King's High School

Inspire Essay Competition

2021

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Foreword

Our fifth annual Inspire Essay Competition has shown once again that King's High pupils are full of curiosity about the world, as well as creative, independent ideas in response to the big, challenging questions of our time. As you read the essays collected in this volume, I hope you are struck, as I have been, by the incredible range of topics chosen, the quality of the research that has been conducted, and the clear sense of passionate young people expressing ideas of their own.

Each year, the invitation to enter the Inspire Essay competition is the same: pupils are simply asked to research and write an essay on a topic of their choosing. Winning essays will showcase strong knowledge about the chosen topic but also, crucially, the ability to analyse ideas. Whether this means offering a comparison of two or more elements, or applying one concept to another, or offering a carefully considered opinion, the Competition rewards a combination of knowledge and independence of thought.

Judging this year has been as difficult as ever, with over fifty superb entries. Here is a list of some of the topic area not included in these pages: the role of cardboard in combating the climate crisis, the human psyche, MBTI, LGBTQ+ rights, autism and gender, face masks, Atlantis, bionic limbs, Nestlé, stereotypes, dressage, atomic bombs, computer science, loneliness, education, heroes and villains, the enigma code, KitKats (biscuit or bar?), genius and insanity (is there a link?), cats (do they love their owners?), gender equality, fake news, sociopathy, laws of attraction, and the nature of knowledge itself. The fact that our pupils chose these topics and conducted their own research has been truly inspiring for the judging team.

Whether you are a King's pupil or parent, a teacher or a governor, or are visiting King's to find out more about the School, I hope this booklet gives you a taste of how special our school is. You may also want to have a look of the broader Inspire Programme of which this booklet forms a part. Whether you are interested in the enrichment trips and events we run, the kind of speakers we invite into school, or the many further opportunities we provide for pupils to develop their own interests, there really is something for every pupil.

Dr P Seal
Deputy Head (Academic)

Year 9
Prize Winning Entries

FIRST PRIZE
YEAR 9

Is mind control only fictional?

Amelia Kanwar

Mind control is often depicted in the fictional content of movies and books in a way that suggests that it is supernatural. However, from the research I have conducted I have concluded that mind control might exist, not as something supernatural but in real life, just in a way that differs from the movies.

I reached this conclusion for multiple reasons, starting with the definition of mind control which states that "Mind control is the concept that the human mind can be altered or controlled by certain psychological techniques." Furthermore, mind control is often referred to as brainwashing or thought control and when looking at human history you can identify many examples of situations that suggest the presence and existence of mind control.

One key example is the formation of the Hitler Youth in 1930s Nazi Germany. The Hitler Youth was the Nazi youth arm that was formed to indoctrinate children into Hitler's ideology. Every non-Jewish German boy was required to be a part of the Hitler Youth. To enforce this, the Nazis banned all other youth groups so that the children of Germany would be forced to become members. The children who refused to be a part of the Hitler youth organization were alienated by their peers. This is an example of a psychological technique used for mind control known as social influence which is when an individual's attitude, beliefs or behaviour are modified by the presence or action of another person due to their trust in them.

This was clearly used on the German children as it caused over 90% of German children to join by 1939; children were encouraged to join by trusted people such as friends, and those who joined felt accepted in their society, whereas those who did not join were bullied verbally and physically by their peers. To avoid this, many German children joined despite not always initially wanting to, making this a key example of the Nazis controlling the children through strong social pressure and their desire to fit in.

Propaganda was used throughout Germany but was used particularly in the Hitler Youth. In the Hitler Youth the ideals of the Nazi party were implemented to such an extent that the children looked up to Hitler as a God-like figure. To achieve the goal of creating more soldiers, the organisation trained children to be like a mini military, teaching the boys everything from weaponry use to survival tactics. Due to propaganda and biased information, the children that had been in the Nazi ideology for years were obedient soldiers. They held strongly to the Nazi regime and way of thinking. The propaganda used in the Nazi youth organisation would fall under the mind control technique of repetition.

In one of her books, Kathleen Taylor, a neuroscientist, explored how repetition is an integral part of mind control and manipulating thoughts as it causes connections between neurons to become stronger. This happens especially when exposure to information is frequent (this was the case in Nazi Germany), and she further explains that repetition in childhood years makes individuals more likely to be persuaded into new ideas and beliefs. Hitler understood this concept particularly well as he quite famously said "He alone, who owns the youth, gains the future" which in summary is what the Hitler Youth did. This is shown in Alfon Heck's interview when he stated how difficult it was for him, as a former member of the Hitler Youth, to adjust after it disbanded and how 40 years later, he could still quote most of the Nazi teachings. This shows how powerful propaganda can be in thought processes and clearly outlines the existence of how the children's thoughts were controlled throughout their time in the Hitler Youth. As thought control is

synonymous with mind control, it shows that mind control was present in 1930s Germany.

I also believe that mind control was present during the Red Scare in America in the 1950s because of the HUAC public hearings and McCarthyism. McCarthyism was the campaign led by Senator Joseph McCarthy to investigate alleged communists in the USA. During the time that HUAC public hearings were being held, no-one dared oppose McCarthy or speak out in protest of his bullying techniques which forced individuals to admit to wild accusations. This was because by opposing his methods you were seen as guilty of being a communist traitor to America as it was believed that communism went against everything capitalist America stood for.

Just being accused of communism was enough to destroy people's lives and the fear of this allowed McCarthy to rise in political ranks with little opposition. The manipulation of fear is a mind control technique as fear interrupts the brain processes that allow us to think, reflect and question society. This makes us do what we think is necessary to reach a false sense of safety. In the case of 1950s America this was to show no signs of communism or opposition to McCarthy so that you were not accused of being communist and have your life, as you knew it, destroyed. Therefore, this is another example of the use of mind control in society.

Further traces of mind control can also be found in all countries, for example China. China is a one-party governed country that follows the political system of communism, the belief that everything is owned by the state and distributed to people according to their needs and ability. In China during the 1960s, I think that the main instrument of the mind control was a book called The Little Red Book. It was a pocket-sized book that contained political and cultural statements based on the speeches and writings of the communist leader at the time, Chairman Mao Zedong. The Little Red Book promoted Maoism which was Mao's beliefs on communism. Mao's beliefs were simplified so people of a lower class could still understand his ideologies. Therefore, the teachings could reach anyone no matter who they were. It was mandatory to own, and citizens had to carry and consult the book on a daily basis for inspiration and guidance in all aspects of daily life.

In 21st century China there is a phenomenon referred to as "China's Firewall" which relates to the internet and media censorship. It controls the Chinese citizen's access to many Western news websites this includes what they are able to view on Google, Twitter, and many other platforms. As modern-day life is very digital now the Chinese government have advanced surveillance technologies installed for when citizens are browsing online helping them control what Chinese citizens have access to thus controlling their exposure to information.

The Censorship and Little Red Book are significant examples of ways in which the thoughts and ideas of the Chinese public have been controlled. These two examples could be classified as a psychological technique known as social environment control. Social environment control refers to the manipulation of what an individual is exposed to. To stop cracks in our memory, the brain improvises and patches weak spots in our memory with information that corresponds to our beliefs, producing a subtle distortion of the truth. Over time, when the brain fills even more gaps, the result can recreate memories due to those key beliefs. The Little Red Book was one way through which communist China installed these beliefs in the brains of the Chinese public and, although the book's presence is

not as common anymore, the censorship of the media still controls what information the Chinese public are exposed to, limiting their knowledge on certain areas that could cause them to change their beliefs. Due to this mind control technique, individuals are more likely to conform to communist beliefs, resulting in their interpretation of the world and thought processes being controlled therefore showing the presence of mind control.

Whether you live in China or not, in modern day society, social media still acts as a social environment mind control technique as computer algorithms known as filter bubbles feed us with adverts, posts and information that are biased. However, we will most likely agree with the information they include because of filter bubbles which work by responding to our internet history and posts that we view. This allows control over most of the information that is exposed to us. As most people in the UK today use online sources to receive their information, filter bubbles have been quite effective. This is because an individual's lack of exposure to contrasting views and information continues to fill their heads with one-sided beliefs and thoughts, enabling the media to control their minds.

In conclusion, although fictional movies make it look like mind control happens almost instantly, mind control in real life happens over time. This is shown throughout history from 1930s Nazi Germany to modern day filter bubbles. In all situations we are exposed to information and emotions through psychological techniques that change the way our minds process and perceive the world. This allows us to be persuaded into new ideas and beliefs without our acknowledgement.

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SECOND PRIZE
YEAR 9

The hidden depths of personality: how far does it embed?

Elisia Sellar

The Oxford English Dictionary defines *personality* as "the combination of characteristics or qualities that form an individual's distinctive character". It refers to the fixed traits and patterns which entitle individuals to consistently act, sense and think in specific ways—it is what makes every human a unique individual as everyone has an idiosyncratic technique for survival. The purpose of this essay is to highlight the biological and psychological factors which affect identity, and to analyse how deeply it is embedded into an individual's approach to life.

The noun *personality* comes from the Latin word *persona* which, in ancient times, was a mask worn by an actor. Due to the large size of amphitheaters, the people at the back could not see the actors very well so the masks would have to be very elaborate. Therefore, while we tend to think of a mask as a way to conceal identity its original purpose was to present a specific personality trait.

Hippocrates theorized that human behaviours are based on four temperaments associated with four fluids of the body: choleric temperament (yellow bile from the liver) means a person is passionate and determined; melancholic temperament (black bile from kidneys) means someone is reserved, sorrowful and fearful; sanguine temperament (red blood from the heart) means a person is cheerful and hopeful and phlegmatic temperament (white phlegm from the lungs) means someone is calm, dependable and thoughtful. This is an example of technological advancement as these four temperaments were later converted into the better known as the Big Five personality traits.

A biological theory I find particularly interesting is cellular memory, a phenomenon, according to some theorists, whereby cells of the body other than nerve cells can retain memories about core aspects of someone's identity (such as experiences and habits). Promoters of cellular memory theory often refer to cases such as Claire Sylvia, who experienced considerable personality changes after receiving a heart and lung transplant from a young male donor: she claims to have inherited the personality traits of her donor. Her first experience was a vivid dream, five months after the procedure, about a thin, young man called Tim L. Sylvia had heard from a nurse that her donor was an 18-year-old boy from Maine who had died in a motorcycle accident, however the hospital refused to tell her any more information. She began to feel stereotypically more masculine, adapting more aggressive and confident mannerisms, as well as a stronger body odour, a restless energy, a craving for junk food and an increase in body hair. Sylvia described these profound feelings, claiming that "the very center of my being was not mine." In 1990, she traced the identity of her donor through his obituary in a local paper. His name was in fact Timothy Lamirande and when Sylvia visited his family, they confirmed he was restlessly energetic and had a love of chicken nuggets, beer and junk food: his motorcycle accident occurred on his way back from McDonalds and a bag of chicken McNuggets was found in his coat pocket by doctors.

Further examples support cellular memory theory. In one instance, an 8-year-old girl received the heart of a 10-year-old girl who was murdered, and the recipient began having recurring graphic nightmares. This led her mother to consult a psychiatrist who concluded she was witnessing real incidents. The girl described the exact time, weapon, place, and the clothes the murderer wore to the police which meant that they convicted the man who murdered the 10-year-old donor. Another popular investigation involved people receiving eye or cornea transplants and experiencing terrifying visions as their eyes can 'remember' things

from the past, such as how they died. For example, people whose donors had been shot recall visions of bright white flashes. This concept has been used in horror films such as the 2002 Korean film *The Eye*.

Sceptics, however, proclaim a lack of verifiable and repeatable experimental evidence and therefore these results are unreliable. They say such stories such as the ones I have described are examples of confirmation bias (fallacy). This means that people only pay attention to the facts which support their judgement and ignore the facts that disprove them. However, I believe that there are far too many cases like this spread throughout the world to ignore this significant hypothesis. Most scientific authorities also disregard the theory as no cellular structure that has been discovered is capable of storing memory. Despite this, in 2008, a group of Japanese scientists discovered that a slime mould demonstrated behaviour similar to memory when responding to stimuli. Slime mould is a simple organism that has no neurons or alike structures, so this indicates that some single-cell organisms have a function resembling memory.

One further international study which has really interested me suggests that our personality traits are linked to the differences in the thickness and volume of parts of our brains. It relates back to the historical context I have formerly mentioned about the mask as what is on the outside portrays what we cannot see. Scientists from the UK, USA and Italy looked at the detail of the brain scans of 500 youthful, healthy volunteers. The volunteers were asked to fill in a survey that is designed to assess the Big Five personality traits: neuroticism, extraversion, openness, agreeableness and conscientiousness. The study found that these different traits were linked to variations in the thickness of the cortex, how folded the cortex was and the volume of the brain overall. For example, those with a thicker and more wrinkled cortex had more neurotic tendencies while open-minded people had a thinner cortex. As a result, this link between brain morphology and personality can help us better understand and interpret those with neuropsychiatric disorders just by looking at their anatomy.

The theory of phrenology is the study of the shape and size of the cranium as a supposed indicator of mental traits. Although it is considered pseudoscientific today, neuroscientists are now using latest technology to explore this idea that personality traits are contained in different brain regions – this field of science is known as personality neuroscience, and it is already producing some intriguing results. Psychologists involved in this study use a brain scanner to search for evidence of the Big Five personality traits I have previously mentioned by looking at the size of neuron clusters in different brain regions matched up with the dominant personality trait of the volunteer. Consider neuroticism, for example. Neuroticism is a tendency towards negative emotions like irritability and apprehension. By using an MRI to measure the volume of the neurotic subjects' brains, a larger than normal brain region which is associated with threat and punishment was detected. The 4 remaining traits showed results which correlated to their expected hypothesis.

This is a complex topic with many more aspects involved and whilst these considerations mentioned do play a major role in shaping the authenticity of every human being, there are still far more to be explored. The future success of such an advanced subject as this relies on our ability to co-operate with new technology, and with new technology comes new ideas.

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THIRD PRIZE
YEAR 9

A comparison of the Japanese and British education system

Lucy Jennings

Introduction

Worldwide, the education of children varies considerably. In countries such as Germany and China, children do not start school until they are six whereas in Hungary and France, the starting age can be as young as three. Recently, I read an article that sparked my interest in Japanese education. Many reports state that their school system is so excellent that Japan has one of the best educated populations with close to 0% illiteracy. So how do the Japanese and British education compare and are there any lessons we can learn from each other's approach?

In Britain, most children start formal education in the September after their fourth birthday in a Primary or Infant School setting. At seven, children progress into Key Stage 2 or Juniors and subsequently into Secondary Education. The length of compulsory education is 12 years. In some areas of the country, children attend a First school until the end of Year 4, then a Middle school, and finally High school. There is also the option for partial or full home schooling and the choice of the State or Independent sector.

