King's High School

INSPIRE ESSAY COMPETITION

2024

Foreword

It is a great pleasure to collate Inspire Essay Competition entries from both 2023 and 2024 into a bumper edition, showcasing the range of interests, depth of research, and passion for ideas that our prize-winners have displayed in such abundance. As ever, pupils in Key Stage 3 were asked simply to choose a topic that interested them, investigate it independently, and write up their findings in essay form. The essays printed in these pages represent fewer than a third of those that were submitted. They were chosen for the quality of research, depth of analysis, standard of essay composition and originality of ideas.

It is always interesting to see which themes emerge from our pupils' work when we give them free choice of topic. To my mind, four key umbrella ideas can be found this time round. Ethics and social responsibility feature prominently, with searching analysis around sponsorship, historic injustice, the role of history itself, the prison system, belief and systems of morality. Technology and Science also takes its place, with essays on medicine, AI, cryptography, electric cars, physics and biology. Our pupils also make clear their interest in the role and nature of education, with pieces on future curricula, the role of music, and the timing of the school day. And then there are the big, more miscellaneous topics that always take the judging panel by surprise: success, love, conformity, coincidence... Who could ask for more from an optional essay competition for Key Stage 3?

Pupils have been awarded prizes for their essays in school assemblies, but for the booklet this year we have taken what educationalists call a 'vertical' approach, placing entries alphabetically by surname so that pupils in Years 7, 8 and 9 (and indeed two Prep pupils who wrote during Year 6) are placed side by side. We hope that this allows readers to focus on the content of the essays and rather than the category of prize that was received.

Our wonderful Inspire Programme continues to support pupils towards creative thinking, independent ideas and curiosity about the world. I hope that reading these essay showcases these qualities in action. The judging panel and I look forward very much to the next batch of entries in 2025.

Dr P Seal
Deputy Head (Academic)

Contents

How Effective Can Placebos Be in Modern Medicine?

Annabel

In this essay, I am going to consider how powerful the human mind can be through investigating the medical efficacy of placebos. How does the placebo effect assist in a person's recovery from disease when it has no actual medical benefit? Could the wider use of placebos help the UK's overall health and assist in making the NHS more effective?

To start with, it is important to have a clear understanding of what placebos are and what they do. "The placebo effect is when a person's physical or mental health appears to improve after receiving a placebo or the 'dummy treatment'"[1]. An actual placebo is just a treatment that has no real medical properties, such as a sugar pill or a water injection.

Now that we have a good understanding of what a placebo is, the question arises: what is the placebo actually doing? There are two aspects to this: psychological and physiological. Thinking about the psychological side of things, placebos make people think they are getting medicine, therefore providing them with a positive mindset that can boost recovery. You might wonder how a positive mindset can boost someone's recovery, so let me explain. Firstly, being in a positive mindset means feeling better and, as a result, motivates us to make healthy choices, such as exercising. CNET states that "exercise helps your immune system, can protect you against illnesses and even help you recover faster if you get sick"[2]. This proves that making healthy choices due to a positive mindset can actually aid recovery.

On the other hand, thinking physiologically, placebos appear to trigger the release of natural medicine from the brain known as endorphins, which can soothe the patient, providing a therapeutic benefit. Medpark Hospital states that endorphins "can alleviate pain, lower stress, improve mood, and enhance your sense of well-being"[3]. This means that as placebos release endorphins, they can help with many illnesses by reducing pain and stress. As endorphins improve the patient's mood, it helps them relax, aiding the body's natural ability to fight off diseases.

Now that we understand what placebos do, we can focus on the more relevant question: what are all the possible uses of placebos in modern-day medicine? At the moment, placebos are mainly used in double-blind trials. Double-blind trials are "a type of clinical trial in which neither the participants nor the researcher knows which treatment or intervention participants are receiving until the clinical trial is over"[4]. Double-blind trials are a fair way of trialling medicine as they remove bias, since no one knows which treatment they have received until after the experiment. You may wonder how placebos fit into double-blind trials, so let me explain. A placebo is used as a control variable in the trial as they have no active benefits. They are used to evaluate the efficiency of the drug or medication being tested and its effects on the patients. I will now explore if there can be more uses for placebos other than just in double-blind trials. Studies show that placebos work best on mental health issues. One example is depression, where "Antidepressants are thought to work by increasing neurotransmitters like serotonin and noradrenaline, chemicals in the brain which can improve mood and emotion"[5]. This shows that placebos can be helpful in treating depression as they are known to create chemical reactions in the brain that release natural chemicals such as serotonin. These have a similar effect to antidepressants. Placebos could also be a healthier alternative in the recovery from more serious injuries such as broken bones, as placebos help in pain relief due to the release of endorphins and other natural relaxers. Although placebos can be useful in relieving pain and enhancing mood, they cannot cure a disease or heal an injury as they have no active ingredients; instead, they could be used to boost recovery, as the problem naturally heals.

Now with the understanding of possible uses of placebos, we can start to think about how practical bringing placebos into UK healthcare could be. The aspects of this question that I will focus on are time, cost, stopping overuse, and ethics.

Firstly, placebos could save time in the UK healthcare system if a way was found to determine whether a patient needed a full consultation or could just take a placebo. Separating out seriously ill patients and creating more time for them would better focus resources and increase efficiency, potentially improving the healthcare system overall.

The next consideration is cost. Studies show that more costly placebos work better than cheaper ones. For example, Science Daily states that "A 10-cent pill doesn't kill pain as well as a $2.50 pill"[6], and this applies to most medicines as well. This means that using placebos could help manage costs in the healthcare system as they are generally cheaper than other drugs.

Another potential advantage of using placebos is to reduce the overuse of drugs such as antibiotics. Overuse of antibiotics is potentially dangerous, as it makes a society "vulnerable to antibiotic-related complications such as digestive problems, yeast infections, and allergic reactions"[7]. Furthermore, "The overuse of antibiotics in recent years means they're becoming less effective"[8] and can no longer be used "to treat chest infections, ear infections (in children), and sore throats"[8]. Replacing antibiotics with placebos could make antibiotics more effective as they wouldn't be used as much, and people wouldn't overuse antibiotics.

However, a significant problem with introducing placebos into the healthcare system is the ethical dilemma. Some people believe that placebos are beneficial because they offer a simpler way to help people who don't require real medicine. Those who oppose placebos on ethical grounds could argue that it is not right for a patient to be unaware they are not receiving actual prescription medicine. Effectively, it would mean that the doctor or healthcare professional would have to deceive the patient, potentially eroding trust. Better Health supports this argument by stating that "deceiving people is wrong even if it helps alleviate their symptoms"[9]. It is unlikely that the NHS would be able to use placebos for patients because, as an institution, it is expected to prescribe recognized medication. Providing placebos instead may be viewed as "tricking" patients and could be seen as unethical and unprofessional. This could lead to a loss of patient trust and potentially expose the NHS to legal liability for patients who were prescribed ineffective placebos when conventional medicines would have been effective.

In conclusion, although placebos could help in some aspects of the UK healthcare system (such as cost-saving and general health improvement),

overall, I believe that placebos shouldn't be used in front-line healthcare due to ethical concerns. I believe that widespread use of placebos in the UK healthcare system could lead to a loss of trust, undermining the authority of doctors and healthcare professionals. It could also invite criticism of the NHS and legal liability in cases where placebos proved ineffective.

Overall, I believe the risks outweigh the benefits. A loss of trust in our healthcare system could create significant problems, especially if people began refusing medical advice under the assumption they would receive placebos rather than genuine medicine. This could lead to communities not seeking vaccinations during crises such as Covid-19 or not participating in standard vaccine programs like MMR. This could have a detrimental impact on the overall health of the nation.

Bibliography

1. "Placebo Effect." Better Health Channel. Available at: https://www.betterhealth.vic.gov.au/health/conditionsandtreatments/placebo-effect
2. "Daily Exercise Helps Protect You Against Illnesses." CNET. Available at: https://www.cnet.com/health/fitness/daily-exercise-helps-protect-you-against-illnesses-and-you-dont-need-a-lot/
3. "Endorphins." Medpark Hospital. Available at: https://www.medparkhospital.com/en-US/lifestyles/endorphins#:~:text=pain%2Drelieving%20drug.-,Endorphins%20are%20neurotransmitters%20released%20by%20the%20pituitary%20gland%20and%20hypothalamus,exercise%2C%20and%20sex%2C%20etc
4. "Double-blind Study." National Cancer Institute. Available at: https://www.cancer.gov/publications/dictionaries/cancer-terms/def/double-blind-study
5. "Antidepressants." NHS Inform. Available at: https://www.nhsinform.scot/tests-and-treatments/medicines-and-medical-aids/types-of-medicine/antidepressants/#:~:text=Antidepressants%20are%20thought%20to%20work,pain%20signals%20sent%20by%20nerves
6. "Cost of Placebos." Science Daily. Available at: https://www.sciencedaily.com/releases/2008/03/080304173339.htm
7. "Effects of Overusing Antibiotics." Medical News Today. Available at: https://www.medicalnewstoday.com/articles/effects-of-overusing-antibiotics#:~:text=Individuals%20who%20overuse%20antibiotics%20may,evolve%20resistance%20to%20antibiotics%20rapidly
8. "Antibiotic Resistance." NHS. Available at: https://www.nhs.uk/conditions/antibiotics/antibiotic-antimicrobial-resistance/
9. "Placebo Effect." Better Health Channel. Available at: https://www.betterhealth.vic.gov.au/health/conditionsandtreatments/placebo-effect

Is Alcohol Sponsorship Next to Be Banned in Sport?

Jenna

The question of whether alcohol companies should be allowed to sponsor sports events is a complex and controversial one. On the one hand, sports sponsorship can provide important financial resources that can help fund sports teams and events. Alcohol companies are some of the most prominent sponsors in this regard, and they bring considerable resources to the table. However, there are also worries about the potential negative effects that alcohol sponsorship can have.

A key concern about alcohol sponsorship is that it can contribute to a culture of excessive drinking, particularly among fans. Research has shown that young people are particularly susceptible to the influence of alcohol marketing, and that exposure to such marketing can increase the likelihood of underage drinking. Individuals who begin drinking before they are 15 are also up to four times more likely to develop alcohol reliance at some point in their life than those who start drinking at the age of 20 or older. Even though the sport itself does not promote alcohol consumption, the presence of alcohol companies' logos and advertisements can associate the two in the minds of spectators. Robert Zajonc's Mere Exposure Effect explains how we can develop a preference to brands even if we only experience the brand name or logo at a subconscious level. Zajonc's theory, also called the familiarity principle, reveals that the effects of the exposure considerably help us to recall and recognise the brand. This raises questions about whether it is appropriate for alcohol companies to be involved in promoting sports events that are often attended by large numbers of people.

Given that the marketing industry's main aim is to influence consumer behaviour, the advertising tactics of alcohol companies are particularly concerning. Sponsorship deals are designed to boost brand exposure, increase sales, and therefore increase profits. However, it targets consumers who have the ability to buy that product, whether it is legal or not. Young people are more susceptible to sponsorship influence, and overexposure to alcohol marketing may lead to underage drinking, unsafe drinking, and alcohol addiction. According to the Centres for Disease Control and Prevention, underage drinkers consume 11% of all the alcohol sold in the United States.

Another concern is that when sports teams are sponsored by alcohol companies, there is a risk that the influence of these companies could compromise the values and principles of sport itself. For example, there is a risk that excessive alcohol consumption increases due to alcohol sponsorship and could lead to more aggressive or dangerous behaviour among fans. Studies have shown that alcohol can increase violent behaviour by interfering with normal brain function and weakening the parts of the brain that regulate impulses and urges.

However, there is a counter argument that alcohol sponsorship can actually have positive effects, particularly in terms of promoting responsible drinking behaviour as well as endorsing new sports and bringing them to a wider audience (e.g. Budweiser and San Miguel for esports). Many alcohol companies now include messages about responsible drinking and safety in their sponsorship campaigns, which can help to promote safer and more responsible drinking habits. According to Sportcal, alcohol companies currently have over 280 active partnerships with sports organisations. The top 30 businesses presently spend more than $760 million each year to support the largest sports competitions, clubs, and athletes. The biggest alcohol sponsors are currently beer brands, holding 89% according to the 281 deals analysed by Sportcal. Next come champagne, wine, cider

and vineyards. For example, the beer brewing company Heineken currently has 25 active deals with the major contracts being with Formula One, worth $21.4 million annually, and $10 million with Major League Soccer. Other alcohol companies such as Budweiser, Bud Light, Carlsberg, Amstel and Guinness also play a major part in the world of sports sponsorship. As with all brands, alcohol companies aim to target a specific audience. The most popular audience seems to be football fans with some 49% of active deals signed with organisations and individuals involved with football. Cricket is the second most popular sport, accounting for 10.3% of transactions, followed by American football (8.9%), rugby union (7.5%), and tennis (5%).

A study conducted based on the evidence for 2018 to 2019 showed that an alcohol reference was shown roughly once every 15 seconds in the Six Nations rugby match between England and Scotland. This would have had a huge impact due to the scale on which the sponsorship was broadcasted and would have influenced many to buy the products.

Despite these concerns, there are arguments to be made in favour of alcohol sponsorship. Sports teams and events rely heavily on sponsorships and other forms of financial support in order to function. Alcohol companies are some of the largest and most reliable sponsors and without them it would be difficult for many sports events to go ahead as many clubs are in financially precarious positions. This has been shown lately with Worcester Warriors rugby union being suspended by the RFU (Rugby Football Union) for failing to meet the necessary funding requirements. The club has now been put into administration. Wasps rugby also went into administration in October 2022. These two cases of financial collapse display how dependant clubs are on sponsorships such as the ones provided by alcohol companies. Clubs may therefore happy to accept sponsorships of any kind even if it is controversial as they need the money to continue to operate.

Tobacco companies were banned from sponsoring sports events because of the harmful effects of smoking on public health and the influence of tobacco advertising on young people. Smoking is a leading preventable cause of illness and death, and a major contributor to health inequalities. Tobacco advertising has been shown to increase the likelihood of the startup of smoking and continuation among teenagers and young adults. Therefore, many countries and regions have put in place bans on tobacco advertising, promotion and sponsorship in various forms, including sports events. In 2002 the UK decided to ban many forms of tobacco advertising following the implementation of the Tobacco Advertising and Promotion Act (TAPA). The ruling first prohibited print media and billboard advertising but was later expanded to include direct marketing and sponsorship in 2005. These things can take time – it took three years for the ban to impact sport sponsorship directly.

The European Union also enforced a law in 2003 that prohibited tobacco sponsorship in international sporting events and the United States banned tobacco brand sponsorships for sports under the 2009 Tobacco Control Act 23. These bans served to reduce the exposure of tobacco advertising targeting younger age groups and to protect the public's health from the harms that come with tobacco use. If harmful products such as tobacco have been banned from being advertised, surely alcohol advertisements should also be banned due to the potential dangers of consuming too much?

More recently, gambling sponsorship in sporting events has come under the spotlight. In April 2023 Premier League football clubs collectively agreed to remove gambling sponsorship logos from the front of their matchday shirts by the end of the 2025-26 season. However, this has been a long process – the debate first started with the Gambling Act 2005. 2017 research found that 12% of 11 to 15 year olds polled had gambled in the previous week. Currently it is very easy for young people to start gambling with online platforms and apps. Therefore, it is becoming increasingly necessary to have stricter regulations upon these sectors. As of 2020, three quarters of Premier league teams and 87% of teams in the Championship had gambling or betting partnerships. Given the ubiquitous nature of gambling advertisements, it is an issue that needed addressing and this is a small step in the right direction.

