Pioneering Pupils

Brentwood School Research & Development Journal

Student Edition 2024



#WeAreBrentwood

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Headmasters' Welcome

Michael Bond and Jason Whiskerd



Michael Bond



Jason Whiskerd

Welcome to the second edition of Pioneering Pupils, our student research journal that showcases the work of pupils as young as 3 through to those who are 18.

We live in a world of rapid change and - like all schools - one of our tasks is to prepare our students for jobs that don't exist yet and equip them to solve 'wicked' problems. A prerequisite both is to be a school full of young people who have inquiring minds, are intellectually curious and can work both independently and collaboratively. You will see in these pages examples of all these traits (and more) and, in the words of Dr Seuss: 'The more you read, the more things you'll know; the more you learn, the more places you go'.

We hope you enjoy reading about the many and varied projects undertaken over the past year at Brentwood School - who knows, you may read about something that inspires you to tackle an issue you've been putting off or sparks an idea you haven't thought of yet...



Aisling Chaudhuri (née Fahy)

Head of R&D 3-18

As an academic institution, we are tasked not only with equipping our students with knowledge for the future, but also with preparing them for life beyond school and academia, in the world and the workplace. Our students are encouraged to see themselves as citizens of the world, not just their locality.

Through the research and projects they undertake across the school, our aim is to grant students autonomy and the independence to question, inquire and apply their acquired knowledge and skills in a real world context.



Michelle Nicholls

Director of Pedagogy and Staff Development (Prep Lead) 3-18 An inquiry approach to learning enables our students, from 3 to 18 years old, to pose thoughtful questions, make sense of information, and develop new understandings about a topic and the world around them through their exploration and discovery.

Inquiry-based learning also allows our students to develop and apply the attributes within the Brentwood Learner Profile. The projects shown in the Pupil Pioneer provide a snapshot of how our students have developed 'resilience', as effective 'communicators', shown that they 'care' about our community and the world around them, 'opened their minds', 'reflected' on their experiences both in and outside of school and shared their 'knowledgeable thinking'. The projects they have worked on have also required a 'prepared' and 'balanced' approach whilst staying true to the 'principles' of their research and learning.



Meet the team

Why is research important to our students?

As said in the old proverb "it takes a village to raise a child", here at Brentwood School we have a village of talented and thoughtful staff with the ambition to raise the children into intellectually curious

and discerning adults. Each person plays their part in building this culture of understanding knowledge, challenging knowledge and creating knowledge.

Alice Goodfellow



Aisling Chaudhuri (née Fahy) Head of Research and Development



Michelle NichollsDirector of Pedagogy &
Staff Development 3-18



Alice Goodfellow (née Miller) Deputy Head Staffing & Co-Curricular



Hattie Barfield Moore
Director of Pedagogy &
Staff Development 3-18



Beth FullerActing Director of
Pedagogy and Staff
Development 3-18



Greg JusthamDirector of Innovative
Curriculum



Kirsten Blee STEAM 3-11 and DT 7-11 Coordinator



Kerry CookeDeputy Head
Academic (Prep)



Hollie Carter Director of IB

What is...?



Niamh E

What is the HPQ?

The HPQ (Higher Project Qualification) is a research project undertaken by students completing their GCSEs in an area that they find interesting or want to expand their knowledge on. The project can be completed in the form of an essay or artefact - for example, a piece of art or theatre - and is designed to aid the ability to research and discover the importance of extending knowledge among a wide variety of topics. By completing the project, students gain a set of transferable skills that are extremely beneficial for their academic careers and help to prepare them for future academic prospects.

Academic research is extremely important, due to its ability to minimise gaps in knowledge and expand on topics not touched on in an academic sense or within the school environment. Independent research also leads to a better understanding of the socio-cultural events that have taken place throughout history and promotes self-awareness and growth for those who are unaware of their significance.



Sophia A

What is the EE?

Undertaking extended research projects proves invaluable in developing skills further than those which can be taught in the classroom. Taking the example of the IB Extended Essay, a 4,000 word independent research essay, none here is more important than self discipline and time management. Unlike the EPQ, the majority of the work is undertaken in the student's own, unsupervised time, which in turn encourages them to manage their own schedules. The magnitude of such projects also introduces new challenges, such as the undertaking of much more involved research; here, the exposure to and navigation of a wide range of academic sources extends one's understanding of the concepts they are researching, while developing strong foundations and a model on which to build one's essay writing skills for further education. Furthermore, the rigorous citation process encourages students to actively evaluate the credibility of the sources, and synthesise information from diverse perspectives. It is during these projects that students also learn a lot about themselves: the unsupervised and relatively unstructured nature of the task means that the students themselves need to take initiative in working out in what environment they work best in, and how best they tackle a project of such proportions - is it short bursts of writing, or a rigorous planning process, that produces the best results for them? Research projects rarely unfold as planned, and often, alterations must be made to either the contents or focus of the project - in this situation, the importance of proper planning becomes apparent, and individuals are required to be flexible and adaptable. This cultivates resilience and the ability to adjust research strategies in response to unforeseen circumstances. Above all, the freedom of these tasks allows students to, in a sense, 'learn on the job.' It is through trying - and making mistakes - that one is able to improve, and build on their critical thinking, problem-solving, analytical and time management skills. These skills are not only valuable in academic and research settings but are also transferrable to various professional and personal contexts, which makes the entire experience a challenging, and yet very rewarding endeavour.



Oscar M-D

What is the EPQ?

In some ways, the EPQ builds on the HPQ – both are projects of your choice based on independent study. However, the EPQ is much more challenging than the HPQ and the focus on research is much more significant. Whilst with the HPQ, research is central to narrowing down your question and line of argument as well as backing up your key points, with the EPQ the critique of the research plays a more central role in the assessment. Not only does one have to find the sources and consider their relevance, but with the EPQ we have to produce an annotated bibliography as we

go along. The annotated bibliography is guided by four key questions which make sure that you remain really critical of bias and the usefulness of your sources. This helps to ensure that the sources used are the most relevant ones as well as to quickly reject those of less use. The hope is that the skills gained from this will help later on with research tasks at university and beyond. It's important to be able to read through sources quickly and judge whether they are going to be useful. This is a life skill and I hope that the knowledge gained and research skills honed help me in the future.

Why is research important for our students?



Kirsten Blee STEAM 3-11 and DT 7-11 Coordinator

Encouraging children to conduct research fosters independence, cultivates an engineer's mindset, and builds resilience in problem-solving. Research empowers students to explore, discover, and apply knowledge beyond textbooks. It nurtures critical thinking skills, instilling curiosity and a love for learning. In the realm of STEAM, research is a gateway to understanding

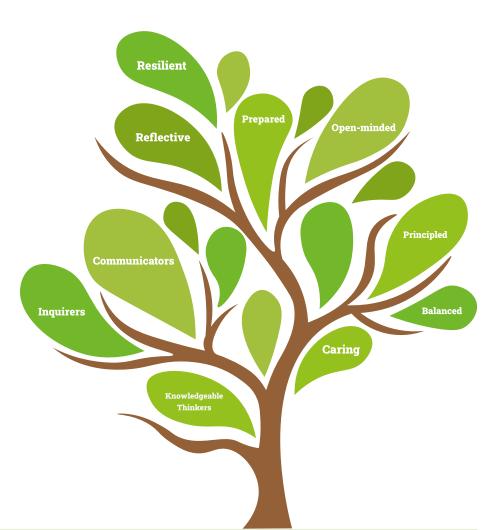
real-world applications, fostering creativity and innovation. Embracing independent inquiry equips our young minds with the tools to face challenges confidently. By promoting research as an integral part of learning, we lay the foundation for a future generation of thinkers, creators, and problem-solvers, ready to navigate the complexities of the world.



Greg JusthamDirector of Innovative
Curriculum

At Brentwood we truly value having our students' research engaged in an area of interest to them and through doing both the EPQ and HPQ, students are able to combine research with key skill development. Students become better at establishing the reliability of sources and also develop their

ability to project manage, plan and make ethical decisions around their research. Undertaking project qualifications at both KS4 and KS5, enables our students to develop a set of core skills that prepares them for both further education and the world of employment in the 21st century.



Attributes of a Brentwood School pupil

Traditional Classroom Projects	Inquiry and Project Based Learning
Short time period	Longer time periods
Intellectually 'light' - minimal use of higher-order thinking skills	In addition to recall, requires critical thinking, problem solving, collaboration, and various forms of communication.
Within a single discipline/subject	Multidisciplinary (e.g. STEAM)
Served up after the teacher covers the content of a unit in the usual way	To answer a driving question
A single correct answer / solution	No single correct solution - multiple possible directions for the project to follow, based on student's input

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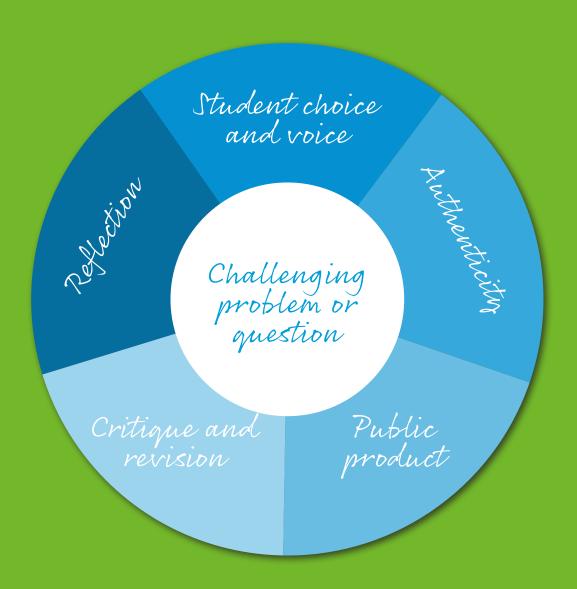
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Challenging problems or questions

This makes learning more meaningful for students - they are learning because they have a real need to know something, so they can use this knowledge to solve a problem or answer a question that matters to them.

Authenticity

Authentic projects should have a real impact on others, or when it speaks to our students' own concerns, interests, cultures, identities, and issues in their lives.

Student voice and choice

This creates a sense of ownership in students, and they will care more about the project. This allows the student to make their own voice heard.

Reflection

This allows the student to consider the knowledge and understanding gained, helping students strengthen what they have learned and think about how it might apply beyond the project.

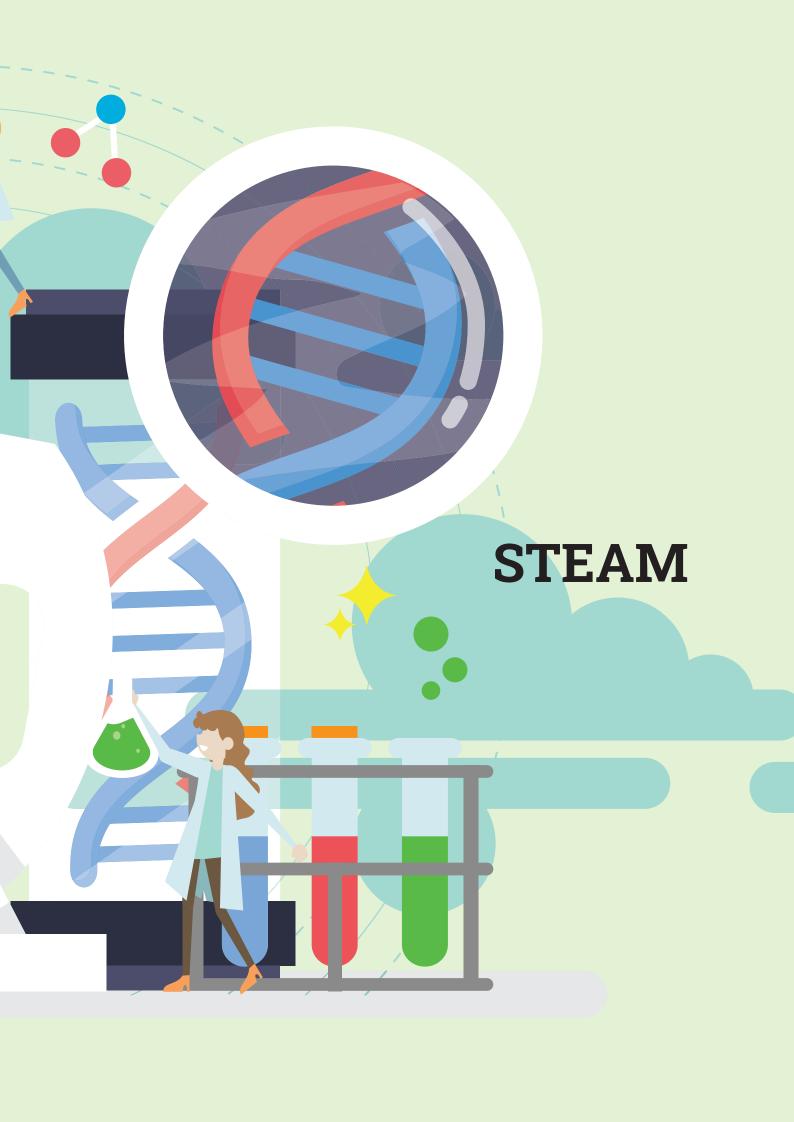
Critique and revision

Not only teachers giving feedback to students, but students learning to evaluate the results of their learning, and how they might approach future problems.

Public product

This encourages high-quality work, and develops the Brentwood Life-long Learning ethos and Learning Community, where students and teachers effectively communicate their passions and interests with each other and the wider world.





EYFS investigations and exploration

The Swifts class loved using the Blu Bots to investigate how to program an algorithm (a set of instructions) to make them move.



Here is Reign in Swifts who was curious to find out 'Why do some train carriages not stick together?' This led to an investigation into magnets and observing what happens when the different ends joined or repelled.



Mia C. and Ilyas S. are investigating how the Blue Bot can be programmed to move and follow instructions — they also learnt a new word 'algorithm'. Isabelle N is watching intently as to how the BlueBot can move!

"We wanted to find out why some train carriages stuck together and others pushed apart".





Here in the Dinosaur Tray are Ilyas and Seb from Swifts, exploring how the lava comes out of the volcano.



Investigating repeating patterns and printmaking

Where can repeating patterns be found in the world around us?

How does the amount of ink used affect the print quality?

Are some colours of ink more effective on different coloured paper than others?

How can repeating patterns be made?

How much pressure to apply to the stamp before peeling it away?

> How long to leave the stamp on the paper before peeling away?

What did we do?

The investigation continued as we designed a fish stamp in our sketchbooks using a 2B pencil and sketching lightly. We then created our designs in polystyrene and discussed why polystyrene was a good material for this job - it allows for paint to be applied multiple times so the pattern can be printed again and again.



Sisi

What did we find out?

We discovered that there are examples in the stripes of our school dresses and the ties, also in wallpaper, wrapping paper and fabrics such as curtains and cushions.

We talked about how repeating patterns could be made using strips of paper, stamps, stickers or drawing the same shapes over and over.

When making your stamp, the indent on the polystyrene has to be deep enough to feel without looking, but not too deep that the pencil went all the way through and created a hole as this would make the paint bleed and ruin the pattern (or maybe create a new unique one- making it hard to repeat!)

To reflect on the process including our expectations, outcomes and enjoyment we wrote a paragraph to summarise the investigation:

Dark pink, blue and teal on my first one. I didn't make it but it's fine to make mistakes because you learn from them on my second one I pressed harder so it became more successful on my third one I successfully did it and I was jumping with excitement.

