsidies to Toyota and Nissan to produce cars and told other companies to focus on motorcycles and other products. The logic was quite simple: if there were fewer producers then costs would decrease and these larger companies could more easily realise economies of scale to produce more efficiently. One man called Soichiro chose not to listen to the government and developed his motorcycle engine to go into the S360 sports car.^[7] That man ended up founding one of the biggest car producers in the world called Honda by defying government legislation. Consequently, demonstrating how this moderate policy limited

the innovation and the extent to which the economy could thrive and how politics operating at the median is far from conducive for new ideas but can assist the prominence of political entrepreneurs.

Hence, what is the way forward?

Government policy ought to flush out rent-seekers and encourage more innovation from profit-seeking entrepreneurs as the latter contribute to a prosperous economy and society, while the former comes to its detriment. Therefore, there are two clear routes forward for the state.

Firstly, despite conventional wisdom rejecting innovation and the median voter scepticism being somewhat justified due to the vast majority of innovation being hot air, this same conventional wisdom is mistaken. If all ideas no matter their merit are not even considered then there is little advancement that can be made, as a result the state should shun their adoption of conventional ideals and promote innovation. On that account, innovation needs its chance so the few good ideas in the sea of bad ones can find the right eyes and be freed from the eyes of the median voter so we as a society can clearly see what works and what doesn't.^[7]

Secondly, having the choice between collective and individual judgements is essential for long term market growth and sustainable innovation. This allows people to make the choice between the median voter's wants such as subsidies for certain industries or to attempt to create and solve larger problems on a smaller scale. This ability to make a choice between the two routes instead of accepting the median voter's desires as gospel certainly will assist the potential for innovation, through the lack of prohibition on crucial individual innovations.

Overall, considering both rent-seekers and entrepreneurs' contrasting intentions and the nature of the median voter theorem, the link is inextricable. While conventional wisdom has its place, a more sympathetic stance to the political margins will undeniably see more meaningful innovation to the benefit of society and the economy as a whole.

ENGLISH



What does it mean to be a hero or to be a villain in literature? Read Djimon Gyan's article to find out.

ARTICLE

DJIMON GYAN Y12

Heroes and Villains

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POEM

SHUAYB MOHAMMED Y12

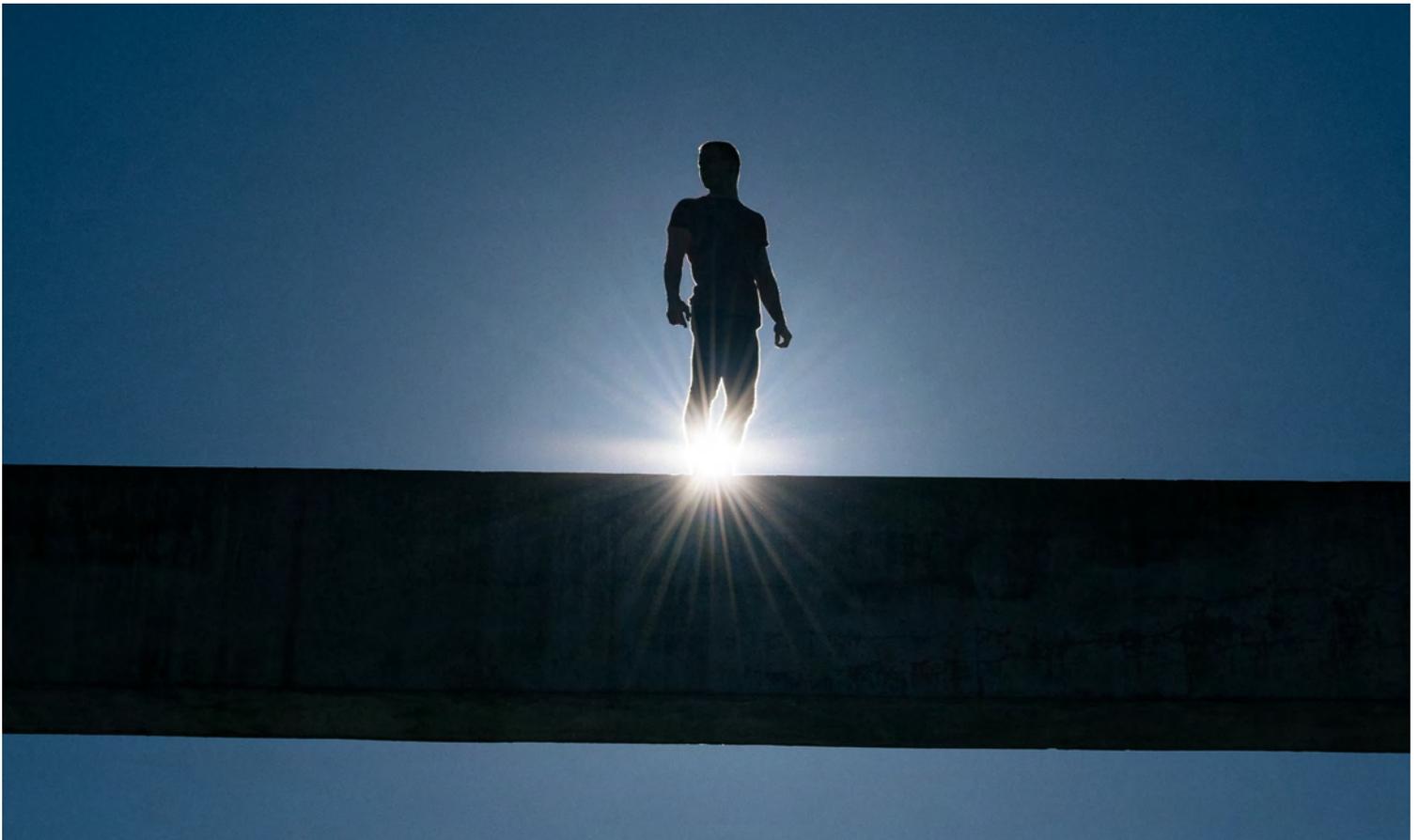
Learn To Be

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Heroes and Villains

Djimon critiques the conventional definitions of heroism and villainism and suggests that a more nuanced approach should be taken.

DJIMON GYAN Y12



The Cambridge dictionary has three different definitions for a hero:^[1]

A person who is admired for having done something very brave or having achieved something great.

The main character or the main male character in a book or film, who is usually good.

Someone who you admire very much.

To be a hero

The concept of bravery is interesting. To be brave can mean a lot of things; most definitions boil it down to selflessness and putting others above you. I had previously assumed bravery would largely be related to facing danger fearlessly, but I have reconsidered this judgement after

looking at the nuances in these definitions. However, these definitions blur bravery and foolishness far too easily: does being foolish stop you from being a hero? It is difficult to quantify what is meant by a 'great' action.

Whereas some people might argue that greatness comes on a large scale, others could view it as comprising small acts of kindness. To achieve something great, people around you have to view the accomplishment as worthy of greatness. It is very rare that people will agree on one thing being great. A necessary component of the first of the three definitions is that the person is admired. In other words, to be a hero, others must view you as a hero. This is

very important in the context of movies, graphic novels and even in real life, where characters seemingly have heroic intentions. They are convinced they have amicable ideas, and are often doing something which they perceive to be brave. In their minds they might be a hero, but when considering whether they actually are a hero, the opinions of others matter. How many people are required to admire you, for you to become a hero? Is it a majority? If the majority of people do not admire your actions, then are you not a hero? This definition considers how others view someone to determine whether they are a hero. Your actions might be great, they might be brave, but if people do not admire you, then you can never be regarded as a hero.

The second definition I find quite strange. A protagonist can easily be a villain, so that part seems almost redundant. In reality, the main character is simply who the story focuses on, regardless of their moral character. Nonetheless, the second part about the hero being 'usually good' struck me. It made me think of antiheroes, some of whom mirror heroes, like Wolverine, whereas others veer closer to villains like Scarface. I think what links these antiheroes is the ambiguity that is interweaved into their morality. There's a hero that I haven't mentioned here. He comes to mind when I consider someone doing the wrong thing for the right reasons: Batman.



Part of Batman's moral code is that he will never kill. Although this has been conveniently forgotten in many incarnations of the character, but is still stressed today, it surely separates him from the Punisher, Deadpool, and Wolverine. But Batman's methods are far different to those of usual heroes, like Spider-man and Superman, so it feels far too generous to put him in the same category. They would never stoop to such brutal methods to deal with people they consider criminals. But if it is truly justifiable, for a greater



good, rather than one's own interest, does it outweigh the brutality enough that he remains a hero?

Villainism

The Cambridge dictionary defines a villain as:^[2]

1. A bad person who harms other people or breaks the law
2. A character in a book, play, film, etc., who harms other people
3. A criminal

Comparing heroes and villains

So how do the two compare? If a hero should be the opposite of a villain, the definitions should probably be polar opposites. It helps shed light on why a hero is someone we admire. If a villain is a criminal, then, at least in a comic book universe, they've done something wrong. If we admire heroes, then they are those who can do no wrong in our eyes, nothing remotely related to criminality. If villains harm others then the sole focus of a hero's bravery must be to save and help others. When looking at definitions, villains are significantly less personal in the way we describe them. Heroes are present in our minds, which is why our description of them is so connected to how we view them. Villains are detached from us because we view them as anomalies, and in our

definitions, we distance such characters from such black and white descriptions.

Heroes and villains are difficult. It's almost impossible to put any character, fictional or otherwise into these boxes. The reason for that is that it all comes from what you believe, as that's what makes them so different for different people. As we grow older, we see the world less in black and white. Everything becomes greyer. More blurred. The blurring lines of villains and heroes represent this best.

That might not be the most satisfying conclusion. I can't help but want to put my views in a more concrete fashion. I think this is it. For me,

a hero will always remain someone who does the right thing for others. This describes those who are selfless, for no reason other than because they wish to help people.

Villains are those whose entire aim is to further their own goals, regardless of the damage it can cause. Ultimately, I think that selflessness is the quality that defines heroes. A quality we should all wish to develop.

EDITED BY NEEL PATEL

Learn To Be

Through the lens of nature, Shuayb reflects on his growth as a writer in his favoured creative medium, the poem, on *learning to be*.

SHUAYB MOHAMMED Y12

Rooted in metre and rhyme,
I wonder if I'll be defined
by someone else's style
and these feet that aren't mine.
Refining clarity of sight,
will I stand beside these giants?

This forest of verse thrives,
each poem's roots diving deep
to drink from soil rich in creativity,
while the Winds of passion sneak
between branches with glee.

Each fruit yields vitality.
Some pose a bitter reality,
with forceful truths to capture thought.
Some are flooding honey-streams
to save dry banks with luscious taste.
And others heroes, vast like seas,
seize all breath from their onlookers
with exposed, bold mastery.
They bear all the beauty of the Winds
and yet they drift not, simply swaying
as I wander into colder woods,
where Winds wield harsh chill.

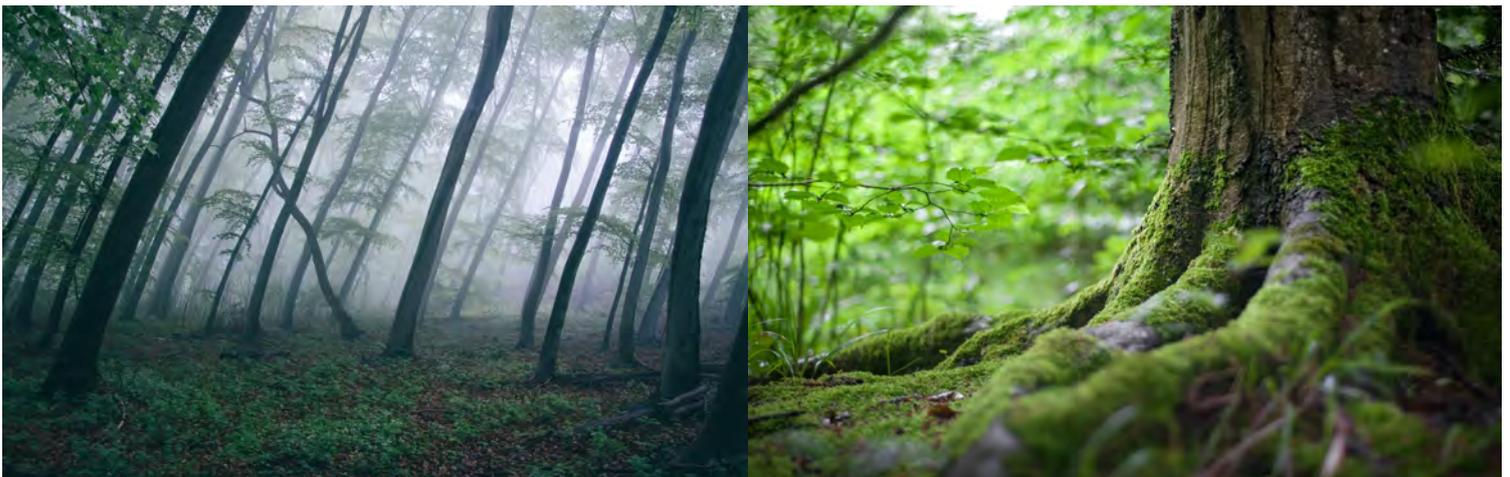
How do larches bear life's snow?
Do they listen as they grow
for the soft crying of hardy oaks
and their branches hanging heavily as they
mourn the fallen Autumn's leaves?
They hold it so solemnly, despite
lacking Wind to shake them free of the
cruel December's grave blockade. I say
to hear the cry is the only way.