In Japan, however, children do not start their formal educational journey until they are seven. Elementary school is attended until twelve years and then Junior High school from 13-15 years. Following this, they attend High school, which is optional but popular. There are State, Private and International schools. In Japan, home schooling is not formally permitted, and the School Education Law obliges parents to send their children aged 7-14 to school. This, however, is currently under review.

I am going to focus on five key areas that I feel reflect different aspects of school life. School uniform has always been an important issue for pupils. In Japan, school uniform is compulsory. The uniform policies include wearing no jewellery or makeup, skirts a certain length and hair not dyed. This promotes a sense of belonging in school and children not being ostracized based on appearance. It may also portray a positive message about the school. Despite this, some uniform policies can remove individuality and freedom of expression that we have in Britain. For example, a girl from Japan was asked to "dye her hair black or face expulsion" from school even though she had naturally brown hair. A survey found that 60% of High Schools in Tokyo asked students with lighter hair for evidence that it was their natural hair colour. 90 of the 170 schools surveyed by the Asahi Newspaper stated that students must provide photographs of themselves taken as infants to prove they had not coloured their hair. Does this mean that if you do not fit what is regarded as the "norm" that you must try and

change yourself to fit in? In Britain , 82% of schools have a uniform and hairstyles vary considerably. There is obviously abuse of this system (short skirts, unnatural hair colours and nose piercings to name three) but it is the role of school staff to monitor what they feel is acceptable. Perhaps a combination of the two approaches would be best: smartness and complying with school regulations but also allowing individuality and freedom of expression.

Secondly, an advantage that Japanese education has is less homework and more clubs. These clubs are compulsory, daily, and without any limits on participant numbers. This allows pupils to try new skills and interests whilst promoting commitment. I think that the British education system could benefit from this concept because, having interviewed friends at other schools, clubs are either non-existent, focus greatly on competitive sport or are limited by numbers. To pursue an interest is often at a cost and necessitates parents travelling to many venues. (The Warwick Foundation, I am pleased to say, is an exception and provides us with many opportunities in a variety of areas.) Statistics from the Youth Justice System show that there has been a significant rise in youth crime with 14,500 new cases in 2018. Rather than joining a gang or socialising on the streets, teenagers could be encouraged to participate in an activity as they do in Japan. On the negative side, doing the same club every night could dampen enjoyment levels and decrease relaxation time which is vital to maintain a healthy mindset. Therefore, a combination of clubs and social time plus some homework may be the ideal.

Thirdly, staffing is frequently featured in the news. Japan has an oversupply of teachers, and the profession is highly respected with teachers experiencing a rigorous interview process. The staff remain only for a maximum of 5 years in each school before moving to another educational setting. In Britain, there is an undersupply of teachers with many schools missing the staff they need. Advertisements are often displayed on the television and there is the use of financial incentives to provide encouragement to join the profession. Some member of staff in Britain remain at the same school for their whole career, climbing the leadership ladder. Interestingly though, many articles also state that both education systems have underpaid and overworked teachers. In Japan, teachers complete 53.9 hours a week- far higher than the international average of 38.3 hours. In Britain, teachers work long hours and often receive pay cuts. A secondary school teacher from Liverpool said that her role was being a “teacher, councillor, nurse, police officer, parent and other jobs rolled into one”. She also stated that she could not afford to have a second child or go on holiday due to her salary. I believe that society should value school staff worldwide as they are educating the future generations.

Whilst studying the approach of two nations education systems, I was shocked to find that the degree of bullying and unkind behaviour was so high in both countries. This is something that is very concerning, and I am pleased to be part of the Diana Award at our school, which helps to tackle this issue. I have seen several articles where it states that, in Japan, many teachers treat the students like their own children, ignoring mild violence like that which is, perhaps, experienced by some siblings. A three-year study by the Education Ministry revealed that 75% of Japanese students have been bullied— this is clearly a huge percentage. Bullying in Japan is rarely physical, but many students have low self -esteem and mental health concerns. According to a 2017 survey (conducted by the Varkey Foundation Education Charity) of 20,000 young people across 20 countries, Japan ranked bottom for young people’s wellbeing.

Incidentally, the UK ranked second bottom in this survey. Perhaps both Japan and the Britain could learn from Indonesia, who ranked top. Suicide is the leading cause of death among Japanese children aged 10 to 19. Data suggests that this is directly related to experience at school, and academic pressure with a huge peak in suicides coinciding with the start of the second term of the school year on the first of September. Equally, in Britain, bullying is very common. Perhaps both education systems have a long way to progress in terms of mental health.

Finally, I would like to end on a lighter note, but with something that is still very important to everyone: food! In Japan, children take on the role of the catering team and serve the food to their classmates. All children receive limited options and must eat the available lunches. There is usually only one option to choose from. Only water can be bought and there are no vending machines. The lunches are calorie controlled to make sure a balanced diet is received. The lunch also is eaten in the classroom rather than in a dining room. In most British schools, there is a combination of hot and cold lunches or packed lunches brought from home. This gives a greater variety of options so there is something that everyone likes. Eating as a year group, rather than just a class, allows for socialisation and a relaxed and positive atmosphere. Personally, however, I like the idea of knowing how many calories I am consuming and knowing where my food has come from. This allows me to make an educated choice and for example, if my main course was high in calories or fats, I could choose a healthier dessert.

In conclusion, after researching both education systems, I believe that a combination of both the Japanese and British approach would be the ideal. Obviously, I have made many generalisations and there will be variations between schools and educational settings, but I hope that I have given a thorough overview of both education systems. There is still the belief by many that gaining “the British education” is the best you can do for your child, but I also think that the Japanese education system has a lot to offer. Perhaps for the younger generation to thrive we need to relook at education and continue to adapt it to suit the everchanging world.

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Year 8
Prize Winning Entries

FIRST PRIZE
YEAR 8

How is immortality presented in fiction?

Charlotte Betts

'The soul of humankind is immortal and imperishable'
Plato

Immortality is defined as the indefinite continuation of a person's existence. This concept has fascinated people for ages, and authors of fiction have always seen it as an interesting character attribute. Immortal characters have varied from human-like to supernatural creatures and they have captured the imaginations of authors, directors, and audiences. Providing an intriguing concept for stories, it is interesting to see how tales contrast different adaptations of living forever.

In mythology, ancient gods have normally been portrayed as immortal, which raises the question: Is being immortal a quality that could only ever be attributed to higher beings? If so, this might explain why we hold the idea in such high esteem; we have associated it with Gods for so long. Ancient myths speak of deities that have been alive since the beginning of time (such as Gaia in ancient Greek mythology), wherein they have created the world, in essence creating time as we know it[1]. Despite their immortality, they remain fascinated with mortal man and many of our most cherished stories depict the interplay between the two.

As well as Gods and deities, many immortal creatures have also featured in myths, the phoenix being one of the more famous ones. Its ability to live forever by growing old, dying and being reborn in a never-ending cycle of resurrection makes for an eternal character. This depiction of an incredible resurrection has religious and godly connotations and provides an almost saintly image in many stories, a perfect idyllic creature[2]. In folklore from many cultures, dragons are also depicted as immortal although the nature of their appearance has differed worldwide. They often appeared alongside or as equal to Gods/deities, believed to be some of the most powerful animals. For example, in Chinese mythology, dragons are held in very high esteem. The legendary first emperor (the 'yellow emperor') was immortalized as a dragon, thus linking dragons to mortal man, and associating them with royalty and immortal legend[3]. Another example of immortal mythological creatures are demons and angels. The words 'demon' and 'angel' both originate from ancient Greek and mean 'supernatural being'/'spirit' and 'messenger'. The first negative connotations associated with the word demon came from the ancient Indo-Iranian religion (from which Zoroastrianism and early Hinduism stemmed). There, demons are the epitome of evil, immortal souls, causing chaos, destruction, and ruin, often attempting to tempt the human soul into immoral deeds. On the contrary, angels are the complete opposite, perfect in every way possible; they seek to help human souls reach paradise and are the holy messengers of God[4]. Immortality is presented in characters in this way: either as perfection or pure evil, but in both cases reaching the peaks of positive or negative, protagonist or antagonists (even if they are not the main character).

Immortality is perhaps the most incredible ability given to a fictional superhero. Superheroes are generally considered to have unique abilities; they can fly or are inhumanely strong and they survive countless perils whilst vanquishing 'villains' and saving ordinary lives. One extraordinary ability attributed to some superheroes is regenerative health. This is the case with Deadpool, a modern superhero made immortal by a scientist experimenting with a cure for cancer, but inadvertently giving him the ability to come to life even after 'death'[5]. Whilst he has this seemingly

incredible ability, it also prevents him from living the 'ordinary' life he may have had. Regeneration appears to offer a great opportunity, the chance to be young and unscathed forever. It is an attractive prospect – the ability to regenerate but this ideal often fails in reality. This is well portrayed by Wilde's depiction of Dorian Gray and his portrait which conveys on him immortal youth at the cost of his soul.[6]

Another common genre of immortality in fiction is the undead. These can be ghosts, zombies or vampires and appear very often in fictional writing, especially in the gothic genre. A famous example is Count Dracula, an immortal vampire that needs mortal blood to sustain him[7]. In fiction, the undead are often portrayed as villainous characters, sometimes wildly misunderstood but mostly characterised as evil. Whilst immortal, the undead may still be killed and this is most commonly accomplished by ordinary humans (the protagonists). Generally, the motive for this is fear – however it may also show our desire to have control over life. More modern fictional portrayals of vampires present them in a somewhat different (more romantic) light and portray certain advantages of immortality, allowing the beings to continue to learn, adapt and acquire knowledge over multiple generations. As such, the characters and stories evolve, meaning that they are never as clear-cut as they first seem. Are they really all monsters, evil and dangerous, or do they just not fit into our norms?

In many genres, writers look at the price one would have to pay in order to gain immortality. Some characters are born immortal, some gain this power accidentally, whilst others obsessively seek it. However, the gift of immortality usually comes at a price that many would be unwilling to pay. For example, J K Rowling's antagonist 'Voldemort' in the Harry Potter series is (seemingly) immortal and yet he has to be willing to give up a part of his soul in order to achieve this. In the novels and films, he has split his soul into seven pieces, placing each piece in an object (horcrux) so that he can ensure the continuation of his life. The process of creating the horcrux requires killing another person, which leads to the question; What price would people be willing to pay to live forever[8]? Is immortality worth more than a person's soul, or the lives of others? Another use of immortality in Rowling's series is the 'philosopher's stone', an elixir of life that can sustain a mortal being for hundreds of years[9]. The idea of a tincture for prolonging life has been searched for by generations of people including emperors, kings, sailors, and alchemists. Despite the search always proving to be unsuccessful, they have not been deterred by the failure of others which shows how deep our desire is for a further purpose, a continued legacy and how much it means to us to find some way to cheat death.

In conclusion, immortals are portrayed in fiction in a multitude of ways. Immortal characters can be good or bad, both revered and feared and often misunderstood. Immortality can be viewed as an amazing benefit or a terrible curse. It offers the potential for us to cheat death and live eternally but that in itself may not be the blessing it seems; it may be more of a cursed life to some. Likewise, immortality links to the concept of an afterlife, wherein even though our mortal bodies perish, a part of us lives on. Perhaps the idea of death being the end to life scares us, so we look for ways to give our life a further purpose, a way to continue our survival. The different portrayals of living forever in fiction shows us that immortality has intrigued all kinds of people and has been written about over many ages. In essence, this is because fictional immortality helps us to explore the meaning of life and gives us a deeper understanding of its value.

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SECOND PRIZE
YEAR 8

Music and studying: hand in hand or better apart?

Jessica Zhou

Listening to music whilst working: Over 71% of Britons do this on a day-to-day basis, often claiming that it helps them to focus or get 'in the zone'. But does having Spotify or any other sort of music streaming platform really help us perform better? And if so, what type of music elevates our learning to the next level?

Music offers significant benefits towards your learning, such as improved motivation, mood, brain stimulation and better control over fatigue. Considering these points, it could be deemed that listening to music is beneficial towards a proactive study session. However, it is important to note that certain types of music affect certain individuals in different ways.

When you are studying, you use your 'working memory', which is 'A cognitive system with a limited capacity that can hold information temporarily', similar to the RAM of a computer. Listening to music with high amounts of lyrics can impede the amount of space your brain actively uses to carry out the task at hand. The consistent flow of sung vocals can be damaging to the area of space in your working memory that is reserved for the correct execution of the task. Therefore, it can be concluded that songs with an abundance of lyrics should be steered clear of if you are performing a comprehension task, but do the remaining genres of music obstruct our work? Or can they even raise our IQ?

The phrase 'Mozart Effect' originated at The University of California, Irvine, in 1993. A team of researchers played Mozart's sonata for two pianos (K448) for a period of ten minutes to a group of volunteers, whilst others in another room were played either a relaxation audio deigned to lower blood pressure, or nothing at all. Interestingly, the researchers found that those who listened to Mozart during the short space of ten minutes showed significantly increased spatial reasoning skills for at least 10-15 minutes aft. This was the birth of the Mozart Effect.

Jakob Pietschnig, who led the study, explained: 'Those who listened to music, Mozart or something else – Bach, Pearl Jam – had better results than the silent group. But we already knew people perform better if they have a stimulus'. He recommended that everyone should listen to Mozart, but that it wasn't going to improve their cognitive abilities. However, this set many different researchers from all over the world on a hunt for new information to support this claim of any sort of music (bar extremely vocal) stimulus strengthening performance.

A separate study by the same group of researchers from UCI was carried out on a group of rats in utero. One group was played Mozart's Sonata for Two Pianos in D, (K.448), and the other was played minimalist music by Phillip Glass before being placed into a complex maze. It was observed that the Mozart group performed significantly better navigating through the puzzle, accomplishing the goal faster and with fewer errors than the Phillip Glass group. Hence, it may be concluded that classical music in general improves your cognitive abilities, more than any other type of music—but if this is correct, why is it specifically titled the 'Mozart Effect'?

In 2015, research was conducted to compare the impact of Mozart's 'Sonata for Two Pianos in D, (K.448)', and Beethoven's also widely celebrated 'Für Elise', which is a solo piano piece. Surprisingly, Mozart's work increased the number of alpha waves in a human brain, whereas Beethoven's work had no such effect. Alpha waves are imperative for your wellbeing, as when your brain produces these waves, stress levels in your body are reduced and memory, cognition and problem-solving abilities are raised. All these factors contribute to a high standard of work.