Pradnya C

At first as soon as I felt the gooey ink I felt very disgusted but I managed to print it on. I rolled the ink across my design and pressed it on my coloured paper as hard as possible trying to make a perfect print. BOOM! As I peeled it off I could see a beautiful and neat outline of the fish I had drawn. Emma Z

On my second try, it worked! I put on an ocean full of ink and it covered the paper, it was brilliant! However, it was very messy and got all over my fingers! On my third one, I didn't feel lucky at all because I was breaking the rules, instead of putting the polystyrene on top of the paper I did it the other way. I was hopeful and felt determined that it would work properly but also felt uneasy.

IVana





Sumayya James K



Rhea

Year 4 Photo frames

In their design and technology lessons, Year 4 investigated: 'What materials are photograph frames made out of?' 'What are the names of the parts of the photograph frames?' 'How can I make a photograph frame?'

They designed and made a photograph frame for a particular purpose that would fit the photo chosen. To begin with, the Year 4s learned about all the components of a photo frame, from researching existing photo frames available in shops and from what they observed at home. They explored the characteristics and build of a good photo frame and worked on ways to make the frame stable during the making process.

Students built on their measuring, sawing, glueing and problem solving skills.



Here are some reflections from our projects:

Measuring is important so you can get the right length on each piece of wood you make so it fits together

Rosie R, 4RW

'From this project, my top tip - Don't saw too fast or it will go wonky!'

Charles McK, 4RW

' I get the picture in and out by sliding the backboard out' Caio V, 4AH

'It turned out amazingly well, I am proud of what I have done.'

Sumayya, 4HC

The hook is the object that you use to hold up in portrait or landscape.

Max S, 4RW

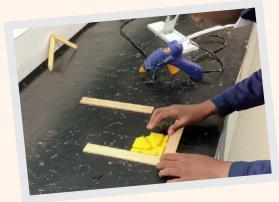
The levers stop the backboard from falling out.

Primrose O, 4RW









Space Camp

Space Camp took place in the Michaelmas term. Year 5s returned to school in the evening for a selection of activities related to space. The children have been learning about space in their science, DT and computing lessons. We had three visiting astronomers. The activities included entering a space dome to look at space exploration and the study of astronomy, gazing at stars through telescopes and identifying them using an astronomy app, making rockets in DT, star constellation art and discussing what astronauts ate in space around the campfire whilst enjoying hot chocolate and marshmallows.

This was not a research project but a wow factor enrichment activity to expand children's experience and spark an interest into an area. This experience enhances their ability to question which in turn motivates and gives reasons for research for a purpose. Children are more likely to connect learning within their classroom subjects as a result of these experiences and deepen their understanding of the topic.



Children's reports

The idea of Space Camp was that we could look at what is in space and learn more about it. We were also supposed to have lots of fun!

Our first activity was going up to the DT room to build paper rockets. When we came in, we talked about what makes rockets take off, which is lots of thrust and extremely powerful engines. We also talked about how to steer a rocket when you've taken off and how important fins are. Then it was time to build my own paper rocket!

Space Camp was really fun but also very interesting.

Elliot M, 5SL

I now know all about the planets and constellations, thanks to the special app we used to study the constellations! I learnt all about Pegasus and Orion's Belt and even about the after-story of Medusa!

After that, we went to the Designer Technology room to do some rocketry. I learnt all about the different parts of a rocket — the fins, the nose cone, the engine and lots more. My rocket was very good and the teacher even showed us how a rocket flew!

Jaelyn S, 5CM

The first thing was to go to the DT suite to make rockets but sadly we didn't get to make them fly. We chose nice and sturdy materials to make the base of the rockets and used the same material but in a different colour to make the fins. It was really fun making something new!

In the Planetary Dome, we studied all sorts of constellations and found out about a new website called stellarium. org, which shows all of the constellations in different places of the world and also with pictures. We learnt all about constellations in those good 30 minutes.

Daniel A, 5CM

Our first activity was the planetarium. A big dome with a spherical projector that projected all of the star constellations (e.g. Orian and Capricorn) onto the dome. We had to lay down and look up to see them. Next the man played a video showing us all the amazing planets and how the sun will not blow up for billions of years.

Aelfwynn A, 5SL



Year 6 Maths workshop

In the Michaelmas term, Year 6 children were invited to participate in an A.I.M (Achieve, Inspire and Master) High Maths workshop, led by Pete Hall, one of the UK's leading maths tutors, along with children from other local schools to celebrate everything we love about maths. Pete lived up to his motto of 'making maths fun' as the children particularly enjoyed Pete's sense of humour interspersed with the challenging puzzles on offer.

Review from Nathan C

I really enjoyed the competitive behaviour of all the students there. When Mr Hall introduced himself I had never heard of him in my life but when I found out who he was I was gobsmacked at how good he is as a mathematician.

The challenges he gave us were really hard that is why I really liked him. I can see why he talked about all the fake maths tests and intelligence tests online because they are wrong, they try to trick people and to get the wrong answer.

We covered loads of ancient magic squares, tangrams and funny trick questions. Out of them, my favourite was the tangrams because of all the different combinations you could make and how challenging it was.

The thing I liked the most was his humour in between questions because it made us all laugh when he said Gatport and airwick instead of Gatwick Airport. But overall I found it really interesting, enjoyable and stimulating. I had to put my brain to the test and was grateful to be picked and be a part of it.

Review from Molly B

I really enjoyed the maths day as I liked all of the complex problems and challenging myself to do them. The magic squares were really interesting to learn about and now I've learnt to do them on my own. The tanagrams were probably my favourite part of the day because I like making patterns.

Overall I think it was a really exciting day and I learnt a lot of new things. It was also great having the other pupils coming to our school and we even got to play football together.











Forest School

The ethos of Forest School is based on instigating, testing, and exploring curiosity in the world around us. During each session in the forest, we often have a reflection time to consider the things we are learning or noticing. We have the opportunity to engage with our peers, thinking critically about the world around us, explore our emotions and the nuances of our

resilience. We explore the 6 principles of Forest School through a range of activities. We sit around our log circle in Bayman Woods, usually after a variety of forest activities involving tools, fire, craftwork or shelter building. Or sometimes, just the chance to play and develop skills linked to the Brentwood Learner Profile.



Children left to right: Ridan, William, Tom, Sebastian, Oscar and Xander

Marcus, Year 6

"Woods are a better place to play hide - and - seek than the planground because it influences strategy;...the environment is different; if we want to hide, we can choose a nettle patch, for example - where others might not want to go. This way we can remain hidden and win the game, it's a good strategy!"



Ria, Sara, Honor-Rae, Kyra, Isabella



We go out in all weather 'there's no such thing as bad
weather, just bad clothing!'.
If it's really windy, then it
would be unsafe to go into
the forest, but rain can give
an ideal environment for
splashing in puddles, and in
this case making boats...



Olivia-Rae

"We could see our boat wasn't floating well, so we reduced the amount of clap. It still wouldn't float, so we took off some more clap and added a smaller leaf and then it worked so much better!"

Ralph, Year 5

"We focussed on the size of the leaf, the mast and the bark. I think we need to research the ratio of the clay to the bark. With more time, we could look at how the boat balances."

Nethya, Year 5



Thomas and Lachlan

"We looked around for some material to make our boats and I thought of bark, because that would float, whereas stone would have sunk".

Dhruv, Year 5



Maya, Vikram, Nethya and Jasmine experiment with floating materials.

Great Brentwood Bake Off

In Tasker House Week 2023, the Prep children were challenged to compete in the Great Brentwood Bake Off! The theme for the challenge was sustainability.

The children also had to explore why including a recipe was important for those who want to use ingredient lists to check for allergies or food intolerances.

This was a whole school event and the judging panel was tasked with deciding the following category winners:

- Most sustainably-made cake
- Most sustainably-packaged cake
- Most original design





Ajith's Apple Cranberry Tart

"It was the first time I made it. I deliberately looked for seasonal fruits to make it sustainable and that's why I used cranberries. First I made the dough, we had to put it in the fridge for a bit, then we made the jam next and put the apples and cranberries inside and mixed it all up. I made a mould for the dough and then put the jam in and then put a top on the tart and put it in the oven."

Next time I might change the temperature in the oven as it came out a bit crispy. It was a bit black and I wanted it to be golden brown.

My top tip for someone else is - don't burn the jam! Put it to simmer for a bit and then turn it down.

I prepared a bigger one for my family and that one was even better. I learned that I like cooking and I like freestyling my cooking so sometimes I want to try cooking without a recipe".









RECIPE

Harry C's Rocky Road Cake

"I picked that recipe because it would impress the judges with its taste and overall look. I have made it before a couple of

times with my nan. It is my nan's recipe. She helped me out when I made it. The hardest bit about getting this recipe right is trying not to burn the chocolate. You have to use the best chocolate as some can be too gooey and some can be too hard. If I left it too long or had the temperature too high it would burn.

I have learned that I always need to be focused otherwise things can burn or they won't taste as well. Also that is important to keep the cake mixture consistent otherwise it can have lumps or holes in it. If I did it again I probably wouldn't have added popcorn on top as it goes stale. I would have taken that off and replaced it with another treat. Normally when I use a recipe I will change the recipe amounts to match the size of my family".









Junior Science Fair: Year 7 Bronze CREST Awards

These pupils are from the Bronze CREST Awards Science Fair which we run in June with the Year 7s every year.

CREST is a nationally recognised scheme for student-led project work in the STEM subjects (science, technology, engineering and maths) that gives young people aged 3–19 the chance to choose their own subject and methodology when completing their hands-on investigation.

The Bronze level is a perfect introduction to STEM project work for young people aged 11+. Over the course of 10 hours, teams of students design their own investigation and record their findings, giving them a taste of what it is like to be a scientist or engineer in the real-world.



Amelia P

What was the project about?

My project was about investigating what would happen if I added varying amounts of oils and scents to a plain moisturiser and discovering which amount was the best and created the best formula for a cream. I also used different scents to create 5 creams.

Explain the research you undertook

I started with the base moisturiser and added increasing amounts of coconut oil. I began with 2.5% of oil and went up to 20% and decided which amount was the best and created the best cream. I then repeated this process with avocado, sea buckthorn, camellia and peach kernel oil. I gathered the data and displayed it on a bar chart. I then also decided which scents would best match with the oil and added the appropriate number of drops that was proportionate to the amount of oil and cream. After that I wrote down my final recipes and made a larger amount and distributed the cream into labelled pots. As an extra asset, I calculated the prices of each pot using the amount it cost to buy the base moisturiser, oils, scents and pots. With all the information I had gathered, I wrote down my observations of what the creams smelt like, looked like, and felt like when I added varying amounts of oil and scent.



What were your findings?

These are the results of my project:

Oil name	% of oil	Amount of scent	Total cost
Coconut 11.5 35 drops (rose		35 drops (rose)	£3.35
Avocado	11.5	No scent added	£3.20
Sea Buckthorn	8	15 drops (lavender)	£4.15
Camellia	12.5	3 drops (mint)	£3.04
Peach kernel 12.5		4 drops (lemon)	£2.65

What were your findings?

These were my observations after the different oils were added to the base moisturiser.

Oil name	Colour of cream	Smell without scent added	Texture
Coconut	White	No smell	Smooth on the skin, thin texture
Avocado	Light pastel green	Smells like paint	Quite a thick texture, quite oily but hydrat- ing on the skin
Sea Buckthorn	Bright yellow	A sweet smell slightly like lavender	Thick texture but smooth and easy to rub into the skin
Camellia	White	Subtle floral scent	Thin cream, hydrating, easy to rub in the skin
Peach kernel	Very light orange	No smell	A reasonably thick cream which can sometimes be hard to rub into the skin but feels hydrating

Why did you decide to do this project?

I decided to investigate creams because I am intrigued about how they are made and how the perfect texture is made. I enjoyed creating my own packaging, measuring the oils, scents and creams and also making the creams. I love using them and my favourite is Sea Buckthorn because I love the unique yellow colour and the sweet smell combined with the lavender scent I added.

What did you learn from the process?

I learnt that different types of oils affect the base moisturiser in different ways. For example, for each cream, the amount of oil required varied because of the different compositions of the oils. I learnt that not all oils behaved the same and all affected the base moisturiser differently. Some needed a high percentage of oil or scent and some needed a lower. I also learnt how to correctly measure the oils, scents and base moisturiser to create the best proportions for my cream.

Was your project successful? Did you need to overcome any problems?

I feel my project was successful as I managed to create many different formulas which all worked well on the skin and were a success. A problem I needed to overcome was sourcing the ingredients to make my creams. It was a challenge to find a suitable website providing oils, a base moisturiser and scents (essential oils) that was certified and safely produced. I did find a website called 'naturally thinking' which provided all of the products I needed for my project.



STEAM



Max G



Carnell W

How to overcome spice - Which substance is best at preventing the sensation of spice?

In a world full of different flavours there is nothing quite like spice. Whether it is the fiery kick of chilli peppers or the mild heat of smoked paprika, spice adds another layer to our cuisines. But what about if you eat a meal that is too spicy, or a snack that has an unexpected punch? That's what we wanted to discover - what is the way to tame the flame?

The Aim

Our project, which we undertook during the 2023 CREST festival, was fuelled by curiosity and a mild weak point for spice; we aimed to discover which substance is the most effective at preventing the sensation of spice. There were many options to choose from, but we chose these common contenders: iced water, sparkling water, flavoured water, milk, almond milk, and ice cream.

The method

To carry out our experiment, we had to come up with a clever way to measure spice. After much research and consideration, we discovered that we could do this with our heart rate as spice can significantly cause heart rate to spike. With this, we formed an accurate and reliable method.

Each substance was carefully measured and poured into individual cups. We then recorded our initial heart rate to establish a baseline. With a teaspoon in hand, we bravely sampled a shot of sriracha sauce. We waited 30 seconds for the spice to kick in and then recorded our new increased heart rate. We followed this with a gulp of the substance to cool the heat, waited another 30 seconds and then once again measured our heart rate. We found the difference between the spiked heart rate and the cooled heart rate to compare our findings in a result table.

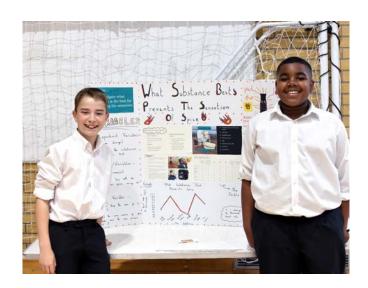


The Findings

After carefully analysing our data, a clear victor emerged: milk. Our hypothesis proved accurate, as milk showed the most effective ability to soothe the fiery sensation of spice. Our finding matched scientific understanding, as milk contains casein, a protein known to quickly cool the effects of spice.

In Conclusion

This project was not only fascinating but also provided bundles of fun whilst being carried out. There was much pleasure in watching each other consume a teaspoon of sriracha and having to deal with the sensation for a whole 30 seconds. Our culinary world is very powerful and vivid. Next time you find your taste buds burning, reach for a cold pint of milk and feel the sensation fade away.





Delilah O

A potential link between glue ear and dyslexia

Otitis Media, also known as glue ear, is a condition where the ear canal becomes filled with fluid preventing the ear drum from vibrating and so impairs hearing ability. The condition fluctuates and is often worse in winter when colds are frequent. It is also persistent and can last for several years until the child's hearing system grows large enough. Children with glue ear often fall behind at school and give up academically as the struggle to hear is too great. I had otitis media for a prolonged period and relied on lip reading as well as wearing a hearing device so I am passionate about this subject.



Recently it has been suggested that there may be a link between otitis media and dyslexia (Peel, 2017). Dyslexia is a group of conditions which affect the ease of reading, writing and spelling. This is of great personal interest because I feel otitis media has affected me in this way. So in this project I wanted to investigate the connection between glue ear and dyslexia.