Both smoking and gambling can be harmful and addictive, as can alcohol. Campaign organisations and legislators are putting pressure on alcohol corporations to cease marketing sporting events, which they think exposes and encourages more people to consume alcohol. Despite the issues such pressure has had little impact on the alcoholic beverage industry to date.

Therefore, the question of whether alcohol companies should be allowed to sponsor sports events is a complex one that requires careful consideration. It is clear that such sponsorship can be an important source of funding for sports events and teams however, the concerns regarding unhealthy drinking habits are valid. The ever-present nature of advertising creates the idea that it is impossible to fully enjoy a sporting occasion if you don't have alcohol / a bet placed on the outcome. Ultimately, the decision about whether to allow alcohol companies to sponsor sports events will be made and shaped by social and political pressures as with the outcomes of tobacco and gambling sponsorship. It is a responsible move to limit associating alcohol brands with sport, particularly amongst young and vulnerable demographics. It is also in the public interest to prevent harmful marketing tactics and to encourage a responsible drinking culture, which rewards moderation and safety.

Bibliography

1. Clearinghouse for Sport. "Alcohol Sponsorship and Advertising in Sport." Accessed from https://www.clearinghouseforsport.gov.au/knowledge_base/sport_participation/community_sport/alcohol_sponsorship_and_advertising_in_sport.
2. The Sponsorship Collective. "The Advantages and Disadvantages of Alcohol Sponsorship in Sport." Accessed from https://sponsorshipcollective.com/advantages-and-disadvantages-of-alcohol-sponsorship-in-sport/.
3. Reuters Events | Sustainable Business. "Alcohol sponsorship – Last orders for sports sponsorship." Accessed from https://www.reutersevents.com/sustainable-business/alcohol-sponsorship-last-orders-sports-sponsorship.
4. BBC News. "Ex-FM calls for end to alcohol adverts in sport." Accessed from https://www.bbc.com/news/uk-scotland-60556550.
5. BBC News. "Campaigners want a ban on alcohol sponsorship in Scottish sport." Accessed from https://www.bbc.com/news/uk-scotland-60640404.
6. Verdict. "Alcohol brands: The biggest players in sports sponsorship." Accessed from https://www.verdict.co.uk/alcohol-brands-biggest-players-in-sports-sponsorship/.
7. BBC News. "Law ends UK tobacco sponsorship." Accessed from https://news.bbc.co.uk/2/hi/uk_news/537537.stm.
8. FDA. "Family Smoking Prevention and Tobacco Control Act - An Overview." Accessed from https://www.fda.gov/tobacco-products/rules-regulations-and-guidance/family-smoking-prevention-and-tobacco-control-act-overview.
9. ASH. "Tobacco Advertising and Promotion in the UK." Accessed from https://ash.org.uk/category/information-and-resources/fact-sheets/.
10. BBC Sport. "Premier League clubs to ban gambling sponsorship on front of matchday shirts." Accessed from https://www.bbc.com/sport/football/58745849.
11. BBC Sport. "Gambling in sport: Government to review betting laws." Accessed from https://www.bbc.com/sport/58748446.
12. BBC Three. "Does football have a gambling problem?" Accessed from https://www.bbc.co.uk/bbcthree/article/cd1e12c6-0b8a-47b3-9492-ef9be8d9d3b0.
13. National Institute on Alcohol Abuse and Alcoholism. "Alcohol, Violence, and Aggression - Alcohol Alert No. 38-1997." Accessed from https://pubs.niaaa.nih.gov/publications/aa38.htm.
14. National Institute on Alcohol Abuse and Alcoholism. "Underage Drinking: A Major Public Health Challenge - Alcohol Alert No. 59." Accessed from https://pubs.niaaa.nih.gov/publications/aa59.htm.
15. BBC Sport. "Worcester Warriors suspended by RFU and put into administration." Accessed from https://www.bbc.com/sport/rugby-union/60784170.
16. Redmandarin. "The psychology of sponsorship - World-leading Sponsorship Agency." Accessed from https://redmandarin.com/the-psychology-of-sponsorship/.
17. Oxford Academic (OUP). "Alcohol Sponsorship and Esports: Reinforcing the Need for Legislative Restrictions on Alcohol Sponsorship." Accessed from https://academic.oup.com/alcalc/article/55/4/328/5908501.

Artificial Intelligence: How Will It Affect the Future of Humanity?

Mya

In the 1950s, AI was just a simple invention - but now it is set to become more intelligent and powerful than humans and has even been considered to be leading humans to extinction. In 1950, Alan Turing had thought of the question - can machines think? This led him to have the idea and concept of the Turing Test - where a judge sends messages to a robot and human and they have to establish who is who. Alan Turing had predicted that in 50 years' time (2000) computers with 100 megabytes of memory would easily pass this test. Officially coined by John McCarthy in 1950, Artificial Intelligence started to thrive. One main example was in 1997 when AI robot Deep Blue beat world champion Garry Kasparov in chess. In a series of games, Deep Blue won two, Kasparov won one, and three of the games ended in draws. This was a huge success in AI history.

Due to its vast ability and intelligence, AI has a significant impact, both positive and negative, on our world, ranging from providing instant digital assistance and reduction in human error, to having a high cost of creation and making humanity lazy. It is very clear that Artificial Intelligence will affect the future of humanity - but the question is how?

The Positives: Human Health

Artificial Intelligence already helps the medical world. AI can be used to predict illnesses such as cancer earlier, which helps save a significant number of lives. It also is used in CT scans - rather than injection of radiological contrast media, AI pipelines can extract information due to their intelligence, and see inside the body. In terms of mental health, AI chatbots like Alexa, Siri and ChatGPT can be used to help tackle anxiety or depression. For example, 68% of people surveyed would rather talk to a robot about their mental health issues than to their managers. This is due to the AI tool being judgment-free and free to talk to 24/7. The technology helps by providing tips for reducing stress, best practices for battling anxiety, and even referring to a professional if needed. In fact, artificial intelligence and digital assistants are helping to improve the mental health of 75% of the global workforce. This shows a positive effect of AI.

The Positives: Economy and Careers

By 2030, it is predicted that 70% of companies will adopt at least one type of AI technology - computer vision, natural language, virtual assistants, robotic process automation, and advanced machine learning. AI has the potential to deliver additional global economic activity of around $13 trillion by 2030, or about 16 percent higher cumulative GDP compared with today. This could possibly lead to an increase in tax revenue and a reduction in poverty. Another positive impact is allowing humans to flourish and grow with jobs they actually like. For example, from 2020-2022 in the US, more than 300,000 U.S. accountants and auditors left their jobs and are hopefully getting the chance to explore new experiences with other jobs. There will be a reduction in specific jobs (like accounting) in countries as many will be replaced by AI, using fast intelligence to fulfil the same purpose. The evolution of the world of art and music. Art is also evolving using AI-generated images to create amazing pieces of art through simple written instructions. Artificial Intelligence uses and produces content based on user input, including an initial uploaded image or voice sample as its starting point. Many artists are very keen to see this new era of art as it is a chance to explore with a tool that can easily express their feelings open to all. For example, Jason's "Théâtre D'opéra Spatial" artwork, created via Midjourney, won first place in the digital category at the Colorado State Fair in 2022 and the singer Grimes is happy to share royalties as with any other collaboration. This shows how high-quality AI generators are. Many generators are easily accessible, such as Bing Image Creator and AI music generators, meaning that many people across the world can access such fascinating opportunities in the world of Art and music. I decided to go onto an AI generator and typed in "AI taking over humanity". Although, they looked like science-fiction films, these pictures showed how intelligent AI can be - from picturing typed words to extravagant art masterpieces.

The Negatives: Education and the Human Body

AI may affect humanity negatively by making humans lazy over time. Humanity as a whole could start to rely mainly on AI and technology, which could damage relationships with family and friends, leaving people isolated, alone, and lazy. Driverless cars, home assistants and robotic vacuum cleaners are examples of positive AI inventions which could inadvertently make humans sluggish and tired. There is also the issue of AI in education. It may be tempting to rely on AI to complete homework, but is that truly learning? As children, we have to develop our social abilities, creativity, and critical thinking. Over-reliance on AI-powered tools may cause children to miss out on these essential aspects of learning. Soon, you may not have to worry about passing a driving test as there would be no such thing. This would affect humanity negatively as we are starting to rely more on AI and robots rather than thinking for ourselves independently.

The Negatives: Cost

Another negative effect is how AI is extremely expensive and that major companies with wealth (such as Microsoft, Amazon, Apple, Google) are using AI to help their profits, rather than humanity. People with less money may not be able to access new technology, resulting in higher developed countries receiving new AI inventions and non-developed countries becoming unable to access this technology because of the cost, increasing the difference between rich and poor counties. This could spark worldwide conflict in terms of equality and fairness. War and Conflict Artificial intelligence will also affect humanity in terms of war and conflict, using AI-powered weapons for attacks. The Military use autonomous self-piloting drones with AI-powered technology to carry out attacks remotely. However, if the programming was incorrect or was hacked, the drones could attack the wrong target, putting lives in danger. The use of drones does also dehumanise conflict as the operator may feel they are playing a computer game, which could encourage more attacks such as in the current Ukraine war. Whilst Chat GPT is helping people with everyday questions, should AI be used to power military drones? Regulations and controls AI is considered to be more intelligent than humans and many countries have decided that AI requires specific regulations but do not know who will regulate it. Governments have a responsibility to their people and may seek to control or limit AI businesses and companies, leading to disagreement over what is right or wrong. Some of these proposed laws could encourage local development of AI products, while others would limit its use in applications such as health care and hiring. All governments have different priorities, and a unified approach is therefore

required. For example, the EU AI Regulation is a draft proposal by the European Commission to regulate the development and use of AI systems across all sectors in the EU. This would include corporate signatories to ensure AI is designed, developed, and applied in a way that protects basic principles like human rights, democracy, and law. The European Commission has invited other countries such as the USA, Canada, Israel, Mexico, Japan, the UK and Ukraine. Each country has to individually ratify the treaty and then implement it in national law, also being able to opt out certain elements. This could therefore take many years.

In conclusion, AI is helping humanity to thrive in a positive manner. The medical world is flourishing into a new era of physical and mental medical help. Companies investing in AI could lead to higher economic activities of $13 trillion, increasing global GDP. Creatively, new masterpieces of art and music are being produced using the most intelligent AI yet. Although there are some negatives, there is awareness of this and we are still able to regulate the use of AI. For example, many experts including Elon Musk signed a letter to urge and halt the development of AI. This shows that many people have considered the possible dangers. AI will affect humanity, but we can learn how to adapt this intelligent machinery for the benefit of the World. I think AI may pose a threat to humanity if we don't approach it in a suitable manner. It may not be much like science-fiction films, however at the rate at which AI is becoming even more intellectual, it does have capacity to have power. The effect on humanity has already begun, so it is up to us - adults, children and future generations to shape the unknown mind of Artificial Intelligence.

Bibliography

1. BBC News. "Facebook's AI chatbots shut down after they start talking in their own language." Accessed from https://www.bbc.co.uk/news/technology-62788725
2. BBC News. "US researchers use AI to develop 'impossible' materials." Accessed from https://www.bbc.co.uk/news/world-us-canada-65452940
3. World Economic Forum. "Mental health, technology, and robots: The future of care?" Accessed from https://www.weforum.org/agenda/2020/11/mental-health-technology-robots-chatbots/
4. Reuters Legal. "Lawsuit says OpenAI violated US authors' copyrights to train AI chatbot." Accessed from https://www.reuters.com/legal/lawsuit-says-openai-violated-us-authors-copyrights-train-ai-chatbot-2023-06-29/
5. Technology Review. "Our quick guide to the 6 ways we can regulate AI." Accessed from https://www.technologyreview.com/2023/05/22/1073482/our-quick-guide-to-the-6-ways-we-can-regulate-ai/
6. RTInsights. "European Union publishes draft AI regulation." Accessed from https://www.rtinsights.com/european-union-publishes-draft-ai-regulation/
7. McKinsey & Company. "Notes from the AI frontier: Modeling the impact of AI on the world economy." Accessed from https://www.mckinsey.com/featured-insights/artificial-intelligence/notes-from-the-AI-frontier-modeling-the-impact-of-ai-on-the-world-economy
8. Aisentia. "Aisentia Technology." Accessed from https://aisentia.com/aisentia-technology/
9. Sky News. "AI music: Can you tell if these songs were made using artificial intelligence or not?" Accessed from https://news.sky.com/story/ai-music-can-you-tell-if-these-songs-were-made-using-artificial-intelligence-or-not-12865174

Should Music Be a Compulsory Subject in School?

Anna

I have heard that studying music is good for students and helps them do better at school and that there are wider benefits of studying music, for example well-being and mental health and the connection between music and mental health in old age. Is there evidence for this and does it support greater music teaching in schools?

In 1993, a study by Rauscher and others suggested that listening to music may temporarily improve scores on parts of an IQ test, this is called the "Mozart effect". However, this has been challenged by later studies where the results could not be reproduced (for example Chabris 1999 and Pietschnig & others (2010) and the 'Mozart effect' is no longer considered reliable.

More recent studies have found evidence that musicians perform better in some academic tests than non-musicians.

The study of Susan Hallam and Kevin Rogers in 2016 and Susan Hallam, Kevin Rogers and David Baker in 2023 both published in the British Journal of Music Education, consider the impact of playing a musical instrument on performance at Key Stages 2, 3 and 4. Their conclusion in 2016 was that there is little evidence of improved performance in maths and English at Key Stage 2 for children who learn a musical instrument but that there is a noticeable difference at Key Stage 3 and even more of a difference at Key Stage 4. This improvement is greater for children who have learnt to play an instrument over a longer period of time. Their pilot study (2016) refers to other international studies which found similar results.

The 2023 study extended their research and considered questions including the impact of playing a musical instrument on examination results at 11 and 16 and the benefit for those eligible for free school meals. They identified improvement in performance aged 11, confirmed that the benefits at 16 and that longer the instrument is learned, the greater the impact on overall performance but also noted that the improvement in performance of children from low socio-economic backgrounds who play an instrument was even higher.

Both reports refer to other studies considering factors connected with learning to play an instrument which may improve academic performance, for example developing confidence which leads to greater motivation and problem solving skills, the ability to process information and detail, and the ability to concentrate for longer, all of which may support improved academic performance.

There may also be longer term benefits of playing an instrument as a student. For example, the study by the Universities of Edinburgh and Edinburgh Napier in August 2023 reported by the BBC of 420 people included 167 who had played an instrument during their time at school. The musicians typically processed information more quickly although the study recognised that there may be other factors contributing to this.

In relation to well-being and mental health, I have found many references to the increasing levels of mental health problems (for example the 2023 NHS report concluded that about 1 in 5 children and young people aged 8 to 25 had a probable mental disorder) and the connection between mental health and music for young and old people. From personal experience I can confirm the positive feelings I have after playing and performing. I have also sung with a dementia choir and seen people who have limited ability to communicate, join in with pieces they know.

Research by E Viola and others published in the European Journal of Public Health Article in 2023 explains that being involved in musical activities can lead to benefits for coordination and balance, social inclusion and stress management and commented that this is particularly the case for the elderly. The Charity Mind has published a report on how music is "great for your mental health" following studies which show that listening to music produces the "feel good" chemical dopamine. The Exchanging Notes Report funded by Youth Music and published in 2019 states that "music in schools has the power to help young people with some of the big issues facing them today – mental health, isolation and social inequality." Reports published by the NHS and in the British Medical Journal confirm the benefits of music for those with dementia and the NHS article explains that musical skills often remain longer than other skills and that music can trigger otherwise forgotten memories. They also note studies which suggest that learning an instrument later in life can help to delay dementia symptoms.