Although the Mozart Effect is now deemed a myth and it has been proved that listening to Mozart won't truly make you a 'genius', the above three experiments prove that, often, the complexity of music can improve your spatial reasoning skills, and that individuals perform better with a stimulus, only prior to the completion of a task. What the above three experiments fail to do, however, is answer the question of whether having a stimulus playing whilst you are trying to perform a task hinder your abilities in any way? And if so, why is this?

Research carried out in the University of Wales Institute in Cardiff claim that listening to music does hinder your performance on certain tasks requiring your hippocampus (the area of the brain where memories are created and stored). 25 participants between the ages of 18 and 30 attempted to memorise and recall a list of letters in a specified order. The participants were told to perform this task in different environments: quiet, music which they said they enjoyed, music which they said they didn't enjoy, a voice repeating the number three, and a voice reciting random single-digit numbers.

The study found that the participants who listened to any type of music, regardless of their opinion on it, performed the worst, as well as those that were played the random strings of numbers. Participants did the best in quiet, or with a resounding voice saying the word 'three' repeatedly. It has been suggested that the reason why those listening to music were unable to complete the task to the same standard as those who did not is because they may have been distracted by the changing intonations and melody of the chosen song. This phenomenon of music impairing your cognitive abilities is dubbed the 'ISE': irrelevant sound effect. This can also be backed up through the 'Changing State Hypothesis', which states that music with rapid, sudden changes of tonality distracts you from learning and can decrease the quality of your performance.

Another effect that music can have on your overall performance is mood. Whether the piece of music you are listening to makes you happy or sad may impact your completion of an activity. The question follows: Which has more of an impact on the standard of our work, mood or level of distraction? Does music contribute to our performance more negatively or more positively?

Bill Thompson – an Australia-based researcher – and his colleagues carried out a test that was designed to work out the relative effect of mood and distraction. Participants in the experiment were given a suitably demanding comprehension task to complete, whilst listening to classical music that was either soft or loud and slow or fast. The results showed that only music that was both fast and loud such as 'Shake it Off' by Taylor Swift, at around 65-90 decibels, affected the performance of the candidates. And although there was a decrease in performance, it was not a substantial decrease. This may support the claims of mood being an insignificant factor in producing a good piece of work, no matter what type of music you listen to.

Clearly, some types of music put many of us in a better mood, which may be a reason to claim that listening to music does improve our performance. It may be stated that when put in a better mood, we are more likely to work harder and have a higher motivational drive towards challenging tasks. Although it may not contribute to the overall quality of our work, it most definitely makes executing an arduous task more bearable.

So, what type of music is best to listen to during certain tasks? Prior to the completion of any task, I

Task	Type of Music	Example	Reasoning
Memorisation	Classical	Bach: The Well-Tempered Clavier: Book 1, 1. Prelude C Major, BWV846	• Very repetitive, similar to that of the repeated pattern of threes in the University of Wales Institute study • Does not take up substantial amounts of space within the brain to process constant changes in speed
Reading	Light solo piano music	Yiruma- River Flows in You	• Fairly simple and laid back • Lots of repetition and not too layered • Is not a distraction in anyway and can relax individuals
Writing	Instrumentals of pop songs, or just instrumentals	The Piano Guys – Just the Way You Are (Bruno Mars)	• No lyrics • Extremely soothing • Can be used as a mood-booster without the factor of distraction
Long periods of general studying	Classical music, or some simple pop music, low on lyrics (or soft)	Beethoven – Moonlight Sonata Taylor Swift – champagne problems	• Again, very repetitive, and soothing • If you prefer pop music, calm renditions of these can be highly motivational and raise performance; however these should be played sparingly and at low volume

would recommend complex pieces of classical music like Mozart's Sonata for Two Pianos in D, (K.448), as there is sufficient scientific evidence to prove that this piece is beneficial for overall performance. During the completion of different tasks, the table overleaf is merely a recommendation from my opinion, based on the research I have presented throughout this essay.

In essence, music can act as a very useful stimulus while executing arduous tasks. It can boost our mood and motivation levels, but certain types of music are more beneficial than others. Exactly what task you are performing and what parts of your brain you are using to carry out these tasks are imperative to working out what type of music is suitable to reach the highest quality of work.

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THIRD PRIZE
YEAR 8

Genetic Engineering: An ethical disaster or the solution to climate change?

Eleanor Yates

Genetic engineering has been around for long time, ever since humans started to cultivate plants through artificial selection to give us the ripest food year on year. However, it was not until the 1970s that we adapted our methods to be able to modify and even clone animals. Genetic engineering is looking for a way to take an animal's genetic information and produce an exact replica of it, cloning the animal. It is also looking to modify existing DNA of animals to improve their genes and make vulnerable species more adapted to their warming environment. Some people think that, by using genetic engineering, we could help to combat climate change by bringing back extinct species, such as woolly mammoths, to help stabilise the ever-melting Arctic climate. However, many believe that by changing animals' genetics and bringing back animals that are meant to be extinct, we are "playing God" and there could be disastrous consequences. Also, 95% of genetic engineering trials have been unsuccessful, which could be argued to be unfair on the mother of the animal, and the clone. During this essay, I will evaluate the positive impact that genetic engineering could have on the planet, and weigh this up against the issues regarding the ethics of genetic engineering and come to my conclusion.

Some people, such as Russian scientist and co-founder of Pleistocene park Nikita Zimov, believe that genetic engineering could be a surprising solution to climate change. Nikita and his father have come up with the idea of Pleistocene park. During the ice age, the mammoth steppe ecosystem was extremely productive, spreading to Asia, North America and even parts of Africa. This ecosystem had many large mammals in it, such as woolly rhinoceroses, wild horses, bison, and deer, all of which help to cultivate large grasslands which absorb lots of carbon and are extremely beneficial to the planet. However, as human populations grew, these large animals were eventually lost, and the luscious grasslands were replaced with mossy forests and wetlands which could not absorb as much carbon or cope in higher temperatures. What Zimov plans to do is artificially increase the number of large mammals in Pleistocene park, and keep them at that level, enabling them to slowly re-establish the grasslands again.

Zimov also wants to use genetic engineering to add a crucial animal back to this ecosystem: mammoths. Mammoths were a significant part of the ecosystem; by reintroducing them Zimov believes that grasslands could be re-established quicker, as mammoths would help to bulldoze existing trees in the forests and let them be replaced with new grass. In order to do this, Zimov wants to "copy and paste" mammoth cells and then combine them with Asian elephant cells to create a new elephant that can survive in cold temperatures. These hybrids would hopefully be able to breed and, in turn, to help solve the climate crisis. Two of these hybrid animals have already been created and have passed away but there is still lots of work to be done in order to achieve an elephant/mammoth cross that is able to live in the wild.

The reason this ecosystem could be so beneficial to the climate is that it would help to preserve the permafrost. The permafrost is one of the world's largest carbon reserves and if it thaws due to rising temperatures, then it will melt, and the store of carbon will be released into the atmosphere as methane and carbon dioxide. Reintroducing large animals and mammoths would help to solve this as they trample down the snow into the earth when they search for food, insulating the ground. This causes deeper freezing of the permafrost, and so it is less likely to thaw in the summer and release as much greenhouse gases. The grasslands the animals create also have climatic benefits as grasslands are lighter than forests and scrubland, and the snow stays there for longer, meaning more of the sun's radiation is reflected back into space. The grasslands would also help to dry the moist arctic land, meaning less methane would be released by this ecosystem. So, by reintroducing extinct mammoths, and bringing back other animals to the area, we can help to cool our arctic circle.

Another advantage that genetic engineering could bring to our planet is the preservation and re-building of coral reefs. In only 20 years, half of the world's coral reefs have died due to the acidity of the sea, pollution, and overfishing, which has caused the delicate balance of our reefs to fade. In 2016, a marine scientist saw that crushing the existing coral into fragments enables it to grow up to 40 times faster. This technique, of artificially speeding up reproduction, and then fusing fragments with other coral into one big colony, has helped to achieve 25-100 years growth in just a couple of years. This has been a major development for coral reef and by cloning the coral faster, 20,000 corals have been planted on depleted reefs, helping to restore the environment in our seas.

Another possibility that could prevent the need to cut down further rainforests and so help reduce carbon emissions, is genetically modifying animals for food, such as chickens growing extra legs. This could be useful as we will be able to use up less space for the chickens and their food, but still get more meat. However, many would argue that this is unethical, unfair, and uncomfortable to the chickens. Other solutions could be to try and adapt plants to grow meat; similarly, scientists have made chicken nuggets in laboratories out of live chicken cells. These innovations could help to reduce the number of chickens we need to breed as we would require only a few chickens, massively reducing the amount of farmland we need. This would mean we could replant trees, thus reducing carbon emissions.

On the other hand, many people believe that cloning animals is unethical and that the solutions it creates do not outweigh the negatives. Cloning animals has a very high mortality rate, with only 5% of the trials being successful. This means that, most of the time, the clone dies which cruel and emotionally demanding for the mother. The animals who are cloned successfully often develop sudden illness and can be infertile or have ill offspring. This is problematic as, if we are trying to bring back extinct animals such as mammoths, the likelihood is that they will be infertile or have illnesses. This will mean that it might be too late to save the planet by the time we develop a fertile mammoth cross. It also causes a loss of diversity in the species, which could mean evolution does not occur and the animals die out. In turn, if all of the animals are almost genetically identically, this could lead to inbreeding and the species could become extinct as they cannot produce fertile offspring. This would mean that if we try to introduce a new chicken with more legs, reproduction may be challenging due to their genetic

similarities. It would therefore be too expensive to keep cloning new chickens and so it would not be worth the environmental positives.

There are also further problems to be considered. The price of genetic engineering is also a problem as Dolly, the first cloned sheep, was thought to have cost around 1 million dollars. This a lot of money that could be invested in other areas, such as replanting trees, to help save the earth. Also, many religious people believe that cloning is ethically wrong as we are trying to do God's job and humans do not have the right to act as God. Only God should be able to decide what an animal is like. Additionally, if we start to clone animals and plants to eat, we don't know if they are safe to eat or if we could get health problems from them. Not enough research has been done into whether they are safe or not, and so they should not be eaten yet. Bringing animals back form the dead is also questionable as, if they don't exist, that is because of natural selection and if we start interfering with that, it could lead to animals now dying out or worse. They could start to take over unintended areas and could even make the climate worse rather than better. Like Jurassic park, we could experience animals which are dangerous to humans, or get out of control. We know too little about the consequences to start meddling.

So, in conclusion, the ethics of cloning is a debate that has been around for many years. I believe that, while there could be problems caused by genetically engineering animals, they do not outweigh the positive affects it could have on the planet. Cloning could be our way out of the climate crisis and we should focus on trying to help regrow coral reefs and bring back mammoths.

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Year 7
Prize Winning Entries

FIRST PRIZE
YEAR 7

Is birth ever unfair to the child?

Laura Scott-Brown

This question may sound a bit odd as babies cannot say, 'Why did you give birth to me? I didn't want to be born,' but a serious question posed to some couples when they are pregnant is, 'Do you think it is really fair to bring this child into the world?' In this essay I am going to try and explain why someone might have an interest in not being born and ask whether the joy of life overcomes that interest. The focus is often upon the people involved who can express their opinions; I am going to try to focus on the child's interests. Are some parents harming the child by bringing them into existence?

I am going to start by explaining why someone might not want to be born. I am focusing in this essay on disabilities and whether a dire and severe disability might make you not want to be born. If you were always in pain (chronic pain), and if you could never communicate or be communicated to verbally, and if you had severe learning disabilities which made you unable to learn like other children and you died before the age of five, would you really have wanted to be born? The phrase 'better off dead' is often used as a throw away comment but what if it was true for some of these children?

But if you are not born then what happens to you? You are non-existent. Is it better to feel pain than nothing at all? One key point in this debate is that scientists suggest that young people are more sensitive to pain. Even though infants cannot express their pain in words, the pain is real. If you do not exist, then yes, you do not feel pain, but you will also not feel happiness. Having a severe disability obviously lowers your happiness level but it does not prevent you from being happy.

Although medical technology is advancing rapidly, it is also not guaranteed that the doctor will be right about a condition and its severity. What if you could have had a happy child with a not very severe disability and you aborted it? However, Mary Anne Warren, an American writer and philosophy professor, noted for her writings on the issue of abortion, expresses the point this way:

> … failing to have a child, even when you could have had a happy one, is neither right nor wrong… But the same cannot be said of having a child, since in this case the action results in the existence of a new person whose interests must be taken into account. Having a child under conditions which should enable one to predict that it will be very unhappy is morally objectionable, not because it violates the rights of a presently existing potential person, but because it results in the frustration of the interests of an actual person in the future (Warren, 1978, p. 25).

If there is only a chance that the child will lead an unhappy life, is this enough to follow Mary's opinion and end the pregnancy?

For some people this decision is dictated by their ethical views, however some people are influenced by their religious views. I have decided to focus on two religions, although there are many religions which each have their own views on abortion. The first religion I have chosen is Christianity and why being Christian might affect someone's decision. For Christians, human life is a sacred gift from God and therefore is to be respected and protected. Are you respecting or protecting this gift by getting rid of it? 'Jesus said, "Let the little children come to me, and do not hinder them, for the kingdom of heaven belongs to such as these"' (Matthew 19:14). Another reason why a Christian might be affected by their religious beliefs is the commandment 'Do not murder'. Are you murdering the child by aborting it? A third reason is the principle 'Love thy neighbour'. The baby is your neighbour. Are you loving them by letting them live with the chance that they will be condemned to a life of misery or is

the loving thing to stop that from happening? Christian views about the afterlife might also prompt a Christian not to abort if the child has a very poor life expectancy as they will still have eternal life in heaven.

The second religion I have chosen is Hinduism. Hindu medical ethics stem from the principle of ahimsa (non-violence to all living things). When considering abortion, the Hindu way is to choose the action that will do least harm to all involved: the mother, father, and foetus. Therefore, Hinduism is generally opposed to abortion except in drastic circumstances. Reincarnation is also one of the arguments against abortion used by Hindus as it prevents the foetus from gaining good karma in this life therefore setting it back spiritually. However, reincarnation can also be used to make a case that abortion should be permitted. Under the doctrine of reincarnation, abortion only deprives the soul of one of many births that it will have. The consequences of abortion are therefore not as bad as they are in those religions where a soul gets only one chance to be born and where abortion deprives the soul of all possibility of life. I believe that having a religion can really help in the parents' decision and it means you can trust your god(s) to show you the right path and protect your child.