The method

Participants

As I do not have access to a group of patients with glue ear I decided it would be easier to find a group of people with dyslexia to investigate this issue. I compared the results of this group to a control group of

participants of similar age without any problems in reading, writing or spelling. My cohort with dyslexia consisted of 10 boys and girls aged between 11 and 18 years. The mean age of this group was 13.4 years. Most of my participants had been diagnosed by a clinician but one was self diagnosed. They were compared to a control group of 10 boys and girls without dyslexia aged between 11 and 17 years. This group had a mean age of 13.8 years. An unpaired t-test revealed that the two groups were not significantly different in age (t (18) = 0.4140, p. < 0.05).

Questionnaire

I devised a questionnaire asking this group of people to confirm their diagnosis of dyslexia and whether they had a diagnosis of glue ear as a child. In case they may have suffered from glue ear and not been diagnosed I also asked them to indicate whether they had suffered from a list of common symptoms of glue ear as a child including ear aches, frequent colds, waking at night, breathing through the mouth, hearing difficulties (having to say what, pardon etc) or seeming to ignore requests and instructions.

Finally, I asked the participants to rate on a scale of 1 to 10, with 1 being the worst and 10 the best) how good they were at telling their left from right when using directions. I was interested in this because I feel this is not something I am good at and it has been suggested that poor left right distinction may be connected to dyslexia. I wondered if it also related to glue ear.

STEAM

Results

The results showed that the group of people with dyslexia had 40% of participants with a history of glue ear compared to 30% in the control group. These figures support the notion of a connection between glue ear and dyslexia as there is a higher rate of glue ear in the dyslexic subject group. However, statistical analysis of the data using chi squared analysis revealed that this difference was not significant (Chi squared equals = 0.476, p >0.05).

Further analysis showed that the group of people with dyslexia who reported symptoms of glue ear being present in their childhood was 60% compared to 50% in the control group. This means more people in both groups had symptoms of glue ear at a higher level than the numbers diagnosed with glue ear.

Conclusion

The data supports the trend of a greater incidence of glue ear in a group of people with dyslexia compared to a control non dyslexic group in line with the research by Peer (2017). Steps to improve this research study would include assessing a larger sample size. It may also be worthwhile asking parents to complete the questionnaires as they may have a more accurate recollection of the participants' childhood than the participants themselves. An even better step would be to verify these diagnoses through medical records if this were possible.

If there is a link between dyslexia and glue ear the question of how the connection between the conditions operates remains unsolved. Perhaps the poor quality of sound a young child with glue ear receives during their early years of learning phonics and reading negatively impacts the way they learn these units of sound. Further research is required to identify the exact mechanism by which this occurs. Then we might be able to find ways of helping children with glue ear reduce such problems. The headset I wore designed by Dr Tamsin Holland-Brown using bone conduction certainly helped me.

Distinguishing left from right has been linked to dyslexia by some researchers. I am not strong at telling my left from right and wonder if this is connected to my glue ear. The results here are self reported but in future studies it would be useful to use a computer based left right matching rotated shapes to gain more objective data.

In summary, there seems to be some link between glue ear and dyslexia but the mystery is not yet unravelled and further research is required to determine how strong this link is and why it occurs.

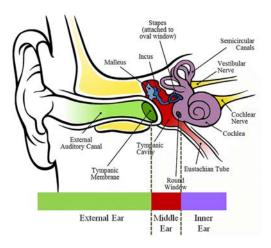
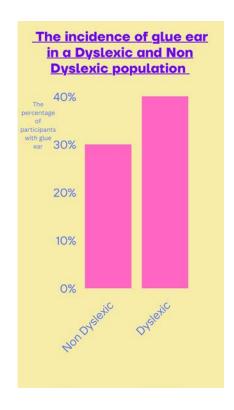


Figure 1 shows the hearing system. Glue ear occurs when the eustachian tube fills with fluid preventing the eardrum or tympanic membrane from vibrating so the sound vibrations cannot travel to the inner ear or be heard.





Zachary W



Elliot W

How long does it take for different balls to reach the ground from a 4.5 metre drop?

In a world full of different flavours there is nothing quite like spice. Whether it is the fiery kick of chilli peppers or the mild heat of smoked paprika, spice adds another layer to our cuisines. But what about if you eat a meal that is too spicy, or a snack that has an unexpected punch? That's what we wanted to discover - what is the way to tame the flame?



Our method

First of all we collected 10 different size and weight balls for this experiment. Measure a 4.5 metre straight drop to the ground, which was from the second floor window. Secondly, we dropped each ball out of the window using a stopwatch to time how long it took to fall. We did this 3 times for each ball to get a more accurate recording. Once we filled in our chart with the results, we calculated the average for each ball. We weighed each ball and measured the circumference and added this to our results. Took photos of each ball to show the reader what the balls appearance is like. Lastly, turned the results with the weights and circumference into different graphs to show comparisons of the balls and what other factors affected the fall.

Our hypothesis

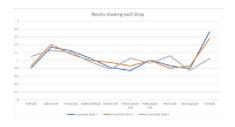
According to Galileo and Isaac Newton, the mass of an object does not affect how fast it falls. Which is true if we are on Mars. The force of gravity tries to make everything accelerate downward at exactly the same rate.

Our experiment is to see how long it takes for 10 different balls in shape, size and weight to fall to the ground the quickest and to answer why.

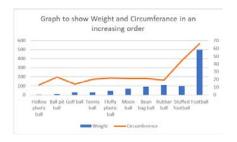
We think that the lighter and bigger balls will fall slower as they have less gravity pulling them down and they will also experience more air resistance. We also think that heavier balls will fall faster since they have more gravity pulling them down to the ground due to the bigger force acting on them.

As the football is the heaviest weighing 500g, we think it will drop the fastest. Our prediction for the football is 0.8s due to the heavy mass and a strong gravitational pull.

Results for three separate drops in Seconds and the calculated average for each ball



A graph showing weight and circumference in an increasing order



What we learned from the process:

Our results showed that the smaller, heavier balls, e.g.: Bean Bag Ball, 0.796 seconds and Rubber Ball, 0.885 seconds, fell the fastest with less air resistance. The Hollow Ball was the third quickest but air could easily pass through the empty space allowing less resistance. We also found out that the light weight balls with a bigger circumference, took the longest to fall and hit the ground e.g.: Ball Pit Ball. This is due to the Air resistance slowering the bigger area.

The Football was the largest and heaviest ball, but this took the longest to fall at 1.446 seconds. The air resistance on the large area counteracted the heavier mass. Second from last to fall was the next largest circumference, Ball Pit ball, 1.336 seconds. The force of gravity tries to make everything accelerate downward at exactly the same rate, no matter how light or heavy it is. Air resistance hitting larger areas is what slows down the gravity pull closer to the Earth's surface.

CoPE Awards

The CoPE award (Certificate of Personal Effectiveness) is a vocational award similar to the BTEC delivered through the business enrichment programme.

It consists of six modules, primarily studentled and they have to produce a portfolio at the end of it (it lasts about 18 months). It carries UCAS points at Level 3. The course is officiated with ASDAN and is designed to show the skills an employer may look for which are not strictly academic, it shows the ability to organise events, work with others, carry out a presentation amongst others.

The fair is part of their research project where they have to look into a subject of their choice, present it and make a display.

Researching Script Writing

Scarlett C

As a part of a small group I undertook the role of script writing in creating a short film. For my project 1 created a script about a murder mystery that happened in the Manor House of a wealthy family. As I had never written a script before it was important for me to research what made a good script. I watched a range of movies that aligned with the murder mystery genre and analysed characters and the plots of each film. Following this I began research into how to format a script, exploring different fonts and layouts. Without this research script writing would have become a chore as I would have been deprived from any inspiration.



The use of autonomous drones in Air Power

Jonathan D

As an Air Cadet, aviation and air power of a subsection of that has always interested me. I decided I wanted to look more into the world of drones as they seem to be the future of the RAF, specifically. I read a number of government and military doctrines about how they plan to use drones to impact air power. I also did a lot of research into the potential future of the utilisation of these drones and the variety of roles they could perform. Carrying out all this research has sparked an increased interest in the future of unmanned warfare for me, and has offered an invite into the future of military, aviation.



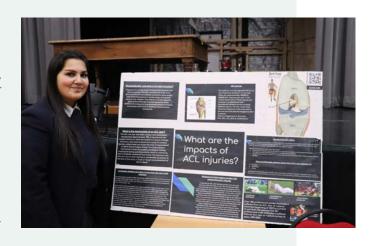
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Should AI be used in healthcare? Alex Y

The introduction to the use of AI has been a relatively recent one, however it has undoubtedly played a substantial role at the moment in shaping various industries. Recently there has been a push in the implementation of AI in healthcare, which has various benefits and drawbacks which I aimed to point out in the confines of my project.

What are the impacts of ACL injuries? Anna S

I have been an athlete my whole life and have seen so many people get injured because of their sport. Seeing the most common injury I decided to research ACL injuries. This is an injury that has impacted so many athletes worldwide, and I wanted to find out why and every aspect of it. On a personal note, I suffered from a ruptured ACL in February 2023, which led me to have 2 surgeries and put me out of my sport for over 13 months. For me this was a very important and serious topic and it interested me so much as I wanted to learn more about what I suffered from and why people suffer.







Why do footballers make so much money and what is the effect on young footballers?





For his IPQ project in Year 6, William
Adenagbe, chose to explore a common and
often highly debated research question. It was
an opportunity for William to look in detail at
something which he has a keen interest and
consider this from a number of perspectives.
Here he explains why he chose the topic:

'Why I chose this topic is because I really like football and I am passionate about it Also football players make a lot of money but why do they make this much for just kicking a ball about and what is the affect on the players.'

Introduction

Footballers come from all different backgrounds from all over the world. Some from big cities with huge football backgrounds, some from remote regions of the world where football, as with people, is few. Some have high level education, some the bare minimum. All their success however is based on their individual talent alone. If you are good, you will be signed, if you are better than your team-mates at one level, you will be found and rise, again and again till you reach

your level. Football is everywhere, played in nearly every corner, back alley and street all over the world, that where there are people there is football. But as football is so popular money is everywhere. Footballers make absurd amounts of money and today I will be talking about this issue and why it is happening.

The debate

Professional footballers are increasingly paid more with each passing year. At the same time, wages for many professional jobs like doctors, teachers, and social workers (which people argue are more important) have been decreasing in a steady fashion for decades. Most footballers earn more money in one week than most people earn in a year and this is where my debate starts. In the UK, a primary school teacher earns just under £35,000 per year on average. Nurses in the UK have an average yearly salary of £31,000 while carers make a mère £21,000 per year only £2900 above the minimum wage. The average premier league player earns 3,000,000 a year, that is enough to buy your dream home. This is an absurd amount and most people could retire on that and be happy for years to come.

Not every footballer earns a huge sum of money. Around 50% of football players earn under \$1,000 a month. Even in the European Big Five, there are only a few players who earn a lot of money and it is what we call

"The Superstar Effect". Football is probably the most popular team game and even sport in the world, so the superstar players have their own unique roles to play, therefore earning their wages respective which indeed is high but is in return for their brilliant performances. The star players are basically the top professionals who have the ability to create a difference on and off the pitch with their exceptional talent and media influence and are rewarded for the same reason. The more talent you have, the more value you bring to the team, the more you will be paid. The talent helps to win certain matches and tournaments bringing along the popularity and fan base that is willing to spend money on tickets to watch their favourite team and/or players play.

But footballers these days have become more than just footballers. They've become celebrities, and because of that, many of them have their personal lives splashed across the media. And it's not just media pressure they're under either.

Many of them get harassed by fans, opposing and their own, week in and week out. It can be a tough life sometimes. Because of their high salaries sometimes people can get jealous and then they would make their life harder.

The effect on young players

Imagine that you are nineteen years old. You have just signed your first professional contract with one of the biggest clubs in the world. Your weekly salary has risen from £800 per week, to a little over £10,000 (that's a 1130% increase!). You are now earning more than your entire family combined. Seriously, imagine how that would feel. Maybe it would feel amazing, the world is at your feet, and you're now set up for life. Or, maybe, you now feel the weight of your family on your back – all that pressure to succeed to ensure that the money can keep flowing for many years to come. But, perhaps, your perspective begins to wane. Potentially, you now feel as though you are better than those around you. You believe that you can do as you please without consequence, no matter how bad it may be. The latter may feel like a stretch from reality, but while I can agree that it's not the norm, it definitively does happen to some players. This mindset is not just arrogant, it's potentially very dangerous. Believing that your actions don't have consequences is the first step to a dark and narrow path.

Mason Greenwood

An example of money corrupting young footballers is Mason Greenwood. The 21-year-old Manchester United forward has recently been arrested on accusations of rape, assault, and threats to kill. These crimes were all apparently committed against his girlfriend, Harriet Robson. Less than 5 years ago, Mason Greenwood was earning around £800 per week. He now earns £75,000 per week – or at least he did before Manchester United suspended him. Looking back at what we have already discussed, it is already clear that such a rise in income could be detrimental to someone's mental wellbeing. With his rise in ability, Mason's wage

wasn't the only thing to see a sharp increase. His fame also rose considerably. He became a household name seemingly overnight, was seemingly always in the media and couldn't do very much without being reported on – from shopping, to holidaying and more. This brings with it added pressure and stress which can be a deadly mix with seemingly unlimited finances and a potentially poor mental state. This isn't the first time that Greenwood has endured disciplinary issues, though his previous issues were not a legal matter and so that is why nobody has ever brought them up.

Oscar

He had the football world at his feet. A midfield talent like no other, Oscar was already the star of a World Cup and a vital key, to two Premier League-winning campaigns. At 25, the Brazilian seemed to have everything in place to cement his position in the game's best. However, in January 2017, he made a shocking move. The Chelsea star gave up on his dream of dominating European football and moved to China, signing a huge four-year deal with Shanghai SIPG worth £20.8 million (\$26.5m) a year, that made him one of the world's highest-paid players. Oscar quoted this when he joined Shanghai SIPG and nearly quadrupled his wages. "I am criticised for coming to China. Footballers are like any other worker, we want to earn money and help our families. I come from a very poor family in Brazil, I do this for them.

Ngolo Kante

The Chelsea and France midfielder has amassed an estimated fortune of £25 million but he is well-known as a humble, down-to-earth person off the pitch. Despite his wealth, Kante still drops by local mosques to pray and hang out with fans and even shows up at a supporter's wedding. Even on the pitch, his sparkling attitude comes across when deliberately refusing to punish teammates in a fun training game and memorably being too shy to hold the World Cup. It is clear his humble mantra spills over into his finances too with Kante saving more than a few pennies by driving a Mini Cooper rather than a supercar. Kante gives a lot of his money to his local community and helps them by supporting them with all his money.

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How Goya's Saturn is a person





The painting "Saturn Devouring his Son" by Francisco Goya shows an image of the naked Titan Saturn eating one of his offspring. It was prophesied that he will be killed and overthrown by his child, so he killed each one of them at birth. Saturn was the father and biologically identical to Roman gods who created human beings in their own image, meaning that he is viewed as a person. This myth, just as this painting, shows a horrible side of personhood (since persons were created practically mirroring these beings), a person eating his own child, and it implies that some persons are horrible and emotionless. Therefore, this painting argues how one's personhood depends on biology, and how emotions, compassion or anything similar is not a factor that indicates personhood, Ratramnus and Frans de Waal share the belief that morality and a sense of right and wrong defines personhood and therefore they would disagree with Goya by saying that Saturn is not a person. One eating his own child absolutely negates any idea of morality, therefore rendering him not a person. The painting shows Saturn in an animalistic way resembling more a rabid animal than what Ratramnus and de Waal would classify as a person, highlighting the disagreement between Goya and them. On the other hand, Ramachandran believes that personhood is based only in biology, and therefore he would agree that Saturn is a person, since he is biologically the same as humans. It is without a doubt that Saturn is horrible, but according to Ramachandran, he is still a person. Frankfurt would agree with Ratramnus and de Waal since he believes that persons are beings that can control their first order desires for the sake of the second order volitions. Obviously, Saturn has no control over his desires, so therefore he would not be a person. In this essay I will argue in favour of Ramachandran by claiming that even though a horrible one, Saturn is still a person, and therefore that persons are defined purely by biology and not by their goodness.