And here, I hear Winds whispering
in the branches' modest trembling
with a passion ready to uproot.
And yet their mourning's almost still,
room barely enough to breathe,
knowing that sturdy roots will
embrace them with security
and hold up high their dignity
in the comfort of grounding
in the familiar sound—
a sound whose might I can't forget
and yet I fear that grave stillness
and wander ever further.

Do soldier grass blades
feel how deeply they can pierce
even ankle-high?
Their power persists
when buried underneath snow,
but my branches crash
clumsily, falling across the lines,
a world apart from neat grass ranks.
Branches fall further still, pass
this field's edges; I follow.

Must I go forth,
growing alone but for my Winds,
into a figure of nature—
to throw meaning out in faith?
Only memories of it remaining in hand.
A mere starved shadow of a memory
in the keen readers' eyes,
confined to the leaves' trail.

Will the forest deliver me from tragedy?
The roots offer me freedom in stability.
Meaning, not smothered by shadows
but living in seen, ordered form,
thrown wild to the Winds
and wrenched right into place.
These roots match the Winds' might.



GEOGRAPHY



How unequal is the world, and what does that mean for the future? Read Andro Lusung's article to find out.

ARTICLE

HAAYED ASLAM Y11

Will Supersonic Air Travel Ever Return? - *Nominated for Best Article*

Page 17

PICTURE QUIZ

LANDMARKS

Can you work out where all these landmarks are?

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ARTICLE

ANDRO LUSUNG (ALUMNUS)

Inequality: What's It All About?

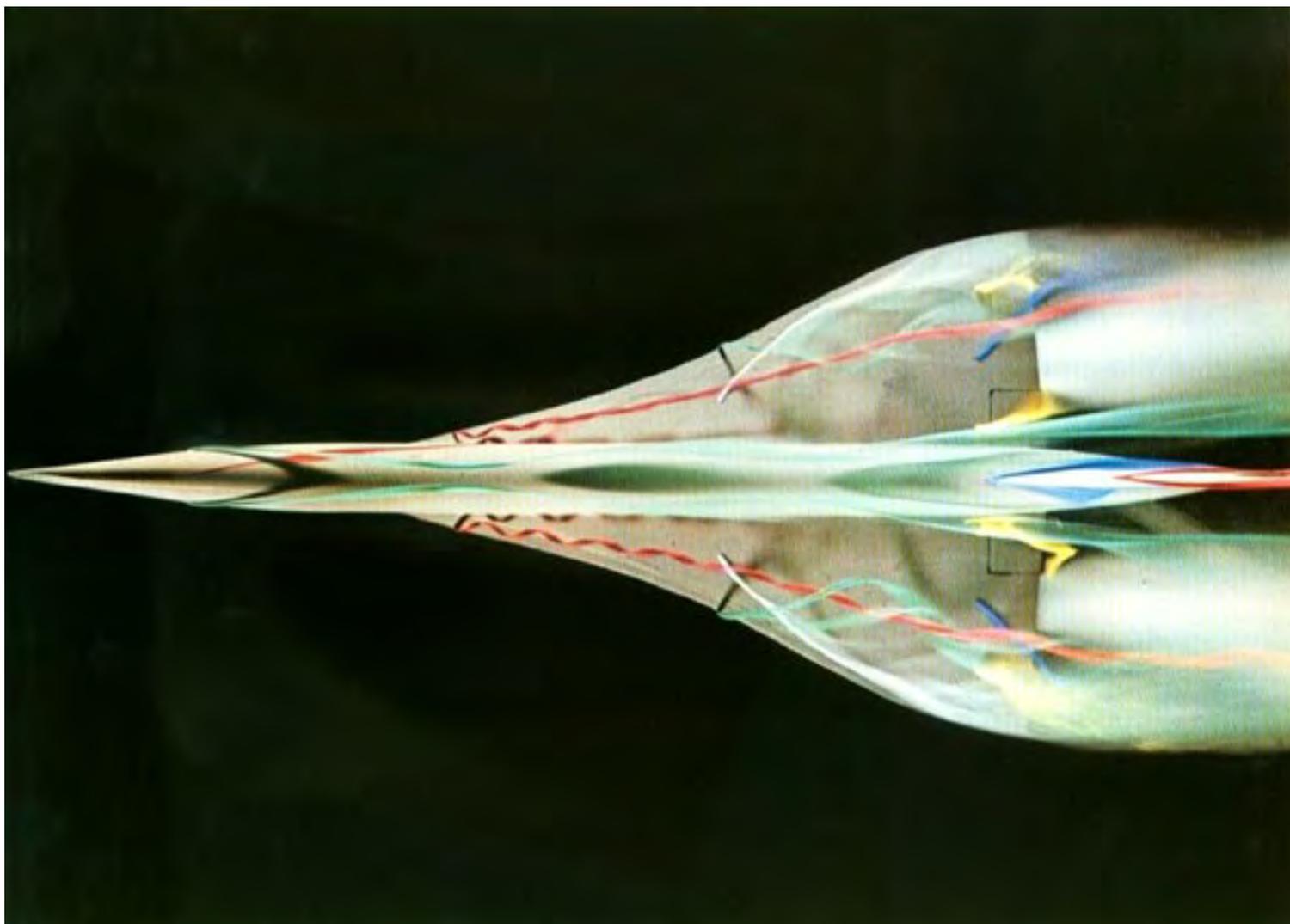
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Will Supersonic Air Travel Ever Return?

Could the fastest commercial flights we have ever experienced be in line for a comeback? Or are they never to be seen again?

HAAYED ASLAM Y11

Nominated for best article



*Flying on the edge of space, faster than a rifle bullet, Concorde was a cliché queen.
The epitome of Anglo-French collaboration, requiring an unprecedented level of technological innovation.*

The place: a small town in the UK. The date: a weekday during the 1990s. The time: early afternoon. Outside the corner shop, there is a queue waiting for the bus to Croydon. A familiar sound commences and begins to grow louder. Everyone in the bus queue looks up. They know what is making that distinctive noise.

And it matters not that they hear it every day at the same time as they wait for that bus; they still look skywards today as they do every other day.

The legacy of Concorde is one that will maintain its position as one of the greatest achievements of Anglo-French history. From its first flight in 1969 to

its introduction into revenue service in 1976, to the Paris crash in 2000 and the final flight in 2003, Concorde has managed to inspire the minds of countless aviators both young and old.

Many of these aviators are attempting to recreate the unique experience of Concorde with the development of new

supersonic jets capable of shuttling awe-struck passengers at twice the speed of sound (about **Mach 2.0**, or 1500mph). However, several barriers stand in the way of such a fantastic accomplishment, including financial instability and international laws surrounding super-sonic aircraft.

Before Concorde

Supersonic air travel finds its origins as far back as the 1940s. World War Two engendered rapid development in aviation and at the end of hostilities there were already some military jet aircraft nudging the speed of sound (Mach 1). With the war over, the Allies benefitted from German research and as a result, the Americans were the first to break the 'sound barrier' with the rocket-propelled Bell X-1 that exceeded Mach 1 in level flight in 1947. While this was widely considered a major success, one underlying issue emerged from the X-1 and other supersonic aircraft later developed, including Concorde:

At Mach 1 a distinctive 'sonic boom' can be heard and felt up to 30 miles away from the aircraft.

The Cambridge Dictionary describes the sonic boom and its effect as “an explosive sound made by an aircraft, bullet, etc. travelling faster than the speed at which sound travels”.^[1] The cause of the sonic boom has been described by Lockheed Martin as the result of “air pressure disturbances around airplanes [which] merge to form shock waves that create sonic booms”.^[2] The disturbing and loud sonic booms ultimately lead to the

USA's Federal Aviation Authority (FAA) banning overland supersonic commercial flights in 1973, a prohibition that somehow remains in place even today when only **subsonic** (below Mach 1) aircraft dominate the skies.

This is the main challenge facing the development of supersonic aircraft, as companies must come up with strategies to minimise the impact of the sonic boom—for example, NASA's own supersonic technology program aims to design its aircraft, dubbed the 'X-plane', to offer a streamlined shape akin to that of paper aeroplanes which helps to stabilise air pressure thus avoiding shock waves.^[2]

Concorde's Competition

The **Aerospatiale BAC** Concorde project certainly sparked interest across the globe, and was not without some competition.

The Tupolev Tu-144, developed by the Soviets, actually beat Concorde to the air, flying on New Year's Eve of 1968, three months before the latter. The Tu-144 was ultimately a massive failure with only one customer, Aeroflot (the national flag carrier of Russia) using the aircraft, which alongside several critical design flaws, resulted in numerous safety incidents during its short lifespan up until 1998.^[3]

Concorde's other main competitor was the American Supersonic Transport (SST), commissioned by President Kennedy and developed by Boeing. However, due to very high costs and a poor design, funding was cancelled in May 1971, and the Boeing SST never came to fruition past the drawing board.^[3]

The ill-fated Tu-144 and Boeing SST projects are still significant today, particularly to manufacturers who are currently working on their own SSTs, as they serve as lessons to be learnt as to how supersonic aircraft must be designed, developed and tested with meticulous care. On top of this, these examples may raise questions regarding the viability of supersonic travel, and may serve to highlight the difficulties associated with such a feat and whether it is even possible for supersonic travel to return with current technological advancements. Indeed, the aerodynamics and thrust are all understood. The real challenge has been overcoming the sonic boom as mentioned earlier. However, there is yet another major problem with supersonic flight, and one that ultimately led to Concorde's demise.

The Problem with Concorde...

As soon as Concorde entered service, one thing was clear: it was not cheap to fly supersonic. By comparison, the average round-trip price from London to New York was \$12,000 USD (adjusted to modern rates), which is an estimated three times more expensive than flying subsonic on the same route.^[4] The reason for such an overwhelming price is due to heavy maintenance costs: the Concorde was one-of-its kind and therefore required extensive overhauling and maintenance to ensure it was still airworthy. Furthermore, Concorde managed to consume jet fuel at the rate of 6 gallons per mile flown, compared to the Boeing 747 (whose first flight was also in 1969) which consumes 5 gallons of jet fuel per mile flown, and compared to the modern and efficient Airbus A350 which consumes at the rate of just 4 gallons per mile.^[4] It is obvious that Concorde

burned fuel at an incredibly high rate which many environmentalists were not happy with at the time.

So it is clear that Concorde had many problems regarding its suitability in the late 20th century, most notably the sonic boom, the expensive tickets which deterred many stakeholders from flying, the technical and logistical difficulties, and high fuel and maintenance costs. Perhaps this can be used as evidence against the return of supersonic flight, with many arguing that it simply is not economical even in today's society. Yet there are still some designers and engineers with a fierce determination to deliver a 'Son of Concorde'.

A Supersonic Future?

More than 15 years since Concorde was withdrawn from fare-paying service, the desire to travel on commercial aircraft at supersonic speeds still burns strongly in many hearts. In recent years many companies have sought to bring back supersonic travel back into the market at affordable fares.