Although there may be other reasons for the improved academic results for example socio-economic background and attitudes of parents and peers there is a lot of support for the benefit of music throughout our lives. Is this reflected in our education in the same way that the benefits of physical activity are?

In England, the National Curriculum is designed make sure all students have a consistent and balanced education to provide them with the essential knowledge and skills needed to become informed and responsible adults. The curriculum aims to promote the spiritual, moral, cultural, mental, and physical development of pupils. All State Schools must teach the national curriculum plus relationships, sex, health and religious education. Academies and private schools do not need to teach the national curriculum but must teach English, maths and science plus relationships, sex, health and religious education.

Within the National Curriculum, music is already a compulsory subject but only up to the end of Key Stage 3. Compulsory subjects which continue into Stage 4 include computing, physical education and citizenship. Why is music treated differently and should it be? What is included in music education until the end of Stage 3?

The UK Government publishes curriculum information on its website. It explains the purpose of music education (to "inspire pupils to develop a love of music and their talent as musicians and so increase their self-confidence, creativity and sense of achievement. As pupils progress, they should…[be able]… to compose, and to listen with discrimination…") and the aims (to ensure that all pupils: perform, listen to, review and evaluate music; learn to sing and to use their voices, to create and compose music individually and with others, have the opportunity to learn a musical instrument, use technology appropriately and have the opportunity to progress to the next level of musical excellence; and understand and explore how music is created, produced and communicated, including… musical notations). At Key Stage 3 the aims extend to include performance of solos and in ensembles and composition. This sounds good but Ofsted reported on 21 September 2023 that they had found "significant variation in the quality of music education". "…at secondary level…too many schools still do not give music enough time". The report says instrumental and vocal lessons should be offered but there is no requirement that all students must have lessons. In summary, music should be taught until the end of Key Stage 3 but this is not being done consistently and does not require all students to learn an instrument or have singing lessons.

Many of the studies I have read specifically state the benefits of learning and playing an instrument and that these benefits are greater the longer it is learned, but the National Curriculum does not support this (music education does not require every pupil to learn an instrument and stops being compulsory after Key Stage 3 and a study by Birmingham City University study has found that the number of students choosing music in Key Stage 4 has fallen significantly as schools focus on Maths English and Sciences) and Ofsted has found that the music curriculum is not being taught consistently in schools.

I understand that there is a significant time and financial cost if every student were to learn an instrument until the end of Key Stage 4, but if doing so improved their academic achievement, their confidence and well being and protected them into old age, is the cost actually significant?

Bibliography

1. UK Government Website.
2. BBC website.
3. Youth Music website. Exchanging Notes report.
4. Voices Foundation website.
5. Hallam, Susan, and Kevin Rogers. "The impact of instrumental music learning on attainment at age 16: a pilot study." Published online by Cambridge University Press, 7 December 2016.
6. Baker, David, Susan Hallam, and Kevin Rogers. "Does learning to play an instrument have an impact on change in attainment from age 11 to 16?" Published online by Cambridge University Press, 20 April 2023.
7. Viola, E., et al. "The role of music in promoting health and wellbeing: a systematic review and meta-analysis." European Journal of Public Health, August 2023.
8. NHS Mental Health of Children and Young People Surveys. 21 November 2023. NHS website.
9. Burns, Alistair, and Shelagh Morris. "Music and Dementia: a powerful connector." 1 February 2018. NHS website.

Should Secondary Schools Start Later?

Sophie

According to the UK Government, most Secondary Schools start at 9am, which is similar to primary schools starting at 8:30-9:00. But due to the teenage brain functioning differently and having us wake up later than primary aged children, should schools adapt to this? In this essay, I will be looking into the benefits and problems of this question.

Teen's Sleep

Sleep is very essential for teenagers because it plays an important role in their physical and mental development. Experts recommend that teens between the ages of 13 to 18 should get around 8-10 hours of sleep each night, but unfortunately, some researchers have found that many teenagers get far less sleep than they need. Sleep benefits the brain and helps our attention, memory, and thoughts, which are essential for school. Teenagers who do not get enough sleep can sometimes suffer from excessive drowsiness and lack of attention, which can harm their academic performance. Additionally, insufficient sleep can affect their mood, with increased likelihood of reporting anxiety, depression, and suicidal thoughts and behaviors, according to the Sleep Foundation.

Due to teenagers becoming more of a "night owl" as they grow older, it becomes harder for them to fall asleep as early as they did when they were younger, as their bodies start to produce melatonin later in the day. Most teens can't properly fall asleep until at least 11pm or midnight, meaning they would ideally sleep in until 8-9am. However, since most secondary schools start at 9:00, many students would have to be up by 7:30 to catch a bus, necessitating waking up around 6:45am. This disruption to their natural sleep cycle means many teenagers struggle to fall asleep early enough to get sufficient rest before school.

Benefits

There are numerous benefits to secondary schools starting later, but I will highlight a few. One benefit would be a longer attention span. Even a half-hour or hour delay in school start times could make a significant difference as teens would get more sleep, thereby having more energy and a longer attention span. Students would be more alert in classes, actively engaging in tasks instead of struggling to stay awake, leading to better information retention and higher test scores.

Another point is that surprisingly, students would become healthier and have higher attendance. Research from the Open University has shown that schools that shifted their start times to 10am saw improvements in student health. The study indicated a 50% drop in student absences due to illness, which would also enhance academic performance by reducing missed lessons.

Lastly, it improves their mood. As mentioned earlier, teens who lack adequate sleep are more susceptible to mental health issues such as anxiety, depression, and suicidal thoughts. Sleep plays a crucial role in regulating emotions and cognitive functions, helping to maintain a balanced mood and emotional stability. Conversely, insufficient sleep can lead to irritability, increased stress levels, and difficulty concentrating in school.

Problems

One significant problem would be transportation logistics for students whose parents drop them off early before work. Starting school later could pose challenges if students rely on parental transport, as it may interfere with parents' work schedules. However, teenagers at secondary school age are generally more independent and capable of finding alternative transportation methods such as buses or walking. They can also use their phones to update parents on their whereabouts and any issues with getting to school on time.

If schools started later, they would likely finish later, potentially complicating after-school activities and childcare for younger siblings. Extended school hours could make it difficult for students to participate in after-school clubs, complete homework, eat dinner, relax, and get adequate sleep. One solution to this would be offering more clubs during lunchtime or before school starts, thereby accommodating both academic schedules and extracurricular activities.

Conclusion

Having considered both sides of this question, I believe that the benefits of a later school start time outweigh the problems, especially if adjustments are made to accommodate extracurricular activities during school hours. Even a slight delay in the start of the school day would significantly benefit teenage well-being and academic performance.

Bibliography

1. Sleep Foundation. "Teens and Sleep." Accessed from https://www.sleepfoundation.org/teens-and-sleep.
2. Open University Research. "Teenagers' health better with later school start." Accessed from https://research.open.ac.uk/news/teenagers-health-better-later-school-start#:~:text=Research%20by%20an%20OU%20academic,at%2010am%2C%20had%20improved%20health.

What Is Love?

Sophie

Over the years, people have had different views of love – some like the Romans and the Greeks had gods for it while neuroscience says that the brain has a rush of dopamine creating the happy feeling and then links the rush to the person. This essay will explore both religious and cultural beliefs on love as well as scientific reasoning.

The ancient Greeks had four different words for love – Eros, Philia, Storge and Agape. Eros is probably the meaning you think of when you hear "love", it is the love found in romantic relationships translates as "being in love." Philia is the strong love in good friendships, which humans need on the basic level since we as humans have evolved to become social animals, depending on the opinions of others around us. Storge is the love in a family – between a mother and a father. It means teamwork to raise the best family possible, so when an ancient Greek couple had children the name of their love changes to Storge. The final word is Agape, this word depicts unconditional love no matter personality flaws and mistakes. The word is also thought of now as Christ-like or God-like love.

The concept of soulmates also derives from Greek origin with Plato's symposium, the Greek philosopher's book, which states that ""Love is born into every human being; it calls back the halves of our original nature together; it tries to make one out of two and heal the wound of human nature." Although this is in Plato's symposium it is misattributed to Plato when he did not actually believe in soulmates, it is thought that Aristophanes is the true author behind these words. This stems from Greek Mythology where humans originally had two arms, legs, heads and essentially were two humans fused together. One day the gods decided they, the humans were too arrogant (although some versions of the myth say that the gods were afraid of the powers the human had) and decided to split them in half. Now we are said to spend our entire time on earth just looking, searching for the other half.

On a more scientific interpretation of love, the mesolimbic system is the part of your brain that links someone you like to the pleasurable feeling, encouraging you to keep looking/thinking about them. This then stimulates you to talk more to them and interact with them much more than a normal friend. This does not work alone however – the hormone Oxytocin is responsible for attraction although it works in conjunction with four other hormones, Estrogen, Testosterone, Dopamine and Norepinephrine. Dopamine is responsible for the happy feeling which the mesolimbic system detects and links the person to the dopamine rush. Testosterone and Estrogen are both responsible for the initial attraction. Norepinephrine increases alertness around the person making you feel very aware of yourself and your surroundings.

In History, love has been viewed in different ways, for example, in the Middle Ages, whilst the art and plays tended to show star-crossed lovers or people who were in love most upper-class marriages were not about love but instead political tools and alliances with other countries. The peasants however who made up the majority instead used marriages for love as they had no need for alliances with other countries! In Shakespearean England, star-crossed lovers tended to feature in his plays most well-known being Romeo and Julliet, a tragedy where the main character, Romeo, believes Julliet to be dead and so, drinks poison. Waking up, Julliet finds Romeo dead and kills herself. This shows that both characters were so madly in love they would die to be together even if they are reunited in death.

In comparison to today thoughts on love have progressed significantly in that it is now legal for gay marriage and gradually more people have accepted it in some countries in the world. However, it is important to reflect on how many countries don't accept homosexuality, 64 countries still haven't legalised LGBT marriage/identification which since the law was originally made in the Middle Ages in Britain shows that it is outdated and ridiculous – after all who can tell you who you should love!

The Romans had a well-known god of love – Cupid. "Stolen" from the Greek's Eros, Cupid is the son of Mercury and Venus (Venus is the Goddess of love) and in Roman Mythology he is said to have a golden bow and arrow which he shoots at humans to make them fall in love. In most portraits and artwork, Cupid is usually shown as a child with white wings with a quiver of arrows on his back and a bow in his hand. His mother, Venus has also told her son when to use his arrows, for example, she asked him to shoot a girl called Psyche because she was seen by Venus to be too vain and invested in herself but instead Cupid falls in love with her and shoots himself. This could mean the Romans thought that love could be unplanned and random despite a God making them fall in love.

In conclusion, I believe love is not only from a system in the brain and the release of hormones in the body, but something much more – in stories from history, modern films and art but much like the Greek's four words (Eros, Philia, Agape and Storge,) I believe love is more than one word can captivate, it is in the little things, like a smile, missing someone, in friendships and when my dog comes up to me when I get home from school and wags her tail. As for soulmates, I personally do not believe in them, however I think some people are more suited for others and instead of one person being split and trying to find the other half, I think some people are more likely to "join together".

Bibliography

1. The Public Opinion. "Here Are 4 Types of Love and Marriages Need All of Them to Survive." Accessed from https://eu.thepublicopinion.com/story/lifestyle/2017/08/31/here-are-4-types-of-love-and-marriages-need-all-of-them-to-survive/44725279/
2. Brigham Young University. "Plato and Soul Mates." Accessed from https://humanities.byu.edu/plato-and-soul-mates/
3. Owlcation. "Romeo and Juliet: Death Scene." Accessed from https://owlcation.com/humanities/Romeo-and-Juliet-Death-Scene
4. Britannica. "Cupid." Accessed from https://www.britannica.com/topic/Cupid

Do Plants Feel Pain?

Rhiannon

Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage. There are different types of pain including acute pain which lasts for a short amount of time, Chronic or Persistent pain which is long-term and Recurrent or Intermittent pain which keeps recurring.[1] Whereas pain could also be a feeling of physical suffering caused by illness or injury.[2]

Animals feel pain through pain receptors, which are sensory neurons with a peripheral axon and free terminal endings in skin and tissues. All these pain receptors have a central axon within the spinal cord so they can make direct contact with other neurons in the spinal cord. The pain receptors are able to detect harmful stimuli such as tissue damage and harmful chemicals. The receptors then turn the external stimuli into electrical signals which is called transduction. These electrical signals are sent to the brain causing the animal to feel pain. Different types of pain may occur due to different types of pain receptors and different stimuli.[3]

Firstly, plants don't have a central nervous system, causing potential issues when feeling pain and won't have the ability to do it the same way as animals. Also, pain is often a defence mechanism to tell us to move or not do something and react. However, plants can't do this as they can't get out the way of potential danger.[4] Due to no nervous system, plants obviously have no neurons. This means that they can't send signals around their shoot systems. Sensory neurons, which would detect pain in animals, would then not exist.[5] This suggests that plants don't feel pain.

Grass is a common plant that is found worldwide. People often cut grass which causes a familiar smell. Though we don't think anything of this smell, it's actually a distress call from the grass which is used to beg for help. Plants are able to release gases like a human crying in pain.[6] Numerous plants do this, and it's been found that if two plants are attacked on a frequent basis then they make similar smelling distress calls even if they are not related. These gases are also a way the plants communicate. Plants near by a plant that is being attacked can pick up the gases and defend themselves from whatever might be distressing the plant.[7] This makes the nearby plants more protected than the plant being attacked in the first place. This implies that plants have the ability to feel pain.

Furthermore, plants, when in environmental stress send out ultrasonic high-pitched sounds. All the sounds that the plants make are in between 20-100 kilohertz. Researchers tested tobacco and tomato plants. They found that tomato plants, when their stem is cut, let out 25 high pitched distress sounds within an hour and the tobacco plants emitted 15 sounds. The plants were also not given water. The tomato plants made 35 distress calls over an hour whereas the tobacco plant let out 11 sounds. Plants that were not threatened, damaged or experiencing environmental stress emitted not even one sound within an hour.[8] This would tell us that plants can feel pain.

The idea of sentience is the quality of being able to experience feelings.[9] There is lots of evidence that plants are sentient and sometimes they are thought to be more sentient than some animals. One of which is that plants are able to prioritize the order to respond. Although plants don't have a mental state, they can still prioritize their needs by coordinated psychological activity. A second piece of evidence is that they have neurons that are similar to the neurons in the animal nervous system. They use a lot of electrical transmissions that act like the ones in the nervous system of animals.[10] This would imply that plants are able to feel pain.

In 2014 researchers found that plants can detect or "hear" caterpillars eating their leaves. This was found when researchers did a study into it involving putting caterpillars on a plant called Arabidopsis. The researchers used lasers and reflective materials to measure movement from the leaf. They then played the vibrations from the caterpillar munching to one set of plants and silence to another set. The plants with the caterpillar noises produced more mustard oils which insects don't like. However, the plants that were given silence didn't make any oils that deter insects. This means that plants can respond to pain when they detect a threat.[11] This would suggest that plants can feel pain.

In a survey I did around what people thought about plants feeling pain and having feelings, I found that 54% of people believe plants do feel pain, as shown in Figure 1 below.

Reasons they gave for this include 'I read that they make a noise when mistreated', 'They are living so I believe they do feel pain' and 'sentience, all living creature can feel pain. From philosophy' Also 46% said they don't feel pain and have given reasons including 'They do not have a nervous system' and 'I think we cannot apply human emotions to plants. I think they experience being cut but is that a conscious pain feeling I don't know.'

Furthermore, when I asked them if plants have feelings 77% believe they don't, as in Figure 2. Their reasons include 'They do not need it to survive', 'they don't have a brain, so no thoughts, so no emotions' and 'Plants physically react to stimulus, but do not have the mental cognition or comprehension to interpret the stimulus into emotions'.