Ratramnus and Frans de Waal argue that morality and ability to determine right from wrong is a factor of personhood. Ratramnus's philosophy about personhood stems from a believed myth at the time about humanoid creatures with dog heads that lived in ordered societies far away from the reach of humans. Ratramnus was convinced that these creatures were persons considering they kept order of their society. They had laws and the ability to differentiate right from wrong and therefore they were moral. This means that they were persons. De Waal believes that some animals have both a sense of fairness and empathy which are the pillars of morality, therefore making them moral. Monkeys won't complete instructed tasks for a piece of cucumber that they accepted before for the same task if they see that another monkey is being fed a grape for the same work, so they have a sense of justice. Some animals will also help other animals they see suffering without any reward, showing empathy. Since they show both qualities that are the pillars of morality, they are moral, and therefore persons. Ratramnus and de Waal would disagree with Goya about Saturn being a person - he devours his sons leading to the conclusion that he is stripped of all morality, and not a person. A strength of this position is that having a sense of morality means that one can judge whether something is right or wrong and therefore has consciousness. This means that the being is capable of at least a simple thought, and this is one of the criteria often used to describe persons. A strength of this theory is the fact that it joins consciousness, ability to think and to function as a part of a group in one theory. One issue that arises is the question of why morality is a factor of personhood. It makes no sense to just assume that personhood is being moral out of any other reason than the fact that morality is observed in humans. By that logic, every other state observed in humans should also be a factor of personhood no more or no less than morality. Anarchy, crime, and similar chaotic states are also commonly observed through society, possibly even more than morality, so by that logic all these states should be a part of being a person. There is no reason that only good traits of humanity should be considered human while bad ones are excluded. This approach would lead to the conclusion that Saturn really is a person since lack of morality and filicide both have been observed in society, leading to a paradox of Saturn's personhood. Furthermore, babies have no morality at first, leading to the conclusion that they are not persons, but become ones later on. Therefore, the word "person" loses the meaning as the definition of a being but becomes a teachable skill. It can be concluded that Ratramnus' and de Waal's philosophy fails in providing a universal logical definition of person as a state of being, and therefore it presents no effective arguments that Saturn is not a person.

Frankfurt proposes an alternative criterion for being a person - having second order volitions. He identifies two types of desires - first order desires and second order volitions. Every living being has first order desires, since they are the one based on natural instincts and needs. Examples are eating, sleeping, procreation... Second order volitions are desires to do the opposite of the first order ones, and he defines persons as beings that have the ability to follow up on these volitions. For example, an obese cat will never stop eating, while a person may choose to stop in order to lose weight. According to Frankfurt, every being that acts according

to the second order volitions is a person. In the case of Saturn, the first order desire is to remain in power and survive, since this is natural for all beings (it is observed in nature, for example gorillas or lions fight between each other to gain or remain in power). Deciding not to kill your offspring because of morality, compassion or love is a second order volition since it contrasts the first order one, and according to Frankfurt only persons would act this way. Therefore, Frankfurt would not classify Saturn as a person. A strength of this theory is the fact that it unites intelligence, rationality, morality and self respect into one theory. It is a reasonable way to separate humans from animals and less intelligent organisms. It works in reality, since by using only this idea it seems that one can successfully differentiate between animals and humans based only on their actions. This argument, although making good sense, can be argued to be too complicated to be true. A child can identify who is a person even though they cannot grasp the idea of first and second order desires, meaning that this definition may be too complex to be true. It is logical to assume that personhood has a simple definition, since it is a term used by many people who are not philosophically educated to understand this line of argument and since it was well understood before this idea ever emerged. Also, after deeper thinking, the line between first and second order desires starts to blur. Eating is a first order desire since it is based on instincts and natural needs, but birds with offsprings do not eat until their child is fed. This parental instinct is observable in many animals, for example bears who fight till death to protect their cub therefore overpowering the first order desire to survive. This leads to the conclusion that this primitive love and care for one's offspring is a first order desire while living, eating or procreating (previously identified as first order desires) are in fact second order volitions. According to this logic, Saturn is overcoming his first order desire to sacrifice himself and die for his offsprings by rational thought, making this act of eating his child a second order volition, leading to the conclusion that he is a person only because he ate his child. This thin line between these two terms leads to a paradox since every desire can, by some logic no less smart than the opposing one, be classified as either one. Therefore, Frankfurt also fails to provide a strong argument for personhood, resulting in the conclusion that Saturn cannot be considered not a person because of the order of his desires.

A different approach is taken by the philosopher Ramachandran who believes that the definition of a person is rooted only in biology. According to him, all our emotions, feelings, thoughts, perspectives and personality are generated by chemicals and neurons in the temporal lobe of the brain. These factors together form qualia, or a feeling of being human, and only persons experience this. Since only humans can experience the human qualia, it leads to the conclusion that all homo sapiens are persons. Therefore, Saturn's morality or the order of his volitions would not matter, the only factor that would determine his personhood would be biology. If he has the same biology as humans, he would be a person and if not, he would not be one.

Since according to mythology Jupiter made humans as an image of his own biology and since he has the same one as his father Saturn, this leads to the conclusion that he is a person. He feels the qualia of being a person, and therefore is one. One drawback of this position is the fact that it can be argued that it would exclude people in a coma or people with severely damaged temporal lobes as humans, leading to a group of beings lacking a definition or classification. Since the condition for a being to be a person is having biology of a homo sapiens temporal lobe, it can mean that people whose brains got severely damaged would not be persons anymore. Therefore, one can start being a person in his life and then stop after the injury, making personhood a changeable state, which does not make sense. In response to this it can be argued that these people are still human because they experience the qualia of a handicapped person or a person in a coma. They do not experience the qualia of a healthy person, but they do not experience the same things as a dog in a coma or a dog with an underdeveloped brain. Therefore, there is something unique about their experience solely because they are homo sapiens, meaning that they still fulfil the conditions to be a person. A big strength of his position is the fact that it is based only in human biology, and this avoids the paradoxes and illogicalities found in Ratramnus and Frankfurt's theories. It is based purely in science and facts, and therefore he avoids the different possible interpretations of his theory which can be seen in previous two positions. This theory is stable considering it is based on definite facts, and therefore it provides a very strong argument in support of Goya's interpretation of Saturn as a person.

In conclusion, I agree with Goya and Ramachandran in the idea that Saturn is a person and that the only condition for this title is the biology of a homo sapiens. Even though he is evil and rotten and lacks empathy or morality, he is still a person nevertheless. While both de Waal, Ratramnus' and Frankfurt's position lead to previously described paradoxes, they cannot be a valid condition for being a person since analysing them and the thought behind them can lead to the conclusion that Saturn both is and is not a person. Ramachandran's theory stands firmly considering it is based on science and not a relatively vague debatable idea. Therefore, Goya rightfully represents Saturn as a person.

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Why are governments failing to deliver on commitments made under the 2015 Paris Agreement?



D-M

The summer of 2022 felt unusual. Although it was the first summer in three years when people's lives returned to some form of normality post-pandemic, it was also a period of repeated natural disasters across the planet. Temperatures soared to unseen levels since temperatures had been recorded; wildfires burned through many parts of Europe, including in East London; millions were displaced in Pakistan due to extraordinary flooding; record breaking droughts were seen across the globe, in Europe, Africa, Asia as well as North America. For the first time, all parts of the planet were affected at the same time (see Figure 1).

How global temperatures have changed Temperatures (°C) compared with 1951-80 global averages -2 -1 -0.5 -0.2 0.2 0.5 1 June 1976 June 2022 ВВС Source: NASA

Figure 1 - How global temperatures have changed

Given that global heating is undeniable and the devastating impacts it will have, I am interested in finding out why governments are failing to deliver on commitments they made when they signed the Paris Agreement in 2015. Climate scientists have warned for the past thirty years that humans are causing climate change due to greenhouse gas (GHG) emissions. From 1990, scientists working for the United Nations Intergovernmental Panel on Climate Change (IPCC) have provided evidence to help governments put in place policies to cut GHGs. The warnings were clear about the disastrous consequences for the planet of uncontrolled global rising temperatures. However, as McGuire notes, policy making has been slow to respond to the IPCC's call to action. Between the first report in 1990 and the sixth report in 2021, "total greenhouse gas emissions have risen by 43 per cent." (see Figure 2).

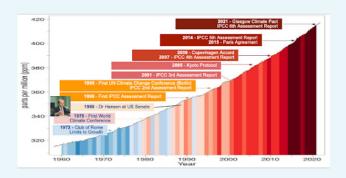


Figure 2 - Over 30 years of climate change science vs. Atmospheric CO2 levels

Source: Adapted from Graphic by Peter Kalmus, NASA, Nov. 2022. Data from Berkeley Earth

Yet in 2015, the Conference of the Parties (COP) 21 gave optimism. The landmark Paris Agreement was believed to be a success by participants, as it was comprehensive, agreed and entered-into-force by all 197 countries that participated in the COP. The Agreement included a number of aspects to "combat climate change", but fundamentally, it "reaffirms the goal of limiting global temperature increase to well below 2°C, while pursuing efforts to limit the increase to 1.5°C."

However, little progress has been made, despite carbon neutrality or net zero emissions commitments made by governments in support of the Agreement. The IPCC's sixth assessment (2021-2022) highlighted that we have reached average temperature rises that are irreversible and that without significant reductions in emissions, limiting the all-important increase to 1.5°C looks impossible. Also, the effects will be cumulative with severe effects on humans, habitats and other living organisms. Climate Action Tracker, which monitors and analyses countries' nationally determined contributions (NDCs) and policies, has recently concluded that "the world is heading to a warming of 2.4°C with 2030 targets and even higher, 2.7°C, with current policies." (see Figure 3) The latest Emissions Gap Report from the UN Environment Programme concluded from the latest NDCs that in 2021-22 year, the 19-22bn tons 2030 target gap (the difference between the carbon dioxide equivalent - CO2e - level if 2030 targets are hit and the CO2e level for maximum 1.5°C increase) has only been reduced by 0.5 billion tons.

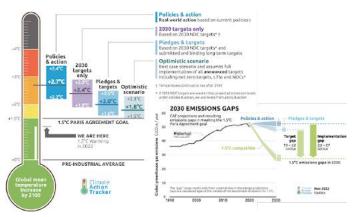


Figure 3 - CAT warming projections: Global temperature increase by 2100 November 2022 update

Source: Climate Action Tracker

The evidence suggests that governments and the communities that they work for are not doing enough to achieve the targets set under the 2015 Paris Agreement. Why, then, are governments failing to deliver on the commitments made under the agreement? This essay focuses on some of the long-term challenges that policy makers face when putting in place policies to address the climate change crisis, from the perspective of the three leading economies (blocs) and highest CO2 emitters; China, the US and the European Union (EU). Given the breadth of the topic, this essay focuses on policies in relation to energy only, as it is the largest

source of CO2e emissions and is significant across a number of economic activities (see Figure 4).

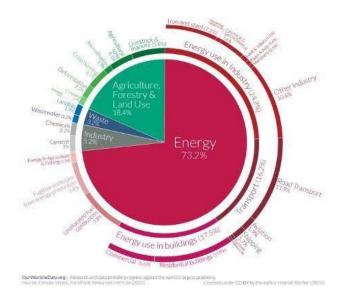


Figure 4 - Global greenhouse gas emissions by sector (2016)

Source: Our World in Data, Climate Watch, World Resources Institute (2020)

The key to reducing GHG emissions in energy and transitioning to clean energy centres mainly on two major inter-connected changes: decarbonisation and electrification. Decarbonisation involves shifting energy supply away from fossil fuels, especially coal, towards low carbon energy, such as renewable energy sources and nuclear energy. Electrification means shifting energy demand towards electricity away from fossil fuels by making entire changes to specific areas that are heavy consumers of energy (e.g. transport and buildings).

The US, China and the EU have all followed policies to encourage the transition to clean energy. However, the speed of transition and effectiveness has been different. The speed of change has been affected by how much resistance there has been to the transition because of reliance on fossil fuels. This is illustrated by the three blocs approach to coal. Decarbonisation must start with coal. Coal power generation is the largest contributor to global heating and is the main obstacle to achieving the Paris Agreement goals. The three blocs have made proposals to move away from coal, but their commitment to decarbonisation was tested at COP26 in Glasgow where 46 countries, including major coal users, signed the Global Coal to Clean Power Transition Statement. Whilst key Member States of the EU were amongst the signatories, China and the US, two of the largest coal producers, were not (see Figure 5).

Nonetheless, China and the US have started implementing policies to phase out coal. The US has closed around 25% of its volume of coal in the past decade. In China, the share of coal consumption fell from 65.5% to 60.75% between 2016 and 2020. At the same time, China's coal power plants have become more efficient and release less CO2 per unit of power

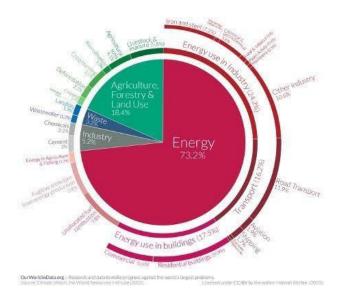


Figure 5 - World's largest coal generators (TWh)

As of 4 Nov. 2021

Coal generation data is from 2020, except for Indonesia, Israel and Malaysia (2019 data) Sources: S&P Global Market Intelligence; Ember Global

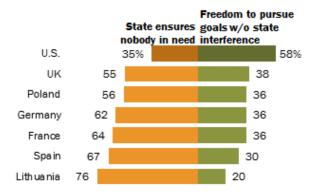
Electricity Review 2021; UK Department for Business, Energy and Industrial Strategy

than those in the US and in Europe, as they are newer; their reliability and affordability have contributed to China's role as the 'world's factory'. It seems unfair to judge Chinese progress against Europe's benchmark (50% of coal plants have been closed since the Paris Agreement) when China produces so much for the west. so much of the global energy demand from manufacturing has been moved to China.

Despite good intentions, governments know that they face significant economic and political challenges when it comes to decommissioning coal plants. In fact, concern about the political consequences of upsetting voters - and their purchasing power - is one of the key obstacles to tackling climate change in many countries. Some governments are reluctant to put into place a carbon tax; a simple policy that could be effective at shifting away from CO2 emissions, but that is unpopular with individual voters and companies for the extra cost that this would incur. A study into climate sceptics by researchers at the University of Cambridge shows the challenge that policymakers face with both special interests groups and sceptical segments of the population, which often leads to policymakers being convinced not to halt climate mitigation policies. The study also shows that political conservatives who are against government involvement in life, are more likely than liberals to be sceptics on climate change. This study might help explain the differences between the US and the EU on the pace of progress made on climate change policies; people in Europe are more accepting of institutions that promote more intervention and a social model, but people in the US have been more worried about having a big federal government that interferes with their lives. (see Figure 6). In the US, both political and economic pressures have influenced the speed of progress in opposite directions. Politically, states that rely on coal can have some

Individual liberty vs. state guarantees

What's more important in our society, that everyone be free to pursue their life's goals without interference from the state or that the state play an active role in society so as to guarantee that nobody is in need?