As part of my research, I have decided to explore an example of a severe disability which is so dire that the question, 'Do you think it is fair to bring this child into the world?' must be asked. Holoprosencephaly is a foetal abnormality of the brain in which the brain of the foetus remains underdeveloped and does not divide into two hemispheres. This disability can be seen prenatally using an abdominal ultrasound, so parents are fully aware of the fact that their child has this disability although an educated guess can only be made at its severity. There are four types of holoprosencephaly of varying severity. Children with holoprosencephaly are likely to have a cleft lip and a flattened and misshaped nose. Their eyes are also likely to be affected from being closer together in the least severe form to a non-existent division where they only have one eye in the most severe form. Would these facial abnormalities prevent you from wanting to be born? The life expectancy for someone with severe holoprosencephaly is up to six months although usually foetuses affected by this form are born dead or die very shortly after. 50% of children with the milder forms lives past 12 months. Problems the children might face include seizures, Hydrocephalus (a build-up of fluid in the brain which can be fatal), neural tube defects (defects concerning the spinal cord), extremely short stature, feeding problems, development delays, intellectual disfunction and pituitary disfunction. If you had this disability would life be worth living?

This has been a particular area of interest to me as my elder sister Millie was diagnosed with Holoprosencephaly 20 weeks into the pregnancy. My parents decided to go through with it. She was born on the 20th February 2007 and died on the 13th December 2008 exactly four weeks after I was born. The medical predictions said that she was never going to recognise my parents and that she would choke to death. The reality was very different. Even though she was often sick and had fits, videos of her life show her lying contently on her mat, playing with her toys, surrounded by people who loved her, in contract to the medical predictions who she could recognise. Although no one could ask her whether her life was worth living, I believe it was.

‘Is birth ever unfair to the child?’ is a virtually impossible question which, luckily, I can consider from a position where I do not have to reach a conclusion. After you have read this, you will hopefully be more aware of the unimaginable situation that some couples are faced with. I am going to leave you with these questions. Is it better to have aborted the baby and to never know what could have happened, negative or positive? Or is it better to have the baby knowing that you could be either harming and hurting another human being, or you could be giving them the chance to experience happiness? Do you have the right to end the baby’s life if there is a possibility of it being happy? Do you have the right to not end the baby’s life if you are aware of the dire circumstances? Should it even be up to the parents to decide what happens to the baby, or should you let nature (or divine intervention if that is what you believe) take its course?

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SECOND PRIZE
YEAR 7

Does prison work?

Alice Wynn-Evans

Three years ago, in London, on 29th November 2019, convicted terrorist Usman Khan murdered two people at a Learning Together rehabilitation event before being shot dead by police. Khan had spent eight years in prison for being part of a group that was responsible for nearly all major terrorism plots in the UK. In prison, he was a top- tier, high risk offender. Reports say he bullied other inmates at the prison and did not change his ways. He was released and tricked his probation officer so he could carry out an attack. He went to London, and at a prisoner rehabilitation talk, murdered two people.[1] An experience like this poses the question: does prison actually work? In this case, it does not seem to have done so.

What contributes to offending in the first place? The reasons can be complex, but it is well known[2] that early life factors have a strong link to criminal behaviour. Childhood issues, like seeing violence at home, domestic abuse and maybe ending up in care, have a bad effect and can also lead to disruption in schooling. Then if a child is illiterate, this can stop them getting a job when they grow up. They may not have enough money to feed their family, they may resort to a life of crime and end up in prison. Poverty can contribute to crime if someone is really desperate. If someone loses their job, this can also contribute to poverty and a life of crime.

In most countries, people who are convicted of very serious crimes are sent to prison for years, or even for life. But why do we put people in prison? Some of the main reasons to justify putting people in prison include incapacitation, which means getting offenders off the streets so they cannot hurt people, damage something or commit other crimes. For example, if a graffiti artist is caught, they can face up to ten years in prison because graffiti can be considered an act of vandalism.[3] They may also be ordered to pay a fine if the damage cost exceeds £5,000. Spending this time in prison or paying the fine could help to stop them re-offending (at least because they are physically prevented from committing a crime). Another reason to justify locking up offenders is deterrence, which means putting people off breaking the law by making them scared they will be caught and put in prison.

However, there is another reason a lot of people believe in although they do not often admit it. This reason is called retribution. This means punishing criminals because they deserve to suffer for what they have done.[4] A simple matter of stealing a piece of fruit from a shop to feed your family would not pass into this category, but something like Usman Khan's situation would. However, not everyone believes in retribution because they might believe that unless you are stopping something worse from happening, you should not lock criminals up. Sometimes, retribution is used by politicians to appeal to those who believe in this by gaining their trust and then their vote. Retribution is often believed in, but some people often do not think it is right. For example, if someone was driving a getaway car and they were caught, but they had been forced to drive it, that does not mean they deserve to suffer. Of course, there must be some punishment but maybe not a prison sentence. Even when we do send people to jail, there must be a good reason.

Prison is not always the best option and locking criminals up in prison is not a perfect solution. One reason being that criminals spending time with other criminals could be taught tips and tricks and this means they could re-offend. Another reason is that they could be "incapable of functioning on the outside by the trauma of incarceration".[5] This means that they could struggle to work and adjust back to normal life free from prison. In the case of Usman Khan, when he went to prison, he did not seem to change his ways. He was in prison for eight years, and clearly he was

influenced by someone or something he saw. He was convicted of being part of a terrorist group and displayed bullying behaviour towards other inmates. He could have influenced them so then they could have behaved badly and got sent back to prison. Mixing with other criminals is not a good way to resolve criminal behaviour.

However, not everyone who has committed a crime has to go to prison. If they are a dangerous criminal, they should be monitored at all times. This will prevent them from re-offending by making sure they do not go anywhere unaccompanied. Offenders would regularly report back to a case manager, who is tasked with funneling the offender through educational programs, community work and treatment programs designed to stop anti-social thinking and behaviour.[6] Mental health issues caused in prison could make an offender re–offend. For example, according to an article written for the Guardian newspaper, if young people end up in prison, they are more likely to become a lifetime criminal. For young people, it is more difficult to deal with prison, so an alternative like community service could be a better idea. Community service is a better alternative to prison because it can help the community more and give a different insight into normal life for offenders. For example, when the footballer Wayne Rooney was arrested and charged with drink- driving in 2017, he was ordered to do 100 hours of community service. In an interview with the BBC, he said he was 'really enjoying it'.

So, what is re-offending and how can we prevent it? Re-offending is when an ex-prisoner commits another crime. Prison could fail to be successful in helping offenders because it is possible that an ex-prisoner will re-offend because of the people they have been in contact with. In a study run by the Ministry of Justice between 2005 and 2010,[8] it was found that prisoners that were homeless or living in temporary accommodation prior to their sentence were more likely to re-offend on release. The study also found that prisoners who were employed at some point in the 12 months before custody were less likely to re-offend. Preventing re-offending can help to stop crime and show people the error of their ways. Rehabilitation classes inside the prison can help to show prisoners new and more reasonable ways of life. It can show them safe and legal ways to make money and live a different sort of life.

In conclusion, I do not think prison works because being locked up with other criminals can encourage re-offending and bullying behaviour. It can take a toll on most people's mental health, and it is expensive. According to the Government, it takes £50,000 a year to keep a criminal locked up, but it costs only £2,800 to administer a community service sentence.[9] It is important that criminals are shown the error of their ways so that they do not re-offend, and can make money in a safe, legal, secure way. So no, I do not think prison works, or it will ever help. There are more effective ways to help people, and these alternatives can help to stop offending. Even if someone is sent to prison, they should be shown how to live and work within the laws of their country.

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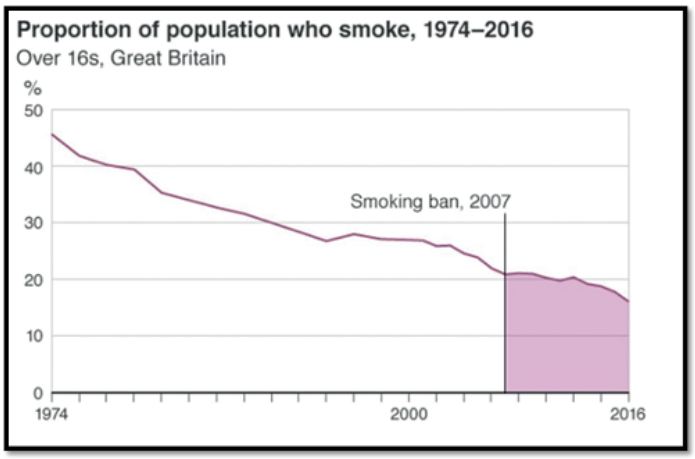
THIRD PRIZE
YEAR 7

Should smoking be banned in outdoor public areas?

Macey Lawlor

Should smoking be banned in outdoor public areas? Smoking is a severe addiction, whereby people inhale the fumes of tobacco and nicotine. The substance breathed in by the 'smoker' is absorbed into their bloodstream. This unhealthy habit can lead to perilous circumstances such as lung cancer, heart disease, COPD (Chronic obstructive pulmonary disease) and even strokes. 1 in 6 deaths for adults over the age of 35 are caused by smoking. By quitting the noxious addiction it reduces the many risks of health conditions and creates a positive lifestyle.



As you can see from the above graph, smoking has significantly decreased over the years, and even more so after the first smoking ban was introduced in 2007.

I strongly agree that smoking should be banned in outdoor public areas because smoking leads to hazardous health issues for both smokers and non-smokers. When someone breathes in the toxic fumes of a cigarette it goes straight to their respiratory tract creating serious diseases. When in a public area such as a park, those who are not within the interest of smoking can encounter/come in close contact of an active smoker. This causes a non-smoker to inbreathe the dangerous gases. This is done without choice. By limiting the public places people can smoke, we are reducing the health issues for everyone. We know that smoking is a legal habit therefore we cannot ban it completely. We could reduce the amount of passive smoking that many people are exposed to on a daily basis whilst protecting the NHS at the same time if we introduced this ban. Not only is the medical aspect critical but the environmental side too. For example when multiple people smoke in outdoor areas of the public, they not only harm the individuals around them but their surroundings also, if they don't dispose of the cigarette remainder correctly. This then becomes disrespectful to our planet. Our government spends a huge amount yearly on keeping communities and places of public use sanitary and safe. This makes it unfair and wastes an unnecessary amount of the UK's money.

Others may argue that this takes away smokers' freedom. But what about the freedom for non-smokers? Many people choose not to smoke yet still have to inhale the toxins through passive smoking. A recent study showed that only 28% of European adults are regular smokers.

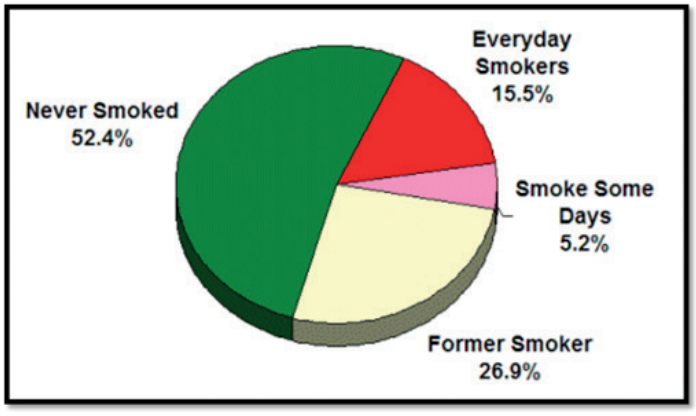
Some of these may say that by minimising the areas to freely smoke initiates injustice for them and that the government should protect their view.

They may think it is their right to choose where they can and can't smoke with no barriers on whether it is permitted or not. Regular smokers and business owners also stand by the opinion that by enforcing the rule of no smoking in outdoor communal areas could cause reduced profits for the hospitality industry. They believe that if a smoker isn't allowed to smoke for example in a pub garden, they will seek a new place to do so in peace, leaving no profits for the owners. Another argument is that it could decrease the tax revenue for the government if the ban was enforced

as this could lead to fewer sales from tobacco due to less people wanting to smoke.

These counter arguments are illogical. Less tax revenue for the government is a real issue, but we must not forget that the UK generates around 800 billion pounds yearly and receives only 9.5 billion of that from tobacco duties. Realistically, other daily human activities such as refuelling cars, insurance, and corporation tax earn more for the UK government. The NHS also spends a significant amount of money on medical conditions and emergency services used because of the effects of smoking. For example, hospital treatment for diseases caused by smoking and passive smoking, consultations with GPS and nurses, not to mention the fires originating from cigarettes. The NHS also spends money helping smokers quit. These are just a few things to take into consideration when thinking about the loss of earnings for the government.

Secondly, I disagree with the argument about business income lowering, because data I collected from 2005 shows that over half of the population have never smoked. The diagram shows us that more people dislike the action of smoking than do and this ban will most likely entice more people to stay/visit or eat out somewhere where there is no smoking permitted at all on the premises.



Finally, I challenge the view that reinforcing a law to ban smoking in outdoor public places takes away from smokers' individual freedom. I disagree with this because the choice is also being taken away from children and non-smokers who don't want to inhale the toxic fumes in these public outdoor places. In my opinion, smokers can sometimes be seen as egocentric and arrogant when smoking in outdoor public areas. They seem to forget the effects of their actions to the surrounding people and the planet. I believe that by taking the approach to ban smoking in outdoor public areas is a huge step in the right direction. We would be working towards a new chapter of health for many.

I believe the pros far outweigh the cons since the conflicting arguments do not contain enough evidence and proof to support their perspective. The supporting factual information I have displayed to strengthen my opinion justifies why smoking should be banned in not just indoor spaces but outdoor areas as well.

To conclude... In reality, banning smoking in outdoor areas is a beneficial step to diminish health problems across the nation, not a discriminatory act against those who enjoy smoking. I believe the act of making public places not an applicable area to smoke is a constructive way to prevent critical health complications not only across the UK but globally. I feel that the current ban of smoking in enclosed places with designated outdoor smoking areas has been a good stepping stone and we now need to productively expand this to more crowded public places.

Highly Commended Entries

Why do the classic 1960s World War II films have more enduring appeal than the books on which they were based?

Rosie Brooker, Year 9

WWII films have been made consistently since the 1939-1945 conflict ended and have continued be produced since. 'It's a war that never ends – cinematically speaking'[1] and WWII films have dominated the war genre since the late 1950s. In the 1960s, the film industry was both changing and becoming increasingly popular: 'an estimated 43.5 million Americans visited cinemas each week in 1960'[2] and the first video tape recorder was sold for US$30,000 in 1963.[3] Many famous WWII films of the 1960s, including *The Dirty Dozen* and *Where Eagles Dare*, were originally novels. However, WWII films were based on a range of books; novels, military histories and biographies were used, for example. To show how the films have more enduring appeal than the books, no matter what style of book was used, a focus on a few examples will effectively contextualise the general trend in different circumstances.