On the other hand, 23% believe plants do have feelings and their reasoning is composed of 'They grow nicely when they have a happy environment otherwise, they won't grow' and 'If they feel pain, they have feeling because pain is a feeling'.

In conclusion, I think plants are able to feel pain as when attacked they respond by releasing chemicals and gases into the air and how they react to different stimulus. Due to this the plants are also able to respond to the signals of others, as a way of communication, causing surrounding plants to protect themselves from the threat. I think that plants also may be able to have feelings as they can experience environmental stress so they may have emotion if they can feel stress.

Bibliography

1. British Pain Society. "What is Pain?" Accessed from https://www.britishpainsociety.org/about/what-is-pain/
2. Cambridge Dictionary. "Pain." Accessed from https://dictionary.cambridge.org/dictionary/english/pain
3. Vets Clues. "Pain Receptors in Animals." Accessed from https://vetsclues.com/pain-receptors-in-animals/
4. PETA. "Do Plants Feel Pain?" Accessed from https://www.peta.org/features/do-plants-feel-pain/
5. Cleveland Clinic. "Nervous System." Accessed from https://my.clevelandclinic.org/health/articles/21202-nervous-system#:~:text=Your%20nervous%20system%20uses%20specialized%20cells%20called%20neurons,your%20limbs%20and%20feel%20sensations%2C%20such%20as%20pain
6. HowStuffWorks. "Do Plants Feel Pain?" Accessed from https://science.howstuffworks.com/life/botany/plants-feel-pain.htm
7. The Sun. "Plants 'Scream' When Stressed by Drought." Accessed from https://www.thesun.co.uk/tech/10066571/plants-scream-warning-chemical-signal/
8. Science Times. "A Group of Scientists Suggest That Plants Feel Pain." Accessed from https://www.sciencetimes.com/articles/24473/20191218/a-group-of-scientists-suggest-that-plants-feel-pain.htm
9. Cambridge Dictionary. "Sentience." Accessed from https://dictionary.cambridge.org/dictionary/english/sentience
10. The Gardener's World. "Are Plants Sentient?" Accessed from https://thegardenersworld.com/plants-sentient/
11. The Minimalist Vegan. "Do Plants Have Feelings?" Accessed from https://theminimalistvegan.com/do-plants-have-feelings/

Does History Matter?

Helena

“And over the grass at the roadside a land turtle crawled, turning aside for nothing, dragging his high-domed shell over the grass. … He came over the grass leaving a beaten trail behind him”
The Grapes of Wrath, John Steinbeck

Does history matter? To attempt to answer that question, we must establish what we understand by history. Simplistically defined, history is people, their past actions, in particular places and contexts. That does not mean it is a list of dates to learn by heart, a cast of King following King (with the occasional Queen), and Vikings, Romans, and William The Conqueror marching through time. Approached in that way, history might feel like ‘just one damn thing after another’!

Studying history is an attempt to establish facts (who, what, when), causes and consequences (how, why). Our knowledge of the past is, of course, limited – we weren’t there! We must examine and evaluate sources of evidence to piece together what happened and why. Moreover, we must avoid selective history. For example, for many years school children were taught about the achievements of the British Empire – history from the perspective of the British settlers and colonisers. That approach aggrandises a particular group of people, and neglects the world view.

Winston Churchill remarked ‘History is written by the victors’, and it is easy to be misled into thinking that history is a single chain of events, linked one to another, stretching from the past to the future. That is a very narrow perspective. History is more a tangled web, with many interlinked threads. We should study as many of those threads as possible to achieve a better understanding.

So, if we take the broadest possible view of history, does it matter because it is who and what we are? Let’s scale it down: think about what you had for lunch yesterday. You have the option to eat it again today or do you try something else? To decide, you think about yesterday’s lunch, assess today’s alternatives, consider what you want to achieve (sometimes it’s a day for a quick sandwich), and make your choice. Mundane, but you are using history to influence your present.

Let’s scale it up. The core of any democratic society is the rule of law. In England, our legal system is based on the concept of judicial precedent, which means that the judges decide cases, where the facts are similar, by following previous decisions. This creates certainty and predictability, and reflects that our society has certain values which are consistent throughout our history.

Does history matter then because it influences the present? Is that positive or negative? Taking the positive, we build on the historical achievements of those who came before. Certainly, if we see further ‘it is by standing on the shoulders of giants’. History means there is no blank piece of paper. History gives us the wheel, Edison’s lightbulb, and Berners-Lee’s World Wide Web. We are taught that the beginnings of our human history finds us as hunter gatherers sitting around a fire. To progress, we have embraced our history, adapting and developing the ideas of our ancestors.

Taking the negative, are we trapped by history, bound to repeat the same mistakes? Think about the current war between Russia and the Ukraine – war in Europe, again. Maybe it is almost a replica of the Second World War. The who, what, why, and how are strikingly similar. Who = dictator. What = armed conflict. Why = desire for land, resources, historical links between the warring nations. How = invasion and resistance. President Putin wants land and resources that he claims to belong to Russia (as it was under the former Soviet Union). Perhaps we are doomed to repeat the same mistakes throughout history, because there will always be people motivated by greed, ambition or fear. Arguably, the way to escape is to learn from history. We see this in the Russia-Ukraine conflict as the United Kingdom and other countries avoid direct involvement for fear of starting another World War. We look at history and see the dreadful consequences. As well as our ability to learn from history, another argument to contradict the view that we are trapped by history is that every situation is different. Events are driven by people, and every person is an individual. Just like Nelson Mandela and Robert Mugabe: both started from the same place as freedom fighters, but once in power they went different ways. Mandela was an exemplary leader and Mugabe became a tyrannical dictator. Technological progress also alters everything. For example, the trenches of the First World War are unthinkable with today’s drones and remote warfare.

Another aspect of being ‘trapped’ by history, is the argument that we are a product of history. Today we see conflict between Somaliland and Somalia. Somaliland is a former British colony that declared independence from Somalia. This situation is an example of peoples whose current situation has been dictated by obvious events in history. Lines on the map were drawn by European colonisers across Asia and Africa. These lines often did not take into account ethnic and religious groups causing conflicts that remain to this day.

What about the argument that ‘what’s done is done’? Is there any point dwelling on the past which can not be undone? This has been said in relation to the UK Covid-19 Inquiry. An answer is that important lessons can be learnt. But is it really possible to learn lessons, as every pandemic will have different features and require a different response? A reason given for the alleged lack of preparedness of the UK, is that the Government was planning for an influenza pandemic similar to the historic Spanish Flu pandemic. This re-enforces the argument that every situation is different.

In opposition, inquiries examining historical events have been successful. For example, the Truth and Reconciliation Commission formed at the end of Apartheid provided victims of gross human rights violations an opportunity to share their experiences so the nation, the Republic of South Africa, could unite and move forward. In that case, history most definitely mattered to the people.

There will always be events and challenges that have not been encountered before. Covid-19 is an important example: a novel virus swept through our interconnected world with devastating consequences. Similarly, perhaps our greatest challenge, climate change, is unprecedented. Perhaps history teaches us how to overcome these challenges by engaging and adopting creative solutions. In the case of Covid-19 our key asset was the development of a vaccine. A part of the solution to climate change may also be science and technology.

There are ‘alternative’ histories, the paths that were not followed. It is reported that Adolf Hitler told Neville Chamberlain that serving as a Corporal in World War I, he was wounded and could have been shot by a British Private (the Private reportedly didn’t like to shoot a wounded man). A decision by an individual at a particular moment of time that would surely have changed

the course of history. Marie Curie's discovery of radiation, led to today's nuclear weapons. Perhaps there are endless possibilities, but cause and effect make history matter.

Another dimension to why history matters is that it is part of our common story. Our nation identifies with the tragedy and hardships of the Blitz. We identify with historical figures and admire their actions and qualities, for example the determination of Winston Churchill. There are individuals from history who cross-over different countries and cultures, such as Mother Theresa and Nelson Mandela.

In conclusion, history is inescapable and makes us who we are. We arrive at our present circumstances, having travelled through time, encountering challenges and obstacles, but we persist as we have no choice but to move forward. Above all, history matters because it teaches us. By learning the lessons of history, humanity can adapt and overcome. Perhaps it is best said by Martin Luther King JR: 'We are not makers of history. We are made by history'.

Bibliography

- The Week Junior
- Jamieson, Victoria, and Omar Mohamed. When Stars Are Scattered.
- Hirsch, Afua, and Henny Beaumont. Equal to Everything.
- Naidoo, Beverley. Journey to Jo'burg.
- Morpurgo, Michael. An Eagle in the Snow.
- Steinbeck, John. The Grapes of Wrath.

Just a Coincidence or Something More?

Thea

For more than twenty years, a framed sign saying 'Closed on Wednesday' hung in the window of a grocery shop belonging to the parents of Eileen Bithell. A few days before Mrs Bithell's brother was due to be married, the sign was taken down to be altered. When removed from its frame, it turned out that the sign was on the back of an old photograph of a baby in the arms of a man. Amazingly, it was discovered that the baby in the photograph was the brother's bride-to-be in the arms of her father. The two families were unknown to each other at the time the sign was made 20 years before yet were now to be joined in marriage.

Coincidence has puzzled and fascinated humanity for more than 2000 years. It is something that all of us have experienced at some time or another, yet none of us understand. A coincidence is a remarkable concurrence of events or circumstances without apparent causal connection. Many of the more startling cases seem to defy all attempts at explanation.

Take the famous coincidental case of three ships, the Titan, the Titanic and the Titanian cited in the book The Unexplained. In 1884, the American writer Morgan Robertson published a novel about a giant liner, the Titan, which sank one freezing April night in the Atlantic after hitting an iceberg on her maiden voyage. Fourteen years later, in one of the world's worst sea disasters, the Titanic sank on a freezing April night in the Atlantic after hitting an iceberg on her maiden voyage. The ships, both real and fictional, were around the same tonnage and both disasters occurred in the same stretch of ocean. Both liners were regarded as 'unsinkable' and neither carried sufficient lifeboats. The coincidences continued with the addition of the Titanium's story. On watch one night in April 1935 – during the Titanian's coal-run from the Tyne to Canada – crewman William Reeves felt a strong sense of foreboding. By the time the Titanian reached the spot where the other two ships had gone down, the feeling was overpowering. He had to decide what to do, and one further coincidence made the decision for him. He had been born on the day of the Titanic disaster. He informed the bridge of "Danger ahead." The words were barely out of his mouth when an iceberg loomed out of the darkness. The ship avoided it just in time.

One of the most famous coincidences happened in 1944 prior to the Allied invasion of France. Every aspect of the operation to begin the end of the Second World War was top secret and referred to only by classified code-words. The operation itself was known as Overlord. The naval spearhead was disguised by the name Neptune. The two French beaches where the landing was to take place were given the codes Utah and Omaha. And the artificial harbours to be used to supply the troops at the beach-head were known as Mulberry. In the month before D-Day, 6th June 1944, each of these words appeared as the answer to a clue in the Daily Telegraph crossword. The Secret Service immediately visited the offices of the newspaper, expecting to capture a Nazi spy. Instead, they found teacher Leonard Dawe, who had been harmlessly compiling the paper's crossword for 20 years. Dawe was utterly astounded. It took a long time for him to convince them that he had been totally ignorant of the significance of the words. Whilst these examples appear to defy all attempts at explanation, philosophers, mathematicians, scientists, and psychologists have all tried to provide one.

For mathematicians, coincidences are a matter of statistics, they happen to almost everyone at some point. When two separate events are suddenly and inexplicably brought together we find it difficult, in our excitement, to think of the numerous events that have failed to converge in this coincidental way. Hence, we see coincidence in isolation and exaggerate its significance. As Cody Delistraty points out in her essay 'On Coincidence' (2018), "we ascribe exceptional meaning to what we perceive as exceptionally low-probability events, but they're often not as low-probability as we think.

And, even if they are unlikely, the most unlikely events are – with 7 billion people on Earth – actually relatively common, thanks to the so-called law of truly large numbers"

For Carl Gustave Jung, one of the most famous names of psychology, coincidences are related to an intangible process which cannot be explained by causes and effects, but instead by meaningful invisible connections or "synchronicity", as he coined it in the 1950s. Jung updated his definition of the term "synchronicity" from time to time. He also called it the principle of correspondence, which means everything is connected in a meaningful sense. Jung stated that "When coincidences pile up in this way, one cannot help being impressed by them – for the greater the number of terms in such a series, or the more unusual its character, the more improbable it becomes." Others disagree with this element of Jungian theory, proposing that people desperate to find meaning or order in their lives, are eager to interpret those coincidences in a way to impart meaning on them.

According to Gibb A. Williams, a psychoanalyst and author, "You're looking for patterns. It's like you're on your own psychological scavenger hunt. You look for pieces to fit the puzzle. The completed pattern is experienced as a synchronicity." This shows the way that coincidences help humans to establish similarities and distinguish differences. And through this we see ideas begin to form out of those similarities and differences, ones that link together important information and ignore what is deemed unimportant. This view is supported by the work of Magda Osman, an experimental psychologist at the University of London, co-author of a 2015 study on coincidence. The study, published in New Ideas in Psychology, reported that coincidences are "an inevitable consequence of the mind searching for causal structure in reality." That search for structure is a mechanism that allows us to learn and adapt to our environment. Our brains teach us to look for patterns. It is innate for us to search for order, to look for meaning, to draw a larger narrative from random events. Osman states "Once we spot a regularity, we learn something about what events go together and how likely they are to occur. And these are valuable sources of information to begin to navigate the world."

Some people may be more susceptible to experiencing or noting coincidences than others. Experts believe that "coincidences" most often happen to people who are mindful and notice things around themselves, which is a positive thing. But at the same time, this mindfulness might justify the sceptics, who think that seeking meaning in every coincidence is the ultimate reason behind people finding a meaning in random incidents.

"People who describe themselves as religious or spiritual, those who are more connected with the world around them and those who are seeking meaning — or in distress and searching for signs — are more likely to experience coincidences," said Bernard Beitman, a visiting psychiatry and neuro-behavioural sciences professor at the University of Virginia, Beitman, goes further than other scientists in thinking that coincidences might have particular structures, which could be perceived not just by religious people, but others too. He has stated more controversially that "Just as sharks have ampullae in their skin that detect small electromagnetic changes to help them locate their prey, it's plausible, maybe even probable, that humans have similar mechanisms that detect coincidences."

Whether we belove in statistical anomalies, synchronicity or our brains making order out of chaos, there is no agreement on a definite answer to the question of what lies behind coincidences. Yet, it is undeniable that sceptics and believers alike find coincidences inescapably fascinating. All coincidences make us wonder, and the more idiosyncratic examples never fail to fire the imagination. Long may coincidences continue to tease and amaze us.

Bibliography

1. Pateral, A. 2019. "The Science Behind Coincidence - What's really going on when we encounter uncanny connections?" Journal of Discovery. Available at: https://www.discovermagazine.com/mind/the-science-behind-coincidence
2. Mark, L., Harwood, E., and Riley, L. 1984. The Unexplained. London: Orbis Publishing.
3. Williams, G. 2010. Demystifying Meaningful Coincidences (Synchronicities): The Evolving Self; The Personal Unconscious and the Creative Process. New York: Jason Aronson Inc.
4. Johansen, M.K., and Osman, M. 2015. "Coincidences: a fundamental consequence of rational cognition." New Ideas in Psychology 39: 34-44. doi:10.1016/j.newideapsych.2015.07.001.
5. Delistraty, C. 2018. "On Coincidence." Found at: https://aeon.co/essays/just-how-meaningful-is-coincidence-beyond-the-statistics

Why Are Prime Numbers Useful in Cryptography?