Source: Spring 2011 Global Attitudes Survey. "5 ways Americans and Europeans are different"

PEW RESEARCH CENTER

Figure 6 - Individual liberty vs. state guarantees What's more important in our society, that everyone be free to pursue their life's goals without interference from the state or that the state play an active role in society so as to guarantee that nobody is in need?

Source: Spring 2011 Global Attitudes Survey, PEW RESEARCH CENTER

political power at a national level through representation in Congress and their leaders, regardless of their political bias, can hold back more effective plans to reduce coal power, so as not to cause damage to coal communities. However, the actual reduction in coal power plants that happened in the past decade was a result of economic drivers. The combination of large availability of cheaper natural gas due to fracking and the falling cost of renewable energy in parts of the country have provided alternatives to coal that became more economic.

In contrast, the Chinese leadership does not face the political pressure that democratically-elected leaders in the US and in Europe face because the government is not elected by the Chinese people. Another type of pressure is one of the causes for China's slower progress in decarbonising its energy. With two thirds of electricity generation coming from coal, Chinese authorities are concerned about both energy security (having guaranteed access to energy at affordable prices) and the economic significance of coal for a large number of provinces and regions. Provincial governments have significant influence on the implementation of policies, as they control Chinese ministries' provincial branches. In provinces where coal is a key part of the financial resources, the provincial governments could be in a position to negotiate and bargain with the central government over the implementation of climate and energy policies, which could determine the speed of China's decarbonisation. In contrast with the US and China, Europe's starting point is not as reliant on coal and this means that its leaders can push for more rapid phasing out of coal.

A key reason for being in a better starting position is that many Member States of the EU27 had started the shift away from coal towards renewable energy and nuclear energy since the 1990s. In fact, moving to alternative energy sources takes time, requires long term planning and capital funding. The idea of 'just transition' has been used by the International Labour Organisation to describe transitioning towards an environmentally sustainable economy. 'Just transition' is likely to be another key obstacle to some countries, like the US, in delivering on commitments. The US has a short electoral cycle, which means that members of Congress who play a key role in the budgeting process are elected every 2 years. This short cycle makes it difficult to implement long term policies that require significant funding and resources. Against this, China is known for its good long-term planning through its Five-Year plans; in its Action Plan for Carbon Dioxide Peaking Before 2030, China stated that the phasing down of coal will be key in the 15th Five Year Plan period (2026-2030). In the meantime, the current Five-Year Plan includes elements of increased build-up of renewable energy. China is preparing the ground for the major transformation and its focus has been, as President Xi expressed, to 'explore synergies between environmental protection and economic development...to achieve social justice in the process of green transformation.' For the past few years, that focus has translated into key measures, including a RMB100 billion fund (£11.6 billion) to ensure a relatively smooth transition of coal workers and communities away from coal to other activities, including towards renewables. The Chinese goal is to achieve a net increase in jobs of 1 million by 2030. As the Chinese central government controls all economic activity, it is able to transfer resources to new sectors much more quickly than the US or the EU can. This can explain why the EU and the US have taken a different approach to ensure a 'just transition'.

Europe's 'just transition mechanism' is a framework built to provide support to help regions most affected by the green transition. Some are critical of much funding (€17.5 billion or £15 billion) going towards research and innovation rather than to the coal workers directly. The use of funds is an important difference between the EU and China. The focus in China has been about appeasing people and helping them in the face of major change, the EU focus has been about helping countries/ regions do the transition rather than helping people directly. The EU Commissioners also differ greatly from the US President, as they are not under the same level of electoral pressure as the US President. The 27 national governments of EU member states are in the middle between the people and the institutions that propose, pass and implement policies. This enables the EU institutions to take a longer-term view and create the environment that can support significant transformation of the energy system. Faced with elections every two to four years, the US President and Congress do not have the same opportunity to take a long-term view. Perhaps this is why the US effort has centred on measures that help technology development, create new jobs and, importantly, attract new sources of private investment.

The second key aspect to GHG emission reductions is electrification. Electrification is interlinked with decarbonisation. If the electricity consumption of energy users is increased, this helps to decarbonise the energy system they require, as long as the system is combined with clean sources of electricity. The drive towards electrification promotes technology that increases electricity consumption in buildings, industry and transport at the expense of fossil fuels (e.g. electric vehicles, heat pumps). The EU, the US and China all have net zero emission targets in 2050 or 2060, and electrification plays a significant role in their actions and policies. However, there appears to be a common understanding that the most important policies need to be directed first at cleaning the electricity supply before moving to electrification. Until very recently, the three blocs have put less emphasis on encouraging more take-up of electric vehicles and heat pumps. Instead, they have tried to tackle the power sector and electricity grid, which is more complex due to the links between the generation of energy and the distribution or transmission of energy. Here, the EU, the US and China have been similar in their approach as they face similar challenges.

A key challenge common to all is that for alternative energy sources, geography matters. Certain geographies favour certain types of renewables, whether it is solar, wind, geothermal or hydropower. Similarly, nuclear energy generation needs to be located near rivers or coastline. This means that the central government needs to plan and coordinate more closely with the local regional government – i.e. Beijing with the 31 provinces, Washington with the 50 states and Brussels with the 27 member states. These relationships are likely to be strained at times and the potential friction, especially in the US and in the EU, is likely to be a limiting factor in making progress against the Paris Agreement commitment.

Another key challenge, linked to the location of certain alternative energy being tied to certain geographies, is the level of investment needed in the distribution of energy from generation to consumers (called transmission grids). As noted by researchers at the Fondazione Eni Enrico Mattei, "Massive investments in transmission grids are expected to connect production areas with consumption sites and avoid curtailments caused by bottlenecks in transmission capacity". In Europe, where the mix of energy sources is the individual member states' decision rather than the EU's as a bloc, the challenge may be greater, as there may be questions about who should pay for building the transmission lines that cut across countries. Without these investments, electrification will become increasingly limited and this will create delays in more people moving to electricity as the main power for buildings, industry and transport. I have found that, based on current actions, the commitments made under the Paris Agreement to cap global heating will not be achieved. I focused my research on the biggest contributor to GHG emissions, namely energy. Whilst the governments of China, USA and the EU have made progress, my research shows that current government policies in general will probably

not be sufficient to meet targets. However, I can see that this is a complex issue and that the leaders who make decisions face many challenges. I have focused on the long-term policies, but governments have to deal with so many other problems that interfere with progress (e.g. covid, war in Ukraine, cost of living crisis). However, in terms of long-term policies, I don't believe that leaders are deliberately failing to deal with the climate crisis. Their failure seems to be caused mainly by either political or economic factors, and sometimes both. In the countries where there are elections - but also in other political systems - leaders need to do more to ensure that everyone understands the severity of climate change. The crisis is incredibly serious and must be one of the priorities for government action. Even if people do not want to pay for it now, they will end up paying for it later. With better public understanding, policy makers might have support for bolder measures and policies to accelerate both decarbonisation and electrification. More could also be done to encourage individuals and companies to think more about the impact of their actions in terms of GHG emissions. I believe governments should consider measures such as the introduction of a carbon tax to speed up everyone's adoption of CO2 emission reduction measures. The costs added to products that have more GHG emissions would lead to people making better choices. This will make the producers of things we all buy change too. This would be like the positive effect of the tax on plastic bags on shoppers and retailers; the equivalent is needed for CO2.

Appendix - Glossary of Key Terms

Carbon neutrality

Carbon neutrality means having a balance between emitting carbon and absorbing carbon from the atmosphere.

Removing carbon oxide from the atmosphere and then storing it is known as carbon sequestration.

Climate change

A pattern of change affecting global or regional climate, as measured by yardsticks such as average temperature and rainfall, or an alteration in frequency of extreme weather conditions. This variation may be caused by both natural processes and human activity. Global warming is one aspect of climate change.

Conference of the Parties (COP)

COP is the main decision-making body of the UNFCCC. It includes representatives of all the countries that are signatories (or 'Parties') to the UNFCCC. COP assesses the effects of measures introduced by the Parties to limit climate change against the overall goal of the UNFCCC.

CO2e

Carbon dioxide equivalent or CO2 equivalent is a metric measure used to compare the emissions from various greenhouse gases on the basis of their global-warming potential (GWP), by converting amounts of other gases to the equivalent amount of carbon dioxide with the same global warming potential.

1 giga ton = 1 billion ton

Greenhouse gases (GHG)

The atmospheric gases responsible for causing global warming and climate change. The major GHGs are carbon dioxide (CO2), methane (CH4) and nitrous oxide (N20). Less prevalent --but very powerful -- greenhouse gases are hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF6).

GHG emissions

Greenhouse gas emissions

Global heating

A term adopted in place of global warming to convey the seriousness of climate change caused by human activity and the urgent need to address it.

IPCC

Intergovernmental Panel on Climate Change (IPCC) Established in 1988 by the World Meteorological Organization and the UN Environment Programme, the IPCC surveys world-wide scientific and technical literature and publishes assessment reports that are widely recognized as the most credible existing sources of information on climate change. The IPCC also works on methodologies and responds to specific requests from the Convention's subsidiary bodies. The IPCC is independent of the Convention.

'Just transition'

A just transition seeks to ensure that the substantial benefits of a green economy transition are shared widely, while also supporting those who stand to lose economically.

Nationally determined contributions (NDCs)

NDCs are a key aspect of the Paris Agreement, which requires each country to prepare, communicate and maintain successive NDCs. The NDCs include each country's targets and planned actions to reduce national emissions and adapt to the impacts of climate change.

Net zero

A target of completely negating the amount of greenhouse gases produced by human activity, to be achieved by reducing emissions and implementing methods of absorbing carbon dioxide from the atmosphere.

Paris Agreement (2015)

Legally binding international treaty on climate change. It was adopted by 196 Parties at the UN Climate Change Conference (COP21) in Paris, France, on 12 December 2015. It entered into force on 4 November 2016. Its overarching goal is to hold "the increase in the global average temperature to well below 2°C above pre-industrial levels" and pursue efforts "to limit the temperature increase to 1.5°C above pre-industrial levels."

UNFCCC

United Nations Framework Convention on Climate Change

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Nietzsche's response to Buddhism - What it means to live a satisfying and fulfilling life

Research Question: To what extent does Nietzsche offer a convincing response to the Buddhist way of living?





Introduction

Nietzsche and Buddhism offer distinct perspectives on the way of living, grappling with fundamental questions about the meaning of life, human suffering, and the pursuit of fulfilment. While Nietzsche champions the individual will to power and life affirmation, Buddhism advocates for the cessation of suffering and the attainment of enlightenment. In this essay I will explore and compare Nietzsche's philosophy with the teachings of Buddhism regarding the way of living based on my experience in and out of the classroom.

Both Buddhism and Nietzsche approach philosophies on life from different perspectives, there are certain elements of Nietzsche's writing that can be seen as a response to Buddha's teaching from almost 2500 years before. Nietzsche advocated for the 'will to power,' attempting to articulate the relationships between the natural and normative in a way that avoids both the traps of idealist metaphysics and physicalist reductionism, and emphasising individual strength, self-affirmation, and the pursuit of personal goals. In contrast, Buddhism focuses on the cessation of suffering and the attainment of liberation or enlightenment. It teaches that suffering arises from attachment and desire, and it seeks to alleviate suffering (or dukkha) by eliminating its root causes. Buddhism encourages a transformative journey that leads to a state of profound peace and contentment.

Outlining Both Principles

The Buddhist Perspective

Buddhism provides a framework for living a meaningful and ethical life, offering practical guidance and principles that can be applied in daily life to cultivate inner peace, compassion, and wisdom. To live a meaningful and satisfying life, a Buddhist must abide by certain principles. Buddhism recognizes that everything is impermanent, including pleasure and pain. To find true fulfilment, one must let go of attachment to transient experiences, objects, and even the concept of a fixed self. Detachment does not mean letting go of everyone and everything in one's life, but understanding that one cannot hold onto things as if they will be there forever. In order to live life to the fullest, and create the most meaningful experience, a Buddhist must be prepared to let things go. 'Everything changes and nothing lasts forever.' Buddhism teaches us that everything, including our thoughts, feelings, and cells in our body, are always changing and being replaced.

The Middle Way promotes a balanced approach to life, helping us to avoid extremes of self-indulgence and denial, and seeking a middle path. It encourages moderation and mindfulness in all aspects of life, including desires, actions, and relationships. According to The Buddha, "There is a middle way between the extremes of indulgence and self-denial, free from sorrow

and suffering. This is the way to peace and liberation in this very life." We are not free if we solely indulge in our desires to be happy. We cannot be free if we battle within ourselves and reject the external world. The middle path ultimately helps us achieve freedom. This is a universal truth discovered by all those who awaken.

Furthermore, Buddhism emphasises the interconnectedness of all beings and encourages the development of compassion and empathy. By cultivating loving-kindness and showing genuine concern and compassion for others, one can contribute to the well-being of oneself and society as a whole. It is expressed in Buddhism as "When there is this, that comes to be; with the arising of this, that arises. When there is not this, that does not come to be; with the cessation of this, that ceases." Compassion is not a struggle or a sacrifice, according to Buddhist psychology. Compassion is innate and instinctive throughout our body. By meditating, we gradually expand our consciousness to include compassion for all living things as if they were part of ourselves. We discover that compassion can be reawakened regardless of whether it has been suppressed due to fear and suffering. Much like this, great importance is placed on mindfulness and present-moment awareness. By being fully present and attentive, one can experience life more deeply and appreciate its inherent beauty. This practice helps to overcome distractions, regrets about the past, and anxieties about the future. Buddhist psychology places a strong emphasis on exploring and understanding the nature of the self, and benefits of Buddhist psychology-based meditation have been proven by academics interested in self-processes.

In Buddhism, leading a satisfying and fulfilled life entails aligning one's actions, thoughts, and intentions according to these principles. It necessitates self-reflection, self-control, and a dedication to personal growth. By following the Noble Eightfold Path, which includes ethical conduct, meditation, and wisdom, individuals can gradually cultivate a deeper sense of fulfilment and find lasting peace. Many of the Buddhist points focus on mental overcoming which only acts as a distraction instead of a solution to the suffering felt in everyday life. Similarly, Nietzsche's solution serves as a psychological trick to make one feel better about themselves.

Nietzsche's Perspective

Nietzsche's view on how to live can be understood through his philosophy of life affirmation, self-overcoming, and the pursuit of individual greatness. He believed in embracing life's challenges and asserting one's own values and desires, rather than conforming to societal or religious norms. These guidelines are vital to living a meaningful and fulfilling life. Nietzsche rejected the notion of renouncing life or seeking escape from its difficulties. Instead, he advocated for embracing life in its entirety, including its struggles and hardships. He saw life's challenges as opportunities for growth and self-realisation. Every time one makes an affirmation (a "Bejahung"), which is the most fundamental statement of willing and of life, this value becomes explicit. This links

to the idea of eternal recurrence in which we are stuck in a time loop. This relates to his idea of self-overcoming and self-value which aligns with the Buddhist ideology of renouncing yourself as we are stuck in eternal recurrence.

Continuing this, Nietzsche introduced the concept of the 'will to power,' which refers to the fundamental drive underlying all human actions. He believed that individuals should harness their inner strength and exercise their power to shape their own lives according to their own values and aspirations. It is best described as an irrational authority that exists in every person and can be directed in a variety of directions. According to Nietzsche, we exercise control over other people when we assist or harm them. When we hurt them, we provide them with an arrogant sense of our power. He argues that the best way to feel powerful is through making someone feel indebted to us. The result of this increases our power and incentivises others to be on our side. Nietzsche argues that inflicting pain is typically more unpleasant than extending compassion, suggesting that being cruel is a sign of impotence as it is the inferior course of action. The driving psychological idea of 'will to power' helps us gain influence over others and the world, leading to a more fulfilling life.