The Great Escape was a 1963 film inspired by Paul Brickhill's 1950 book; *The Longest Day* film was based on Cornelius Ryan's 1959 best-seller; and *The Guns of Navarone*, premiering in 1961, was adapted from Alistair McClean's novel. These films, described as 'classic', are considered highly in their genre and time-period. A 'classic' often displays two distinctive traits: 'emotional resonance that lasts beyond the immediate viewing of the movie' and 'cinematic importance.'[4] *The Great Escape* is 'widely considered a classic,'[5] and the *Guns of Navarone* 'is considered one of the great WWII epics'[6]; similar acclaim is given to *The Longest Day*, which received two Academy Awards. In addition, two websites rank all three in their top ten 1960s war films[7]. However, despite the cultural status of the films, the books that inspired them have been forgotten by the wider public.

These books, written during the 1950s, were adapted for the screen in the 1960s. The authors were WWII veterans: Brickhill, an Australian RAF pilot, Ryan, a war-

Royal Navy. The books were published within fifteen years of the war ending, when WWII was still prevalent in people's minds; they had lived through it and had opinions on it. Brickhill, a Stalag Luft III POW, assisted in the escape attempt recorded in his book, though his claustrophobia prevented his escape. His account of the escape contained precise portrayals of the POWs and their suffering. 'It is a melancholy fact that escape is much harder in life than in the movies'[8], he wrote.

Ryan's 'classic military study'[9] of the Normandy invasion 'is not a military history', but he claims instead, '[it] is the story of people: the men of the Allied forces, the enemy they fought and the civilians who were caught in [...] the battle that ended Hitler's insane gamble to dominate the world'[10]. The book combines military strategy with people's recollections. The film was also 'a grandiose attempt to tell the story of the D-Day landings from everybody's point of view [...]

The result, of course, was that [it] was told from no one's point of view."[11] In contrast, McClean, the 'most successful British novelist of his time'[12], wrote popular WWII fiction. *The Guns of Navarone*, one of his most famous novels, sold 'more than 400,000 copies in its first six months,'[13] which, though completely fictional, was paralleled by the real 1943 Dodecanese campaign.

When these books were adapted into films, the medium through which the stories were told, the target audience and the stories themselves changed. The films were made for mass appeal, against the political climate of the 1960s. *The Longest Day*, made at the height of the Cold War, was 'an example of American strength'[14] and the portrayal of German soldiers attempted 'to humanise a country that less than 20 years before had been pilloried for the actions of a [...] deeply horrendous tyrant'.[15] Furthermore, the 'escape routes were much more mundane and low-key'[16] in the book than those depicted in *The Great Escape* film; *The Longest Day* had a 'panoramic, colossal-trivial view, in which strategy, combat, and miniscule "typical" anecdotes were all on the same level'[17] but did not always adhere to the well-researched truth of the book; and in *The Guns of Navarone*, character dynamics were altered as 'Mallory, a New Zealander in the book, is portrayed by Peck, the all-American-hero; Miller, a sardonic American, is played by British icon Niven' and actresses played the characters of Panayis and Louki.

However, the films were successful. 'For a long time, when anyone thought of a war movie, they immediately thought of Zanuck's, *The Longest Day*'[18] and 'for several generations it [*The Great Escape*] has been indelibly associated with Christmas afternoon TV/Bank Holiday afternoon TV/wet Sunday afternoon TV'[19]. As time passed, the films achieved 'classic' status arising from their old-fashioned style, their iconic movie-stars and their epic storylines.

Therefore, the books were not forgotten because they lacked plot or appeal; the films were essentially the same stories but made those stories more successful. It could be argued that the films lasted because film has grown to dominate entertainment in the period between the 1960s and the present. However, it could also be argued that, by taking liberties with the facts and changing some characters or plot-points, the film adaptations appealed more widely as they stripped the stories to the minimum and presented them as glorious, hard-earned, well-fought personal battles within greater victories.

George Harsh, a Stalag Luft III POW, wrote that the book, The Great Escape 'proves something important. In one magnificent gesture, the seventy-six ragged, verminous men of all nationalities who climbed out of that stinking hole in the ground in Silesia on that windy March night in 1944 thumbed their collective nose at the Third Reich and all it stood for.'[20] This epitomises the appeal of the story, demonstrating the huge efforts and sacrifices made by real people in WWII. This message is exacerbated in the film – with fictionalised, heroic escapes by stolen planes and motorbike, and the iconic Bernstein score – at the expense of the truth. Brickhill, however, wrote about the suffering of people he knew, painstakingly trying to do them all justice. Perhaps this strict adherence to the truth detracted from the story's strong message which was exaggerated by the film, ultimately making the film more famous.

Ryan's book was ultimately an impersonal account of D-Day, using statistics and factual evidence instead of description or imagination. The film, *The Longest Day*, however, 'did a much better job in helping the viewer visualise the entire ordeal'[21] using camera angles to show panoramic views of the soliders running up beaches or following the viewpoint of Luftwaffe pilots swooping down to fire on landing troops. This, combined with a few alterations to the truth, made the invasion feel real, personal, colossal and tense, contributing greatly to its success. To many viewers, it was 'as if the Anglo-American movie industry won the war'[22].

The Guns of Navarone is a different case. The screen adaptation was faithful to the novel's plot but altered characters, making them suitable to both actors and audience. The film's introduction summarises the story's key message: 'Greece and the islands of the Aegean Sea have given birth to many myths and legends of war and adventure [...] But, though the stage is the same, ours is a legends of our own times, and its heroes are not demigods, but ordinary people.'[23] The other message of the film is the 'down-and-dirty manner'[24] of people trying to outwit each other to survive. The latter theme is typical of the

action genre, and was showcased in the film, whereas the first theme is more unique to the war genre and is most apparent in the book. Essentially, the film is an action film with a WWII context making it more popular than the book which is a war story with action elements within it.

The messages each story conveys – bravery, determination, perseverance, ingenuity – will always want to be heard. The struggle between good and evil and tales of courage against formidable odds is a fundamentally appealing plot which stretches back to ancient sagas and epics; they are made relevant by their context, which, in this case, is WWII. People will always want to know about the real people who lived, fought and died during the war, because understanding the war is a way of commemorating it, and, whether it is done through books or films, stories of WWII are more than entertainment: they are history. The stories' relevance today is in their power to depict the scale, conflict and emotion experienced by people – whether real or fictional – which is exactly what the films aimed to do. They sometimes compromised on the truth or were not entirely faithful to the book or their intended audiences, but the result was the same stories made more dramatic, more extravagant and, ultimately, more successful. The films appealed to more people because they were not of one time or for one group of people, but of universal themes for a timeless audience.

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What do the Bewcastle Cross and The Dream of Rood teach us about Christianity in Anglo-Saxon England?

Henrietta Jeffries, Year 9

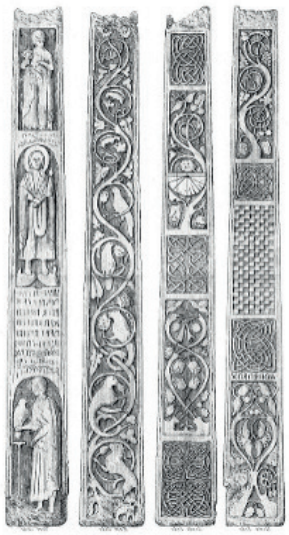
The Anglo-Saxon era was an age of religious disagreement that shaped England's history in a profound, and long-lasting way. The intense struggle between paganism and Christianity was central during the early 7th century, a time of Northumbrian supremacy. This essay shall compare the Christian teachings of the Bewcastle Cross, and The Dream of the Rood, exploring their theological implications. The Bewcastle cross is a classic representation of ancient sculpture, remaining in its original position within the graveyard of St. Cuthbert's since the late 7th or early 8th century. The Dream of the Rood is an example of early English poetry and is regarded as one of the great works of English literature. Supposedly composed during the 7th or 8th century, The Dream of the Rood is a far from orthodox form of poetry, and it can even be argued that it embraces paganism, and Celtic Christianity more so than it does Catholic Christianity.

Even today, Bewcastle, located eight miles above Hadrian's Wall, is as isolated and remote as it was in the 7th century, possibly even more so. In order to understand the significance of the Bewcastle cross, it is important to appreciate the historical, and religious context in which it was constructed. In the 7th century there was a struggle for influence between two branches of Christianity. Celtic Christianity was associated with the Irish missionary St. Columba, whose base was Iona. A rival form of Christianity had arrived in Kent in 597 AD, when St. Augustine travelled from Rome with a Catholic mission. By the late 7th century these two forms of Christianity were coming into conflict with each other in Northern England. The notable advantage of Catholic Christianity was that it had the support of the Northumbrian Kings who had eventually defeated defeated their pagan enemies. In 632 AD, Penda, the Pagan King of Mercia, and the Welsh King Cadwallan defeated, and killed the Northumbrian King Edwin. The Northumbrian King Oswald then defeated Cadwallon, however he was then killed by Penda. Penda. Finally, Oswald's brother, Oswy, King of Northumbria, defeated and killed Penda. Now that King Oswy had achieved victory, he was able to spread Catholic Christianity.

Despite Oswy being educated on Iona, he accepted Catholic authority at the Synod of Whitby in 664 AD. Colman was the representative of Celtic Christianity, and Wilfred represented Catholic Christianity. After it was explained to Oswy that our Lord gave Peter, the first Pope, the keys to heaven, the King declared that as a Celtic Christian, Peter could deny him entrance to heaven, therefore Oswy converted to Catholic Christianity. 'Then, I tell you, Peter is guardian of the gates of heaven, and I shall not contradict him. I shall obey his commands in everything to the best of my knowledge, and ability.'[1]

The famous Northumbrian monk Bede, who's ecclesiastical history is an invaluable source for this period, fully acknowledges Oswy's pre-eminent role in spreading Catholic Christianity. Oswy was eager to spread the power of the Catholic Church against Celtic Christianity. Bede said of Oswy that 'Your nation is fortunate to have a king so wise and devoted to the worship of God, who not only adores God himself, but labours day and night to lead all his people to the Catholic Apostolic faith, and to save his own soul.'[2]

Having established that Oswy was a missionary King, and that after the Synod of Whitby there would have been a major offensive to spread Catholic Christianity, we need to explore how this could be



done. Monasteries, and churches required many resources to construct, however crosses were an effective way of preaching Christianity, and spreading the word of God. 'An English custom that on the estates of many lords there was no church, but only a cross raised on high for the daily service of prayer.'[3]

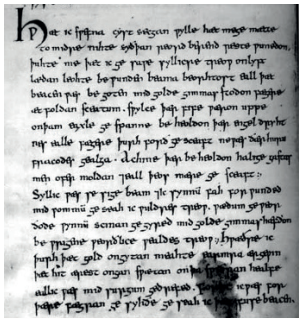
The location of the Bewcastle Cross is also particularly interesting The cross is directly opposite a Roman fort, constructed upon a pagan shrine, suggesting that the cross is utilising an existing centre of pagan worship. There may even have been a monastic community nearby. This is because of the sun dial which is engraved upon the cross. The sun dial was essential in the ancient world because Christian citizens required the date to time their religious services. It could also suggest the wish to date Easter appropriately. This was particularly important because Celtic Christians dated Easter differently, creating tension between the 'rival' branches of Christianity. It is important to understand that the parent monastery was probably in Jarrow, and since Bewcastle is on the other side of the country, this implies that missionaries would have been sent out by the Northumbrian royal family, in a coherent attempt to catholicise the extreme parts of the Northumbrian kingdom.

The Runic Inscription seen above is located on the west face of the pillar as translates as: "This slender pillar Hwætred, Wæthgar, and Alwfwold set up in memory of Alcfrith, a king and son of Oswiu. Pray for their sins, their souls". This possibly refers to Egfrid the son of Oswy, which shows a very clear connection to the Northumbrian monarchy. We can therefore assume that the Bewcastle cross does not only symbolise the power of the church but is also a statement of the influence of the crown. One of the most fascinating aspects of the cross is the Celtic engravings seen upon it. These engravings are like those in the Lindisfarne Gospels. Also known as 'the Holy Island', Lindisfarne was an important centre of Catholic Christianity which indicates that the cross embraces Celtic spirituality, and tradition.

This suggests that Catholic Christians did not despise Celtic Christianity, instead they were making attempts to reach out to them. We can link this to the meeting between Bede, and a Celtic monk, Adamman, which suggests a synthesis between Celtic, and Catholic Christianity. It is evident through his writing that Bede disagrees with Celtic Christianity, however he does not want to destroy it. A letter addressed to Adamman proves this. 'Holy brother you believe that you are on the right road to receive the crown of life that knows no term. Why then, I beseech you do you wear on your head the image of a crown which, in a fashion belies your faith, is terminated?'4. Adamman then goes to stay with Aldfrid 'a man of wide learning' and alleged son of Oswy, who the cross may be dedicated to 'He was earnestly advised by many who were more learned than himself not to presume to act contrary to the universal custos of the church'5. The falconer seen on the west face of the cross could conceivably be King Aldfid since the King died in 705 AD which would fit with the dates of the cross.

Looking at the engravings, we can recognize John the Baptist holding the Lamb of God, and Jesus Christ with his hand in blessing. Both images are seen on the west face of the pillar and provide recognisable imagery for an illiterate society. The cross itself suggests continental craftsmanship which clearly connects it to the Catholic faith. This is because Celtic Christianity is confined to remote parts of the British Isles, whilst the Northumbrian monarchy alone has the power to import foreign craftsmen. This theory is supported by King Oswy's clear links to the Pope through letters.

The Bewcastle cross therefore suggests that soon after the Synod of Whitby, Catholic Christianity was penetrating remote corners of Northumbria. The Ruthwell cross, located only 25 miles from the Bewcastle



Cross, may also be part of a coherent strategy to spread Catholicism to distant parts of the kingdom. The Dream of the Rood, in contrast to the Bewcastle Cross, represents several different traditions traditions from Catholic, and Celtic Christianity to Paganism. Perhaps the most fascinating aspect of this ancient poem is the way in which Jesus is portrayed as a fearless warrior. This unique representation would appeal to a war-like society and would therefore be an effective way of spreading the word of God. The Dream of the Rood would probably have been read aloud in a King's mead hall as a way of inspiring the crowd. Anglo-Saxon society also valued wealth, and jewellery above all else. This is suggested by the Staffordshire Hoard6 – the largest, and most spectacular hoard of Anglo-Saxon gold and silver metalwork yet found. Thus, the verse 'Gemstones had nobly endowed the sovereign's tree' implies this love of riches, whilst the repetition of Jesus as 'the young warrior' links to the Anglo-Saxon adoration of military glory, and idolisation of war-like figures. This is once again emphasised by the image of Jesus approaching the cross as a fearless warrior, ready to engage in a battle with death.