Daisy

Introduction

On the 4th of March 2014, a bitcoin exchange business called Mt. Gox collapsed after discovering that 450,000 bitcoins worth around £4.5 billion had been stolen. How could prime numbers have been used to prevent the largest bitcoin robbery in history?

For my inspire essay, I decided to research why prime numbers are so useful in cryptography. However, before prime numbers can be used in cryptography, you need to find them, and that can be very hard.

Prime numbers

To begin, I would like to define a prime number and explain how you know if a number is prime. A prime number is an integer, greater than zero, that has exactly two factors: one and itself. All numbers are the product of two or more prime numbers. For example, twenty-four can be broken down into $2\times2\times2\times3$. If a number is a prime, then its prime factors will be one and itself. In order to be sure that a number has no other factors, you need to go through all of the prime numbers smaller than its square route (its biggest factor). That is easy enough to do, until you get into the extremely big numbers where you don't know all of the prime numbers that come before them.

Finding prime numbers

When starting to find prime numbers its useful to know how far apart they are, so you know where to look for them. How frequent prime numbers are is known as their density, and their density decreases as the numbers get bigger. For example, 40% of the numbers between one and a ten are prime. Twenty five percent of the numbers between one and a hundred are prime. And less than 16.5% of the numbers between one and one thousand are prime. You can imagine how infrequent they become around the large numbers we are looking for today. For a rough idea of how big those numbers are, the largest known prime number that is available to the public (and I will explain later why the biggest primes are not) is 2^82,589,933-1. Whilst we can use our knowledge of density to estimate the position of prime numbers, it is important to remember that the density of prime numbers doesn't show us where every single prime number is because they don't follow a pattern.

So how do we find prime numbers? As I have already mentioned, you could choose a random number; go through all of the prime numbers up to the square route of the original number and check if they are factors, but that would take a very long time. Another approach is using formulae. Currently, the simplest formula for finding prime numbers is: when $n>3$, $6n\pm1$. This means that you pick any integer, greater than three, multiply it by six, and then either add or subtract one, and you will find a prime number or two prime numbers. There are a few problems with this, one of them being that it doesn't find every prime number. For example, $50\pm1=49$ or 51, but while 51 is a prime number, 50 is not divisible by 6. Another flaw is that you cannot be sure which of the two final numbers are prime, and so you are left with the same problem as earlier – it is very hard to check this when the numbers are large. There are a lot more formulae for finding prime numbers, many of them extremely complicated, but similar problems will keep coming up. Finding prime numbers is not easy. Luckily, you don't need to know every prime number in cryptography, as long as you know some that other people do not.

Case study

I would now like to move on to my case study: the Mt. Gox crypto robbery in 2014, believed to be the largest bitcoin robbery in history. As I mentioned earlier, the company discovered vast amounts of bitcoin had been stolen from them, leaving them bankrupt. This was a result of the cryptography that was protecting their bitcoin being decoded by hackers. So how could prime numbers have stopped this disaster? In a company where bitcoin is being regularly moved around, it is easy for encryption codes to be intercepted and used to decode other encryptions. Prime numbers are extremely useful for encryptions like this because intercepted numbers are useless. This is because by multiplying two prime numbers together, you create an obscure number that only has two factor pairs: one and itself, and the prime numbers that you used. I am going to look at one way that prime numbers can be used in cryptography.

Encryption

The aim in this example is to send a keycode (value V) to Mt. Gox in a way that no one else could decode. To begin you would pick two big prime numbers, p and q. (You could use more to create a more secure encryption, but I am going to use two to keep it simple). Ideally, you would agree on value p in person and later on, send value q. Even if this is intercepted, it is useless because the interceptor doesn't even know that value p exists. If you couldn't meet in person, then the next best option is to send p and q separately to Mt. Gox. This means that they probably won't both be intercepted, and they are useless on their own. Mt. Gox will then multiply p by q to create n. This is a number that you and Mt. Gox both now know and is already hard to recreate. You then need to create a second value called y. For this, choose two – or more – large prime numbers and once again send them separately to Mt. Gox. They will then once again multiply the two together and you both know value y. You now have all of the values needed to encrypt number V.

For the message, start by raising V by y (multiplying V by itself y times) This is a useful way of encrypting a value because it makes a number so big that you write it using powers so if someone did manage to intercept the number they would still not just be able to put it into a calculator and find V. Finally, divide this by n and send this number to Mt. Gox.

The encryption is now very simple for Mt. Gox to decrypt because you both already know all the values needed to solve it. All Mt. Gox needs to do is the reverse of the encryption. This would mean multiplying the number they received by n, and find the yth route of this. Mt. Gox now has value V, or the keycode.

So why are the biggest prime numbers a secret? The goal in encryption is to send messages that cannot be decoded. You cannot always prevent interceptions, so you need to make them of no use. Prime numbers are used widely in cryptography, so if someone intercepted two numbers and knew they were prime then they may be able to work out one of your values because multiplying two primes is a common encryption. However, if they intercepted two big numbers that they didn't know were prime, they couldn't even begin to guess what the encryption was. You could even hide your prime number in a list of lots of other numbers, which is useless to the person intercepting them if they don't know which one is prime.

Breaking Encryptions

In 1846 Alphonse de Polignac made a conjecture that there are an infinite number of infinitely spaced prime numbers. This means that there are infinitely many consecutive prime numbers with any size gap in between, although he did not prove it. For centuries, mathematicians have been trying to prove his conjecture correct and have only managed to do so in a finite field so far - although this is entirely pointless because there are no primes in a finite field. If we could prove the theory correct, then that would also prove that prime numbers are infinitely spaced so no computer could find all prime pairs. This would fundamentally prove that a computer could not be set up to find every prime number and so it is impossible to be sure a computer can calculate the prime numbers you are using in your encryption. Even if someone intercepted 99 out of 100 primes, the computer could still never find the final number and so it would be impossible for the encryption to be broken. Unfortunately, the opposite could also be true since the theory has not been proven. This means that at the moment we do not know that a computer could not be set up to find every prime number up to any value.

In the future, AI could be used to create more efficient ways of guessing what the prime numbers you are using are. While the twin prime theory would make it impossible for a computer programme of any type to be sure of a specific prime number, AI is becoming increasingly efficient at completing tasks, so it has the possibility to become extremely efficient at identifying whether a number is prime or not (for example) and so be able to guess which prime numbers you have used.

Conclusion

In conclusion, prime numbers are useful in cryptography because they can be used to encrypt a message, making it impossible to read unless you know the prime numbers used by the sender. Since large prime numbers are very hard to find, the encryption is very hard to break (and maybe impossible if Alphonse de Polignac was correct).

The Mt. Gox robbery shows how breaking encryptions can allow hackers to steal large amounts of money; by using prime numbers to create better encryptions future bitcoin robberies could prevented.

Bibliography

1. “Prime Factorization.” Cuemath. Accessed July 9, 2024. https://www.cuemath.com/numbers/prime-factorization/.
2. “UNL | Newsroom.” University of Nebraska-Lincoln. Accessed July 9, 2024. https://newsroom.unl.edu/announce/csmce/9393/54550.
3. “Why Are Prime Numbers So Important in Cryptography?” BBC News, January 20, 2018. https://www.bbc.co.uk/news/technology-43291026.
4. Mancuso, Joseph. “How Prime Numbers and RSA Encryption Work.” ABC News, January 20, 2018. https://www.abc.net.au/news/science/2018-01-20/how-prime-numbers-rsa-encryption-works/9338876.
5. Sawin, William F., and Shusterman, Mark. “Mathematicians Tame ‘Wild’ Prime Numbers.” Quanta Magazine, September 26, 2019. https://www.quantamagazine.org/big-question-about-primes-proved-in-small-number-systems-20190926/#:~:text=Sawin%20and%20Shusterman%20used%20their,by%20any%20gap%20you%20choose.

The Moralities and Legalities of the Transatlantic Slave Trade

Harriet

Nearly 13 million African people were kidnapped and trafficked across the Atlantic Ocean to America, with 2 million people dying during the Middle Passage. Nowadays, slavery is seen as immoral, but during the 1800s, there were some reasons as to why slavery was seen as morally okay. From a legal perspective, the UK never had a set law regarding slavery; however, we know it was practiced. The purpose of this essay is to explore why this happened.

One reason slavery was seen as morally okay in the 1800s was because those from Britain, the US, and other parts of the world had no reliable sources to judge the conditions of the Transatlantic Slave Trade. This was due to the fact that the slaves were illiterate. As a result, the slaves were unable to share the true horrors of slavery through the use of diaries, for example. Diaries were the most reliable source of information since they were private and only meant for the eyes of the author. The lack of truthful accounts meant those who weren’t experiencing slavery firsthand were unaware of the reality of the slave trade, which meant that it was seen as morally okay. Their illiteracy, alongside the fact that there was no technology, limited their ways of communicating with fellow slaves on other plantations. This reduced their ability to attempt revolt, allowing the slave trade to continue.

Although those in the British Empire and the US were clueless about the conditions which the slaves experienced, they were aware of the economic benefits which their countries were receiving. The labor of the slaves was used to produce common goods such as sugar, tobacco, coffee, tea, rum, and cotton, just to name a few. These were then sold for profit, helping to increase the British Empire and the US’ economies. Since these countries were only aware of the relative benefits of the slave trade, it was difficult for them to imagine the negatives; therefore, it was automatically viewed as moral. Racism also contributed to the way people viewed slavery because they thought the capturing of Africans to become slaves was part of God’s Plan. If they didn’t obey this, they believed they would be punished by God. During the 1800s, an estimated 60% of US citizens were Protestant, and this is only one part of Christianity, meaning that even more than 60% of the US population would have been Christian. As a result, many thought they’d be punished for breaking what they believed to be God’s Plan, leading to the slave trade continuing. At the same time, as God is seen as the soul of morality, and his plan involved capturing African people, this affected the beliefs of Christians to think the Transatlantic Slave Trade was moral too. Slaves were dehumanized as people truly believed that they had a lower status than humans. This meant that people thought they could treat Africans like objects rather than real people.

As I previously stated, there was no UK law regarding the slave trade, but the UK and the US had many de facto laws. De facto is a legal belief used to refer to what happens in practice or in reality, as opposed to de jure laws which refer to what is actually noted in the law. For example, a de facto law during the Transatlantic Slave Trade included violent control over enslaved people and harsh punishments for attempted escapes. This made it easier for the slave traders to abuse their slaves as it was normalized, meaning people didn’t question the fact it wasn’t actually legal. As time went on, attitudes towards slavery changed a lot; a major reason for this was the actions

that William Wilberforce took. He campaigned tirelessly against the Slave trade, trying and failing numerous times. He eventually succeeded, and the Abolition Act was passed on March 25th, 1807, in the UK. This was the law which made the buying of slaves illegal throughout the British empire. However, this didn't mean slavery had been completely abolished as slave owners could still keep the slaves they already owned. Following the UK, the US also abolished slavery on January 1st, 1808, just 10 months later.

Despite the fact that the Act Prohibiting the Importation of Slaves was a federal law passed by Congress, many states chose to metaphorically rebel and ignore this decision. This meant that a second law, the Slavery Abolition Act 1833, was passed to ensure that slavery was properly abolished across all the states. This second act made it illegal for people to own slaves, causing all previously owned slaves to be freed. The UK passed this law first on August 1st, 1833, whilst the US passed it on August 28th. Parliament passed this law, with the ruling applying throughout the British Colonies. This had an impact on the slave traders as their source of labour and profit was destroyed. They had no one working on their sugar plantations and therefore were unable to ship as many goods to Britain as they had before the abolishment of slavery. The slave traders would have been completely shocked about this decision as they believed it was normal to own slaves and punish them harshly for 'bad' behaviour, even though this behaviour would be considered normal today. As well as feeling shocked, they also would have felt embarrassed because everyone in the world discovered that the way the slave traders acted was horrendous.

In conclusion, there were several reasons as to why slavery was seen as morally okay 200 years ago. These include the illiteracy of slaves, which meant it was hard for people outside of the slave trade to judge the conditions of slavery, the economic benefits as the British Empire and the United States were earning money from the slaves' work on the plantations, and racism because the view of slaves as less worthy than humans was normalized. On the other hand, from a legal viewpoint, there were never any laws regarding the slave trade. However, there were de facto laws which allowed slavery to be seen as moral. Towards the end of the slave trade, William Wilberforce took on the role to help campaign for the abolishment of slavery. He eventually succeeded and the Abolition Act was passed in 1807 in the UK, shortly followed by the US in 1808. As this act didn't fully end slavery since the slave traders were still able to keep the slaves they already owned, in 1833, a second law, the Act Prohibiting the Importation of Slaves and the Abolition Act were passed in 1833. This ended slavery altogether.

Are Electric Cars Good for the Future?

Hollie

The birth of the electric vehicle (EVs) happened in the late 1820s to the early 1830s. Prior to that, people used horse and a buggy to travel. Innovators from Hungary, Netherlands, US, and UK started to think about making cars that were battery powered, so that they could travel further. In 1832, a British man named Robert Anderson created the first makeshift EVs. However, the car was not very practical. This was due to limited technology, so this meant that the batteries in the car could not be recharged.

During the 1900s, the development of EVs progressed greatly. A French physicist Gaston Planté created the lead-acid battery, which was a rechargeable battery. At this time, the US had the most EVs, with a third of cars on the roads being electric. Up until the 1920s, Edison and Ferdinand Porsche created a better battery for electric vehicles and the first hybrid EVs powered by electric stored battery. During the late 1920s, the US saw a decline in the uptake of EVs due to cheaper fuel being widely available and road transportation being improved. By the 1930s, electric cars were all but non-existent in the US due to their slowness.

By the mid-1900s, NASA highlighted the advantages of EVs with their space Lunar Rover, and by 1990, California detailed clear plans for low emissions – at which point car manufacturers began with prototypes for newer EV models. Tesla came out with the first legal highway serial production car, and from there, manufacturers like Nissan built road-worthy electric cars in Japan and the US. Sales of EVs globally peaked at 1 million in 2016 and then in 2020, Tesla became the first manufacturer to produce 1 million EVs on their own. In the early 2020s, the UK government set a series of low emission targets and pledged by 2030 that all petrol and diesel cars would no longer be on sale.

EVs are an important part of the future of global transportation due to their perceived 'positive' impact on the environment. It will be discussed if they really are the right option and if they are as environmentally friendly as they are marketed.

According to 'Auto Tech Training,' electric cars are considered environmentally friendly because they are energy-efficient as they do not burn fuel, they have cheaper running costs, and they produce less noise pollution, which makes them an excellent choice for those wanting a quiet ride and wishing to contribute to helping the environment. 'EnergySage' states EVs are energy-efficient, and they also reduce emissions due to their design and not burning fuel through an exhaust pipe. EVs are thought to convert around 60% - 80% of the electric energy to power the wheels, whilst petrol cars convert only 20% to power the wheels. So, this means the electric car requires less energy to run than petrol cars. The average electric car can drive about 100 - 150 miles on a single battery charge. This makes the cars more attractive to people who are not worried about the distance they travel but more concerned about the positive impact on the planet. 'Good Energy' claims that an electric car emits 30% less carbon than a petrol car. The reduced amount of carbon will be better for the environment as it will reduce global warming.