One such company is Boom Supersonic. Currently, Boom are looking to introduce their state-of-the-art 55-seat 'Overture' aircraft designed to fly nonstop for 4500 nautical miles (or 8334km) and is scheduled to enter service in the mid-2020s. On their website, Boom have advertised journey times with the Overture jet, stating that a flight from New York to London could take just 3.5 hours compared to current subsonic flights which take about 6.5 hours, and a flight from San Francisco to Tokyo could take an impressive 6 hours compared to the current estimated duration of 10.25

hours.^[5] To prove the technologies for its upcoming airliner, Boom has built a demonstrator aircraft, the XB-1, and proudly mentions that it makes history as the first independent company to roll out a supersonic aircraft.^[5] According to the company, data provided by the XB-1 will "help us refine our design and engineering, test key supersonic technologies, and ensure efficiency, safety, and reliability".^[5]

Boom's supersonic programme has already caught the eye of several external stakeholders, with early investors including the Virgin Group as well as Japan Airlines which has made a \$10 million investment and pre-ordered 20 Overture aircraft,^[6] with collaborations from Rolls-Royce and the US Air Force.^[5]

Another company that was hoping to enter the supersonic market was Aerion, an American manufacturer based in Nevada and founded in 2002. The company has been developing a ten seat supersonic jet called the Aerion AS2 (launched in 2014) specifically designated for passengers flying for business, by prioritising in-flight comfort and eliminating the dreaded sonic boom phenomenon.

Unfortunately, the company collapsed in May 2021 after failing to raise enough capital to continue the development of the AS2 executive aircraft.^[6] A company statement said: "In the current financial environment, it has proven hugely challenging to close on the scheduled and necessary large new capital requirements to finalise the transition of the AS2 into production. Given these conditions [we are] now taking the appropriate



Boom Supersonic holds the title for making history as the first independent company to roll out a supersonic aircraft.

steps in consideration of the ongoing financial environment".^[6]

Opposition for the proposed supersonic travel plans is likely to be very strong with regards to their environmental impact, but one project will come up with just the right mix for Concorde's legacy to be more than film, video, books, and signed recollections.

Glossary

Supersonic - Refers to speeds greater than the speed of sound; opposite of subsonic.

Subsonic - Refers to speeds lower than the speed of sound; opposite of supersonic.

Mach - The Mach number is a dimensionless quantity in fluid dynamics representing the ratio of flow velocity past a boundary to the local speed of sound. In other words, the estimated speed of an aircraft in relation to the speed of sound (Mach 1).

Aerospatiale - A French state-owned aerospace manufacturer, together with BAC responsible for Concorde.

BAC - The British Aircraft Company, a British aircraft manufacturer, together with Aerospatiale responsible for Concorde.

Picture Quiz

Planet earth is full of amazing landmarks, both physical and natural, but do you know what these six landmarks are called and the country in which they are located? The answers are at the back of the magazine.

1



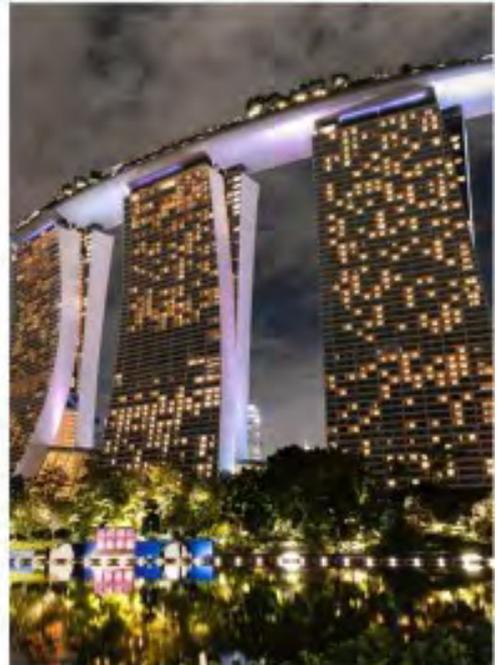
2



3



4



5



6



7



Inequality: What's It All About?

Andro explains the devastating effects of inequality, both within and between countries, on the well-being of society as a whole.

ANDRO LUSUNG (ALUMNUS)

Inequality can be defined as the presence of disparities between a group of people or countries in various areas, e.g. health and incomes. I think it is undeniable that the presence of inequality has had a negative impact on the development of countries. Both within and between countries, inequality has resulted in worsening health, the implementation of what is essentially a class system, which is there to be exploited by those higher up (the “super rich”) and, for low-income countries (LICs), a vicious cycle of overdependence on aid.

How inequality has led to a class system

The greatest impact that inequality has within and between countries is the establishment and upholding of a class system. The separation of society based on things such as pay, income and wealth has essentially sorted society into the class system of old: the rich, the middle-class and the poor. This has had a hugely negative impact on social mobility, with those less well-off being unable to access things other members of society can, such as mortgages and vehicles. The main reason for this is the significance money holds in society. Money equals power: the power to essentially do what you wish in order to maintain your power. According to Danny Dorling, author of *Inequality and the 1%*:

“the UK’s parliament’s main function today is not to represent the people, but to preserve the power of the few”. [1]

- Danny Dorling

People higher up in society often liaise with each other and with those in Parliament creating policies mainly benefiting the rich rather than the poor, worsening inequality within a country and maintaining this class system. A prime example of this was during the 1980s when the UK followed the USA in reducing income tax substantially. These policies later caused the share of national income of the top 1% in Ireland to double between 1995 to 2000.[1]

The ability of the super-rich (the top 1%) to manipulate and influence financial regulation due to the power that comes with the money they have has meant they have been getting richer, and this has had a particularly pronounced impact on London’s housing market. As the incomes of the super-rich rise, they are more willing to buy assets (the ‘wealth effect’). This means that the already limited and scarce supply of houses is reduced as properties are quickly bought up. Due to the economic model of supply and demand, a decrease in supply, ceteris paribus, will cause an increase in the price of houses. As a result, wealth inequality is worsened: fewer people are able to afford houses due to the increased prices, widening the gap between those who can afford houses (and other assets) and those who cannot and resort to renting instead. This all shows us how the perpetuation of a class system due to inequality has further worsened inequality within countries, as the richer in society use the power that comes with their wealth to increase their hold on society yet further.

This class system is also present between countries and can be seen in the operations of transnational corporations (TNCs). The headquarters of TNCs are mainly in high-income countries (HICs), an example being Nike who are based in Oregon, yet the majority of their production takes place in South Asia. This is because costs of production are lower in LICs in South Asia such as Indonesia, allowing for lower overheads and therefore greater profit margins for Nike. The inequality existing between LICs and HICs allows TNCs to abuse the cheap factors of production that exist in LICs and avoid the more expensive costs of production in HICs like the USA. This creates a class system similar to the one existing within countries, in which the people in more power (the HICs in this case) are able to use it for their own gain, but at the expense of those lower in society (the LICs in this case). As a result, inequality between countries worsens, showing this to be a vicious cycle.

How inequality affects health

Another impact that inequality has had within countries is worsening health, both mental and physical. As Dorling writes:

“The 2012 [Health and Social Care] Act allows up to 50% of hospital beds in an English hospital to become private beds”. [1]

The rise of the richest 1% has meant that they are able to prioritise their health at the expense of the bottom 99% and is the reason why physical health is-



PRADA
EYEWEAR



sues are much more common in the bottom 99% than in the top 1%, and this is found both between and within countries. For instance,

the life expectancy in Kensington and Chelsea is 14 years above that of Glasgow. [1]

However, mental health issues are present regardless of your economic status—one of the few things those better off in society aren't immune to.

Furthermore, a great stigma exists about reaching out for help when you need it, whether it be in the form of mental support or support from food banks due to the possible shame they feel. The lack of willingness to ask for help has resulted in not only worsened mental health but also physical health, as poorer families suffer from malnutrition as well as obesity due to a lack of access to education about healthy lifestyles and worsened mental health (and in extreme cases, suicide). Indeed, in countries in which inequality is more pronounced, obesity rates are higher amongst adults as well as children. [2] This is because people in more unequal societies are eating more and exercising less, [2] showing how inequality within countries has worsened people's lifestyles, by worsening their physical health. Another interesting finding is that people's perceived status in society is linked to obesity. [2] The ability to buy an ample amount of food is seen in many countries as a way to prove one's superior financial status, that you have money in your pocket. [2] Therefore, in a world in which inequality within countries is increasing, people desire to be part of and perceived to be among the well-off in

society. This causes an increase in fast food consumption as more people attempt to increase their perceived status in society. Fast food is high in saturated fats and as society consumes more of it, their health worsens and they therefore increase their susceptibility to long-term health conditions such as type 2 diabetes and cancer, further showing how inequality within countries leads to people wanting to improve their perceived status in society, to the detriment of their health.

Between countries the link between inequality and health is less distinct. When comparing two countries on different sides of the inequality gap (Greece and the USA—with Gini indexes of 32.9 and 34.7 respectively in 2018), [5] Greece had a life expectancy 1.2 years higher and the USA had a 40% higher risk of dying in the first year after birth. [2] This shows that inequality between countries has not necessarily caused the worsening health that exists here. Perhaps a reason for this is the fact expenditure on the health sector, e.g. on hospital beds and new machinery, does not increase its affordability to a population. Improving the quality of healthcare does not necessarily improve access to healthcare, particularly in countries where the healthcare sector is predominantly private (unlike the UK). Therefore, worsening health is only the second greatest impact as it has only occurred because of inequality within countries rather than between countries.

A final impact that inequality has had is overdependence on aid for LICs. Due to the stark inequality between HICs and LICs, the UK and DRC for example, LICs become over reliant on aid (\$1 trillion worth of aid receipts have

been handed to African countries by Western governments [3]) from these countries and are unable to sustain themselves without it. They are unable to grow their own economies from within and spend on investment into infrastructure with money created by themselves. A reason for this is the exhaustion of factors of production during the colonial period. The colonisers were able to profiteer from the rich array of natural resources in LICs, from valuable minerals, to crops like cotton, whilst the colonies were left with nothing, and many of their people were enslaved by Western countries. This is similar to the class system previously mentioned, the colonisers were able to abuse their power for their own gain, at the cost of their colonies. While these colonies have since been abolished, LICs like the Democratic Republic of the Congo have been unable to recover and with diminished natural resources to help boost their economy, turn to aid as their main income. Whilst aid may initially be the first answer in solving inequality between countries, Dambisa Moyo argues in *Dead Aid* that it worsens their situation, widening the inequality gap. One of many reasons is the corruption that is often involved in aid receipts, as some governments have in the past pocketed the money rather than spending it on infrastructure to help the economy grow, with Moyo herself calling it a guarantee of economic failure. [3] This contributes to a vicious cycle of aid and overdependence, one that many LICs are unable to escape, maintaining the inequality gap, therefore showing how inequality has caused aid overdependence which has, in turn, negatively impacted poorer countries in society.

To conclude, inequality has definitely had a negative impact both within and between countries, the greatest of which being the creation of the class system which, although it may not be obvious, runs at the forefront of society and essentially ensures that the rich get richer and the poor stay poor.



HISTORY



You may have heard of the Hanging Gardens of Babylon, but how much of it is true and how much is myth? Read Ramin Ryan's article to find out.

ARTICLE

RAMIN RYAN Y13

The Hanging Gardens of Babylon

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TRUE OR FALSE?

FAMOUS PEOPLE IN HISTORY

Test your historical knowledge
with this fun quiz!

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The Hanging Gardens of Babylon

Ramin tells the fascinating story of the only Ancient Wonder never to have been located.

RAMIN RYAN Y13

Babylon, though nothing more than a ruin now, was once a centre of art and history, as the flourishing capital of the Babylonian and Neo-Babylonian Empires. Its ruins now lie in modern day Iraq, what was once known as Persia, about 85km south of Baghdad. From an impenetrable 80-foot-thick city wall (yes, 80 feet)^[1] to the Etemenanki, a massive ziggurat (a massive temple-like structure serving as the home of the gods) that may have inspired the Tower of Babel,^[2] Babylon was a symbol of strength for the empire and one of the most influential cities of its time. Arguably its most famous structure was the Hanging Gardens of Babylon, one of the seven wonders of the ancient world. However, none of its ruins have ever been found, and with unreliable and differing records of its nature, we are no closer to discovering it. So, where is it? Did it ever even exist?

The oldest surviving mention of the Gardens was by the Babylonian priest Berosus, during the time of Alexander the Great in the late 3rd century BCE.^[3] In his writings, the Gardens were built by Nebuchadnezzar II for his wife Amytis, as she missed the lush vegetation and mountains back in her native Media (also in modern day Iran). Nebuchadnezzar the Great was the second and longest reigning king of the Neo-Babylonian Empire, also known as the Chaldean Empire, reigning from 605 to 562 BCE.^[4] He was also the Biblical king who exiled the Israelites from Jerusalem and destroyed the First Holy Temple in the Old Testament. Probably more recognizably, he is the namesake of the ship in *The Matrix* trilogy. However,



other sources dating to the time of Christ suggest it was instead built by a Syrian king, though for similar reasons.^[5] Regardless, the time of its construction is agreed to be in the early 6th century BCE.