Many epithets are used to enhance the courageous, and noble character of Christ, such as 'mighty king', and 'lord of heaven'. This is characteristic of Anglo-Saxon poetry, and therefore is used here to spread Christianity through the tradition of heroic literature. Jesus is almost a Beowulf character. Beowulf is an epic poem celebrating the legendary Scandinavian hero Beowulf. Both poems emphasise self-sacrifice. Jesus sacrificed himself for his people, as did Beowulf. Both are portrayed not as a defeat, but as a *glorious* defeat. There are also elements of Druidism in the poem. This claim is supported by the personification of trees. Worshipping trees, and nature was a practice rooted in Pagan tradition so blending Pagan and Christian imagery.

References to war bands, such as 'those war men left me', and 'the voices of war men had departed' creates a sense of empathy. In this age all men would have experienced conflict and seen death. It is important to understand that the cross contributes to the death of Christ, however, is seen doing this as a loyal thegn or housecarl. Jesus calls upon the cross to participate in his own death, and the Cross is rewarded by being covered in magnificent jewels, and riches when Jesus rises from the dead. 'I saw the tree of glory. honoured with garments, shining with joys covered with gold; gems had covered magnificently the tree of the forest'. This imagery emphasises the importance of loyalty in Anglo-Saxon England. In a sense, the cross becomes the twelfth disciple after the betrayal of Judas.

Although the 7th century seems an impossibly distant period of history – through my research I have discovered that we can learn a surprising amount about this era. Perhaps my most striking discovery is that Christianity owed its success to the way in which it embraced rather than rejected elements of paganism, Celtic Christianity, and warrior traditions so successfully evangelising England.

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Is horseracing humane?

Jessica Hartshorn

Horseracing is an ancient sport. It dates back to approximately 4500 BC among the nomadic tribesmen of Central Asia. Both chariot and mounted races were held in the Olympic Games of Greece over the period 700–40 BC. Since then, horseracing has become as the sport of Kings.

Great Britain has historically been a highly important centre for thoroughbred racehorse breeding. All racehorses are called English Thoroughbreds, as this breed was created in England.

Racing as we know it now began in medieval England when horses for sale were ridden in competition by professional riders to display the horses' speed to buyers. During the reign of Richard I, the first known racing purse was offered: It was £40, offered for a race run over a 3 mile course. In the 16th century, King Henry VIII imported horses from Italy and Spain and established studs at several locations. King Charles II became known as "the father of the English turf" and initiated the King's Plates, which are races for which prizes were awarded to the winners. His articles for these races were the earliest national racing rules. Through the support of King Charles II, Newmarket was established as the headquarters of English racing.

Many people regard horseracing as a harmless sport in which the animals are willing participants who thoroughly enjoy the thrill. However, behind the glamorous world of horseracing are some serious issues, including gruesome injuries, drug abuse, breakdowns, misery, and high mortality rates. Whilst spectators show off their fancy outfits, are the horses running for their lives?

Horses used for racing are often forced to gallop and regularly threatened with whips, and there have been instances where illegal electric shocking devices have been used. Horses also sprint at speeds so fast that they frequently endure injuries and even haemorrhage from their lungs. This is in addition to other catastrophic injury and death through trauma, including broken necks or emergency euthanasia.

In 2013, PETA exposed that top trainers and jockeys in the USA admitted to having used illegal electro shock devices on horses. Months later, a jockey who had previously been suspended for harming a horse with a nail was charged with an offence for race-fixing after using a electro shock device during a race. These devices, although a breach of the rules of racing and an act of cruelty under animal welfare legislation, are also still used in the UK; they are sometimes known as jiggers.

Pushed beyond their limits, many horses are subjected to mixtures of legal and illegal drugs intended to artificially enhance performance and mask injuries, but would it not be better to treat the horses more humanely in the first place so the drugs that are used to treat injuries are not needed? In the USA an average of 24 horses a week die at racecourses across the country. In 2015, in New York alone, more than 250 Thoroughbreds endured injuries or fatal breakdowns during races.

According to the British Horse Racing Authority (BHA), the UK sport's governing body, standards of welfare in the UK for the horses are much higher: The fatality rate in the UK is less than 1% of all the on average 14,000 horses that are in training at any one time, a total of 0.19% to be exact, which shows the rates have decrease by a third in the last 20 years.

Yet problems persist in the UK. The most notorious event in the horseracing calendar is the Grand National. The race is a unique test of stamina for the horse and jockey. 40 runners jump 30 fences over 4 ¼ miles; this is a harsh challenge for any animal.

Thankfully the Grand National has not seen any deaths in the last 7 years, however it is still incredibly challenging for the horses. The 2 years before this saw the deaths of 2 horses each. The loss of Synchronised, 2012's Cheltenham Gold Cup winner, was a strong warning that the race needed changing. An investment of £1.5 million into safety measures at the course has seen significant alterations taking place, including modifying the structure of the fencing, moving the start and levelling the landing side of the fences.

Some argue that racing is not that cruel. A study carried out by Liverpool University found that 62% of 'traumatic injuries' suffered by leisure and competition horses occurred when they are in a field, whereas ridden injures accounted for only 13%. The use of whips is highly controversial as they can inflict pain and result in injury, but some argue that they are only used to enhance performance. Racing is the only occasion in which it is still legal to whip an animal in the UK, but rules of racing require that only a 'padded' whip can be used. There are also rules about the number of strikes with a whip during a race, although for the last 100 metres where there is no limit on the number of times a horse can be struck, and there is also no limit to the number of times horses can be slapped on the shoulder during a race. Many horses – appropriately called "bleeders" by the racing industry – will bleed from their lungs, a condition known as exercise induced pulmonary haemorrhage. Also, a horse's heartbeat can increase significantly during a race – from 25 beats per minute to an excessive 250 beats.

Horses are herd animals, meaning that they are social animals; they naturally live together in large groups and graze together in fields. In the racing world, they can spend up to 23 hours a day living in isolation and are constantly being transported to different racetracks, so they do not often get to enjoy some freedom or spend time with other horses. This can lead to abnormal behaviours, which stem from frustration. Stress and inhibition of natural behaviour are common in racehorses. These include crib-biting and weaving.

Tongue ties are also commonly used; this is the unregulated practice of immobilising a horse's tongue to stop them getting their tongue over the bit during a race. It is used because a horse is easier to control when pressure is applied via the reins to the bit on the horse's tongue. This can cause the horses to be in pain, to be anxious and distress, to have difficulty swallowing, and can cause cuts and lacerations to the tongue.

It is impossible to make a blanket statement on how every single race horse is treated. From small town trainers to the biggest names in the sport, there will always be a range of good and bad. Horse breeders and trainers will defend the sport by saying racehorses generally have good lives, because people care for them, ensure they have a well-balanced diet and they carry out an activity they enjoy.

Yet despite this perfectly painted picture, we can't ignore the unpleasant, often hidden, side of how racehorses are treated. Greed is powerful and there are thousands of cases of horses being pushed to their limits and abused, all for the sake of profit. Racehorses in some cases are seen as money-making objects and not as living creatures worthy of compassion and respect. When horses are barely two years old, they enter a demanding training process. Of the 12,000 foals born every year into the British and Irish racing industries, only about 40% go on to be used for racing. The rest often face the tragic fate of slaughter or neglect. Injuries are common, and many horses don't even make it to their first race. Pain and

fear are often used as training aids, and at the end of a race, it is hard to tell whether a horse ran fast because they wanted to, or because they were too afraid not to. It is a common for horses to trip or fall during races. In most of these appalling accidents, a privacy screen is bought onto the track, and the horse is euthanised where it fell.

These are not the only deaths related to the horseracing industry. Thousands of horses are also sent to slaughterhouses each year, these are when sold on for their meat. This also happens to yearlings that are judged too slow to continued training, animals that do not bring in enough prize money, and even retired winners. This practice is called 'Wastage'.

In conclusion, whilst the UK seems to have acknowledged that higher safety standards were required and have implemented better regulations, the rest of the world still needs to catch us up. There is still a long way to go to eradicate many cruel practices. I understand that there are both good and bad trainers and owners as with every equine discipline, however I still believe that horseracing is inhumane because the horses live a life of fear and even after they "career" is over their lives, if they are manage to keep it, are full of uncertainty and being passed from owner to owner due to psychological and physical damage from their former lives.

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KitKats: Are they biscuits or chocolate bars?

Zoe Milne

Are KitKats biscuits or chocolate bars? This has been a question that we've never really known the answer to but thought about every time we peel off that iconic red wrapper with the words 'Have a Break' printed on the side. I decided to centre my project around this topic as I think that maybe it's not such an important question but might make us think again before classifying a food as a certain thing. So, to start off, let's look at the differences between biscuits and chocolate bars.

Some common differences between biscuits and chocolate bars include:

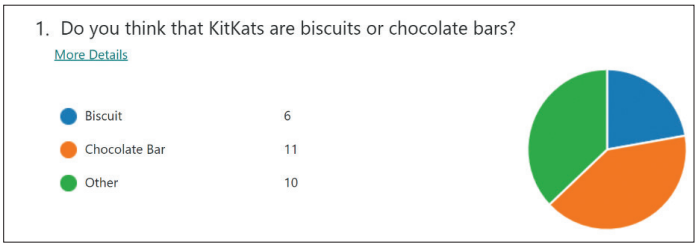
- Texture
- Nutritional information
- Density
- Flavour a.k.a. savoury/sweet

These all play a big part in biscuits/chocolate bars, as they make them more popular with customers. One other difference between them that isn't physical is that they are designed for different things. Most biscuits are designed to have alongside a cup of tea so you can dunk it in whereas chocolate bars are pretty much designed just to eat by themselves.

KitKats have 49g (grams) of sugar in them, 54mg (milligrams) of salt in them and 875kj (kilojoules) of energy in them per bar. Usually, biscuits tend to be saltier than chocolate bars and chocolate bars tend to have more sugar. This information tips the scales towards KitKats being chocolate bars, but what if KitKats were just incredibly sugary biscuits?

Another factor that plays a role in this question is the texture of a KitKat. When you bite into a chocolate bar, it tends not to be that easy to snap without making a mess, whereas with biscuits it is. We all know that a KitKat bar has two fingers and is practically designed to be broken in half, so does that make it a biscuit? However, biscuits normally lend themselves to being dipped into a cup of tea or coffee, but that doesn't normally happen with KitKats. Plus, the way they are shaped tends to indicate that it is a chocolate bar, rather than a biscuit, and they are packaged separately instead of in one big packet like most biscuits are.

Despite all of these indicators pointing towards KitKats being chocolate bars, I still wasn't ready to make an informed decision and conclusion. What if they weren't actually chocolate bar or a biscuit? What if it was something else all together? I looked up different types of confectionary and treats that a KitKat could possibly classify as, and one of the results was a wafer. To help with my investigation, I decided to send a form out to a sample group to see what other people already thought about the question I'm studying. This is a screenshot of my results:



This pie-chart shows that out of 27 people, 11 thought that KitKats were chocolate bars, 10 thought they were something else and 6 thought they were biscuits. To conclude, most people thought that a KitKat classified as a chocolate bar. Opinion was, however, very divided.

When I reviewed the results, I found that almost everybody who selected 'other' said that they thought that a KitKat was a wafer. Maybe that could be what a KitKat really is? To find out bit more, I decided to find out the ingredients used to make a KitKat. This table

KitKats	Biscuit – plain digestive	Chocolate Bar – Dairy Milk	Wafer – Reese's Sticks
Sugar	Sugar	Milk	Sugar
Wheat Flour	Wheat Flour	Cocoa butter	Wheat Flour
Milk Powders	Vegetable Oil	Cocoa mass	Vegetable Oil
Cocoa mass	Sugar Syrup	Vegetable Fats	Whey
Cocoa butter	Sodium Bicarbonate	Emulsifier	Milk
Vegetable fats	Salt	Flavourings	Emulsifier
Whey		Sugar	Cocoa butter
Butterfat			Salt
Emulsifier			Corn starch
Yeast			Preservative
Sodium Bicarbonate			Vanillin
Natural Flavourings			

(below) shows which ingredients KitKats share with biscuits, chocolate bars and wafers. As there are many types of biscuits, chocolate bars and wafers, I chose the simpler ones without too much going on in them. (The ones with little flavour). For biscuits, I chose a Digestive®, for chocolate bars, I chose Cadbury's Dairy Milk® and for wafers, I chose Reese's Sticks®. The highlighted ingredients are ones shared with ones in KitKats. For Reese's Sticks, I excluded the ingredients used to create the peanut butter flavour.

This table makes clear that KitKats share the most ingredients with Dairy Milk (chocolate bar) and Reese's Sticks (wafer). Perhaps a KitKat could be a mix of chocolate bar and wafer, or a bit of everything? With this information in mind, I was ready to conclude this essay with my answer.

After conducting my research, I believe that KitKats are a mix of chocolate bars and wafers. They are a wafer covered in chocolate, to be more precise. I decided this was the case as KitKats share many ingredients with a wafer, but also are designed to look like a chocolate bar (and of course contain chocolate). Whilst this may not be a very definite answer, I have decided that they are not biscuits, as they have almost nothing in common with them. For example, KitKats have much higher sugar levels than normal biscuits. I did think that it was strange that KitKats broke so easily unlike chocolate bars but realised that that was just the wafer on the inside. So, to end this essay with a clear answer and conclusion, I have found that KitKats are not biscuits, but in fact are chocolate-coated wafers.

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Should Computer Science be a core subject at GCSE?

Emily Strens

Computer Science is a subject overlooked by many people, yet is a particularly important aspect of society and one of the main factors involved in advancing areas of society like business, finance and healthcare. Without Computer Science, people will find it increasingly difficult to secure well-paid jobs in the future.

I believe Computer Science should be a core subject at GCSE, in other words, a subject that all pupils are required to take at GCSE. In England, the core GCSE subjects are English Language, Mathematics and Science (taken as either dual science or three separate sciences). In addition, pupils are usually expected to take a Modern Foreign Language and the majority of schools insist that their students take English Literature. But where does Computer Science fit in? Remaining GCSE subjects are then usually groups into categories such as Humanities (Geography, History, Religious Studies), Modern Foreign Languages (French, German, Spanish) and Creatives (Art, Music, Drama, P.E) in which Computer Science is often placed. Computer Science as a core subject would therefore replace a Science, Humanity, or Creative subject.