People buy EVs as charging cars is cheaper (currently) than filling a car up with petrol. EVs are more expensive initially than traditional cars. This is due to the excessive cost of developing and creating new battery technology, which manufacturers cost into the price. There are not as many charging stations compared to petrol stations – which is a cause of concern for those needing to travel long distances. Those who have garages and driveways can have external charging points, but those who live in urban areas

are unable to have this facility as accessible and therefore must plan when owning an EV. Charging an EV can take longer than filling up a car at a petrol station. It can take up to 30 minutes to a few hours to charge your car depending on the size of the car, the battery, and the distance you wish to travel. There is less choice of electric cars and manufacturers than petrol. Therefore, if you have a limited budget, EVs are more expensive so as much as you may wish to be environmentally friendly, financial reasons may be a bigger factor when making your decision.

According to 'USA EPA Government Agency,' studies have shown that producing an EV can create more carbon pollution due to the production of the battery. However, it is thought that over time this initial increase in carbon emissions is still significantly lower than that of a petrol car. A big advantage of the electric car battery is to make the battery recyclable which would offset the initial higher carbon emissions and the need for new materials to produce the battery. There are ongoing issues with recycling EV batteries, but the process continues to be improved. The US EPA Government report has also detailed the pressure on the grid to produce the additional electricity needed to power EVs. However, EVs can be charged during off-peak times, and equally, it has been considered that when electricity demand is high it could be possible to utilise the electricity held in an EV to meet electricity demand.

In conclusion, according to 'World Economic Forum,' EVs increased by 60% in 2022. Car manufacturers are investing in new models to meet global targets of all cars to be EVs by 2035. According to 'Caxin Global,' there were 86 EV models five years ago. Now there are around 330 models, with the prediction of there being around 500 by 2025. It is believed that 62% of drivers in the UK say helping the environment would be one of their top reasons for buying an electric vehicle according to 'AutoTech UK'. Drivers are not just looking for EVs as a status symbol or to be seen to be green, but they are thinking about the environment and believe that fuel costs will continue to rise so financially EV is a better option. As mentioned above, if EVs were cheaper and an improved network of more charging points were made available, then EVs would be the preferred choice for consumers. EVs are more efficient and produce fewer emissions than petrol engines do. It has been detailed above that not only could EVs benefit us environmentally and financially – but due to the lower emissions they will be better for our and future generations health. Consumers are educated in knowing that EVs have significant cost savings and running cost long term – which in the current cost of living crisis is proving advantageous. Many countries now penalise those with petrol cars by charging them to travel – but EVs are exempt from this charge. 'Autotrader UK' have also detailed the benefits of driving experience of EVs for drivers with no gears and little or no noise so less fatigue for the driver. EVs are the future! The manufacturing companies are putting more effort into moving from traditional vehicles to EVs and governments making the owning of a non-EV less appealing. There are plenty of benefits to owning an electric vehicle as detailed and with the right amount of technology and infrastructure, this market will surely continue to grow. With so many positives, this could be the year to own a battery-powered vehicle. Think and go electric!

Bibliography

1. Energy Saving Trust. "A brief history of the electric car." August 2021. Energy Saving Trust. Accessed July 9, 2024. https://energysavingtrust.org.uk/a-brief-history-of-the-electric-car/.
2. Auto Tech Training. "Electric and Hybrid Vehicle Training." Auto Tech Training. Accessed July 9, 2024. https://autotechtraining.co.uk/electric-and-hybrid-vehicle-training/.
3. Caxin Global, Oxford Analytica. "Automakers Will Rev Up Electric Vehicle Output." October 21, 2021. Caixin Global. Accessed July 9, 2024. https://www.caixinglobal.com/2021-10-21/automakers-will-rev-up-electric-vehicle-output-101789650.html.
4. EDF. "Benefits of electric cars." June 2023. EDF Energy. Accessed July 9, 2024. https://www.edfenergy.com/electric-cars/benefits#resale.
5. EnergySage. "Electric Vehicle." 2023. EnergySage. Accessed July 9, 2024. https://www.energysage.com/electric-vehicle.
6. Good Energy. "What to think about before getting an electric car." 2022. Good Energy. Accessed July 9, 2024. https://www.goodenergy.co.uk/blog/what-to-think-about-before-getting-an-eclectic-car.
7. Laming, Jen. "Why are EVs better for the environment than petrol and diesel cars?" August 2021. Good Energy. Accessed July 9, 2024. https://www.goodenergy.co.uk/blog/why-are-evs-better-for-the-environment-than-petrol-and-diesel-.
8. McTurk, Euan. "A brief history of electric vehicles." June 2019. Fully Charged Show. Accessed July 9, 2024. https://fullycharged.show/blog/a-brief-history-of-electric-vehicles/.
9. EnergySage. "Pros and cons of electric cars." January 2023. EnergySage. Accessed July 9, 2024. https://www.energysage.com/electric-vehicles/101/pros-and-cons-electric-cars/.
10. Richard. "Arrival of Electric Taxis in NYC in July 1897." July 2018. UPS Battery Center. Accessed July 9, 2024. https://www.upsbatterycenter.com/blog/arrival-of-electric-taxis-new-york-1897/.
11. Tallodi, John. "Seven disadvantages of electric cars." December 2022. Carwow. Accessed July 9, 2024. https://www.carwow.co.uk/guides/choosing/disadvantages-of-electric-cars#gref.
12. USA EPA Government Agency. "Electric vehicle myths." EPA. Accessed July 9, 2024. https://www.epa.gov/greenvehicles/electric-vehicle-myths.
13. World Economic Forum. "Electric vehicles adoption impact on oil demand." May 2023. World Economic Forum. Accessed July 9, 2024. https://www.weforum.org/agena/2023/05/electric-vehicles-adoption-impact-oil-demand/.
14. Octopus Electric Vehicles. "What alternative electric charging options are there." May 2023. Octopus Electric Vehicles. Accessed July 9, 2024. https://octopusev.com/ev-hub/alternatives-to-home-ev-charging/.

Is Honesty Really the Best Policy?

Macey

“The great enemy of the truth is very often not the lie. Deliberate, contrived, and dishonest. But the myth! Persistent, persuasive, and unrealistic.” John F. Kennedy announced this quote on June 10th, 1963, in his Commencement Address at a local university in Washington D.C. It perfectly sums up the misconceptions that surround being deceitful, highlighting the question, ‘Is honesty really the best policy?’ Honesty is a timeless virtue that has been cherished across many generations and cultures. It’s a moral principle that our parents, schools, and various facets of humanity teach us from a young age. The Treetop Therapy organization performed a survey which revealed that the majority of respondents were dishonest twice a day, statistically speaking, an average of 1.65 lies per day. In this essay, I’ll explore my reasons for why I believe the cliché expression “Honesty is the best policy!” is a contradiction to its own message and therefore more harm than good, due to its lack of accuracy.

Firstly, and foremost, the action of being sincere and truthful is always subjective, meaning we have the human right to lie of our own accord, as it’s not considered an offense. Sometimes, there are specific instances where it’s uncontrollable to make this decision. Although the morality of being honest is highly spoken of, there’s inevitably going to be an exception, whether this be with good intent or not. When applying honesty to situations, including personal relationships or in a professional setting, it’s deemed to make “everything easier.” Yet over 75% of survey participants admitted to lying daily, half with the best interest at heart. These results suggest that no matter how frequently we attempt to instill truthfulness into the minds of others, the human specimen will most likely discover a way to make it reasonable to do so. Nowadays, it’s even easier to lie, especially on social media, as we have access to the expansive world of technology and adapting appearances is just the start.

Moreover, respondents said that they lied for other reasons that include:

- 21% - To avoid interactions with others.
- 20% - For humor eg, jokes and pranks.
- 14% - For self-defense/protection.
- 13% - To impress or appear more favorable.
- 11% - To protect another person.
- 9% - For personal benefit or gain.
- 5% - For the benefit or gain of another person.
- 2% - To hurt or harm another person.
- 5% - Unspecified reason/no reason at all.

The statistics above, gathered from a survey conducted by the University of Wisconsin in the US, show that over half of the 9 reasons (5/9) for lying are solely oriented around positive benefits of an individual or other party rather than with malicious intent. This reinforces my point about how the commonly used saying “Honesty is the best policy!” falsely describes the best way of life. 20% of individuals tell a lie for jokes/pranks. This is seen as positive because laughter and humor are good fuel for our mental health. It enables us to decrease our stress hormones and releases endorphins which put us in a good mood. This then radiates to others and collectively produces a happy, healthy, and fun environment. If society religiously followed an integral lifestyle in every aspect of life, yes, there would be some sort of community but there would also be greater room for vulnerability. A staggering 14% lie for self-defense/protection. We sometimes lie for the greater good and this can be seen as a better way of dealing with something instead of facing suffering which could potentially destroy our wellness and sanity.

On the contrary, those in favor of the expression would propose that lying only inflicts harm. For example, a Christian follows the teaching that being deceitful is a sin according to the 10 commandments., “thou shalt not bear false witness against thy neighbor.” They believe honesty is a key virtue to fostering trust within more genuine connections. When people deliver themselves truthfully, others can rely on their words and actions which is a healthier way to form stronger friendships, intimate relationships, and successful businesses. Alongside this, it’s a building block for collaborative skills and wellbeing. Lying is said to be a conscious action and we know whether we have engaged in telling dishonest and inaccurate information, so why do it in the first place.

To disagree, there are a few instances where lying is not something done with full awareness and authority. To exemplify this, disorders such as ‘Pathologic lying’ or ‘Mythomania’ are forms of compulsive lying that are a clear example that oppose the narrative of lying being a choice rather than an option. To add to this, when a person is suffering from a disorder like this, they sometimes believe what they say is correct, even though it’s far from the truth. This doesn’t mean they are purposely lying. This is when the lines can become blurred. People with these conditions lie for no apparent reason and without the full knowledge of the condition, society is quick to jump to conclusions. Consequently, these meaningless and unavoidable lies are construed in malicious ways.

There can be other concerning reasons that cause people to lie too, for example, if a woman/man is suffering from domestic abuse their only option may be to lie rather than putting themselves at risk. We can’t always assume that just because the truth is seen to be ethically correct that society must always follow this rule. We sometimes lie to protect a person’s feelings, again this can come back to the mental health of others. These lies are sometimes known as white lies. White lies are a form of dishonesty but ranked lowest in terms of severity, and when taking the situation and intentions into consideration then the positives outweigh the negatives.

The often-used expression ‘Honesty is the best policy!’ isn’t inappropriate nor negative in society as it stands today, since it only promotes an encouraging morale. However, it isn’t fully accurate when attempting to apply it to varying situations of danger, desperation, and suffering. Feelings are a key aspect in why we sometimes feel the need to lie as we want to protect them. Humans subconsciously rely on a support network for security, safety, and affection. Overall, these three things enable a flourishing community/ family. Therefore, the relationships we form grow stronger and we eventually are forced into the cycle of wanting to not only protect our emotions but others also!

From the chart above, you can see that people lie across all forms of communication. In response, others stand forth to the fact that if lies were made ‘normal/moral’ we would never be able to identify the difference between disruptive rationale and uncontrollable issues. And although a small lie could be seen as unnoticeable, it could eventually grow and grow and become

out of proportion. These cases end up damaging relationships and connections, which can lead to depression and trust issues. Fun and games are light-hearted until they hurt someone. It's better to stop sooner, rather than later! This can suggest that lies are just trouble waiting to happen.

To summarize, I strongly believe the popular saying "Honesty is the best policy!" introduced by Mahatma Gandhi isn't overly accurate in its teaching because it can't be universalized (Kantian Ethics) and followed for each and every situation. Moreover, lying is established to be a wrongful action yet it isn't always beneficial as personality often pays better than the truth. This is to the common occurrence of people with a more confident, bubbly, and outgoing persona who have the greater odds to control a situation compared to those who are only offering the truth. This will be the case as they will gain the trust of people around them a lot quicker since they're able to evidently showcase they're certainty in themselves and what they have to offer, despite the reality of the situation.

I do stand by the fact that telling untruths isn't a stem for a robust and thriving society; however, conclusively, statistics override its value and therefore, I think a more fitting quote should be given. As a result, I configured my own... "Honesty is an inconstant policy, then, now, sometimes lies are allowed!" by Macey Lawlor.

Bibliography

1. The Treetop Therapy. Statistics on Lying. Available at: https://www.thetreetop.com/statistics/lying
2. The University of Wisconsin, USA. How Often Do People Lie? Available at: https://www.uwlax.edu/currents/how-often-do-people-lie/
3. Google Search Engine. Additional research guidance.

Can Christianity and Science Co-Exist in Belief?

Rosie

In Christianity, we are told to view the earth as something bigger than itself, created for our existence by God, greater than anything we can imagine. However, in scientific theories, we are taught the exact opposite. We are taught that the earth came to be by the Big Bang alongside many other scientific facts, which seem to be proven by logic and evidence. As a child, having these two very different opinions taught at the same time can make it hard to decide which one is 'true' for ourselves. But the question is, which belief can you 'trust'? Or, can they both work at the same time? Can you believe that the earth was created by God but also that the scientific discoveries are true? Can you believe in one but also have certainty in the other? Only about 9% of scientists believe in God fully, so is there an answer?

Christians believe that everything on the earth and in the heavens was created in 6 days. God existed before he created the world, and he planned everything precisely to be perfect for humans, also known as dominion (God gave us control over everything he created)[1]. In Genesis 1:1, we are taught about how the earth was created and the order in which God did it: on the first day, he created light. However, teachers rarely mention that in the Bible, the scientific elements of time, space, matter, and energy are all referenced in Genesis 1:1 when it explains how the world was created. For example:

- time – 'In the beginning...'
- space – 'God created the heavens'
- matter – '...and the earth'
- energy – 'Then God said, "Let there be light."'[2]

Here science and religion meet, and this can be used to show that perhaps science is just explaining what God created. This is further supported by Professor John Polkinghorne, a scientist and a priest in the Church of England, who states that "Genesis is not there to give short technical answers about how the universe began. It gives us the big answer that things exist because of God's will. One can perfectly well believe in the Big Bang but believe in it as the will of God the creator."[3] Polkinghorne wrote in his book, 'Belief in God in an Age of Science' that 'scientific and theological inquiries are parallel.'[4] This shows that even if science and religion never cross paths, they are both still trying to find a way to explain the world we live in. So perhaps they can be viewed as a whole theory rather than two completely different theories.

Scientists say the Big Bang was a huge explosion that created the earth and everything within it but also exterior to it, for example, space and stars. They say that every bit of energy came together to back something big, in very little space and this made a massive explosion which pushed matter outwards, creating the many things in space. Scientists believe that this just happened coincidentally rather than as an act from God, and following this starting point, evolution happened, and created the world and life we know today.

However, if the Big Bang is true, as evidence suggests, it is also understandable that some people question if it could have simply happened out of nothing without some greater 'force' starting it. An alternative argument is that God was the catalyst in this theory, that God pushed all the energy together to create something so complex. The world is so perfect for humans and other creatures to live in it seems impossible that it could be created out of mere coincidence. For example, gravity is so precisely managed that even if it was just 1% stronger, the stars and the

earth would collapse into themselves. Although evolution can explain how animals and plants work so well in their surroundings, it does not explain the perfect balance of gravity.

An American geneticist, Francis Collins, has a theory that science can back up belief rather than deny it. He explores his theory in more depth in his book 'The Language of God: A Scientist Presents Evidence for Belief', and it shows that people are beginning to see and believe that perhaps science and belief go better together than people realize. Collins is both a scientist and a Christian, and he thinks that 'advances in science present an opportunity for worship rather than a catalyst for doubt.'[5] Collins wanted to show people that if you view God as the creator of everything, and that science is the exploration of the world and everything within, you could believe that in science you are simply looking at the creations of God.