King Nebuchadnezzar II, known as Nebuchadnezzar the Great

The Gardens themselves were said to be a marvel of engineering, though we know little about it. Romano-Jewish historian Josephus writes “by planting what was called a pensile paradise ... [Nebuchadnezzar] rendered the prospect an exact resemblance of a mountainous country”.^[6] Alexander the Great’s army reported seeing magnificent gardens as well, though they aren’t the most reliable source. Located near

the royal palace, the Gardens may have been tiered to mimic a mountainside, allowing for deep rooted trees to be planted. The many exotic plants were often growing off of the walls, hence ‘hanging’ over the side to produce a wondrous display of vegetation. The walls themselves, which Diodorus of Sicily described as 22 feet thick,^[5] were, unusually in the city of Babylon, made of stone. The Gardens could have been up to 400 feet long, while others suggest it was circular, 200 feet in diameter. Sources aren’t too similar in their descriptions, adding to the uncertainty about its existence. Anyhow, the Hanging Gardens of Babylon were a beauty to behold, and Amytis could then appreciate the wide variety of plants and trees that had been grown for her.

Unfortunately, all empires eventually come to an end, no matter how great they may have been. The Fall of Babylon occurred in 539 BCE when the Neo-Babylonian Empire was conquered by the Achaemenid Empire, known as the First Persian Empire, under Cyrus the Great.^[7] Cyrus is also mentioned in the Bible, referred to as a Messiah who liberated the Jews from Babylonian captivity, being the only non-Jewish figure to be called so.

Babylon then underwent many changes in ownership: first owned by the Greeks under Alexander the Great, then Persia again, this time the Parthian Empire, and, for a short time, Rome. However, the city was almost completely emptied following

the Wars of the Diadochi, a conflict between Alexander's rival generals for control of his empire, following his death at Babylon in 323 BCE.

As great as it would be for such a creation to exist, there lacks evidence of its existence. Herodotus, a 5th century BCE Greek historian, known as 'the Father of History', described Babylon, but never mentioned the Gardens in his famed work *The Histories*.^[8, 9] However, neither did he mention the Sphinx when discussing the pyramids... some historian he was.



Excavation at the ruins of Babylon were just as fruitful. During the 2003 invasion and subsequent occupation of Iraq, the Americans rather ignorantly established a military base on the ruins, destroying centuries-old buildings to create space.^[10] The Ishtar Gate, the most famous of the gates of Babylon due to its intricate reliefs of animals and blue glazing, and perhaps one of the most important relics from the ancient city, was substantially damaged by the US army and the Polish troops that followed. Despite claims by Colonel John Coleman, the former Chief of Staff for the 1st Marine Expeditionary Force, that American occupation protected it from greater damage by looters,^[10] parts of the ruins were completely destroyed, and made the job for archaeologists that much harder.

Even then, rigorous searches produce no conclusive proof of any such garden, leaving many to suggest that it was never a reality. After all, most of the historians writing about the Gardens had never actually been to Babylon, possibly including Herodotus himself.^[9] Rather, they cited other sources, principally Berossus. It was also not unheard of for writers at the time to create stories. In fact, Herodotus, who once sat down and wrote in his 'Magnum Opus' of marmots (herbivore squirrels) hunting and devouring adult

camels, is once again guilty of this, giving rise to his title, the Father of Lies.^[9]

These fabrications may be for symbolic reasons, as in the case of the aforementioned Tower of Babel; its existence is also contested. Or, and I tread lightly here, for religious reasons, as many theologians argue that some narratives within holy books are not to be taken completely literally. Perhaps the Gardens were a metaphorical representation of Nebuchadnezzar's wealth and power. Indeed, he was a very successful king, despite being portrayed as a megalomaniacal villain in the Old Testament, who transformed the city of Babylon through multiple ambitious construction projects.^[6]

But partly because an argument based on the writing of Herodotus is hardly an argument, and partly because I have not written that much at all, let's suppose the Hanging Gardens did exist. And so, the question arises, where would it be?

A sensible start would be somewhere near the Euphrates River, which flowed through Babylon, as even ancient plants needed water. Control of the Euphrates was a considerable advantage in maintaining power in ancient Persia, and it can be argued that it served as the cradle of Mesopotamian civilization, as the Sumerians settled in that area as long ago as 3500 BCE. However, the river has shifted its course considerably since it flowed through the ancient city, and so it is plausible that the site of the Gardens could be quite far from it in the present day.

An interesting discovery that some archaeologists believe is evidence of the Garden's existence was made more than 100 years ago by Robert Koldewey, when he uncovered a number of chambers under the northeast corner of the Royal Palace, with a 'remarkably engineered' well within one of them.^[11] This may have been the method the Babylonians used to water the Gardens. Indeed, Herodotus praised the impressive irrigation system in place—useful for once, it seems.^[9] A chain pump or the use of Archimedes' Screw, a ma-

chine that would be described by Archimedes 350 years later, could then transport the water up.^[12] The location also matched with records stating it was near the palace. Perhaps that means mystery solved?

However, some have argued that the Hanging Gardens of Babylon was a misnomer and in actuality, the gardens were never in Babylon.

Dr Stephanie Dalley, an Oxford scholar of the Ancient Near East, who has spent 18 years studying texts related to the Gardens and Babylon, has proposed that the Gardens were sited not in Babylon as the name suggests, but at Nineveh, the capital of the Neo-Assyrian Empire, 300 miles north, near Mosul.^[13] Instead of Nebuchadnezzar, the King Sennacherib built the ancient wonder 100 years prior to the agreed upon date of 6th century BCE. It seems a wild conjecture at first, but it is possible for historians to have made an error in their records, especially considering Nineveh was known as 'New Babylon' for a time, due to the Assyrians conquering Babylon in 689 BCE.^[13] It would also explain why many sources suggest the Gardens were built by a Syrian king.

Excavations at Nineveh revealed a complex aqueduct system, and royal palace reliefs depict an extensive garden. Aqueducts, however, weren't unique to the Assyrians: India, Egypt, and, most famously, Rome, had rather intricate plumbing. The relocation makes the issue of irrigation easier too, as Babylon was built in an area of much flatter land than Nineveh. Furthermore, archaeologists found a huge bronze screw among the ruins that served as a transport system for the water—Archimedes' screw.^[1, 13]

The proposition is a tempting one—should the ancient wonder be renamed the Hanging Gardens of Nineveh? Unfortunately, the part of Iraq where the ruins are located still remains riddled by conflict, so it could be a while until thorough investigation can be done. For now, it seems, the Hanging Gardens shall remain undiscovered.

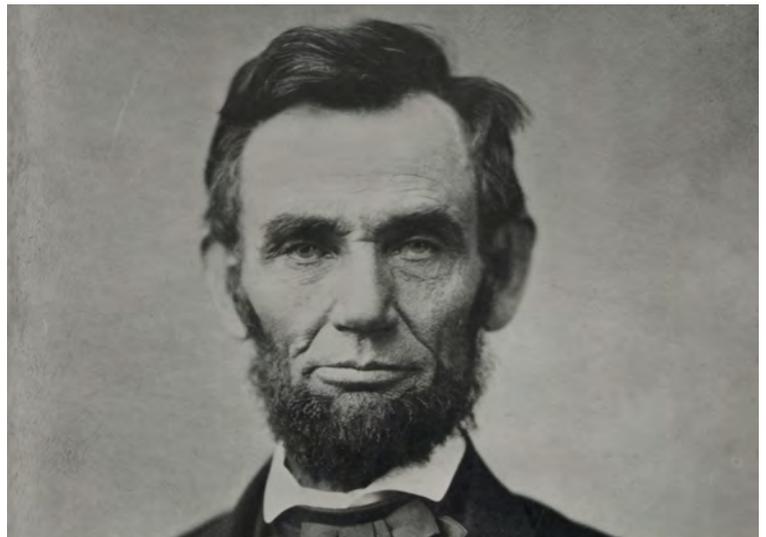


True or False Quiz

Good at history? Have a go at this true or false quiz about famous people in history and determine the fact from fiction! The answers can be found at the back of the magazine.

True or False?

1. American astronaut, Neil Armstrong, was the first man on the moon.
2. The last Queen of France before the French Revolution, Marie Antoinette, said, "let them eat cake."
3. Christopher Columbus was the first European to learn about America.
4. Cleopatra was Egyptian.
5. Benjamin Franklin was the one who discovered electricity.
6. American President Abraham Lincoln was an amazing wrestler.
7. The Tudor King, Henry VIII, beheaded all six of his wives.
8. President John F Kennedy said "Ask not what you can do for your country, but what your country can do for you".
9. Prime Minister Winston Churchill said "I am fond of pigs. Dogs look up to us. Cats look down on us. Pigs treat us as equals."
10. The 1950s American pop singer, Elvis Presley, died on the toilet.



PHILOSOPHY



What has a violin player got to do with the ethics of abortion? Read Abbas Zaidi's article to find out.

ARTICLE

**ROZE RAJPUT
Y12**

Did You Choose To
Read This? -
Voted Best Article

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ARTICLE

**ABBAS ZAIDI
(ALUMNUS)**

On the Ethics of
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ARTICLE

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INTRIGUED?

**TIMELESS THOUGHT
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Tricky philosophical
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Did You Choose To Read This?

Roze takes a fascinating dive into the murky world of free will.

ROZE RAJPUT Y12

Voted best article



I have a simple challenge to put to you: look at the sentence below, but don't read it.

I like cats.

I can say with almost complete certainty that if you looked at the sentence, you also read it. After all, to read, all you need to do is look at some words and your brain does the rest. Isn't that strange? It seems that our brain does things without us wanting it to. Our heartbeat is not consciously controlled either, and neither is our breathing—although now that I've mentioned it, you probably are aware of your breathing (sorry). So, clearly, there are certain things our body does that we do not control. But what do we control?

As I'm writing these words, I can't tell where they are coming from. They seem to float into my conscious view and then my fingers hit the keyboard in ways that make letters show up on the screen. The origin of these words is unbeknownst to me. You may think

that's ridiculous: I'm the one writing this, so I am surely their source. But that opens a can of worms that I'd rather stay shut for now, one leading to questions like "what am I?" or "how do we think?". These questions don't have a definitive answer, but we as a society don't seem to understand the gravity of this: the fact is that we can't definitively answer questions about identity nor consciousness.

An online survey by the Scientific American in 2015 showed that 60% of people believe in free will, the notion that we are in control of what we do.^[1] But this survey is strange: the author seems to assume we do have free will (as people need to be able to answer as either believing in it or not), yet if we do not have free will, then the survey is pointless, as people have not freely chosen to answer whichever way they did. The Scientific American, and scientists in general, aren't usually ones to carry out

surveys. Surveys are for opinions; scientists prefer numbers, graphs, yes or no. The fact that a survey is being done on this topic tells us something—that free will can't really be tested. That we don't really know. The question of whether we have free will may be one of the questions we can never really answer; despite this, we rely on the assumption that we do.

The Crown Prosecution Service (CPS) works to bring to court criminal cases that have been investigated by the Police and other organisations. If someone breaks the law, the Police contact the CPS, who then provide them with advice on what course of action to take. This process, of course, relies on free will. It assumes people have freely chosen to commit crimes, and so the judicial system seeks to punish them for their choices.

While most mainstream religions have differing views on many things, they agree on one belief: this life is a test. In

almost all traditional religions, this lifetime is a stepping stone to reach eternal life, and the choices we make here determine what happens to us after our death. For example, in Christianity, those who commit sins go to Hell—and the same teaching is found in Islam. So human free will is a vital component to most mainstream religions because our fate is based on our choices. The word “choice” is very important here, because to choose you need to be able to pick between options, and that requires free will.

Despite the fact that society relies on its existence, there are many different beliefs on free will: followers of libertarianism argue that we are totally in control of our actions; hard determinists (those who believe that our actions are bound to happen and cannot be changed) say that we have no control over it. Compatibilists argue that these two views are not mutually exclusive, that we are free to choose, but choose only what has been predetermined. But we as humans have built a society that rests on the bedrock of free will, of libertarianism, it would seem. The school system assumes people are free to choose between right and wrong



answers, the political system assumes people are free to choose between different political parties, and most religions declare that people are free to choose between right and wrong.