What does Computer Science offer? Computer Science can help you secure a place in further education, just like Maths can. Mathematics is a core subject, but does not incorporate any Computer Science, whereas Computer Science involves a large amount of Mathematical skill. Computer Science provides you with basic computer skills and teaches not just how to use technology, but how it works, giving you a greater understanding of the devices you use every day. It allows you to analyse data by using programs or creating your own, which could speed up processes that might otherwise take a lot longer. Computer Science could help with marketing, design, economics, finance, business, and any task you are currently working on. By developing your own software, you can run businesses smoothly, or keep track of all aspects of your job using spreadsheets. By taking GCSE Computer Science, students will realise the benefits of this subject and have enough basic skills to assist with their future careers. Students will understand simple programming which they can build on in their free time, or take Computer Science A Level and learn even more. The ways in which programming comes in useful are endless. Computer Science boosts your problem solving and logic skills, helping to exercise the left side of your brain. Here's an example: An economist is struggling to organise data that they need to analyse. With programming knowledge, they can organise this data and analyse it rapidly, potentially leading them to getting promotions, or earning more money. Computer Science is not only useful in purely academic jobs. Composers can use software to create original sounds or to create a program that can write its own music.

If everyone were to take Computer Science, life would advance faster. More incredible discoveries to do with, for example, Machine Learning or Artificial Intelligence, would occur. More jobs would become available in all careers, and analysing, visualising, identifying, computing, memorising data or items would become easy. Historians and Archaeologists would learn more about the past, and fashion designers could design clothes for the future. With Computer Science, space colonisation could be achievable and training courses for any career could be done realistically from a computer.

Not only this, but Computer Science can also address security issues, privacy and can involve aspects of Mathematics, Philosophy, Logic. Computer Science can save lives. By advancing healthcare people will live with less fear of illness and by improving education with online resources and other beneficial features, Computer Science can help educate people from

all over the world, including children and adults who currently live without the ability to read or write. How can Computer Science do this though? Technology can be distributed to people in need of education, and they can be taught from people in other places, meaning there will be a way to educate these people without having to travel a long way.

I believe that Computer Science should be incorporated into all subjects, and people should build on these skills to help them find a job and be successful. Computer Science can help develop critical thinking, creative thinking, computational thinking, and help people become more idealistic, revolutionising the world.

However, if a person does not want to take Computer Science, should this matter? Many people do not want to take Maths, but they are obliged to as Mathematics is helpful in everyday life. Computer Science, in my opinion, is even more beneficial. Some people may argue that this is not so, and that they do not need to know anything about basic programming. They may argue that programming can be learnt from home, and it can to some extent. However, Computer Science is about more than just programming. Computer Science covers programming, problem-solving, data, communication, computers and the internet. With a formal education in Computer Science, a complete understanding of this content will be gained. All students will be obliged to learn Computer Science meaning more people will develop these skills.

What about careers in Computer Science? Technology dominates many industries and can be used to create more jobs. By learning to code, people will have the ability to find a job more easily, for example a software development job. Coding is the fundamental skill for jobs such as software development and can help them easily enter this line of work. There is currently a shortage of software developers worldwide, so learning to code can be an easy route into an open field of work. However, this is not the only way coding can create job opportunities. Coding can offer possibilities in other fields of work like content creation, marketing, graphic design and computer games. In all these areas of work, the ability to code could make you stand out from other applicants and help secure you a job. Being able to use technology could give you an advantage over others, and if everyone were to learn to code there would be a better chance of making ground-breaking discoveries.

What if you want to be self-employed? Coding and Computer Science can enable you to work freelance, by allowing you to , for example, make your own website, set up your own business, or even design video games and publish them on online platforms. You would have the ability to work whilst travelling, enjoying the sun on a tropical island. You can pursue your passions. If you want to become a vet, advertise your practice online with a stylish website, or if you want to be the leader of a toothpaste factory, create an online store to increase profits.

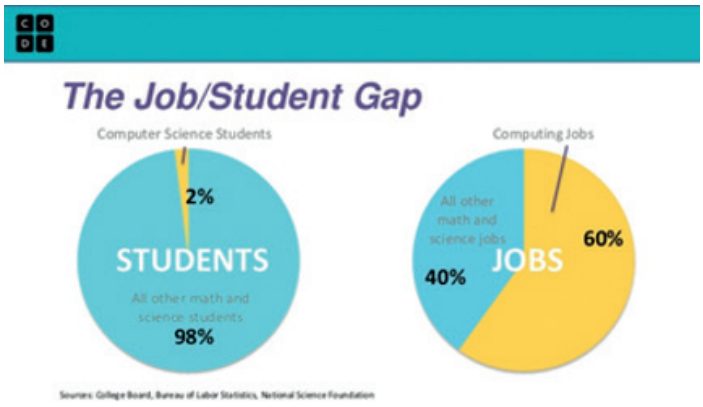
People do not think to associate Computer Science with teamwork, but if Computer Science were taught to everyone (at GCSE standard), a person would develop better interpersonal skills and be able to communicate more easily with others. This is because Computer Science is often used on large projects, which requires a collaborative effort. Computer Science is an inclusive subject which opens many doors.

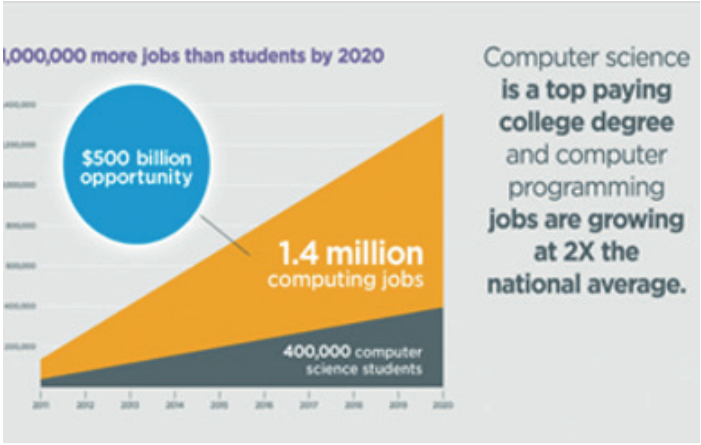
What are the arguments against doing Computer Science?

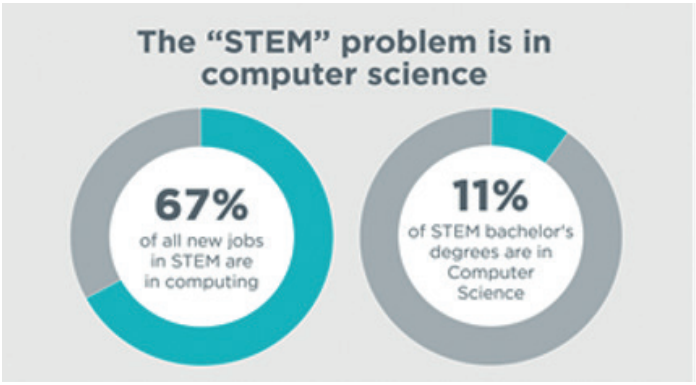
“I find Maths difficult.” Although there are elements of Maths incorporated into Computer Science, Computer

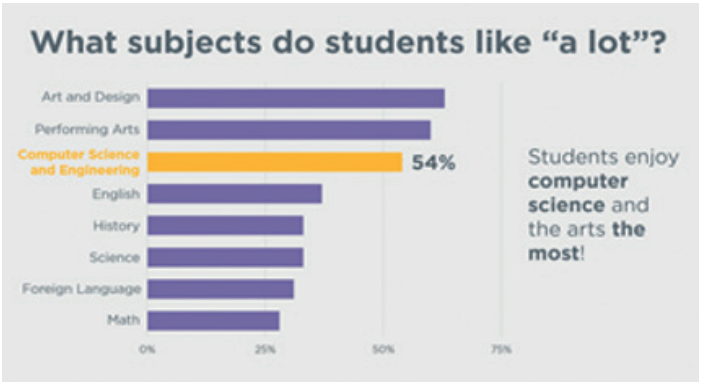
Science is much more than just Maths. It can help someone develop as a person. By having an open mind, students can view Computer Science as a subject that helps them to grow and provides multiple opportunities for a future career.

"I think Computer Science is boring." This is an opinion of many people, but many people also think that Maths is boring, yet there a few objections to Maths being a core subject at GCSE. Computer Science and Maths are both useful, and that is why Computer Science should join Maths as a core GCSE subject. The benefits of Computer Science are surely great enough to ignore the fact that many people think the subject is not enjoyable. Maybe it is not the subject, but the teacher or teaching methods. If Computer









Science were to be taught in a more interactive way, with quizzes and a teacher willing to help individual students, Computer Science could be enjoyed by everyone.

"I see no reason to study Computer Science." By being open-minded, you can realise the many ways that Computer Science is useful. Maybe you have no aspirations to work in Computer Science, but whatever career you embark on, Computer Science will help.

What about the benefits of studying and finding a career in Computer Science? Careers in coding and programming aspects of Computer Science can potentially earn people a lot of money. Looking at the pictures below, you can see that 500 billion dollars (around 362 billion Pound Sterlings) worth of jobs are available, and the amount of people studying Computer Science is significantly smaller.

From Picture D, you can also see that (according to https://code.org) Computer Science and Engineering are enjoyed a lot, along with the arts. You can also see, from the other pictures, that Computer Science jobs need to be filled. Many of these jobs require basic Computer Science skills, and even if a student hasn't done Computer Science for A level or at University, with their basic knowledge from GCSE, they could potentially find a job in STEM because of the useful skills they have learnt.
What you get from a Computer Science job: according to https://www.bls.gov, who track salaries in a variety of careers, the median salaries for Computer Science professions annually are some of the highest. For example:

- Web developers: $73,760 (£53404.77)
- Network and computer systems administrators: $83,510 (£60464.10)
- Computer programmers: $86,550 (£62665.17)
- Database administrators: $93,750 (£67878.22)
- Software developers: $107,510 (£77840.93)

But what use is a well-paying job if there is no one to fill the position? The opportunities in coding-related jobs are massive.

Here are the 2021 bls.gov projections for employment growth in the same coding and programming-related professions:

- Web developers: 13%
- Network and computer systems administrators: 5%
- Computer programmers: 7%
- Database administrators: 9%
- Software developers: 21%

The national average for employment growth is 5 %. Many of these positions outpace other jobs. Computer programmers, however, are becoming rarer, as more hybrid positions – combining programming with other aspect of Computer Science have been created. This shows that knowing how to program is valuable, but that less jobs are available. However, more positions that still use programming are being created. This provides more job opportunities for those who can code, but not fluently.

In conclusion, Computer Science is a valuable part of today's society, and the need for more students to learn either basic Computer Science at GCSE or studying it and finding a job in Computer science is large. Therefore, Computer Science should be a core subject at GCSE. Computer Science can improve your life considerably.

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Was the dropping of the atomic bomb on Hiroshima and Nagasaki a justified evil?

Ottelia Tetley

Seventy thousand men, women and children lost their lives on the 6th August 1945. This was followed by another forty thousand three days later on the 9th August 1945. A further one hundred and four thousand were to lose their lives in the coming days and weeks taking the death toll to just short of a quarter of a million people. This was not because of a natural disaster or an act of terrorism but a result of a 'triumph' in a race to produce the 'ultimate' weapon of mass destruction; the creation and deployment of the world's first atomic bombs.

The first atomic bomb named 'Little Boy' weighing 9,700 pounds containing 141 pounds of enriched uranium, was loaded onto a B-29 Superfortress named Enola Gay and at 08:15am, during the morning rush hour, the bomb was dropped onto the city of Hiroshima. Exploding 1,900 feet above the Shima hospital, the bomb instantly demolished and flattened the city, in less than a second, at least 70,000 people were killed as well as tens of thousands more in the aftermath. It was hoped that this would lead to the surrender of Japan, but no immediate surrender came. Three days later the second atomic bomb nicknamed 'Fat Man' and weighing 10,800 pounds was loaded onto a United States Army Air Forces B-29 Bomber called Bockscar. At 11:01am was dropped onto the city of Nagasaki just 261 miles South of Hiroshima. This bomb killed at least 40,000 people instantly and Nagasaki as well as Hiroshima both remained uninhabited for many years due to the high radiation levels.

In May 1945, allied Victory in Europe had already been secured following Germany's surrender. This did not, however, end the war against Imperialist Japan. The subsequent fighting in the Pacific was ferocious, resulting in a significant number of allied casualties, prior to the events on 6th and 9th August. The result of this unprecedented act of violence was the end of the War in the Pacific with the surrender of Japan and unarguably put an end to WW2. But was the dropping of two atomic bombs and the killing of a quarter of a million people justified?

Many people believe that a weapon of such incalculable power should never have been created and that if it was, should have only been used as a deterrent. Did the United States really need to use it to end the war or was this damage limitation at the end of a war that had seen unimaginable casualties for all involved? The US had the upper hand in the Pacific. They had cut off Japan's vital supply income and had sunk most of its Navy. Japan was on its knees and all but defeated. This did not however result in a surrender. On the 26th of July, the allies gave Japan an ultimatum demanding the unconditional surrender of their armed forces. Japan did not agree to the terms.

With the refusal to surrender, was unleashing the elemental power of the atom the easy way out or was the United States afraid of the backlash if it had not used the weapon and lost even more soldiers in the fight in Japan? The allies believed that the Japanese would have kept fighting until the last man standing. The war in the pacific was a war without mercy and although nothing in the human experience could have prepared anybody for such totalizing damage, so instantaneously, it was the option that would save the most lives in the long run. So, President Harry Truman makes a crucial decision to deploy the deadliest weapon ever created.

Hours after the first bomb was dropped, Truman addressed the United States of America:

"Sixteen hours ago, an American airplane dropped one bomb on Hiroshima... The force from which the sun draws its power has been loosed against those who brought war to the far East."

Truman had only gained office in April 1945 after the death of Roosevelt. Was this a significant factor in the decision to 'drop the bomb'? US Naval officer William Leachy, thought to have been one of the only people that Roosevelt trusted during the war, believed that the United States had done something ethically wrong and something that they didn't have to do and that it was utterly inhumane to deploy this type of weapon on humans.

After the first bomb, over one million Soviet troops were sent over into Japanese-occupied Manchuriato in the Northeast of China to attack and take on the Kwantung Japanese Army but in a short amount of time, the Soviets won. After hearing about the death and destruction caused by the atomic bomb on Hiroshima as well as the Soviet attacks, Prime Minister Suzuki (Admiral in the Imperial Japanese Navy at the time) called an emergency meeting of the Supreme War Council but just four minutes into the meeting, notice was brought in that a second atomic bomb has been dropped on Nagasaki.