Following this, Nietzsche's idea of overcoming principle encourages individuals to engage in constant self-reflection and self-improvement. He believed in the idea of "becoming who you are" by challenging one's limitations, overcoming weaknesses, and striving for personal excellence. He argues that we must face reality, and that suffering is part of life. It is not to be eliminated, but to be overcome and challenged, ultimately leading to growth. Struggle with oneself is needed to transcend one's limitations (physical and mental) and move toward more sophisticated modes of action and expression.

Nietzsche criticised conventional moral frameworks and argued for a re-evaluation of traditional values. He believed that individuals should go beyond the dichotomy of good and evil imposed by society and instead develop their own moral compass based on their unique perspective and individual desires. He argued that they are only concepts, designed as a form of control to institute moral laws and maintain social order. Nietzsche suggested that the strongest people are marked by a cruelty to themselves, ruthlessly exposing every bias and presumption to delve deeper into themselves. According to Nietzsche, we should celebrate exceptional individuals, whom he called "the Übermensch" or "Overman." He believed in the potential for extraordinary individuals to transcend societal limitations, break free from herd mentality, and create their own values and meaning in life. There are two relevant features of greatness, one's character - or their internal conditions, and what someone achieves in their life - their external conditions. However, this could be misused to support ideologies like Nazism, as the Nazis co-opted this term to promote their own racial and supremacist ideas.

Nietzsche's view on how to live revolved around embracing life's challenges, asserting individual values, pursuing self-overcoming, and striving for greatness on an individual level. Similar to Buddhism, he believed that these values and expectations would help society improve, and all individuals lead better and more fulfilling lives.

A Comparison

Nietzsche and Buddhism have different perspectives on suffering and existence. Nietzsche imagined suffering to be an integral part of human existence, a necessity for human growth and self-realisation. He argued that life ultimately holds no meaning, but our ability to endure and overcome this struggle helps build our character and harness our inner strength through our 'will to power'. Many would argue that Nietzsche's view on life is bleak and miserable, that he ignores the benefits of human life, only focussing on the negatives. On the other hand, one could argue that he provides a realistic outlook on our lives. Although he does not cover suffering extensively, he provides a solid base for his theory. Nietzsche completely rejects the religious ideas that suffering has a higher purpose, famously proclaiming "God is Dead, and we have killed Him", challenging the belief in a divine order above us. In turn this criticises the concept that suffering and pain result in redemption or reward, instead arguing that this belief only causes harm. His view on suffering is not entirely negative, claiming that to suffer is to be human, and it is a part of the human experience, and an opportunity to build strength, resilience, and wisdom. One should not be attempting to transcend or escape suffering, but accept it, learning to live and embrace it.

This philosophy is closely linked to Nietzsche's concept of 'will to power', where he says that humans have a fundamental drive to assert desires, aspirations and values. The constant process of challenging oneself and pushing past limitations would not be possible without suffering, as this is a key factor in striving to be better. Without pain, confronting fears, weaknesses, and limitations would become redundant. Nietzsche advocated for individualism, and one's right to exercise their power to shape their own lives in the face of suffering.

However, there are drawbacks to Nietzsche's perspective on suffering. Some argue that his focus on individual power overlooks the systematic causes of suffering, suggesting that suffering is an individual experience, unrelated to social, political and economic factors. Emphasising an individual's 'will to power' does not account for other contributing factors, ignoring conditions that may perpetuate suffering in groups, communities and individuals. His philosophy does not adequately account for collective suffering, only focusing on individual power and not acknowledging external factors. While his perspective offers valuable insight into overcoming personal struggles, he does not provide a comprehensive understanding of suffering outside of oneself. Nietzsche's positive outlook on suffering negates the profound nature of certain forms of suffering that are so extreme that they cannot easily lead to personal development. Many critics argue that Nietzsche is too shallow when looking at suffering. Martha Nussbaum, whose focus is suffering in ethics and human capabilities, argues that Nietzsche overlooks the reality of suffering, and ignores the fact that compassion and support is sometimes needed from a community instead of individual struggle. Nussbaum identifies his neglect of empathy and a collective responsibility, and emphasises the importance of recognising the complexity and diversity of suffering. While Nietzsche offers a valuable perspective in certain contexts, it is not a universal maxim that is applicable to every situation.

Much like Nietzsche, the Buddhist perspective on human suffering (dukkha) is an inherent part of human existence, but Buddhism provides a more extensive and comprehensive framework for understanding. The Four Noble Truths are a quintessential part of Buddhism, providing an explanation and answer for suffering. The First Noble Truth acknowledges the reality of suffering and all its forms, which is something Nietzsche fails to do. Buddhism does not deny the existence of suffering but emphasises the need to understand it and its causes. This leads to The Second Noble Truth, which explores the causation of suffering, identifying that attachment and ignorance are the root sources. Unlike Nietzsche, Buddhism teaches that suffering can be avoided by removing all attachments and the desire to cling to temporary objects. The Third Noble Truth teaches that when you let go of menial attachments, suffering and pain are lifted and one can reach a state of freedom, but to be truly liberated, one must follow the Eightfold Path which is outlined in The Fourth Noble Truth. This is a practical guide which helps Buddhists understand how to cultivate ethical conduct, mindfulness, concentration and wisdom. The constant emphasis of impermanence that Buddhism preaches helps its practitioners recognise the ephemeral nature of all things in this life. By letting go of fleeting objects, Buddhists can recognise that pleasure and pain are also temporary and that oneself is not fixed either.

The Buddhist view may seem problematic when looking at it from Nietzsche's perspective as he places extreme importance on the affirmation of life and pursuit of power, which contrasts to a Buddhists idea of nonattachment and compassion. Nietzsche opposed this, believing that a crucial aspect of human life is asserting desires and 'will to power.' Buddhism is a direct contradiction of this as Buddhists would detach from power, hindering themselves from reaching selfactualisation and living a fulfilling life. Furthermore, Nietzsche celebrated the individual potential to embrace life's challenges and strive for greatness and personal excellence. Buddhism strives for an end to suffering through ignoring individual temptations and attachments. The Buddhist's philosophy does not align with Nietzsche's emphasis on breaking traditional values and principles. Nietzsche celebrated personal greatness and growth, whereas Buddhism focuses on removing oneself from attachments and temporary objects, making these two philosophies incompatible in terms of living a meaningful life through the aspect of suffering.

Nietzsche's perspective on individualism and interconnectedness can be interpreted as complex, challenging traditional notions. Nietzsche valued the pursuit of self-realisation, personal greatness, and creativity, emphasising the importance of "will to power." He also acknowledged the influence of social and cultural forces in shaping individuals and acknowledged the interconnected nature of human existence. He celebrates the uniqueness and potential of the individual, highlighting the importance of embracing one's desires and passions. Instead of conforming to societal expectations, Nietzsche argued that societal norms and values restrict the full expression of individual potential and authenticity. The concept of "Übermensch" is tied closely to individualism. The "Übermensch" represents the ideal human who has overcome societal constraints and found their own values and desires. The individual strives for personal greatness, living according to their own moral code. Nietzsche critiqued the herd mentality that often runs a society, and argued that the social and cultural influences on individuals suppresses potential and limits the development of individuality. Nietzsche's idea of "eternal recurrence", references the idea that all events in the universe recur infinitely, implying that every choice affects millions of other choices across our interconnected existence. It suggests that individuals are not as isolated as Nietzsche originally assumed, and instead are part of a larger community where everyone has to take care of each other. Nietzsche's emphasis on individualism can be interpreted as a reaction to the constraints of societal norms and traditional moral views, his philosophy rebelling against the prescribed teachings of society. Critics will continue to argue that his sole focus on individualism ignores the collective existence of humans and their morality and spirituality that guides them through everyday life. Unlike the Buddhist way of living, Nietzsche's apparent disregard for the wellbeing of others could result in the downfall of a connected humanity.

Buddhism however places a strong emphasis on everyone being interconnected, challenging individualism and selfish desires, focussing on collective achievements in hopes of cultivating a society filled with compassion and wisdom. The celebration of personal greatness would be interpreted as the succession of egocentric attachments, which a good Buddhist would avoid. Nietzsche's focus on personal power would be a direct contradiction to Buddhism, as instead of celebrating a community's achievements, it instead reinforces a cycle of suffering by holding onto personal attachments. However, Nietzsche and Buddhism both critique social conformity and traditional values. Buddhism challenges blind adherence to societal norms and encourages critical thinking and wisdom in an attempt to transcend the illusion of a fixed self. Recognition of interconnectedness is one of the core teachings of Buddhism, attempting to offer a solution to suffering and highlighting that all actions have consequences, affecting the individual and the collective. While this promotes compassion and a sense of responsibility for the wider community, Nietzsche disregards the importance of interconnectedness, neglecting the ethical implications of decisions and their outcomes. Furthering this, the

"Übermensch" contrasts with the Buddhist ideals where one can transcend selfish desires and attachments, stimulating the practice of altruistic actions. Nietzsche and Buddhism are incompatible when discussing interconnectedness and individualism. Nietzsche's idea of 'will to power' generally contradicts many of the central teachings of Buddhism. Buddhists would interpret Nietzsche's philosophy as problematic in comparison to their own teachings, differing significantly from the Buddhist ideology of selflessness and community.

In addition to this, Nietzsche's perspective on means of transformation is characterised by his focus on 'will to power' and the pursuit of personal greatness. According to his philosophy, these are both vital to living a meaningful and satisfying life. He proposed several ideas on how an individual could undergo the transformative process, emphasising the importance of personal willpower, the pursuit of self-discipline, self-reflection, and the power of art. He frequently promoted the need for desires and passions in order to transcend societal barriers, instructing individuals to strive for personal greatness. Individual willpower is a key attribute when attempting to rise above predetermined constraints. He argued that conventional moral and social norms limit potential, and the only way to live a meaningful life is to break these barriers. He directed people to become masters of themselves, mastering discipline and control. He viewed discipline as an essential skill all individuals should possess so they can exercise control over their impulses and instincts, allowing them to govern their potential and direct it towards creative outputs. By exercising self-control, one can achieve self-mastery and grow beyond their limits, elevating their existence.

Nietzsche emphasised action, culture and aestheticism. Nietzsche believed that engaging with art allowed individuals to transcend their ordinary existence, accessing higher realms of beauty and meaning, allowing the individual to interpret art as a transformative force acting to expand perspectives, inspire personal growth and challenge conventional views. Furthermore, critical analysis of the self only helps to broaden the individual's mindset, and help justify personal beliefs. He argued that everyone should challenge preconceived notions and ideas in order to fully live a meaningful and fulfilling life. Scepticism is essential when striving for personal growth and development, but Nietzsche has been accused of being too narrow minded when discussing the collective community. There are many limitations to his approach, especially when evaluated from a Buddhist perspective. The emphasis of transformation through assertion of desires and ego-driven attachments directly contrasts to Buddhist core values. Instead of compassion and wisdom, Nietzsche chooses to lead with personal greatness. In Buddhism, transformation is centred around the realisation of the true nature of reality, insight and the recognition of impermanence. This path emphasises mindfulness, meditation and compassion as the best ways to reach enlightenment and live a fulfilling life. Aiming to liberate individuals from suffering and connect them with a supportive community is the main focus of Buddhism when discussing what it

means to live a meaningful life. Nietzsche's focus on the "Übermensch" is seen as a perpetuation of menial attachments and power, only allowing an individual to lead a meaningful life, instead of helping the collective reach this goal. Buddhism teaches that attachments are only damaging, and that only by alleviating yourself from them, can you truly end suffering and live a good life. These root beliefs are incompatible with Nietzsche's philosophy, who ignored the state of interconnectedness needed to truly be limitless. The two theories are aligned when it comes to self-reflection and critical analysis of oneself. However, their methods of reaching a meaningful life are wildly different.

Finally, Nietzsche holds self-overcoming as a vital step in leading a meaningful life. This is closely linked to his idea of transcending societal boundaries and transforming from just an individual to the "Übermensch". According to Nietzsche, individuals possess the ability to surpass their limitations to reach their full potential. He continuously criticised the moral constraints imposed by traditional values and predetermined morals, advocating for individuals to create their own values and live according to their unique perspective. Through self-overcoming, individuals can liberate themselves and act according to their most authentic self. By affirming personal desires and passion, individuals can assert their power, breaking the barriers that were blocking them previously, realising true greatness and what it means to live a fulfilling life. However, Nietzsche's perspective has limitations, especially when compared to Buddhism and his potential disregard for the wellbeing and rights of others. He neglects the importance of compassion, especially when it concerns the interconnectedness of humanity. While Nietzsche feeds into the delusions of the individual, Buddhism takes a more realistic approach when it comes to asserting personal power and desires. Instead of emphasising the importance of 'will to power', Buddhism teaches the importance of overcoming inherent selfishness and the self-centred ego. Nietzsche values personal growth and the pursuit of personal desires to transform one's life from meaningless to fulfilling.

Nietzsche's notion of individual willpower being the most important part of self-overcoming, where desires are embraced and will is harnessed to achieve full potential, does not align with the Buddhist philosophy. The Buddhist concept of self-overcoming is more closely aligned with the liberation from suffering and the transcendence of the self. To truly overcome suffering, you must recognise that all objects are impermanent and that having meaningless attachments will only deter you from reaching enlightenment. Practising mindfulness, meditation and acting with empathy will help the mind develop an insight into the true nature of reality and nurture the growth that an individual will undergo. Their perspectives vary drastically, making the philosophies incompatible. Additionally, Nietzsche's perspective on overcoming may overlook the profound insights offered by the Buddhist understanding of emptiness and nonself. Buddhism teaches that the self is not an inherent, fixed entity but a fluid and ever-changing process.

Conclusion

To conclude, when comparing Buddhism and Nietzsche, it is evident that Buddhism offers a more comprehensible and balanced approach, aligning with the laws and many moral principles held today. Through the cultivation of wisdom, a meaningful life can be reached and lived in an interconnected state. The recognition of impermanence is a vital part of the Buddhist religion, highlighting that menial attachments can only be detrimental to growth and enlightenment. While Nietzsche values personal greatness, Buddhism looks out for the community as a whole, prioritising compassion and understanding above all else. This creates a harmonious natural world where the collective work together to reach enlightenment and live a truly meaningful life. Nietzsche does have some good ideas, but his perspective does not include enough about the success of a community to be a reliable guide. The holistic framework offered by Buddhism prompts individuals to be compassionate and kind, helping them towards their goal of a meaningful and fulfilling life. Conclusively, Buddhism provides a path that will transform individuals into a collective, sharing a sense of purpose, contentment and interconnectedness, ultimately guiding them to live the most fulfilling and satisfying life.