But let's assume that free will really is an illusion: we feel in control but aren't. This leads to horrifying consequences in terms of morality. The actions of Hitler, Ghislaine Maxwell, the 9/11 hijackers, and countless others would not be their fault; all the horrifying evil in the world would suddenly not be the fault of those that commit it. We would also find no meaning in daily life with everything simply reduced to cause and effect.

If we start questioning free will, and reach the conclusion that it doesn't exist, morality and justice crumble. If life is a test, as mainstream religions tell us, it suddenly becomes meaningless, because what's the point of being tested if you can't give an answer?

Not just that, questioning free will is also a very strange experience on a personal level. Not only does nobody want to feel like a puppet of their own brain, it also seems almost impossible to comprehend how such a fundamental part of our experience of consciousness could just be an illusion. This is why we don't like to question free will. This is why humanity has pondered over whether the earth is round, how life came about, why we scratch our heads over hypothetical paradoxes, but why society as a whole never truly critically thinks about free will. The assumption of free will is probably the most important assumption we've ever made—and without this assumption, every part of society slowly crumbles; it is the thread running through the fabric of the world that simply cannot be cut. Whether it actually exists? I suppose that's up to you to decide.



On the Ethics of Abortion

An essay to justify the case for abortion up until the third trimester, looking at arguments from famous philosophers and thought experiments.

ABBAS ZAIDI (ALUMNUS)



The basic freedom of the world is women's freedom. A free race cannot be born of slave mothers. A woman enchained cannot choose but give a measure of bondage to her sons and daughters. No woman can call herself free who does not own and control her body.

Margaret Sanger, *A Parents' Problem or Woman's?*

Abortion can be defined as the intentional ending of the life of a foetus, i.e. the termination of a pregnancy. The morality of abortion has been long debated and was perhaps most prominent during the 1960s, during the second wave of feminism as feminists fought for the social equality of women. However, despite being legalised since 1968 in England, abortion remains a controversial issue. In recent years particularly, debates concerning abortion have increased with abortion laws in many countries becoming stricter. In America, for example, abortion access in some southern states has become much more controlled.

There are two main positions concerning abortion: pro-life and pro-choice. Those, who are pro-life believe that the foetus has a right to life, so ending its life is unethical. However, those who are pro-choice believe that it is the pregnant person's right to decide whether they wish to continue the pregnancy as it is their body. It should be noted that while some pro-lifers believe that abortion should not be allowed for any reason, others believe it should only be allowed in specific circumstances—for example if the mother's life is at risk. The controversy of abortion, I believe, rests in the fact that both sides are so adamant in the beliefs—to each the other side seems abhorrent and evil. After all, for someone who believes that abortion is nearly identical to murder, the idea that it should be legal is incredibly difficult to come to terms with. In the same way for those who believe that the issue of abortion is not to do with murder, but the bodily autonomy of women, it is again vastly difficult to understand why it should be illegal. The purpose of this article is thus to provide a rational and reasoned case for the permissibility of abortion, in a way that is very difficult to do in live debates.

In this article I will be arguing that abortion (up until the third trimester) is a morally permissible action regardless of the reason. In general, there are two things that need to be considered when dealing with the ethics of abortion:

- 1) Whether the foetus is a person and/or has the right to life/the right to not be killed.
- 2) The bodily autonomy of a woman.

Those who ascribe themselves to the belief that abortion is wrong and should be illegal must prove both that it is morally wrong to end the life of a foetus and that the women's bodily autonomy does not matter or is irrelevant in cases of abortion. If a 'pro-lifer' is only able to prove the first, while it may show that continuing with the pregnancy is the more ethical choice, it does not show that it is a moral obligation nor that it should be illegal.

First, focussing on the first premise I shall outline what I believe is one of the strongest arguments that attempts to demonstrate that it is morally wrong to kill a foetus before then illustrating why it is not sound. Don Marquis' infamous argument against abortion relies on the presumption that we can locate the central feature of the wrongness of killing in its most salient harm, the deprivation of the deceased's valuable future.^[2] If this view of the harm of death, and the wrongness of killing is correct, then we can extend it to the unborn, who also have a valuable future. In simpler terms Marquis argues that killing another person is wrong as it deprives them of their valuable future. Thus as a foetus has a valuable future, it is morally wrong to abort and kill it.

I will be presenting two criticisms of this argument: first if we are to hold it as true, we must also accept and acknowledge that the use of contraception is as morally abhorrent as killing and secondly that the wrongness of killing does not lay in the fact that it deprives someone of their future.

If the loss of one's valuable future is focal to the harm of death, then contraception could be viewed in a similar fashion to the deaths that you or I will experience. In response to this accusation, a proponent of Marquis' argument could, of course, agree that the Future-Like-Ours Argument entails the conclusion that contraception is harmful, and thereby seriously morally wrong. However, not only is this an absurd conclusion to hold but also seems rather disingenuous and if someone is to say that abortion should be illegal due this argument, they would also have to believe that contraception should be too. Marquis himself even recognised and anticipated the threat of this argument arguing that in contraception, nothing at all is denied such a future, and thus, is not morally objectionable.

Marquis writes that a necessary condition for the deprivation of a future is that "the future life that is lost would have been the actual life of the same individual who dies prematurely".^[2] When it comes to futures, the continuity of personal identity is a necessary condition for deprivation. His defence against the *contraception reductio* is summed up by the idea that you cannot be deprived of a future that will be experienced by someone or something else. To make this clearer many would agree that when we die, we cease to exist. Once we die, all that is left is a corpse, not us. Therefore, we do not attend our own funerals, something else does: a corpse.



As such, it cannot be said that we have a future, or potential of attending our own funerals. This is because something else attends our funerals, not us. We do not exist at the time of our funerals. In the same way neither the sperm, nor ovum are deprived of a valuable future as it is not experienced by them but by the embryo. Of course, the sperm and egg cannot be identical to the embryo that is created, because if that was true they would also be identical to each other which is clearly false. Therefore, the Future-Like-Ours Argument cannot apply to some sperm and ovum, and thus, the *contraception reductio* is defeated.

This is a neat defence of Marquis' position, but I do not think that it succeeds. To explain why, we first need to take note of Marquis' views on personal identity. Theories of personal identity are theories of what it takes for us to persist through time—of what makes it true that we are the same individuals as those who rose from our beds this morning, for example. These fall into

one of two general categories: psychological and biological. According to psychological accounts, our persistence through time requires continuity of psychological features like memories, intentions, character traits, or continuity of mere subjectivity, consciousness or the physical apparatus necessary to produce mental states. In contrast, biological accounts hold that no such features are necessary. All that is required for persistence is biological continuity: continuity of certain biological processes or of bodily structures resulting from such processes. Marquis accepts a biological account, and given his claim that identity is necessary for deprivation, it is crucial for his argument that he does so (as otherwise a foetus would not have an identity as it does not have the capability for psychological capacities).

What I believe is insufficient with this response however is that I believe there to be an inconsistency with Marquis' defence. I do not think that Mar-

quis really believes that in all circumstances, if identity is not preserved, that it is permissible to kill someone. Here is a case example to illustrate such inconsistency:

Suppose that Abbas is a five-week-old foetus scheduled for abortion on Monday afternoon. Suppose also that, if they were not aborted at that time, they would divide like an amoeba on Tuesday morning. The result of this bizarre event would be two distinct foetuses, each of whom is biologically continuous both with Abbas (in the past) and with a postnatal human being (in the future) but is not identical with either one. Abbas' division on Tuesday morning would thus mark the end of his existence and begin the existence of two new beings.

Given this, is it wrong, on Marquis' account, to abort Abbas on Monday afternoon? If being deprived of a future requires being numerically identical to the one who experiences it, then the answer must be that it is permissible to

abort Abbas. After all, he is not identical to anybody existing after Tuesday morning. So, by Marquis' claim, he cannot be deprived of any future located after that time. The hours between Monday afternoon and Tuesday morning are all that he has to lose. Furthermore, since he is still too young to have any experiences, these hours are not valuable to them, hence, an abortion must be morally permissible. According to Marquis, if Abbas were not to divide on Tuesday morning then the abortion, however would be morally abhorrent.^[2]

To say that it's morally permissible to abort Abbas depending on whether he divides seems to be an arbitrary decision and illogical. The claim that being deprived of a future requires identity to its experience must therefore be false. For Abbas is not identical to any experiencer of a valuable future, but he is at least as deprived by his abortion as any standard foetus, and perhaps doubly so. Therefore, since personal identity is not seen as morally relevant to the FLO theorist, it cannot be used as a defence against the Contraception Reductio. Thus Marquis' argument fails to demonstrate that it is wrong to abort a foetus. While there are many more valid criticisms of Marquis' arguments, ranging from whether a biological account of personal identity is true, whether a foetus has a valuable future, and whether the wrongness of murder even lies in the fact that it deprives a being of its future, I will not be discussing these issues now.

Instead I wish to move onto the second concern when dealing with the ethics of abortion: the bodily autonomy of a woman. Through this section, I will be acting under the assumption that a foetus has the right to life.

Those who believe abortion is morally impermissible and should be illegal, tend to make the following argument: When a woman consents to sex, they also consent to the possibility of becoming pregnant and thus if they do, they have a moral obligation to see the pregnancy to term. Bodily autonomy is not an issue in these cases, both as the person had consented to being pregnant and as bodily autonomy does not give one the right to harm another being.

However, I would like to object against this argument on the grounds that whether a person consented to sex does not mean that they must be forced to carry a pregnancy to term as they can revoke consent at any point in time through the process. Following is a slightly amended version of a thought experiment posed by philosopher Judith Jarvis Thompson:^[3]

Imagine one day you are told a famous violinist has been found to have a fatal kidney disease, and the Society of Music Lovers has canvassed all the available medical records and found that you alone have the right blood type to help. They have therefore asked you if they can plug the violinist's circulatory system into yours, so that your kidneys can be used to extract poisons from his blood as well as your own. You must stay plugged to him for nine months as otherwise he would die. While at first you agreed to the terms, you realise that after two weeks you no longer wish to be plugged into the violinist. Are you morally obligated to stay plugged in?

I would argue that it would still be morally permissible to detach yourself from the violinist as they are using your body to survive. After all, you are the only person who could save the violinist—it is not the case that if you did not say yes that they could have used someone else. The violinist simply would have died without you.

A criticism of the argument may be that in the case of abortion, you are the one that put the foetus in that position. You are the one who brought the foetus into existence. A closer analogy would be to say that you are the one who caused the violinist to be in a coma—perhaps you hit him with a car. Thus you have a moral obligation to keep yourself plugged in, in the same way, a pregnant person has a moral obligation to see the pregnancy to term.

However, what this analogy fails to consider is that in the case of the violinist, you brought him into a worst state of being. Before being hit by your car, the violinist was a healthy person who will now die due to your actions if you are not plugged into him for nine months. In the case of abortion, the pregnant woman brought the foetus into existence—before that the foetus was simply an ovum and a sperm with no consciousness. In essence, an abortion simply returns the foetus back to what it was—non-conscious matter. The violinist's existence was not caused by anything you did, so you are morally obligated to stay plugged in if you caused the accident but as you brought about the existence of the foetus you do not have the same moral obligation. (This of course does not allow a biological parent to kill their child after they have been born as it is not violating its bodily autonomy in any way).

In conclusion, my case for the moral permissibility of abortion lays in the fact that there is no reason to say that killing a foetus (before it has gained consciousness) is wrong and because people have to right to control their body—they thus have to right to abort a foetus if it is using their body in a way they do not wish it to.



How To Be a Wizard

A celebration of music, maths, and beauty.

BEN SHORTER (ALUMNUS)

*“Music is a world within itself
with a language we all understand”*

- Stevie Wonder

Music is often celebrated as a universal language, a mode of communication and shared experience for all people. This idea is a pretty one. It is pleasing, it makes apparent sense, but without basis for understanding it falls to no more than a meaningless romantic notion.

To suggest that music is a universal language, one must first consider what music actually is. I hear your protestation: I know you know what music is. Of course you do—everyone loves music! How could you *not* know what music is? No, I know you know what music is. I wonder, however: do you *understand* music?

Music is, at its most fundamental level, a collection of precise mathematical relationships ordered in such a way as to be interpreted by the human brain as 'organised sound'. While perhaps a shocking assertion at first, I argue that, ultimately, music is fundamentally a branch of mathematics. It is a branch of mathematics taken through a higher chain of processing to be understood usually at its end as something entirely disjoined from its foundational basis, but this is a mistake that forgets the consilience of beauty. Just as theoretical maths can find its application in physics, or engineering, or economics, from maths too emerges art. I call to mind Leonardo Da Vinci's fascination with the Fibonacci sequence and golden ratio, or Kandinsky's geometric marvels. Architecture also is an art deeply mathematical; this is not even to touch on the aesthetic pleasure of maths itself. All of these mathematically inspired art forms are beautiful, but perhaps none has inspired over the ages such emotive movement as music. Music is maths, and the explanation for this fact is beautifully simple.