Japanese, Koreans, Chinese as well as Allied prisoners of war were all killed in the second explosion - tens of thousands of people, instantly killed. Their city obliterated. The Nagasaki bomb was much more powerful than the one dropped on Hiroshima and the population that did survive the explosion suffered gamma radiation levels 17 times over the lethal dose. Many people believe that the US shouldn't have dropped the second atomic bomb so soon after the first as there was only a three-day gap between them both and the Japanese government would have needed time to surrender. Others are of the view that the Japanese were so belligerent in their focus on winning the war, they were willing to sacrifice themselves; even when there was no hope. The two atomic bombs on Hiroshima and Nagasaki brought an end to the war as at midday on August 15th. The Japanese Emperor addressed the Japanese public on national radio telling the nation that the attack was so horrific they could not continue the war. It was time for Japan to surrender.

Although they had now won the war, many Americans understood the impact that the two atomic bombs had on so many people and did not agree with the morality of releasing them. Was this really an ethically just, thing to do? Was the short-term victory worth the considerable after effects?

"Every positive value has its price in negative terms… The genius of Einstein leads to Hiroshima." – Pablo Picasso

Albert Einstein himself believed that something else could have been done to end the War rather than the killing of so many innocent people and that it didn't have to come to such death and destruction.

"If I had foreseen Hiroshima and Nagasaki, I would have torn up my formula in 1905."

Like the US government at the time, there are many people who believe that some actions in war are morally justifiable and all someone in power can do, is to make the decision that they believe will reduce the loss of life to their people. Some feel that Truman had little choice. Looking at the estimations of the number of troops needed to invade Japan and the number of people already starving behind its walls, Truman believed that this was the best and only course of action as the Imperial Japanese Army could never contemplate surrender after sending so many of their troops to fight to the death, even when defeat was the only possible outcome.

Was the unleashing of the second atomic bomb necessary? Military Japan was already finished due to the attacks from the Soviet troops as well as the devastation from Hiroshima. They were under so much pressure that they were bound to crumble at any moment. Despite this Japan had not finished fighting and every day that the war raged on in the Pacific, would lead to more and more casualties. The death, destruction, damage and pain from the dropping of the bombs were unimaginable. Was it however a step that really needed to be taken to end the war. I feel that Truman honestly believed that he was doing what was best for America as well as the rest of the world. In times of such helplessness, strong actions must be taken and although I would still class the dropping of the bombs as evil, it was a necessary evil that had to be done. Some 80 million people are thought to have perished in WW2. When put in this context, does it make the action more justifiable? It will continue to be debated and academic will continue to disagree. What is now clear however is that the events, like so many of the time, caused untold suffering and damage to so many people and that the dropping of the creation and use of the atom bomb would shape international relations for years to come.

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Why are Tasmanian devils misunderstood?

Rhiannon Grist

Sarcophilus harrisii, also known as the Tasmanian devil, is an endangered animal that is misunderstood by a lot of people. They are the largest living carnivorous marsupial with a backwards facing pouch[1] and they have 42 teeth that aren't replaced after birth.[2] The lifespan of a Tasmanian devil is 5-8 years. They have incredibly strong teeth that can break through metal including the enclosures of livestock.[3] Running at 15 miles per hour, these scavengers have good stamina and can run extended periods of time.[4] Sadly, their numbers are decreasing with only 25,000 left in the wild. Before the mid-1990s, when devil facial tumour disease (DFTD) occurred, there were 150,000 devils in the wild. DFTD is a contagious cancer found only in wild devil populations.[5]

Taraba the Tasmanian devil features in an old Aboriginal story about why Tasmanian devils look how they do today. The story tells us that Tasmanian devils used to be handsome creatures with curls on their tail and no white on their chest. These animals were known as nasty because they would wait until parents had left their baby alone and then the creature would steal it. They would do this to most species. This animal ended up with a bad reputation for being greedy, lazy and cowardly. It is said that there are spirit helpers in the bush that look after all the animals, but the spirit helpers weren't happy with the creature. What Taraba didn't know was that one day instead of grabbing a baby animal it would put its hand in the spirit helpers' house. The spirit helpers decided to scold the animal and from that day forward the animal would have claws, smaller eyes, a longer nose, no handsome fur and some blossoms fell on its chest making it white in colour. This animal was also going to be called 'devil' from now on. They made these changes to make it harder for the animal to hide; it has been like this ever since.[6]

The famous fictional character Taz the Tasmanian devil was created for Warner brothers in 1953. They chose a Tasmanian devil because little was known about them then and everyone thought they were vicious. Taz was inspired by a crossword clue saying 'spinning animal from Tasmania' which explains why Taz spins in the cartoons. They knew it was a Tasmanian devil because it had been a crossword clue a lot in the 1950s. In the first episode produced with Taz everyone fled from him because he devours everything and anything, but Bugs Bunny places a lonely-hearts advert for a female Tasmanian devil. Taz seems to like to cause mayhem and confusion. Sometimes he likes to try and eat Bugs Bunny so there will be a lot of misconceptions about the characteristics of this misunderstood creature.[7]

So, how did the Tasmanian devil get its name? The European settlers arrived in Tasmania on 24th November 1642.[8] The settlers heard weird screaming noises coming from the forests and they were given some quite cruel names like *Sarcophilus satanicus* (satanic meat lover) and *Diabolus ursinus* (diabolic bear). Back then they were also called *Sarcophilus harrisii*, which is the scientific name used today after the Deputy Surveyor General George Harris who in 1806 described and sketched the Tasmanian devil for the Zoological Society of London (ZSL).[7] They were called Tasmanian devil as a common name because they were often described as untameably savage, destructive to livestock and with a fierce bite. The settlers thought the noises the creatures made were

like the noise of a devil and the appearance, especially the red ears, made the settlers think of devils, which is the reason behind the Tasmanian devil's name.[8]

1830 was a bad year for the Tasmanian devils. It was the year bounty hunters came to Tasmania. The Tasmanian government said that a certain amount of money would be given for each devil killed and this was called a bounty. They did this because they accused Tasmanian devils of purposefully killing livestock and eating it. Though Tasmanian devils are too small to have killed any livestock they might have compared the devils with the thylacine (Tasmanian tiger) as they were also blamed for killing livestock even though it is not the fault of either of these animals. It turned out after 80 years that feral dogs were one of the main culprits of killing livestock. In 1941 devils were made a protected species by the government and since then their numbers have increased.[7]

Tasmanian devils can be scared easily and will often shake when they are startled. Devils are solitary but will eat together in harmony with no fighting. The most common size group of Tasmanian devils to be eating together is two to five. They won't defend a whole carcass; they will only defend the amount of food they need.[7] They have a great sense of smell for seeking dead animals to eat. They have a varied diet which includes insects, amphibians, reptiles, birds and mammals. Their strong jaws can help them digest bones, fur and even exoskeletons. The life span of a Tasmanian devil is surprisingly short, only living up to 5-6 years in the wild and might live up to 8 years in captivity. Tasmanian devils can have two-four joeys that will live in the pouch until they are too big.[9] When they are too big for the pouch they will stay around their mother and sometimes will get rides on her back. 7 Tasmanian devils' ears can change from a pink colour to a bright red. This happens when they are angry as more blood will go to their ears.

In a short survey I made, I found out that 28% of year 7s who answered the survey had never heard of a Tasmanian devil. One of the answers given was, "It sounds like a lizard," which is understandable as there is a reptile called a thorny devil that also lives in Australia. I asked some people in the 25-45 age group their opinions of the Tasmanian devil and they all asked if I meant Taz or a Tasmanian devil. Taz was the first thing that came into their mind so most people in that age group will think that these devils spin a lot. This shows that popular culture affects people's views on things like Tasmanian devil behaviour.

Aussie ark has made a breeding programme for Tasmanian devils and conservation. 26 Tasmanian devils were released back into the wild in mainland Australia in 2020. This will help Australia because Tasmanian devils can allow native small mammals to recover as they can get rid of feral cats and foxes. These devils help forests regenerate by enriching soil when foraging.11 The release of healthy devils into areas where they have been wiped out by DFTD is hoped to remove this contagious disease from the wild.

I conclude that because Tasmanian devils were only properly researched in the 1950s and 1960s when Eric Guiler had a chance to study ecology in Tasmania.[7] Before this the behaviour and importance of the Tasmanian devil was unknown. Popular culture created an alternative view on devils saying they are vicious pests. Since research was published, Tasmanian devil populations have increased and conservationists' efforts will be able to continue to educate people and protect this important and interesting species.

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Are face masks doing more harm than good?

Florence Hodge

Over the last 12 months none of us have been able to leave our houses without a face mask. Most of us have seen them as a necessary inconvenience in the fight against COVID-19. However, in this essay I will be arguing that face masks are doing more harm than good. According to the European Centre for Disease Prevention and Control (February 2021-Stockholm),

> the role of face masks in the control and prevention of COVID-19 remains an issue of debate. Most studies assessing the effectiveness of face masks as a protective measure in the community came from studies on influenza, which provided little evidence to support their use.

Even months later after we have learned to live with COVID-19 and face masks as part of our everyday lives, the Centre states that 'evidence for the effectiveness of non-medical face masks in the community is scarce and of very low certainty'.

Although face masks prevent most water borne particles from spreading from one person to another, particularly coughs and sneezes, it is an issue that behave less cautiously and less safely with other people whilst wearing face masks, due to a false sense of security. It has been suggested by the British Medical Journal (the BMJ) that 'people adopt a reduction in compliance with other important infection control measures' meaning that people think wearing a face mask will over-rule other considerations and that other precautions such as social distancing are unnecessary whilst wearing a face mask. For example, the volume and quality of speech is lessened through a face mask meaning people may come closer to the person they are having a conversation with, breaking the social distancing regulations as they think they are safe to do so. Furthermore, another behaviour identified by the BMJ article is the urge people get to touch their masks due to discomfort or irritation. Because trapped exhaled air gets blown upwards into the eyes causing discomfort, people are more likely to touch or rub their eyes with contaminated fingers creating infection which could be COVID-19 or any other bacterial virus. The article also states that face masks concentrate the coronavirus by creating the perfect humid conditions for the virus to thrive, strengthening the virus, giving a person less of a chance to fight COID-19 it will be too strong for the person's immune system; the efficiency of which deeply depends on the power of the virus. Face masks also preserve COVID-19, by trapping it, causing the person with the infected face mask to be inhaling more of the concentrated virus than if they were not wearing a mask.

One of the most recognised problems with face masks, especially disposable ones, is the effect of them on the planet. The fact that, unfortunately, they are made of 3 different types of plastic, cotton ear loops and metal nose wires make them unable to be recycled. According to an article in the Guardian, the UK is sending 1.6 billion face masks, which take 20 years to break down, to landfill every month. To put this in context, this is enough face masks to cover the whole of London in under 2 days. Although this is a problem, especially if people do not take off the ear loops and metal nose wire which can get tangled around animals, there is an even bigger problem and that is the 53 million face masks that are being discarded as litter and ending up in our oceans and in our wildlife. It is so bad that face masks have been dubbed as the 'new cigarette butt' and the 'new plastic bottle' in the way that they are being littered and left everywhere.

Face masks severely impair social interaction. 67.5% of facial expressions are completely covered by face masks, therefore unreadable. Facial expressions are extremely important in communication to understand what emotional context someone is speaking in:

people's expressions are not always synchronised with what they are saying and without facial expressions it would be nearly impossible to understand and decipher these subtle emotions. Another aspect of communication that is mostly covered by face masks are micro-expressions. These are hard to notice even without face masks, but they can reveal a lot about someone's view on something or what someone knows about something; it could be a smile that is obvious someone is trying to hide or the tiniest flicker of doubt; these are useful to truly understand what someone's feelings are but are almost impossible to notice when it is so easy to hide feelings behind a mask. An additional problem with expressions is the misinterpretation that can be made when expressions through the mask are not clear. This, however, is becoming less so as scientists have found we are changing our expressions due to face masks, exaggerating our faces – especially the upper part – to be clearer in the expression we are trying to convey.

Eastern	Emotion	Western
(^ _ ^)/	Happy	:-)
(>▂<)	Angry	>:(
{{ (>_<) }}	Fearful	=:-O
(╯ _ ╰)	Sad	:-(
(⊙_⊙)	Surprised	:-0
(⌒_⌒;)	Embarrassed	:$

Another interesting fact I found is that in the Eastern part of the world, expressions are more focused on the upper half of the face, for example in their emoticons the eyes are more exaggerated and focused on than the mouth. In contrast, in the Western half of the world, the lower half of the face is more focused on when reading expressions, and our emoticons usually illustrate the lower half of the face. This could mean that in some parts of the world face masks have not been too disruptive to emotional communication. An additional find is that in some parts of Asia where face masks have been worn for many years due to air pollution, eye expressions are used more in their emoticons. This could be because these cultures have already adapted their expression of facial emotions to fit the use of face masks. The different emoticons usually used in each half of the world are in this picture.

Through lockdown, we have all struggled in environments such as at the shops, at school, and in the workplace, to read expressions. Our experience over the last year is similar to what some people have gone through every day of their lives. People with autistic spectrum disorder (ASD) can find it hard to do things that most of us normally take for granted, such as establishing relationships and comprehending social situations, as well as communicating, partly due to their inability to properly read facial expressions. It has been in the news lots that in recent years, people with ASD- children in particular- can be taught to read expressions through a robot named Zeno, who exaggerates each expression he does to make it easier for the people to interpret. This proves that when faces are unreadable, overstating facial movement will help. Due to COVID-19 it has become more apparent to people the struggles that others who have ASD have gone through and are going through when unable to read expressions as we are put in a similar situation to them. However, I still think they are in a worse situation as, with masks, it becomes even harder for them to understand people, with less face to read.

It is really unsettling to notice that when the figure is wearing a face mask, we do not know if he is happy, angry, or sad. Some people with ASD experience all faces as if they are masked. Perhaps this can help us to empathise with them.

Although many of us are struggling to communicate, it is even worse for those who only communicate through the bottom half of the face. People who are born naturally deaf or become deaf in their childhood mainly communicate through lip-reading; a type of communication defined by the Oxford English Dictionary as being able to 'understand (speech) entirely from observing a speaker's lip-movements'. Lots of people have expressed the negative impact face masks are having on people who find it difficult to hear. For example, a couple of months ago, a 13-year-old girl sent a letter to Boris Johnson asking him to wear a clear face mask to show people that he cares and understands what they are going through, also to hopefully get others to wear transparent face masks. Along with a clear face mask (which deaf people would be able to lip-read through), Emma enclosed a letter: 'You know what would be really cool, Mr Johnson, if you wore a clear face-mask in public, that way 12 million people would know that you care and understand what our life is like.'

To conclude, I think that, although face masks are doing good by protecting us from the virus; we must wear them properly or not at all. I also think that wearing see-through masks could positively impact the way communication is disrupted by face masks. Not only would they help us all with communication (especially deaf people), but they would stop us pulling down our masks or getting too close to one another to hear and see what people are saying.

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