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Meaning and striving in 'The Climb' by Miley Cyrus





Lyrics

I can almost see it That dream I'm dreaming But there's a voice inside my head saying You'll never reach it Every step I'm taking Every move I make feels Lost with no direction My faith is shaking But I, I gotta keep trying Gotta keep my head held high There's always gonna be another mountain I'm always gonna wanna make it move Always gonna be an uphill battle Sometimes I'm gonna have to lose Ain't about how fast I get there Ain't about what's waiting on the other side It's the climb The struggles I'm facing The chances I'm taking Sometimes might knock me down, but No, I'm not breaking I may not know it But these are the moments, that I'm gonna remember most, yeah

Just gotta keep going

There's always gonna be another mountain I'm always gonna wanna make it move Always gonna be an uphill battle Sometimes I'm gonna have to lose Ain't about how fast I get there Ain't about what's waiting on the other side It's the climb Yeah There's always gonna be another mountain I'm always gonna wanna make it move Always gonna be an uphill battle Sometimes you're gonna have to lose Ain't about how fast I get there Ain't about what's waiting on the other side It's the climb Yeah, yeah Keep on moving, keep climbing Keep the faith, baby It's all about, it's all about the climb Keep your faith, keep your faith Whoa

And I, I gotta be strong

Just keep pushing on, 'cause

The stimulus of my essay is the song 'The Climb' by Miley Cyrus. The claim which the stimulus makes me think of is that life involves constantly striving for more and it is through this striving that we generate our own meaning and purpose. The stimulus makes me think of this claim because in the song, Miley says that 'There's always gonna be another mountain' and that it 'ain't about what's waiting on the other side / It's the climb'. In these lyrics, Miley is saying that it's not the end point of her life which makes it important or worth living, it's the journey in and of itself which she took to reach the end point - and all the hardships and difficulties which she incurred through her striving. Additionally, the stimulus also makes me think of this claim because Miley says that 'Sometimes might knock me down' but even so she has to 'keep pushing on'. In these lyrics, Miley expresses clear agreement with Camus' absurdist view on the purpose of life. She is recognising that the world around her will never be an exact mirror of the way she wants it to be however, despite this, she also feels that she needs to always keep pushing on and never give up. In my essay, I am going to examine Camus', Schopenhauer's and Buddhism's perspectives on this claim. I am going to argue for Camus' perspective, and against the perspectives of Buddhism and Schopenhauer. Therefore, I will be arguing in support of Miley's view.

The philosophical problem, which the claim of my essay is related to, is the question of the meaning and purpose behind life (and particularly human life). This question asks whether in a world in which we, humans, seem to have been thrown into completely without our consent, and in which there are no clear signs telling us how to best live our lives - there is in fact a purpose behind our lives and whether there is a method through which we can achieve this purpose. This question is important in philosophy because it has links to many other important questions regarding ideas such as the significance of morality, the reasons behind the existence of suffering and the state of human free will. It is also important because finding an answer to the question could have an enormous impact on daily life around the entire world, and it could fundamentally alter our personal values and our future decisions.

Schopenhauer would disagree with the claim, he is a pessimist. He would argue that striving is not the only way to generate purpose and meaning in our lives because simply there is inherently no purpose and meaning at all in life. Additionally, Schopenhauer would say that the reason that there is no purpose and meaning to life is precisely because we are always striving for more. Schopenhauer says that when humans do not strive for more, we quickly grow tired and bored of the way things are. Which forces us to constantly keep striving - in this way, because we are always striving, we are never able to enjoy any lasting contentment and happiness and thus life is meaningless. As an example, to a man who has decided to slave away in a business in order to make a million pounds, Schopenhauer would say that his actions are pointless because once he has made a million pounds, he will eventually want ten million and he will ultimately return to work - unable

to ever completely enjoy the fruits of his labor. Consequently, Schopenhauer would, in fact, agree with Miley when she says that 'Every move I make feels / Lost with no direction'. He would say that this feeling of being lost mirrors the idea of 'Abandonment' - in the sense that we were all left in a world which is completely outside of our control involuntarily. However he would disagree with Miley when she says that 'I gotta keep trying'. Schopenhauer would say that this is delusional optimism and that Miley ultimately, by continually striving for more, is hoping that the world around her will eventually change and become equal to the way she wants the world to be (which is impossible). He would say that it is better for Miley to admit the truth about the meaninglessness of her actions, instead of lying to herself and believing that randomly (through striving) meaning will be produced in her life.

A strength of Schopenhauer's argument is his recognition that our happiness is ultimately outside of our control because we cannot ever prevent ourselves from feeling bored or completely restrain our emotions. This is convincing because it is supported by deterministic arguments such as Steven Pinker's 'Blank Slate', which raises the point that all of our thoughts, and emotions are not caused by a rational free agent in our head but instead by our predetermined genetics. On the other hand, a weakness of Schopenhauer's argument is the idea of enjoying striving itself. According to Schopenhauer, life is meaningless because we are never able to fully enjoy the happiness of long periods of time without striving. His philosophy assumes that all striving will naturally by itself be unfulfilling and unenjoyable without offering any evidence which supports this. I find that this argument is weak because, from personal experience, I know of many people who do in fact enjoy their jobs and enjoy working as an action in and of itself rather than as a means to something else. Schopenhauer's response to this, could be that in this situation eventually the striving which we find fun will become boring which will lead us to gravitate towards other forms of striving - and thus lose our happiness. But this in itself is not convincing because I know of people who have stayed in the same job for their entire working lives and enjoyed it. Furthermore, another weakness of Schopenhauer's argument is that it assumes, for everyone, purpose and meaning in life revolves solely around happiness and contentment - for me, this is not convincing because some people could find meaning in life through actions which might not explicitly make themselves happy such as being a good father to their children.

Camus would agree with Miley and her claim. Camus is an absurdist, he would say that, like Sartre, we humans have no special destiny or predetermined purpose, our recognition of which leads us to a feeling of 'absurdity' - the feeling of the world around us being different from how we want the world to be. A feeling which we can elicit, for example, by watching ants work in the soil and realizing that we are no different. Thus, Camus says that the meaning of life is not to commit suicide out of the despair of absurdity, but it is instead to be in a state of 'free constant passionate revolt' against the absurd.

In this way, Camus' perspective on the claim would be strong agreement, because he would say that always striving to do or achieve more is a perfectly valid way to generate purpose in one's life. However, he would argue that this would only be the case if Miley kept her feeling of absurdity at the forefront of her mind as she did so.

Camus would disagree with Miley in the line 'Keep the faith, baby'. Camus would argue that this line contradicts Miley's previous line of 'Ain't about what's waiting on the other side' and it creates the impression that Miley is 'eluding' herself - or giving herself false hope that there is a special destiny waiting for her as the outcome of her striving. Nevertheless, Camus would agree with Miley when she says that 'And I, I gotta be strong / Just keep pushing on'. He would say that this self-encouragement is a sign that Miley is unwilling to give in to the inevitability that the way she wants the world to be will never equal the way the world actually is.

A weakness of Camus' argument is the vagueness of his solution of 'free constant passionate revolt'. To me, his argument seems similar to that of Heidegger's, who says that the solution is to live with thoughts of your inevitable death at the forefront of your mind. Such a solution does not really invalidate any mode of living and thus seems rather redundant. On the other hand, a strength of Camus' argument is that it suggests that specifically inaction (quietism) - which is the polar opposite of striving - is not a valid means through which we can generate purpose in our lives. Furthermore, another strength of Camus' argument is its agreement with Sartre's existentialism in regards to the idea that we give ourselves purpose in life (our existence comes before our essence) and it is not a higher being or God which does so. There is an obvious lack of evidence for the existence of such a higher being, as such, the independence of Camus' philosophy from the idea of a higher being makes his argument more convincing.

On the other hand, the philosophy of Buddhism would disagree with the claim. Buddhism states that all human suffering and pain is caused by dissatisfaction ('dukkha') with the world around us and this dissatisfaction in itself is caused by human craving ('tanha'). Buddhism says that, therefore, the meaning of life is to completely end one's desire to crave for more and thus be free from suffering. As such, Buddhism would be in strong disagreement with Miley, Buddhism would say that when Miley needlessly strives for more, she is in fact only inciting herself to crave for objects of greater and greater value which in turn will only lead her to suffer far more in the long term.

Consequently, Buddhism would disagree with Miley in the lines 'The struggles I'm facing [...] might knock me down'. Buddhism would say that Miley being knocked down is indicative of her continually craving as a result of her striving, and although it might feel like by striving Miley is becoming more free (for example by becoming wealthier), in fact she will only end up suffering more greatly. However, Buddhism would agree with Miley when she says that '[its] Always gonna be an uphill battle.' Buddhism would say that this is an undeniable fact of life

and in order for someone to truly lead a life of purpose it is necessary to admit this truth. Furthermore, rather than changing the world to fit how you want it to be, Buddhism would say that it is necessary to change your own perspective on the world to fit how it actually is.

A weakness of Buddhism's argument is the paradox that someone who follows its teachings and tries to stop all of his craving, ultimately is craving to no longer crave. As a result of this flaw, it could be argued that Buddhism's perspective on the claim is invalid. On the other hand, a strength of Buddhism's argument is its premise that the meaning of life should be based around the avoidance or prevention of suffering and struggle. To me, this makes sense because it aligns with our biological instincts as humans, who detest and fear pain, and it is not overly complicated or intellectual.

In conclusion, I agree with Miley Cyrus and the claim that life involves constantly striving for more and it is through this striving that we generate our own meaning and purpose. I agree with this claim because I find that Camus' argument in support of it is convincing despite the vagueness of his solution of 'free constant passionate revolt'. Analogous to this, I agree with the claim, additionally, because I find that Buddhism's and Schopenhauer's arguments against it are unconvincing. I find that Schopenhauer's argument is unconvincing because of its assumption that, for everyone, meaning and purpose in life revolves solely around personal happiness. Moreover, I find Buddhism's argument unconvincing because of the paradox that is present in its teachings.

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What impact will the introduction of geoengineering have on global warming?





Unmistakably, global warming, along with climate change always seems to hold its little area in the news each week. In fairness, it's quite right too. Therefore, it would be utterly useless to try and say that global warming isn't a prevalent topic in the 21st century. Global warming is a prevalent term because of its importance however an explanation is due nevertheless. Global warming is the longterm heating of the earth's surface due to excessive amounts of greenhouse gases that get caught in the atmosphere. The burning of fossil fuels (crude oil, coal, natural gas) is largely responsible for this heating and unfortunately, it is also accountable for about 75% of all energy production. This produces somewhat of a problem as we can either continue to use fossil fuels which would continue to have a devastating impact on

the environment - between 2022 and 2026 temperatures are expected to be between 1.1 and 1.7*C higher than industrial levels, melting the ice caps, rising sea levels, causing drought and giving decreased agricultural yields. Or we can switch to using renewable energy. Unfortunately just "switching to renewable" isn't as easy as it sounds because you would have to pull several thousand, maybe even millions, of strings to make something like that happen overnight. In short, switching to renewable energy will be a very lengthy process. Fortunately in the last few decades, due to drastic measures, a science that was considered controversial before now has arisen. This science is called geoengineering and if it functions as intended it could help solve the climate crisis.

The reason for geoengineering not being so popular is not an uncommon idea within the science community however its unpopularity during the last few decades has slowed down the speed at which research becomes available. This is because the science is so controversial that scientists and research groups aren't ready to carry out required experiments due to the backlash they may receive. This is unfortunate as it has delayed something so vital that could help us deal with the increasing greenhouse effect. If geoengineering research wasn't delayed then maybe the predicted outcome of what will happen to the environment would look a lot healthier. Propitiously, geoengineering has seen an increase in popularity, not because people trust it more (you could argue that more protests show a decrease in trust) but because it is getting closer to the point where geoengineering might be the only way we can successfully restore the environment. An example of where geoengineering was prevented was in Australia where a small team wanted to measure the effects of stratospheric aerosol injection (a device that reduces the intensity of sunlight in an area) over the Great Barrier Reef. However, they were stopped from experimenting due to environmental protests against their work and no data was collected. This shows that geoengineering can't be trusted properly yet because so many believe that the idea of it is more lethal to the environment and in fairness, there is limited testing so we don't know what the long-term effects of it are. Additionally, with the disapproval of the public, it is hard to say whether or not geoengineering will have a meaningful impact on the earth in the next 10-20 years.

Geoengineering is a geographical science that aims to control and manipulate a planet's climate to negate the effects of climate change. In actuality, it doesn't necessarily intend to prevent climate change but rather to induce climate change. Geoengineering is a very restrictive form of terraforming. Terraforming is the process by which you transform an environment usually on a planetary scale. However, geoengineering only focuses on altering the climate. This is why if human civilization would ever want to live on other planets (e.g. Venus) a level of geoengineering would have to be taken into account to do so. Although geoengineering seems to beneficially combat global warming, it is important to recognize that it doesn't solve the underlying problem. Although the thought of being able to continue geoengineering for millennia sounds appealing, it's not feasible by anyone's standards. To help make it seem more clear, here is a more relatable scenario. Imagine you're overseas on holiday and you become ill, most people are against the idea of going to a hospital in another country as it would be easier just to do so in your home country. Therefore to prevent the effects you take ibuprofen or paracetamol before you can get a proper check-up. In this case, geoengineering is paracetamol, although a very expensive form of paracetamol. If you stop taking the paracetamol the illness will only come back, however, in the case of geoengineering the after-effects would be worse than the original problem. This would be the equivalent of getting a cold, taking paracetamol, stopping taking paracetamol and then all of a sudden you've got cancer! Not very fun, and very difficult to deal with. So it is very clear that geoengineering is not something that you can settle on lightly.





This is one of the controversial sides because it can sway people to be relaxed about climate change. It would give owners of large industrial companies and even political leaders an excuse for not taking immediate action towards net zero. This attitude was shown by a survey conducted in multiple countries (Canada, China, Germany, Switzerland, the UK and the USA). Interestingly people in the UK and USA were found to dislike the use of Solar Radiation Management (SRM), a form of geoengineering, as they felt that it would negatively affect the climate. On the other hand 'Chinese respondents, by contrast, were more accepting of SRM when they held stronger beliefs that it may reduce the motivation to adopt burdensome climate change mitigation efforts'. Neither of these views is beneficial to the field, however, China's outlook on this is worrying because it could end up leading to a future that is ultimately worse off.

There are two disciplines in Geoengineering; SRM and Carbon Capture and Storage (CCS). Multiple types of CCS are slightly different in their way because they contain extra processes, however, to make things straightforward they will not be included. They are both completely different in how they work but they set out to achieve a similar objective. SRM generally focuses on preventing sunlight from being trapped in the atmosphere to slow down the rate of warming. 'In total, approximately 70% of the incoming radiation is absorbed by the atmosphere and the Earth's surface, while around 30% is reflected towards space and does not heat the surface'. This 70% is the area that SRM deals with. Its job is simply to limit the amount of sunlight that can be internally reflected so that the greenhouse effect is inhibited. There are three main methods that this can be achieved: Marine Cloud Brightening, Stratospheric Aerosol Injection and Space-based technologies. Space-based technologies involve putting giant mirrors/shields in space to reflect the sunlight away from earth. One of the main things preventing this from being implemented is the amount of space debris that is in our atmosphere that would rip through the reflective material. Additionally, as an example for this to happen in America, NASA would require a lot more funding which would inevitably come from an increased tax on the public. Combined with the existing problem of geoengineering unpopularity, this is therefore unlikely to be approved. Due to space mirrors having an unlikely chance of being realised, they won't be mentioned anymore. On the other hand is CCS which has concerns about what we do with existing carbon and any that we are to produce. This is done by compressing carbon dioxide into underground storage units, usually geological cavities (often cavities that were previously used to store fossil fuels). This method highlights that geoengineering should only be temporary as it involves piling up the carbon waste until something else can be done to remove it. These two methods share very few similarities, SRM needs more research as we are still not entirely sure how to implement it on a large scale whereas with CCS the technology required has already been created.

Solar Radiation Management consists of two functional methods; marine cloud brightening (MCB) and stratospheric aerosol injection (SAI). Both work by creating a barrier which blocks sunlight, in particular infrared rays which induce a heating effect, so the greenhouse effect is limited.