Vasily Kandinsky's Composition 8 (1923), a visual masterclass in mathematical beauty

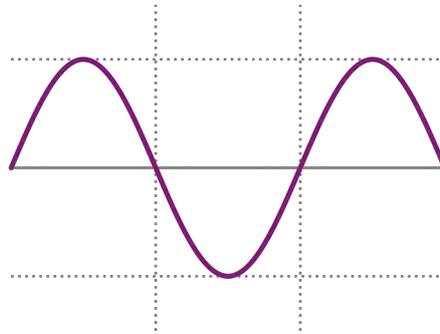
Consider a short musical phrase, something simple—say, the first line of Twinkle, Twinkle, Little Star. What is heard here is a large ascent in pitch followed by a smaller ascent, then a descent. This ability to discern and discriminate between different relative pitches is present in any person of capable hearing past infancy.^[1] These jumps in pitch, known

in music theory as 'intervals', can be compared and related to each other. This practice forms the basis of harmony, the sound of more than one note being played or heard at the same time. And this is itself mathematical: in describing notes and chords (stacks of multiple notes), musicians will speak numerically, referring to these notes and chords as the 'one', or the 'five', etc. This idea of musical communication through numbers is found all over the world in a host of musical cultures, and this is unsurprising for it makes sense, it is logical. But this is merely a choice, a construct of language—this is not beautiful. No, the beauty lies deeper still.

Consider just one note. 'Twin' of 'Twin', if you like. Or any note. I ask you to hear this note in your head. Sing it, if you feel comfortable to. What do you hear? Some constant tone, a steady stream of sound, I would imagine. This is quite obvious. Music is a sensory experience, after all. But is the experience of reading beautiful prose not made fantastically more enjoyable by exploring the text more deeply? Is the experience of eating an ambrosian dish not greatly enriched by an understanding of what this food is and where it came from? To truly appreciate music, we must first understand what sound actually is. This will require a basic look at acoustic physics to explain, so I hope that you will stay with me.

A musical note is heard at a specific pitch, how 'high' or 'low' the note is. This pitch can be described as having a frequency of vibration. For example, the A above middle C on a modern piano will sound at 440 Hertz, or vibrations per second. This frequency of vibration is really just what it sounds: every time this A is played, you are hearing the vibration of air 440 times every second. This is how the note is defined. But what exactly is causing this vibration? Waves passing through the air, yes—waves moving particles and causing a

sound to be heard by the ear (for a more detailed explanation see footnote 1)⁽¹⁾—but what are these waves? I have so far neglected to explain what exactly these waves are, for I think this perhaps the most beautiful piece of the wave mechanics foundation for our psychoacoustic puzzle.



Every single wave vibrating as this note A is heard, all 440 of them, is a sine wave.⁽²⁾ This one key on the piano, pick of the guitar, or sung tone, is defined by the 440 sine waves that pass through the air, finding their way through the ear and causing the vibration of the cochlear hair cells at this exact frequency, a frequency of vibration interpreted and processed by the brain as sound.

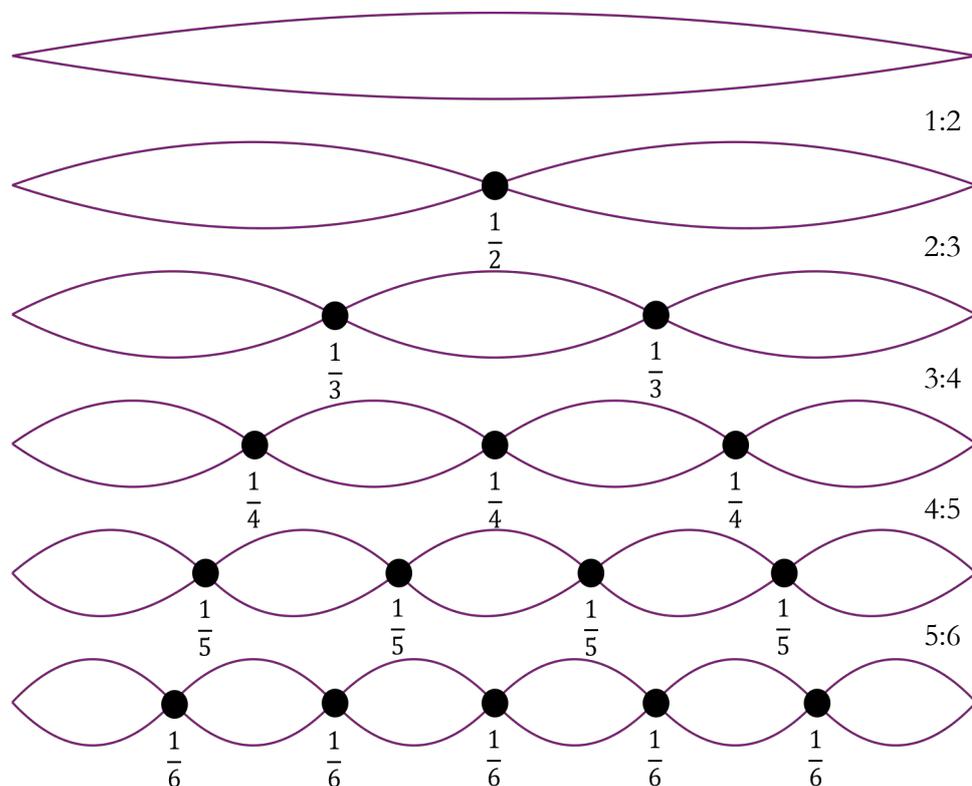
Yes, the very sine waves that are so vital in trigonometry, Euler's Formula, even in alternating current, across the fields of mathematics, physics, engineering, and even geography, are the fundamentals of music itself. They *are* music.

But there are not 440 waves alone. I have thus far asked you to consider one note, any note, played by any instrument. I ask you now to hear the note of a piano, and at the same pitch, the note of a violin. They are the same note, but unmistakably different. With enough exposure to different instruments, one can identify at once what instrument a note is being played by. Why is this? An innate quality of timbre, the perceived quality of sound, would be a logical answer, something that can be particularly defined, distinct from pitch. And this would be satisfactory. But this is not the case, and the truth is far more beautiful.

If only 440 sine waves were heard, an A played by any instrument would sound necessarily the same. There would be nothing different from one to the next. No, instead when an A is heard, 440 sine waves are heard as the 'fundamental' frequency. These are the loudest of any note, hence why it can be easily identified. But also with every note are dozens, potentially hundreds of other notes, all following a fantastically simple pattern of relationship to the fundamental.⁽³⁾ These notes make up what is known as the harmonic series, which is not only a useful interest in maths, e.g. in counting primes and divisors, but also of vital importance, as its most physical and literal foundational basis, in music.

When a note is heard (we shall call this note our fundamental), too are heard—simultaneously—dozens others. The first harmonic partial, the first note above the fundamental in the harmonic series, is the note with twice the frequency of the fundamental, i.e. the vibration of a sound wave passing through the air twice as often (frequently) as the first. This ratio of 2:1 is so pleasing to the ear that when two notes of this intervallic ratio are played, they are heard and understood as being the same note! The harmonic series continues: the next harmonic is at three times the frequency of the fundamental, 3:1, the next four times, 4:1, etc.

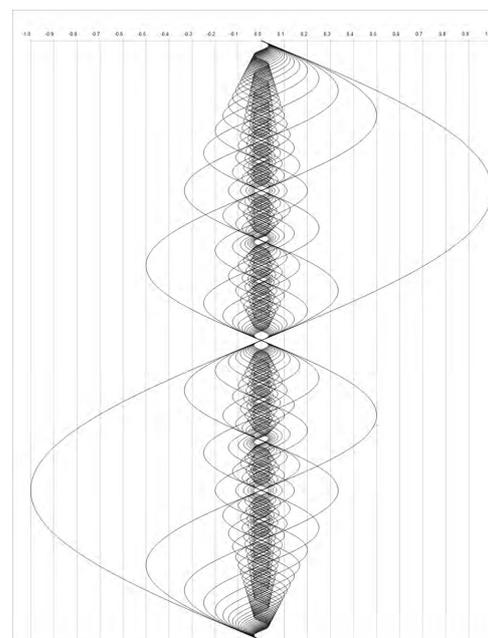
These intervallic relationships form the basis of consonance and dissonance, the feelings of a settled, pleasing sound, and a tense, unresolved sound respectively. Simpler ratios tend to sound more consonant to the ear; larger, more complicated ratios are dissonant. For example, the major triad, a simple three note chord considered usually to be a happy, pleasing chord, is made up of three intervallic relationships.⁽⁴⁾ These are 2:3, 4:5, and 5:6. Because of this simplicity, it is possible to quite easily display a major chord visually (see diagram overleaf).



If these numbers seem similar to those discussed before on the subject of harmonic partials, you are quite right in your observation! If the first partial has an intervallic relationship to the fundamental of 2:1, and the second partial to the fundamental has one of 3:1, it follows that the relationship between the first and second partials will be 2:3, one of the intervals present in a major triad. Also found in the harmonic series will be every superparticular interval, i.e. one whose harmonic ratio is on each side one number apart. So when 'one' note is being played, in actuality the notes that make up an entire major chord can be heard! And this is true every time any note is played by almost every musical instrument.⁽⁵⁾ The only difference between the timbres of different instruments is the volume of the harmonics, every one of which is a sine wave. This can be displayed visually, and often has a practical use case in music engineering, when adding effects to a piece of music. But regardless of any practical standing, to understand is to appreciate: music is maths and music is beautiful.

I have so far expressed the idea that music is beautiful by appealing to some pre-

conceived notion of a yet undefined concept. But to ascribe such a quality, we must first ask: what is beauty? As just demonstrated, there is always more than meets the eye, or in our particular case, the ear. Though art is subjective and opinions will differ, I challenge the reader to look upon the peaks of Snowdonia and not see before them beauty. There are some things that inspire beauty almost universally. Mountains are one example; so is the charity of someone volunteering to give up their time to feed the poor. Music can be beautiful, maths too. A sunset can be beautiful, or a person themselves. A success story against all the odds can be just as beautiful as a stained glass window. All these examples constitute beauty and are yet so sparse in nature. So what is beauty? It surely then cannot be something innate, for a quality intrinsic to such a collection of conceptions would be but random in selection. Beauty can be a feeling, many feelings—reflection, respect, awe, or pride: these are all feelings of beauty, but together they come to form something more. As I see it, beauty is an understanding. An understanding of whose experience necessarily changes one's



The first 32 partials of the harmonic series represented visually, where the largest wave is the fundamental. The shape created is almost hypnotic—this art is understood by the ear as one musical note!

perception of self. Mountains are beautiful not because of some naturally occurring quality—there is no evidence to suggest that babies or animals find them beautiful—they are beautiful because we understand them and they can change us. It is only after seeing and experiencing and truly understanding the sheer awesomeness of mountains such as Snowdon that we consider their beauty, for this experience is one of introspection, that allows us to see ourselves relevant to the scale of the natural world. Or when we see somebody volunteer in a food kitchen, we again look inwards and ask of ourselves what we can do to better the world. Or when we meet a person unlike any other, a great teacher or loved friend, we reflect on human relation itself with a new respect for what is beautiful. Beauty is not a quality unique to any one object or conceptualisation. It is an understanding, an understanding necessarily held between and shared by the person experiencing beauty and the beautiful inspirer.

Though music is at its heart maths and when understood, this is beautiful, there is more to the art than just an intellectual comprehension. Music carries emotion,



Snowdon from above as seen on the Rhyd Ddu path, with the mountains of Gwynedd setting a majestic backdrop.

music carries message, and music carries power. It is comforting to be able to relate to a piece of music, perhaps a song of yearning for times gone by, or a new and exciting experience in one's life. This is, in a way, beautiful. But the power of music is far greater. Music has the power to unite, and indeed, from Woodstock in the Summer of Love ⁽⁶⁾ to Bob Marley's One Love Peace Concert,⁽⁷⁾ music brings social waves, and in the case of the Baltic nations in the late 1980s, revolution itself.⁽⁸⁾ At this level, it did not matter that a note is a composite of hundreds of sine waves, nor any physical foundation of music, but what the music carried with it. The people of Estonia at the Tallinn Song Festival Grounds demonstrating with song against the Soviet regime in 1988, one assumes, did not at this point care one bit for wave mechanics!