The theory of evolution presented by Darwin states that natural selection is the main evidence to back up his theory. For example, in nature, an animal's offspring adapts to its surroundings for a better chance of survival, and through time, this is how humans evolved. When 'On the Origin of Species' came out, there was a backlash from the church, but not all Christians agreed that Darwin was wrong. Some Christians thought that by having this new idea of where human life came from, it merely showed what God did at the beginning and the precise decisions he made throughout the creation. However, some people thought that Darwin's theory was a challenge to their faith because it appeared to conflict with the authority of the Bible. This caused trouble for Darwin and his new theory.

It can, however, be argued that Darwin's theory of evolution does not mean God did not have an input. An earlier theory presented by St Augustine in the 4th century CE stated how life may have continued to grow throughout the years following the creation, that God probably only created very simple life forms and then these developed over time. This shows that at that time people were already contemplating what the universe was and how everything came to be, but still believed that God played a role in the creation of life.

Some Christians view the Bible as literal, and that it is an account of everything that happened and how it was created, while others think the Bible is a collection of parables and symbolic stories that tell how God created the universe. Like Collins, these Christians turn to science to help unravel the complexity of this. Although Collins is a Christian, he believes that Adam and Eve were not the first people on earth. This does not mean that he does not believe what the Bible says; he just viewed it in a different way. In the Bible, it states that Adam is the first 'man.' Collins argues that the symbol of Israel is 'man,' so by saying the first 'man,' it simply means the first man of Israel. In the Bible, Adam and Eve's children, Cain and Abel, are introduced and it is told that they go off and marry people from other lands. This shows that there were people other than Adam and Eve at this time, which backs up Collins' point. Collins believes that Adam and Eve are also more metaphorical to show what happens when you disobey God rather than a literal story.
So, is there an answer to my question? Can religion coexist with science? Having considered both sides of the argument, I believe that it can. Not everything that cannot be proven is wrong. If you believe in God, which I do, it does not mean that you cannot believe in science and logic too. I think that science can back up religion and sometimes even prove it. So, yes, they can support each other, even if they have some differences.

Bibliography

1. BBC Bitesize. "Christianity and Science - the World - GCSE Religious Studies Revision - WJEC." Available at: https://www.bbc.co.uk/bitesize/guides/zqphw6f/revision/3#:~:text=For%20many%20Christians%20there%20isn.
2. BBC Bitesize. "Creation - Key Beliefs in Christianity - GCSE Religious Studies Revision - AQA." Available at: https://www.bbc.co.uk/bitesize/guides/z683rwx/revision/1#:~:text=God%20existed%20before%20he%20created.
3. Church on the Corner. "How the Bible Aligns with Science – the Church on the Corner." Available at: https://churchonthecorner.us/questions-on-faith/how-the-bible-aligns-with-science/#:~:text=The%20Biblical%20creation%20account%20includes.
4. Pew Research Centre. "The 'Evidence for Belief': An Interview with Francis Collins," April 17, 2008. Available at: https://www.pewresearch.org/science/2008/04/17/the-evidence-for-belief-an-interview-with-francis-collins/#:~:text=But%20for%20Francis%20Collins%2C%20head.
5. Yale University Press. "Belief in God in an Age of Science." Available at: https://yalebooks.yale.edu/book/9780300174106/belief-in-god-in-an-age-of-science/#:~:text=Polkinghorne%20explores%20a%20new%20natural.

What Is Success?

Cecilia

In this essay, I will explore the definition of success and its various dimensions: the links between social media, beauty standards, and success; the role of money and fame; the concept of power; and the importance of intelligence and knowledge.

The current definition of success, from the Oxford English Dictionary, is 'the accomplishment of an aim or purpose.' This suggests that success is a personal achievement that requires effort and dedication. Colin Powell, former US Secretary of State, aptly said, "There are no secrets to success. It is the result of preparation, hard work, and learning from failure." I believe this rings true, as everyone's goals differ, necessitating varied approaches, yet all requiring preparation, perseverance, and learning from setbacks, along with other qualities such as resilience, motivation, and confidence.

Today, many equate success with the number of followers one has on social media. Celebrities like Selena Gomez and Cristiano Ronaldo boast massive followings, especially on platforms like Instagram, with Ronaldo having 632 million and Gomez over 400 million followers. Matt Goulart, owner of digital marketing company Ignite, suggests, "Social media is about the people..." implying that cultivating content on these platforms is worthwhile for building a substantial following. However, I argue that true success cannot be defined by social media metrics alone. Obsessing over follower counts can lead to serious mental health issues and undue pressure. Moreover, a small yet engaged group of followers can be more valuable than a large, passive following, as they are more likely to provide genuine support and encouragement.

Moreover, in the era of social media, some perceive success through adherence to current beauty standards. Figures like Kim Kardashian are often seen as successful primarily due to their appearance. Kim Kardashian herself stated, "To look and feel my best, I watch my calories and exercise." However, such a focus can adversely affect mental health and self-esteem, potentially triggering disorders like anorexia. Beauty standards are also constantly evolving. As radio broadcaster Robert Monroe wisely noted, "Always know and remember that you are more than your physical body." Qualities such as personality, interests, and self-confidence have a far greater impact on others than mere physical appearance. Positive impact should always outweigh superficial measures of success.

For some, success equates to wealth and fame. Elon Musk, with a net worth of 213.06 billion USD, is often cited as an example. His success as the owner of Tesla, SpaceX, and X (formerly Twitter) has made him incredibly wealthy and famous. While financial stability and achieving desired material possessions are legitimate goals, success cannot be solely defined by wealth. Many affluent individuals lack supportive relationships, family harmony, or overall happiness. Guy Kawasaki, a former Apple employee, remarked, "If you make meaning, you'll make money." However, I disagree with this sentiment, as many impactful individuals, such as healthcare professionals, educators, and public servants, may not be wealthy or famous yet contribute immensely to society.

Furthermore, some view success as having power and the ability to effect change. Historical examples like the suffragettes, who fought tirelessly for women's voting rights, exemplify this. Their efforts culminated in women over 21 gaining the right to vote in 1928 in the UK, a monumental success. I agree that effecting change and influencing perspectives can be a measure of success, shaping the present and future generations, and inspiring others to pursue their dreams and stand up for their beliefs.

Lastly, success can also be defined by knowledge and intelligence. Being knowledgeable often opens doors to more complex and specialized roles, which may lead to higher salaries. American martial artist Ed Parker once said, "The intelligent man is one who has successfully fulfilled many accomplishments and is yet willing to learn more." I concur with this sentiment, as lifelong learning is crucial regardless of one's expertise. Knowledge and intelligence can empower individuals, enabling them to make informed decisions and positively influence others.

In conclusion, I have discussed various facets through which people may define success. I believe that true success is measured by the happiness derived from achieving one's goals, the effort invested in reaching them, and the inspiration one provides to others to pursue their passions and stand up for their beliefs. Conversely, measuring success solely by financial wealth, conformity to beauty standards, or fame and social media metrics does not promote meaningful change or personal growth. As Dr. Burley, Head of King's High School, aptly stated, "A changemaker is someone who takes action to inspire and lead positive change." A changemaker embodies true success.

Bibliography

1. Oxford Languages Online Dictionary. https://www.oxfordlanguages.com/
2. The Strive. "Success Quotes That Inspire." https://thestrive.co/success-quotes-that-inspire/
3. BBC News. "Business." https://www.bbc.co.uk/news/business-61234231
4. Forbes. "Elon Musk." https://www.forbes.com/profile/elon-musk
5. Quotefancy. "Making Money Quotes." https://quotefancy.com/making-money-quotes
6. Forwarding Science. "Inspirational Social Media Quotes." https://forwardingscience.com/15

What Will Be on the School Curriculum in 2050?

Georgina

As we live our lives in 2023, 2050 seems a distant vision in the future, but time advances quicker than we can imagine. If I think back 9 months to the beginning of year 7, the year ahead felt like an eternity of learning and excitement. As I prepare for my final week residential in year 7, which starts in 2 weeks, I cannot believe how quickly time has passed. This is how we will feel in 2050. By then, I will be thirty-nine. What do I foresee for my children and their generation? It will be a whole different picture of education compared to where we are now, yet schools will still be the center of our education, a place to come together, learn, and grow as a community. Geography, History, Sport, and Biology will be central to this essay, as they will be areas where we expect the most change within a school environment, with exciting developments.

It is often said that robots will take over the world one day. Many people claim that the world is increasingly integrating electronic software into their daily lives. In this day and age, we use devices at school, and ChatGPT has made an impact, having engaged over one hundred million people on the platform. Artificial intelligence (AI) has become a highly debated topic, with discussions about whether it has a positive or negative impact on us humans.

I strongly believe that in Design and Technology, we will focus on programming the robots we use at school and delve into their mechanical aspects. Robots would help us become more independent. Independence is a part of our lives and growing up, but it will become an even bigger factor. Artificial intelligence will likely support teachers in areas where their knowledge may be limited, especially in programming. Perhaps robot teachers could cover lessons, programmed by our teachers to oversee our progress and report on behavior and success.

I am convinced that our timetable will include a new subject called “sustainability.” In this subject, we will explore how we can help our world by meeting present needs without jeopardizing future generations. Sustainability has become a hot topic in this era, and it will expand to reach younger people. Children’s television channels will air episodes demonstrating the importance of sustainability, replacing some current shows. This will ensure that children approaching primary and secondary school have an understanding of the world they are inheriting.

Regarding sustainability, we have not yet discussed how we will travel to school to participate in these lessons. I propose that buses will be driverless and electric, which will be better and cheaper for schools to operate since they won’t need to pay bus drivers. Instead of trains, there will be a higher number of electric trams, which emit less pollution, benefiting both the economy and the environment. Electric vehicles (EVs) will be standard in all forms of commuting, including school buses.

During school hours, we will need to eat. We will manage this by having online registration during form time in the mornings, minimizing paper waste and tree consumption. We will select our meals from a menu on our robots. The robots will prepare the correct number of meals to prevent food waste. They will also know if a student is absent because they did not order food, saving time that would otherwise be spent on uneaten meals. Year by year, students will collect their chosen meals from the serving area, whether it is the meat or vegetarian option. We will continue using reusable China plates. However, to reduce plastic waste, teachers or students who choose to take their lunch in a takeaway carton can opt for a cheap, eco-friendly material that is reusable and does not significantly increase living costs if there is a crisis in 2050. After use, these cartons will be returned to the dining hall to be washed by waterproof AI robots and made ready for the next user. Even though they will be thoroughly cleaned, cartons will be sorted into sections to alleviate concerns for vegans or vegetarians about potential traces of meat.

On a more serious note, we must consider what will be included in the deeper curriculum and the world-changing events we will study as part of our core studies. Without a doubt, Biology, History, and possibly even Politics will be dominated by the COVID-19 pandemic. We will study how the pandemic unfolded, how politicians responded, how scientists rapidly developed vaccines, and how the world came to a standstill during lockdowns. In A Level, we may study how COVID-19 affected the economy, resulting in job losses, furloughs, and businesses closing overnight. Future generations may find it hard to imagine homeschooling, remote work, online fitness classes, and the emergence of platforms like Zoom, Teams, and Slack. As a 9-year-old in lockdown in March 2020, my experiences will become part of future history lessons in schools. We will read diaries, watch families singing together on YouTube, and, most importantly, learn about families being separated and loved ones lost. This is my memory, and it will be the history curriculum of the future.

Another aspect of our mental and physical well-being is sports. With this in mind, I believe safety standards in all sports will change. Thirty years ago, cycling helmets were uncommon, mouthguards were optional, and cricket helmets were not even a consideration. Currently, cricket helmets are of a high standard, but from 2023 to 2050, technology and safety will evolve beyond our current imagination. Hockey will likely introduce helmets or head protection for all players, and rugby may require scrum caps for all positions, protecting future generations. Health and well-being will continue to be critical in our lives, and schools will play a crucial role in promoting them.

In conclusion, AI has already impacted our lives and will continue to influence us for many years. Summarizing my points, I believe many aspects of the 2050 school curriculum will positively impact our lives, including robots, artificial intelligence, and sustainable practices. These will weave through multiple subjects, integrating into our daily school life and curriculum. The future promises exciting technological advancements and vital lessons in history and biology, covering life during the recent challenging years and becoming the history and biology lessons of our future.

Should Prisons Be Banned?

Nethraa

Growing up, we were always taught that the bad people in this world, who break the law and cause danger in our communities, would get locked away in prison and stay there for a certain period of time. Prisons and the people who are put there were always seen as a bad image in society and, quite frankly, in our minds. But I personally don't believe that either are all that bad. Yes, when someone commits a crime, they are not a good person no matter what the crime was. However, what I do think is a bad image is the whole concept of prisons: the act of locking up individuals, removing them from society, the constant dehumanization, lack of education on the wrongfulness of their actions, and often, not giving them a second chance. This division in our society leads to one of the biggest issues with prisons and their prisoners: re-offending.

Our country has some of the highest re-offending rates in the world, and the top reasons are due to poverty, inequality, and the lack of opportunities and support for young people and those who have been released from prison. Although I cannot address all these points, I would like to focus mainly on support: support for those who have committed a crime, not just sending them to prison straight away, and for those who have been released from prison and find it difficult to reintegrate into society. Therefore, my proposition is rehabilitation centers situated in every county, some close to prisons, with facilities designed to help each group of people in need. These centers will include professionals in psychology, therapy, and volunteers dedicated to creating a better society.

Ground Floor

The ground floor of the rehabilitation centers will feature a café focused on supporting ex-prisoners, entirely operated by them. Re-entering society, especially with a criminal record, can be challenging as not all UK companies are willing to employ ex-convicts, further alienating them. While some companies do hire ex-convicts, it is not always reliable. In the rehabilitation centers, ex-prisoners are guaranteed jobs at the café with a wage of £12 per hour, exceeding the UK minimum wage of £11.44. For instance, working a 12-hour shift daily for a year at the café would yield an annual income of £52,560.

I have chosen a café setting to foster interaction with others beyond former cellmates and those familiar with prison life. This environment will improve their social skills and confidence, providing a sense of belonging where they can engage in simple conversations without being viewed solely as criminals or lawbreakers.

First Floor

The first floor is the focal point of the plan, hosting a mandatory six-month course for offenders. They will be divided into small groups based on the severity of their crimes, ranging from theft to murder. During the first two weeks, they will engage with trained professionals and volunteers to explore their crimes' motivations and impacts on individuals or groups. Throughout the course, they will gradually learn the broader community and global impacts of their actions, understanding the potential suffering caused by their offenses. Additionally, the program will feature talks from reformed ex-prisoners thriving in society, possibly including those working downstairs at the café if they are comfortable sharing their stories. Another critical component will be criminal-victim workshops, where victims or their families affected by crimes committed by participants in the rehabilitation center may engage with the offenders, possibly addressing long-term trauma. I hope this will encourage those who have harmed others to reconsider their actions after hearing firsthand about the impact on victims.

Upon completion of the six-month program, offenders who pass will reintegrate into society; those who do not will be incarcerated. If a program graduate re-offends, they will face immediate return to prison.

An exemplary county employing both rehabilitation centers and prisons is Norway. Norway boasts some of the world's lowest re-offending rates due to its humane treatment of prisoners. For instance, Halden, a maximum-security prison near the Swedish border, offers single-prisoner cells resembling dorm rooms with private bathrooms, flat-screen TVs, and scenic views. This approach minimizes dehumanization, treating prisoners with dignity akin to Norwegian citizens. In addition, prisoners enjoy solitary walks in the surrounding woods. By humanizing prisons, Norway significantly reduces re-offending rates compared to countries employing harsher punitive measures. In conclusion, I do not advocate for eliminating prisons entirely, as not everyone may be receptive to rehabilitation or make positive decisions in society, even after successfully completing the program. Rather, I propose a step-by-step approach to enhancing public safety in our country.

Bibliography

1. GOV.UK. "The National Minimum Wage in 2024." www.gov.uk, 27 Mar. 2024.
2. "What We Can Learn from Norway's Prison System: Rehabilitation & Recidivism." First Step Alliance, 3 Jan. 2022.

Why Do the People of North Korea Accept the Way They Live?

Elektra

You hear lots of weird stories coming out of North Korea, like Alan Titchmarsh's jeans being blurred out on North Korean television, balloons carrying rubbish falling out of the sky onto South Korea's capital Seoul, and even every man in North Korea having to get a Kim Jong-Un haircut! North Korea is one of the most secretive countries in the world, and there are many mysteries surrounding this nation ever since it was founded in the aftermath of World War II. But sadly, the lives of people in North Korea became far from happy when their leader, Kim Jong-Un, closed the border all around his already suffering country, leaving the country completely cut off from the rest of the world. But why did he do this? Let me take you back...

The Korean War started in the aftermath of World War II. Korea was split into the North, supported by the USSR, with Kim Il-Sung establishing himself as leader, and the South, supported by the USA, with Syngman Rhee elected as president. But Kim Il-Sung was determined to reunite Korea under his rule. The USSR helped to build up the North Korean army, so by 1950, when the North Koreans invaded, the Northern army was much stronger than the South. The USA backed South Korea through this time with military and economic aid, and they eventually came to a ceasefire, which was agreed upon in 1953. Four million people (about twice the population of Paris) had died in this war, including 30,000 innocent Koreans caught up in this horrible conflict. The Kim dynasty has ruled North Korea for 70 years since the Korean War, but what has happened in the period between the great war and Covid?

Well, the answer to that question is nothing really – it has almost been preserved in time in the 1950s while the rest of the world has been moving on. Throughout North Korea's history, major political leaders have always been worried about the situation the country has been in. As a totalitarian state, it is run by one leader, dictator, or supreme leader who makes all the decisions by himself. Only his advisors have a chance to say whether he should or should not do something, but they would not dare contradict him. The people of the country do not have any say or choice on these decisions because it is not a democracy, unlike their neighbors, South Korea. This ruler keeps their country under strict control with civilians forced into total obedience and if they do not obey, there will be very severe consequences like punishment, torture, or even death.

People are worried about the welfare of the people of North Korea, but they are not just worried about that. Kim Jong-Un is also putting a lot of money into expanding his country's nuclear weapon program with immensely powerful bombs that might one day hit its enemies like South Korea and the USA. This means that the nation is spending more and more money on these bombs and less on its people and the welfare of the country. In 2018, Donald Trump, then the American president, went to talk things over with the North Korean leader about trying to stop this from happening, but he was unsuccessful in doing this and they are still testing and expanding their arsenal. At one point this meeting was called off by Donald Trump because the two countries had started arguing again. Because of this increasing threat, the USA has even sent warships and submarines to support South Korea from an imminent attack. But what is life like for the people of North Korea?

Life for people living in Korea has been extremely hard since they shut the border to try and prevent Covid. The country either could not or would not vaccinate its people. Lots of people used to smuggle food and medicine over the border from China, but now it is nearly impossible. This was the people's lifeline because the government was not giving them enough food and spending this money to expand their army and nuclear weapons instead, so that barely anyone who does not live in the capital, Pyongyang, gets rations from the government anymore. In Pyongyang, the people are treated better than in rural areas. They are supported by the government but have no more freedom than anyone else. Those who can afford to live in Pyongyang's expensive lifestyle are related to people working for Kim Jong-Un. From a very young age, children are taught that their leader is wonderful and should always be praised. At the age of 10, all children must join the children's union and there they sing songs about how great their leader is. But sadly, a report by the United Nations in 2019 said that half of the children living in North Korea were not getting the food they needed.

Over 1,000 people every year manage to escape over the border into China and while most of these are teenagers and young adults, some are just children and babies. These people who escape are called defectors. These many escapees are now raising awareness about the harsh conditions and punishments the people of North Korea must face. In a BBC documentary, North Korea: The Insiders, three people living in North Korea described the difficulties they have faced since their leader closed the border. One of them said, 'I am living on the front line of life.' Another said, 'We are stuck here waiting to die.' An interview with a defector called Jun who is now living as a YouTuber in Seoul, South Korea, had no idea what YouTube or any social media was until he escaped from North Korea because he was cut off from any American influence. Under Kim Jong-Un's tyrannical, totalitarian rule, the people of North Korea find it exceedingly difficult to survive everyday life.

But why do they accept the way they have to live? Why don't they question their leader's rule? Well, it could be a number of things, but the main one is probably that if they say anything against the supreme ruler's power and decision-making, there could be severe consequences. They are probably too scared to bring it up in case the authorities find out and punish them. Another reason is that they have never experienced what the outside world is like, so they do not know how different their country is from other nations. And if they do not know what the outside world is like then they do not know what to change their country to based off that. All of this prevents any rebellions and any hope of North Korean freedom.

In conclusion, life for the people of North Korea is even harder today in 2024 than it was because of their leader Kim Jong-Un closing the border to stop Covid. This stopped all the secret trade and smuggling routes to China and South Korea. Lots of people are struggling to feed and clothe themselves daily. They do not question their leader's rule because they are afraid of punishment and do not know what to change their country to if they rebel. And it is still not over with Kim Jong-Un inviting the Russian leader Vladimir Putin to Pyongyang in June 2024 to talk about attacks on South Korea that may happen in the near future. It is also rumored that Putin is buying weapons from North Korea to use in its war against Ukraine, both making the war last longer and putting money into Kim Jong-Un's authoritarian state. But let's just hope that things go better for the people of North Korea for the future so they can survive for generations to come. Just goes to show what a weird and secretive country North Korea is.

Bibliography

1. “North Korea: Everything you need to know about the country.” Website.
2. “Inside North Korea: ‘We are stuck, waiting to die’ - BBC.” Website.
3. “North Korea country profile - BBC News.” Website.
4. “North Korea | Facts, Map, & History | Britannica.” Website.
5. Usborne. Politics for Beginners, section on authoritarian systems. Book.
6. Our World Divided: North and South Korea. Book.
7. “North Korea: The Insiders.” Television documentary. BBC iPlayer.

Could Black Holes Be a Portal to a Parallel Universe?

Elektra

Black holes are some of the most mind-boggling things known to mankind at present. Physicists have been pondering over them since they were first observed in 1964, as they had only been a theory before then. More and more have been discovered thanks to many great scientists like Stephen Hawking, but we still know very little about them. Scientists have to think big and out of the ordinary to get a better understanding of the universe.

But what exactly is a black hole? A black hole is a form of dead star that forms in a supernova explosion. The star explodes and then implodes as a result of gravity, and as it gets smaller and smaller it becomes heavier and denser. Eventually, it is squashed into a dot of infinite mass and density. It also has no size because it is immeasurably small, about a billion times smaller than an atom.

This is called a singularity, which is at the center of the black hole. Because of its mass and density, it has an almost unescapable gravitational field, pulling everything around it into the singularity. This force is so strong that not even light can escape. The edge of the black hole is called the event horizon, the ultimate point of no return and you are squashed into the singularity.

Now that we know what a black hole is and how they are formed, what does a black hole “feed” on to get bigger? Well, most black holes floating around the universe are looking for a star to feed on. These types of black hole are called interstellar black holes. Once the black hole finds a star, it will come in close range of it and start pulling the outer layer of the star away from the core and stretches the plasma into a long line going into the black hole. It will also destroy any planets orbiting the star. This process is called “spaghettification,” and when it happens it emits X-rays that we can detect. It is very simple: the bigger the star, the bigger the X-ray source.

Of course, black holes don’t just stop there. If another black hole comes too close, then they will become locked in orbit. Eventually, while they are circling each other at a good proportion of the speed of light, they collide forming one ginormous black hole. This collision is so powerful that it sends waves through the fabric of the universe itself in the form of gravitational waves. We can detect these also. In June 2023, scientists picked up gravitational waves from the orbit of two supermassive black holes at the hearts of distant galaxies as they began to collide and merge. This may be the first direct evidence of supermassive black holes distorting space and time as they spiral towards each other. This collision is also the biggest we have ever detected.

One of the greatest scientists of all time, Stephen Hawking, thought a lot about black holes. Many people think that black holes last forever, but this is not true. Hawking came up with an equation for the temperature of black holes, and the implication of this equation is profound.

This just looks like a jumble of letters, but what it means basically is that if a black hole has a temperature then eventually, it will just evaporate away. He also showed us that black holes evaporate as a result of Hawking Radiation, named after the man himself. The evaporation is slow at first but speeds up as the black hole gets smaller. But what happens to all the stuff that the black hole ate? Well, Hawking also found that the information of everything eaten by the black hole is contained in this Hawking Radiation once it has evaporated.

But what happens if you go into a black hole, I hear you ask? If you tried to get into a black hole, you would probably be spaghettified and squashed into the singularity like everything else. On the event horizon, everything outside of the black hole will seem to be spinning at great speed. They are not. This is called gravitational lensing and eventually time stops at the event horizon! But we can never be sure, because so far we do not know how to get anyone out of a black hole alive to tell the tale.

I think of it as all of the universe resting on a blanket held aloft at the corners. If you put an object on the blanket then the blanket underneath it goes down at the weight of the object. The bigger the object, the bigger the dent in the blanket. Now fold the blanket over so it makes a "V". Now imagine that on one side of the blanket has a hole connecting to the other side. Finally, put this into reality.

The blanket is spacetime, the objects are everything in the universe including stars, planets, nebulas, and galaxies, and the hole through the blanket is a wormhole. A wormhole is essentially a portal to another part of the universe or possibly a parallel universe. If we can master the complex science and engineering of wormholes, we may be able to use them as a mode of transport, but we may never be clever enough to work it out.
So, is all of this possible? Well, it is possible that black holes are connected to another region of space. There is still an actual possibility that multiple and parallel universes exist, but then there is another theory that our whole universe is inside a black hole incomprehensibly big, in another universe much bigger than our own. There are many different hypotheses and we may never know.

On the other hand, it may well not be possible. Firstly, the engineering of wormholes is extremely complex, so there could be wormholes when black holes are first formed but they could collapse at any time. Even if you made it into the wormhole, you would be fried by hard radiation. You would also get stretched as you were going into the black hole, never making it into the wormhole at all. So, while it seems like a wonderful idea, it seems very unlikely and probably a one-way trip.

Wow! What a trip we've been on through the physics of black holes and wormholes! So, to answer my question, could black holes be a portal to a parallel universe, they could but it is highly unlikely. Black holes: they may change our understanding of physics completely and distort masses of space and time around them. Wormholes: the portals in the universe and one of the most complex phenomena known to man. It just goes to show what a weird and wonderful universe we live in.

Bibliography

1. The Universe series on BBC presented by Brian Cox, Series 1, ep. 4: "Black Holes: The Hearts of Darkness." https://www.bbc.co.uk/iplayer/episodes/p09ybnpd/universe
2. O'Brian, Dara. Beyond the Sky.
3. Hawking, Stephen, and Lucy Hawking. Unlocking the Universe.
4. NASA website. https://www.nasa.gov/
5. "Scientists pick up shock waves from colliding galaxies." June 2023. https://www.bbc.co.uk/news/science-environment-66039810

Should Makeup Be Publicly Acceptable?

Clara

I have chosen to write an essay about the essential reasons to explore addressing the underlying issue of unrealistic beauty standards and the need to promote diverse representations of beauty. For example, I have a fringe; I will be honest, I have never seen a model or skincare or cosmetics brand style a proper full-coverage fringe, which has always left me thinking, why? Surely enough people have them to the point where they need representation. Never seeing this natural haircut ever being styled has left me with no influencers or guidance that I can truly relate to. But then, you sometimes have to say to yourself: "What are they (makeup/cosmetic companies) after? At the end of the day, whether you like it or not, it is, and probably (sadly), always will be money! (After all, how can you blame a business?) This is what drives most beauty influencers as well!

The acceptability and advertising of cosmetics are largely subjective and overlooked topics and are often taboo in our society. It depends on cultural norms, personal preferences, and the specific societal context. In most societies, wearing makeup in public is a common and widely accepted practice for both men and mostly women, because traditionally it has been a more feminine trait or hobby. There is, therefore, absolutely no wonder that as a woman progressively gets older and more mature, it is becoming hard to not wear cosmetics or use skincare as it can be taken advantage of to enhance one's appearance, express creativity, boost self-confidence, or adhere to certain social norms and expectations. However, there are some potential problems associated (that come along with) makeup, cosmetics, or really any beauty modifications such as plastic surgery and fillers, normally in the lips or cheekbones. These issues may vary in severity and impact depending on the individual and the specific circumstances but can have a terrible impact on someone's mental health. I believe that the acceptability of makeup in public should not be solely decided by the risk of the creation of realistically unattainable beauty standards and expectations. While it is important to acknowledge the influence of makeup on societal beauty ideals, it is equally crucial to promote a culture of inclusivity, acceptance, and individual choice.

Makeup can serve as a form of self-expression, boost confidence, and enhance one's appearance according to personal preferences. Makeup is also used by some as a main income through mainstream social platforms such as TikTok, Snapchat, Instagram, and even Twitter!

By not wearing makeup when active or out and about in public spaces, you are or would be encouraging body positivity and fostering a supportive environment where individuals are empowered to make their own choices when applied in the correct circumstances.

By focusing on education, self-acceptance, and celebrating diversity, we can create a society that embraces makeup as an art form, rather than solely associating it with unattainable beauty ideals, allowing individuals to express themselves freely without judgment or pressure.

Another controversial topic when considering the acceptability of makeup is the time and effort it takes, which can detract from our usable 'doing things' time. While it is true that applying makeup can be a time-consuming process, I would argue that it is ultimately a personal choice and an expression of individual creativity. Just like any other activity that people engage in to enhance their appearance or express themselves, such as styling their hair or selecting their outfits, the time and effort invested in makeup application should

be seen as a reflection of personal preferences and self-care. That this sometimes takes hours to ‘get ready’ (a common term online for doing your makeup) is where the term ‘Get ready with me’, usually abbreviated to GRWM, came to life. It has slowly but surely progressed through the years from full outfits to now normally just hair and makeup; this is a very effective way for glamorous and rich beauty influencers to get even richer or start their fame, as videos can be posted and are watched by millions!

It is important for us to encourage a society that respects and supports individuals’ choices, allowing them to prioritize their time and effort in whichever way brings them joy, confidence, and self-expression. Moreover, advancements in makeup products, techniques, and tools continue to streamline the application process, making it more efficient for those who choose to wear makeup.

Ultimately, the acceptability of makeup in public should be based on individual autonomy and a culture that values personal choices and widespread forms of self-expression. It is crucial in our society to foster a culture of acceptance and respect for others’ personal choices about makeup. People should be free to decide whether to wear makeup in public without facing judgment or discrimination; this is especially essential for younger generations, as I believe everybody deserves their own means of personal expression, especially in how they present outwardly to the world and their own personal communities, whether that be religious, ethnic, or maybe it’s just a friend group.

I think it is important to focus on promoting positive body image, self-expression, and inclusivity, especially in public spaces, allowing individuals to make choices that align with their own preferences and values so that they can feel comfortable in their outgoing appearance, which is often skewed through the male lens. So, in conclusion, I believe that a modest amount of makeup should be publicly acceptable as it empowers us to feel more confident in public without having the negative connotations of accompanying body dysmorphia.

King's High School

King's High School
Banbury Road
Warwick CV34 6YE
t: 01926 494485 e: khs-enquiries@warwickschools.co.uk

kingshighwarwick.co.uk

@KHSWarwick @Kingshighwarwick kingshighschoolwarwick