We can conclude then that the beauty that is discovered through the understanding of consilient nature of music and mathematics is only one of a limitless possibility of beautiful offerings to be understood from music. Emotion is another, power too. But beauty does not in its experience alone magic make.

Stevie Wonder grew up as a young blind black boy during the time of racial segregation in the USA. He lived a childhood of oppression and struggle, and it was in fact partly as a result of this, as evidenced in songs such as *You Haven't Done Nothing* ⁽⁹⁾ and *Village Ghetto Land*,⁽¹⁰⁾ that he found music (from a remarkably young age, recording his first album at just 11 years old) a medium through which to express his experiences. And indeed, as a beautiful endeavour, it was in music that he found *himself*. The experiences of little Stevie Wonder are almost entirely alien to some listeners today. I have never experienced racism or what it is like to be seriously sensorily impaired; I come from a position of great privilege and have never faced some of the issues Stevie sings about in his music. And yet when I, and so many millions others from all walks of life across and around the world, listen to Stevie Wonder, I hear beauty. Perhaps it does not matter that I have never experienced racism or what it is like to be blind. Perhaps *any* difference in conditions of life between Stevie and me are irrelevant—because it is the movement that matters, a beauty carried in emotion and feeling that

need not be attached to any tangible experience. To experience beauty is not difficult. But to create a beautiful experience oneself that can be understood by others is a rare art, and it is the magic of a genius. I do not say this lightly.

The Cambridge Dictionary defines magic as 'the use of special powers to make things happen that would usually be impossible, such as in stories for children'.^[2] Ultimately, music is just wiggly air! Surely to find emotion in and source inspiration from such a thing would be impossible... Stevie told his stories to all the world in such a way that even those most premature in youth could understand him. And he could do this because *he* understood music. In understanding music, there is the understanding of mathematical theory, yes, but there is also the understanding of feeling and movement. Perhaps Stevie knew the first; this I do not know. But it is uncontestedly true that he knew the second unlike perhaps any other person ever. He understood music, and by telling its beauty, he worked magic. Stevie Wonder was, and always will be, a wizard.

How can *you* be a wizard? Perhaps you will find your magic on the keyboard or drums, guitar or bass as did Stevie, but wizardry is not limited to the musical realm. Stevie Wonder is a wizard not for his phenomenal musical ability, but for his understanding of beauty and his sharing of this understanding through his art, the dialogue between story and sound.

Music is a world within itself with a language we all understand. This language is beauty. Beauty is an understanding; it is yours to be understood. Magic is to be able to then express to and share this beauty with the world. To be a wizard you must find *your* magic.

Intrigued?

Philosophy is a subject where there are no right or wrong answers: there are some problems that philosophers have been debating for thousands of years, and we have still come no closer to solving them. Yet, the debates rage on as new generations come up with new ideas, so what would your responses be to these timeless philosophical questions?

Ship of Theseus

This is a thought experiment from Ancient Greece that tests our understanding of identity. The Ship of Theseus was originally built in Athens, with wooden planks and complete with 30 oars, but when the original planks decayed, they were replaced. Soon enough all of the wooden planks were replaced, and the ship no longer had any original parts. Is this ship still the Ship of Theseus?

Centuries later, philosopher Thomas Hobbes put a spin on this experiment and asked, if all the original planks of the ship were collected to build a second ship—which one (if either) is the true Ship of Theseus?



Ship of Theseus Results

We asked a few Wilson's students what they thought about the Ship of Theseus, and found that 25% thought that after all the planks were replaced, it was a different boat, while 75% thought it was the same. Here are some of their reasons why:

"The 'soul' of the ship is still intact."

"It serves still as the Ship of Theseus. Its purpose and the intent behind is the same- the intent behind replacing the wooden plank and other parts was to repair and keep the Ship of Theseus sea-worthy, not to make a new boat."

"It is a similar case to humans: all our cells are replaced eventually, but we don't imagine that our identity or name has changed."

"All the features that previously made it the Ship of Theseus are gone, therefore it can no longer be called that and is a different ship."

Duty or Consequences?

We all like to think that we have a set of morals and boundaries we would never cross, but there has been a continued debate between moral philosophers over whether we should act simply out of duty, or in the way that would bring about the best consequences. Though these two ways of thinking usually produce similar results, there are some scenarios where the two produce very different answers.

For example, do we forgo our duty to not kill in order to save the lives of others? What about our duty to be honest in order to protect someone?

What do you think is more important: the consequences of our actions, or our duties on how to act?

Is happiness all we seek?

When people are asked what do they most want out of life, a common response is simply happiness for themselves and for their family. This seems a fairly conventional response, but philosopher Robert Nozick was determined to challenge it.

Nozick came up with a thought experiment called the 'Experience Machine'. Nozick asks his reader to imagine a virtual reality machine that is so realistic the users believe they are experiencing reality when in it. The simulations generate the user's greatest desires like winning the lottery or becoming a famous football player. The user experiences unlimited happiness, but the one catch is that once someone is plugged into the machine, they have to remain in it for the rest of their life. Would you enter the machine? If not, is happiness really what you seek?

POLITICS



For many climate change is an important issue that governments around the world are not doing enough to stop. Is protesting the best way to force action? Read Philip Piekarski's article to find out.

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ALL ABOUT POLITICS

Put your knowledge to the test.

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Is Hong Kong's Judicial Independence Under Threat?

Hong Kong is known for its liberal politics, but with the introduction of its new National Security Law, is this all set to change?

NEEL PATEL (ALUMNUS)

In 2020, the Chinese government passed a national security law (NSL) in Hong Kong to protect what it perceived to be its “national security”. It was the culmination of decades of ideological tensions between the Leninist authoritarianism of the Chinese government and the liberal constitutionalism of the people of Hong Kong.^[1] These tensions have had profound implications on a social, institutional and legal level.^[1] In this article, I will begin by examining the ways in which the NSL has jeopardised judicial independence: by biasing judges with undue political pressure and thus blurring the separation of powers between the various institutions of government. I will then argue that the battle between Chinese ambitions for national security and the culture of protest deeply rooted in Hong Kong's national identity is strongly—and unfortunately—weighted in favour of Beijing.

On top of undermining autonomy and judicial oversight, the “superior status”^[2] of the NSL has exacerbated judicial bias by creating a special list of judges entitled to hear cases of national security. National security legislation is generally expected to strike a balance between the protection of vital state secrets and the prevention of any potential abuse of government power in the name of protecting these secrets.^[3] In the case of Hong Kong, however, the NSL is an example of the executive blatantly transcending the judiciary to undermine the independence of courts by pushing them to convict in NSL cases. This has enabled the NSL to override the “high degree of autonomy”^[2] promised to Hong Kong in the Basic Law, a fear worsened by the extensive supervisory powers granted to

the Office for Safeguarding National Security. These limits on judicial review have undoubtedly jeopardised Hong Kong's liberal status:

“Dedicated young Hong Kong activists face permanent exile after having their ability to campaign stripped away from them”

In a very similar fashion to other “textbook authoritarian crackdown[s]”,^[2] the Chinese government has effectively outlawed Hong Kong's liberal values by making the NSL superior to the Basic Law, where conflict exists, to ensure the repression of both freedom and political expression. For Hong Kong's liberal character, the subversion of the role of the judiciary suggests that the city will struggle to maintain a constitutional framework and therefore to safeguard the rule of law and prevent the rollback of human rights.

The courts' reduced investigatory oversight is particularly problematic in the context of Hong Kong's bitter political divisions. It is frankly unsurprising that the struggle against the government's disregard for public opinion has manifested itself in an “unprecedented awakening of civil society”^[1] when considering how protest is ingrained in Hong Kong's history. This clash between China and Hong Kong stems largely from the divergent views on law and power between opposing ideologies. Whereas Beijing and its supporters continue to attempt to justify the repression of liberty as necessary to bring stability and

order to Hong Kong, its victims argue quite rightfully that the NSL is a “wholesale attack on the fundamentals of the Hong Kong system”^[2] which aims to deprive the courts of their separation of powers function, to tactically implement Beijing's long-term plans. In a consolation victory for democracy and liberalism, mass protest in Hong Kong has historically succeeded in forcing the postponement of previous national security legislation and encouraging local participation in the push for political reform.^[4] Nonetheless, China remains firmly in the driving seat: the Hong Kong government is complicit in Beijing's dismissal of the rule of law given that it lacks the legitimacy of popular representation and is therefore unable to properly guard its autonomy. It is thus going to be particularly challenging for Hong Kong to remain liberal whilst under the jurisdiction of an authoritarian state fixated on curbing freedom of expression.

Due to China's sovereignty over Hong Kong, the city's liberal character is perhaps irreparably endangered by the NSL's effects on judicial independence, with the health and stability of its constitutionally limited government and individual liberty being thrown into considerable doubt. It is very difficult to justify Beijing's weaponisation of the NSL to shape life in Hong Kong in whichever way it sees fit. I share the EU's “grave concern”^[5] and agree with Brussels in “deplor[ing] the decision”^[6]. Though it has been over one year since the passage of the NSL, the future looks bleak for Hong Kong and I can only hope for an official change in the course of action.

EDITED BY SHAHZEB AHMED



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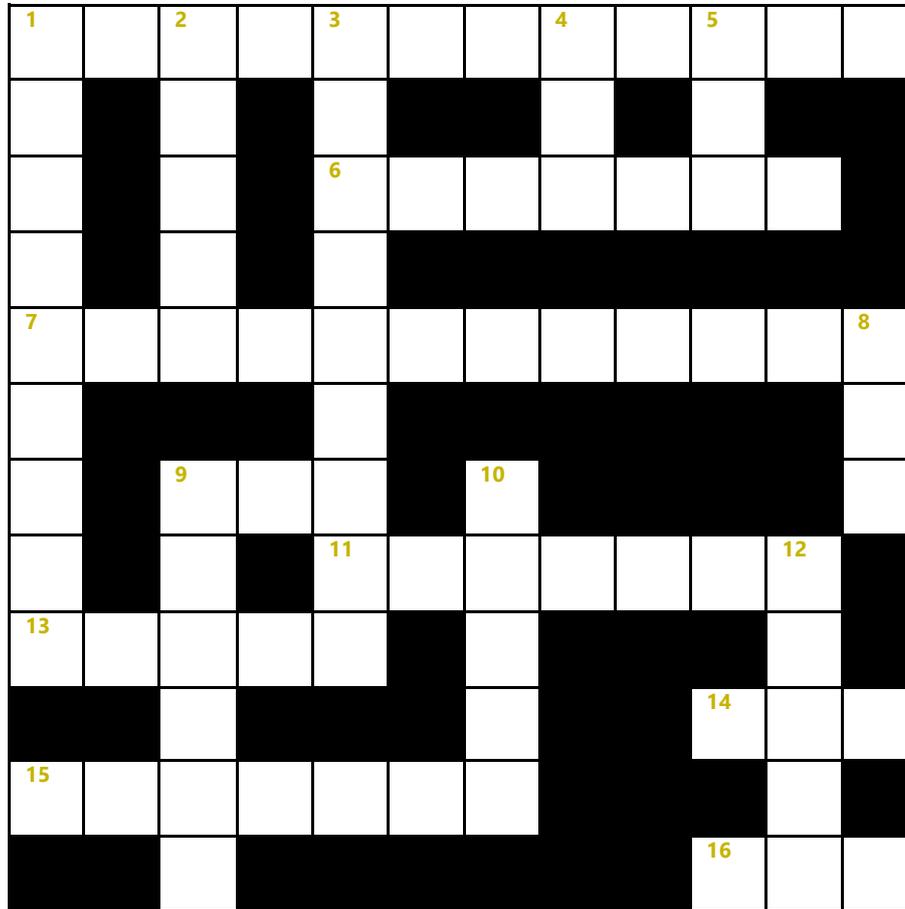
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Crossword

Do you follow the news? Have a go at this crossword to test your knowledge of politics! The answers to the crossword can be found at the back of the magazine.



Across

- 1 A British political party previously led by David Cameron and Theresa May. (12)
- 5 Where official ambassadors for a country normally operate from. (7)
- 7 A document which lists the basic rights of the American people. (12)
- 9 A leader known for his Little Red Book. (3)
- 11 The position Switzerland takes on most international disputes. (7)
- 13 The members of the upper house of British parliament. (5)
- 14 The initials of a US President who served as Vice President under John F. Kennedy. (3)
- 15 The last name of a US politician who was Secretary of State under Obama, but failed to become US President. (7)
- 16 The old spelling of a word that means to compete eagerly with someone in order to do or achieve something. (3)

Down

- 1 A British wartime PM who famously said, "We shall fight on the beaches." (9)
- 2 An American President embroiled in the Watergate Scandal. (5)
- 3 Activities held regularly in democracies to choose who will be in power. (9)
- 4 An alphabet agency set up by FDR to help combat the Great Depression. All letters of the acronym are the same. (3)
- 5 An acronym of the American institution responsible for collecting taxes. (3)
- 8 An institution beloved and well-used by the British people. It was founded by Clement Attlee in 1948. (3)
- 9 The first name of a famous US civil rights activist. (6)
- 10 A leader who has had many shirtless photoshoots, despite ruling a very cold country. (5)
- 12 Something many big businesses do to change the laws in their favour. (5)

Climate Protesters: Nuisance or Necessary?

Climate protesters are seen by some as the saviours of the future, but by others as encroachers on ordinary people's lives.

So which is it? Philip finds out.

PHILIP PIEKARSKI Y12

Over the past few years, we have constantly been made aware of the seemingly unending dispute over climate change: from climate activists protesting for governments around the world to be held accountable for the effects of their pathetic environmental laws, to politicians with a large influence on the making of these laws attempting, fruitlessly, to disprove its happening and hence not doing anything about it.

The evidence

Although some may attempt to convince you otherwise, climate change exists. Simple proof can be found in the increase of temperature by 1.18°C since the 1800s,^[1] directly correlating with the industrial revolution and increase in production of carbon dioxide and its release into the environment. As well as this, the years 2016 and 2020 were tied for the warmest years on record,^[1] further showing that this crisis isn't slowing down.

The problems

Not only is climate change immediately evident, but it is a major problem that must be dealt with. These rapid temperature changes cause an equally rapid rise in sea level (on average 3.4mm a year since 1993),^[2] resulting in the endangerment and extinction of countless animal species. Take, for instance, the Bramble Cay melomys which, until 2019, called an island in the Great Barrier Reef its home until 97% of it was destroyed

due to the impact of the ceaselessly rising water level, leaving the rodent extinct.^[3]



The solutions

However, no-one with the power to seem to want to deal with it. Of course minor changes, such as the increased use of renewable energy sources, have begun to be implemented by global powers all over the world: the UK produces 13.6% of its overall energy for heating, electricity, and transport through renewable, environmentally friendly methods like solar or wind energy.^[4]

But this is not enough. With thousands of companies still producing catastrophic volumes of greenhouse gases—for example, BP, responsible for 34 billion tonnes of carbon dioxide since 1965,^[5] these changes are merely drops of water in the ocean.

Despite the calls of various climate groups for more extreme measures rarely being heeded, world governments



do congregate on occasion in order to discuss solutions to climate change. For example, November 2021 saw the recent COP26 summit, involving leaders from all continents, in which some progress was made to mitigate the effects of climate change: more than \$413 million has been committed to helping fight climate change in developing nations—a reasonable step in the right direction.^[6] But again, these changes are far too insignificant to cause the difference in temperature rise that we so desperately need for the future of this planet.

Heroes or villains?

Climate protesters are many, each with different ideas about what must be done. But those I will focus on in this article are those who feel the only way to prevent further climate change and save future generations from extreme temperatures and weather conditions is to cause major disruption and therefore receive media attention, pressuring powerful politicians to take direct action against global warming. As a result, they turn to extreme methods, such as with Insulate Britain, who took to blocking motorways, causing long delays and disruptions to promote their cause.

Due to the chaos and inconvenience caused by the protesters, the general public felt attacked by them: they were causing people to be late to work, potentially losing out on an important source of income or even preventing access to those in need of emergency medical treatment. This caused general public opinion of them to fall so fewer people stood behind their cause.

Although, without any media attention on the issue, many would be blind to the true impact of climate change. Only with those who bring our attention to it can we really get a better understanding of it.

So long these protesters get publicity from the media on their various protests, they will continue using the same methods that, despite bringing lots of awareness, also promote hatred to the groups attempting to stop climate change and thus bring about a lack of regard for climate change itself.

So what should they do so people begin to sympathise and listen to their calls?

There seems to be one clear answer: they need to get the public on their side. Instead of making people dislike them, they should use representatives to convince the public to use their vote to help the planet, presenting their ideas as rational not radical, showing how changes they propose could help the Earth recover from humans' mistakes—changes as easy as planting more trees or reducing the use of fossil fuels.

Overall, if climate groups don't change their style of protest, even if they do get more attention, support from the public will be minimal. And as such, fewer people will understand or care about the vital issue of climate change and our planet will be doomed to continue down its path of temperature increase and sea level rise until conditions become so awful that

future generations will be forced to take extreme measures in order to prevent the extinction of the human race.

We must listen; we must stay vigilant. And I implore you, reading this now, to recognise just how severe the issue of climate change really is: you know. But for all those yet who do not, Insulate Britain, Extinction Rebellion, and other more extreme climate protesters only hinder the progress of spreading awareness by angering and turning them away from the cause.

Instead, I propose discussion and debate: only through civil discourse can we resolve this problem.

EDITED BY BEN SHORTER



Picture Quiz Answers

1. The Great Wall of China, China
2. The Golden Gate Bridge, San Francisco, USA
3. Taj Mahal, New Delhi, India
4. Marina Bay Sands, Singapore
5. Milford Sound, New Zealand
6. Victoria Falls, the border between Zimbabwe and Zambia
7. Niagara Falls, the border between USA and Canada

True or False Quiz Answers

1. **True!** Neil Armstrong landed on the moon in 1969 as part of the Apollo 11 Mission.
2. **False!** This famous quote associated with the French Revolution was misquoted by political philosopher, Jean Jacques Rousseau in his work "Confessions", attributing it to Marie Antoinette in 1766. However, this can't be right because Marie Antoinette was only 11 years old at this point!
3. **False!** It was actually Vikings. Remnants of a Viking encampment were recently found in America and are believed to date to the year 1000 AD, almost 500 years before Christopher Columbus.
4. **False!** Cleopatra wasn't Egyptian, but it is thought that she was Greek and a descendant of Alexander the Great's Macedonian general Ptolemy.
5. **False!** Benjamin Franklin did not discover electricity when his kite was struck by lightning in 1752 as is popularly believed in the United States. Electricity had already been a well-established theory by 1752.
6. **True!** The giant President was very fond of wrestling and had only one loss among his around 300 contests.
7. **False!** Though Henry VIII had 6 wives, he only beheaded two. Two others were divorced, one died of natural causes and the other outlasted Henry VIII.
8. **False!** He actually said "Ask not what your country can do for you, ask what you can do for your country".
9. **True!** He did actually say this, despite owning two dogs himself!
10. **True!** He died from a cardiac arrest on August 16, 1977.

Crossword Answers

C	O	N	S	E	R	V	A	T	I	V	E
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Image: Stock market bars falling. <https://unsplash.com/photos/fiXLQXAhCfk>. Unsplash license, Maxim Hopman.

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[2] Image of Man in Grey Shirt Wearing Black Helmet Holding Rifle. <https://www.pexels.com/photo/man-in-grey-shirt-wearing-black-helmet-holding-rifle-12451569/>. Pexels License, Sammie Sander. (modified).

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[2] Two angry cartoon superheroes looking angrily at one another. Shutterstock Standard License: 30 April 2022 by Ben Shorter.

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Shuayb Mohammed - Learn To Be

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[1] Misty forest. <https://www.pexels.com/photo/forest-6992/>. CC0, Snapwire. Adapted by editor.

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True or False Quiz

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Philosophy

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Ben Shorter - How To Be a Wizard

Footnotes:

⁽¹⁾ Pitch is the result of the oscillation of an acoustic resonator, such as the string of a violin, at different points along the string, called modes, simultaneously. Every mode is defined by its pattern of motion, i.e. the frequency at which waves travel along the string. At every mode, waves travel in both directions along the string, reinforcing and cancelling out one another to form stationary waves, oscillating waves whose peak profile does not change. These stationary waves then interact with the surrounding air to cause audible sound waves that are picked up by the ear, finding their way into the ear canal and past the eardrum, vibrating the cochlear hair cells, being conducted by the hammer, anvil, and stirrup, then causing the vibration of the cochlear hair cells at this exact frequency, a frequency of vibration interpreted and processed by the brain as sound.

⁽²⁾ Not every wave produced by a musical instrument is necessarily a perfect sine. Some follow other wave patterns, such as a saw wave or square wave (two examples of usually artificially produced waveforms). However, the Fourier transform of all these functions, when represented mathematically, decomposes all 'musical waves' sinusoidally, resulting in perfect sines that we can fairly and accurately understand as a physical foundation to music.

⁽³⁾ The harmonic series is theoretically infinite. However, as the partials of the harmonic series rise in pitch they tend to decrease in volume. So usually by around 100 partial overtones no sound can longer be heard.

⁽⁴⁾ This is a gross generalisation and oversimplification for the purpose of readability. In actuality, music is entirely contextual and the feeling of a major chord depends entirely on its place in the music around it. A tonic major chord, for instance, the home chord of a major key, will almost invariably sound resolved, settled (though this does not necessarily imply happiness), whereas, say, a major chord built on the third degree of a major scale will sound tense and in need of resolution.

⁽⁵⁾ Some instruments, specifically electronic instruments, can be manipulated in such a way that the fifth, fourth, third, or even second or first harmonic does not sound in their playing. Though this effect is usually jarring, at least startling, these instruments are nonetheless instruments still. It can be said that in the case of all *acoustic* instruments a major chord can be heard when just one note is played.

⁽⁶⁾ Woodstock is widely considered one of the greatest music festivals of all time. Held from the 15th to 18th of August 1969 on a dairy farm in Bethel, New York, Woodstock saw performers such as Jimi Hendrix and Crosby, Stills, Nash & Young take to the stage. It was a defining event for the countercultural generation of the 1960s, bringing forth a new wave in not only music but social ideals and ideas.

⁽⁷⁾ Dubbed the 'Third World Woodstock' by contemporary media, the One Love Peace Concert saw sixteen of the world's best-known reggae acts perform live for over 32,000 spectators. The concert has become forever remembered for its defining image of unity, with Bob Marley joining the hands of political adversaries Michael Manley and Edward Seaga during the climactic performance of 'Jammin' by Bob Marley and The Wailers, amidst a time of civil war between the two parties of the rivals. The performance is credited for a resurgent tide of Jamaican unification efforts and sentiment of national unity.

⁽⁸⁾ The Singing Revolution was a series of events from the 1980s-early 1990s whose culmination resulted in the independence of Estonia, Latvia, and Lithuania from the Soviet Union and the first signs of a real proposition of its dissolution. In 1985, the then Soviet leader Mikhail Gorbachev introduced the policy of *glasnost*, 'openness', allowing for the first time political freedoms such as public non-Soviet flag flying. This spurred a tide of Baltic nationalist sentiment, and in one notable event, a spontaneous mass singing demonstration broke out against the will of the Soviet authorities at the Tallinn Song Festival Grounds in Estonia. Over 300,000 Estonians filled the grounds to sing folk songs banned by the Soviet regime, igniting a spark of national pride and seeking of sovereignty. One of these, *Mu isamaa, mu õnn ja rõõm*, 'My fatherland, my happiness and joy', soon became the accepted national anthem of Estonia.

⁽⁹⁾ *You Haven't Done Nothin'* is a song of political statement aimed squarely at then President Richard Nixon. It is tremendously powerful in its subtlety and became a number 1 pop and soul hit quickly after its release.

⁽¹⁰⁾ *Village Ghetto Land* speaks out against the failures of the wealthy in addressing socioeconomic inequality and their inability, in a place of such greed-driven privilege, to understand the struggles of ordinary people.

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^[6] Mount Snowdon as seen from above on the Rhyd Ddu path. Permission to use and reprint obtained from photographer Poppy Holloway.

Intrigued?

Image: Ship on sea in sunset. <https://www.pexels.com/photo/a-pirate-ship-sailing-on-sea-during-golden-hour-37730/>. CC0, Pixabay. Adapted by editor.

Politics

Image: Group of climate protestors behind barrier. <https://unsplash.com/photos/c00XNtWgdeU>. Unsplash license, Katie Rodriguez.

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