SAI is based on the eruption of a volcano and gained popularity among scientists after the eruption of Mount Pinatubo in 1991 which caused the death of almost 900 people. During the eruption of Mount Pinatubo huge ash clouds were created which contained sulphur dioxide, a chemical which when mixed with water in rain clouds created a collective of clouds that contained sulphuric acid. The importance of this is that like ice and sand, which can reflect light towards the atmosphere, sulphuric acid has increased reflective properties. Therefore during the eruption, much light was reflected away from the earth. As there was less infrared light hitting the earth, there was less thermal energy being transferred reducing the impact of the greenhouse effect. This single eruption caused the global average of sunlight to drop by 1% which in turn acted as a cooling effect, reducing the average global temperature by 0.5*C. This reduction might only sound small as of 2023 the current global temperature increase since 1880 is 0.76*C. This shows how big of an impact 0.5*C can make on an ecosystem. An example of a small change in temperature that can leave a huge impact is the fact that if the earth's temperature was raised by 1.5*C then up to 90% of all coral reefs could be destroyed.

SAI would work on a similar basis but instead of a volcanic eruption, the chemicals would be sprayed into the atmosphere via a large aerosol. This could be attached to an aeronautical object; plane, helicopter or balloon that would distribute the chemical across the stratosphere. As the light is reflected away from the earth in the troposphere (layer of the atmosphere under the stratosphere/ closest layer to earth), this becomes much cooler however the layers above the stratosphere become much hotter because they receive a greater intensity of light. This was clearly shown during the Mt Pinatubo eruption as scientists say the ozone layer above the arctic after the eruption was the largest it had ever been. This is why if SAI was introduced we must be carbon neutral after SAI is stopped else all that stored heat will create an intense heat wave. This could lead to increased drought and decreased crop yield which would have damaging social and economic impacts.

The advantages of SAI are clear, it would help reduce the greenhouse effect which could prevent long-term heat increases which would lead to drought however this is only possible if we become carbon neutral before SAI is stopped. Additionally, the implementation of the system would open up a huge job market or people to fill. This would help boost the economy and create better social living standards. On the other hand, there are disastrous negatives associated with SAI. It would cause the ozone layer to deteriorate, increasing the likelihood of cancer due to increased exposure to UV light. Over time this could significantly reduce the average life expectancy. It could also have a negative effect on agriculture, which would again have a harmful social impact. Another major disadvantage of SAI is the level of sunlight that reaches the earth's surface would be reduced, meaning solar farms wouldn't be as effective. At the moment solar energy only makes up 1.1% of total global energy production so there is a huge drive to push this number up

which would move us closer to carbon-neutral, however, if the efficiency of solar energy is reduced, then energy providers will be deterred from this. This could lead to an influx of fossil fuel usage as it is far more reliable and companies won't lose out commercially. Additionally, sulphur dioxide (the chemical used during SAI) is produced during the combustion of fossil fuels which only adds to the greenhouse. Consequently, SAI ironically contributes to the greenhouse effect unless sulphur dioxide is produced chemically in the lab, however, this would be more expensive. Therefore SAI could be effective but if misused at an inappropriate time could result in far worse consequences than the situation beforehand.

The alternative to SAI is marine cloud brightening (MCB). When light hits an object some of its energy is absorbed into the material through a thermal store and some of it is reflected away. The amount of light that is absorbed and heat that is transferred into the material is dependent on the colour of the material. The darker an object is, the more infrared light it absorbs and so the hotter the object becomes. This is why on hot days the black tarmac on the road is much hotter than on cold days. This is the premise on which MCB works. Other examples where this happens are deserts and icy biomes. Although these biomes are complete opposites, the weather conditions they have are due to how close they are to the equator. Both sand and ice are relatively bright materials and so they reflect a lot of light.

MCB is a deceptive name because no clouds are actually made brighter, instead, the number of bright/white clouds is increased. Based on the idea that brighter materials reflect more light; there is an increased amount of light that is reflected away from earth. These clouds would be formed through the addition of salt particulates in the sky because clouds form around even the tiniest dust particles. By adding salt to the atmosphere they act as magnetic nuclei that attract water vapour molecules. Eventually, this would lead to an increased quantity of clouds and would reduce the impact of the greenhouse effect. The salt would be added in the same way as SAI, through the use of aerosol, allowing for an even distribution of clouds. Despite limited testing, 'scientists estimate that as little as a 1.8 per cent reduction in incoming solar radiation would compensate for the halving of CO2 emitted into the atmosphere'. 1.8% seems to be a relatively small value until you consider 'a cloud can reflect from 10-90%' of light which is dependent on water droplet size and ice or water composition'. Therefore MCB could be ineffective in certain regions due to the corresponding climate.

The advantage of MCB over SAI is that it would be significantly cheaper since SAI requires the production of a chemical, costing money and resources. Only salt is required for MCB and could be easily produced through the evaporation of water from sea water. Additionally, MCB doesn't cause a temperature growth above the stratosphere so there aren't any repercussions when the process is made inactive after being used. From this, it is clear to see that MCB is a much safer alternative to combating the increased greenhouse effect. However,

if nothing was done to push the earth towards a carbon-neutral planet while MCB is carried out then coral reefs would continue to suffer. This is clear because the Great Barrier Reef is suffering a major impact from only a '30% increase of CO2 since the industrial revolution'. MCB could be very effective in some areas however it could cause a major increase in rainfall within some areas. This could lead to flash floods destroying all manner of structures, natural or man-made, which could have detrimental social effects by causing increased homelessness and limiting supplied utilities (electricity, water and gas). However, on the other hand, increased rainfall could benefit some areas that suffer from drought. For example, North Africa is one of the driest regions on the earth and could benefit from increased rainfall. This would lead to positive social and economic impacts and there could be a boom in agricultural production. This would increase the amount of food available to the people so starvation stats would decrease. Additionally, there could be an increase in agricultural-based exports consequently raising the GDP (gross domestic product) of some countries. This could have a positive impact globally by reducing the cost of imported food resources.

RECAP: There are two 3 types of SRM technology; Stratospheric Aerosol Injection (SAI), Marine Cloud Brightening (MCB) and Space Related Technologies. SAI works by creating a layer of chemicals in the stratosphere that reflects light from the sun back up. Although this causes the layer below it to cool, the layer above it gets hot. Similarly, MCB works by adding sea salt to the atmosphere to increase the number of clouds forming nuclei. This increases the number of clouds which reflect light, lowering the greenhouse effect. Both SAI and MCB can cause dangerous weather changes (drought and flooding) which could heavily impact agriculture. Finally, Space-Based Technologies involve sending giant mirrors into space that would reflect the sun's rays away. This process would be incredibly expensive and isn't feasible at the moment.

The counterpart to ARM within geoengineering is carbon capture and storage (CCS). SRM is the aspect that focuses on reflecting sunlight that induces an increased greenhouse effect which means in work against the cause of climate change. Alternatively, CCS acts against the carbon produced from the burning of fossil fuels; the effect. CCS hasn't dealt with the adversity of SRM as much because, unlike SRM, CCS doesn't have a heavy change in the ecosystem since it doesn't alter natural cycles (e.g. MCB interferes with the water cycle). Therefore CCS has been a competent system/industry for a large period of time. 'The first plant was built in 1972, Texas USA and has stored over 200 million tonnes of CO2' and by '2019 there were 51 large-scale CCS facilities globally'. This clearly shows that CCS is a more widely accepted system of geoengineering due to its wide-scale success across the globe. Additionally, it has seen technological development because the testing is more accepted than the testing involved with SRM.

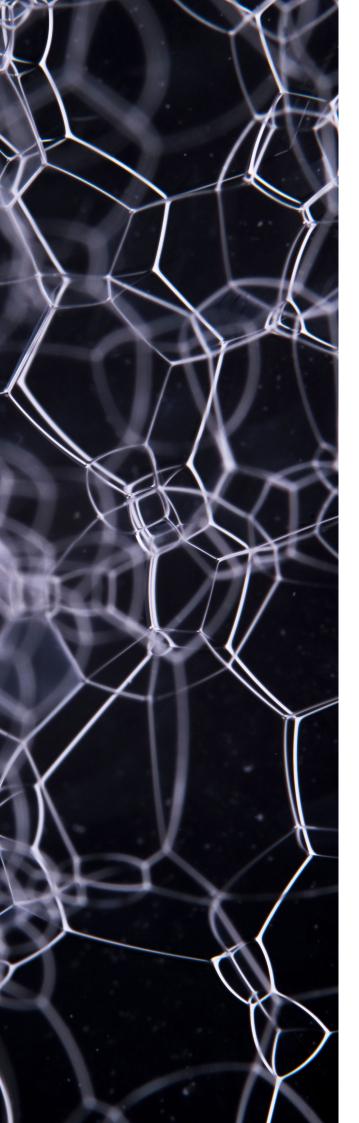
CCS, as shown clearly by its name, is the capture and storage. Toxic gases are produced for energy production,

commonly used in the manufacture of steel and cement, and are collected. Carbon dioxide is then separated from this mixture before being pressurised and transported via ship or pipeline to a CCS facility. Once there it is pumped underground, usually into empty oil, gas and mineral reservoirs. This is done because they have pre-drilled holes from where the resource was originally collected and are stable cavities. Carbon is pumped into reservoirs that are at least 1 km underground so that once it has travelled through porous rock, it eventually reaches an impermeable layer such as shale (a sedimentary rock that gets compacted into non-porous slates over time).

There are different types of CCS, each containing more steps to improve the process. These are bio-energy, carbon capture and storage (BECCS) and carbon capture, utilisation and storage (CCUS). BECCS aims to make burning biofuel an environmentally friendly process through the removal of carbon dioxide, a toxic byproduct. Burning biofuel is a renewable energy source because we can infinitely grow more biofuel (plants). However, the process isn't environmentally friendly because plants, like all living creatures on the earth, are carbon-based life forms. BECCS simply removes carbon from this system making it environmentally friendly for as long as the carbon can be stored.

CCUS is more useful than BECCS because the carbon is put to use instead of continuously storing carbon to negate the negative effects of burning biofuel. There is only so much space for carbon to be stored; the carbon is used to produce things like concrete and plastics through CCUS. This is especially useful because the offset carbon can be made into permanent structures rather than temporarily stored. The more challenging aspect of CCUS is forming plastic from carbon but this would produce positive results in terms of minimising carbon output. If '30% of all polyols (a polymer type) were made from carbon it would be the equivalent of saving 90 million tonnes of carbon dioxide from the atmosphere'. In respect to the amount of carbon dioxide that is actually in the atmosphere, this isn't a huge amount if you consider that doing this would be the same as 'taking 2 million cars off the road' and as of '2022 there were 32.2 million cars on the road in the UK'. This shows that CCUS wouldn't have a significant effect on moving towards carbon neutrality. However, because carbon is so abundant it is incredibly cheap - '\$100 a tonne compared to \$2000 for propylene oxide'. Therefore industries/companies that produce a lot of carbon could convert their waste product into useful materials. This material could be sold to make money which would help companies move over to a greener alternative safely.

A chemist at a US university has developed a new process that can produce carbon-containing molecules which can be used in the production of some plastics. Despite this success, an improved method would be to produce ethylene out of carbon. This is because 'polyethene makes up around half of all plastics that are used today'. Although polyethene is not biodegradable it can be recycled into other plastics in places of other harmful materials. For example, oil is used in the production of a



lot of plastics, however HDPE (high-density polyethene) could be substituted for this. However 'making ethylene out of carbon is not to be commercially viable for 20 years'.

Some efforts lean outside of CCUS with similar motives that aim to cut down on the amount of CO2. One such example is the standardisation of pre and post-combustion removal and oxyfuel combustion. Pre and post-combustion work by removing carbon from fuels before and after they are burned respectively. Oxy-fuel combustion is more difficult as it works by replacing the air that is used in combustion with a gas mix of 95% oxygen. This gas mix also contains flue gas (gas that comes from towers after combustion has occurred) circulated through it. The effect of this is a flame that is significantly hotter which 'reduces the efficiency penalty to 4% from 8-12% in pre and post-combustion. Furthermore, the gas that comes from these reactions makes it easier to remove carbon. Although this sounds positive, achieving such a concentration of oxygen isn't easy. So far it can only be carried out through a process called cryogenic distillation which is very expensive. Despite this, it is estimated that 'the cost of producing electricity would reduce by 7-12%'.

The advantage of CCS over SRM is that it is easy to accomplish because it has been in operation for half a century. This has been because it hasn't received the same backlash as SRM so there is an increased level of testing. This makes CCS a reliable technology because it is well-versed in combating the enhanced greenhouse effect. CCS wouldn't have any effects on any natural cycles like SRM and provides social and economic benefits. Carbon capture opens up jobs in existing factories that would specialise in collecting and pressurising carbon as a by-product. Additionally, more CCS facilities would result in jobs required to monitor systems. Since people would have more money to spend on goods, they would help boost the economy.

However, the major drawback is that CCS cannot become a permanent system employed to combat climate change. This is because there is only a limited amount of space available for carbon to be disposed of. This is why geoengineering must be only carried out for 10-20 years. If no work was done to make carbon into a sustainable resource or to safely dispose of it without damaging the environment then there could be disastrous effects. This is because there would be an influx of CO2 released into the atmosphere causing a rapid increase in the greenhouse effect. Therefore geoengineering could cause greater damage to the earth in the next 10-20 years and negate any good it would do.

RECAP: There are two major types of technology associated with geoengineering; SRM and CCS. SRM works intending to reduce the amount of sunlight that is absorbed by the earth. This is done through the process of blocking or reflecting light away from the earth. Stratospheric Aerosol Injection and Marine Cloud Brightening are more popular methods as they yield irrefutable positive effects however at the cost of causing major weather cycle changes. CCS is the means of reducing the amount of carbon that is released into the atmosphere. This can either be done by collecting the carbon in large underground storage units or by reducing the amount of carbon used in the process of making energy (via removal of carbon from fuel and products or increasing efficiency to turn out less carbon). As of 2023, there is a struggle to get SRM moving at

pace because it is a very controversial technology while CCS has been in development and use for over 50 years. This is unfortunate because SRM, if successful, could have a more pragmatic effect in reducing the greenhouse effect than CCS.

Geoengineering covers a variety of fields, having social and economic impacts both good and bad. SRM is considerably more effective than CCS since it works against the root cause of the enhanced greenhouse effect, however, it holds more possible negatives. SRM could lead to flooding in areas from increased rainfall that would be caused by MCB as well as changing weather patterns, for the same reason, that could alter agricultural growth. Despite this, if used properly, it could lead to improved GDP in countries especially in north Africa from a boom in agriculture. However, there is still a chance that SRM could result in worsening conditions if SAI is abused by energy providers as an excuse not to switch to greener alternatives. This directly links to CCS under the basis that energy providers could see carbon capture as a reason to not switch. This is because it gives them more time to switch so there isn't as big of a push. The other issue associated with CCS is that, unlike SRM, it doesn't stop or slow down the underlying problem. In a sense, it is technology sitting on a time bomb. Eventually, all the space will be used up and global temperatures could dangerously rise as atmospheric CO2 could reach an all-time high.

Public opinion has a huge influence on the productivity of geoengineering. SRM has seen the worst of this as limited testing has been carried out. This hasn't allowed it to develop as well as it could have. On the other hand, CCS has not received backlash because it is a safer method. It's an interesting predicament as the most effective version of geoengineering sees difficulty having any effect while the safer method has been around for some time. Considering that the current predicted temperature for '2026 is expected to be between 1.1 and 1.7*C higher than industrial levels' I believe that more drastic measures must be taken for a detrimental impact to occur however if this were the case then there could be a greater recoil of protests towards geoengineering.

Therefore, due to the state of the earth, I believe that geoengineering must be implemented because it would buy enough time to become mostly a net zero planet without enduring the negatives of increased temperatures. More importantly, SAI must be made a greater priority than CCS as it would have the best effects in negating the enhanced greenhouse effect. Although there are negatives that are associated with it, if utilised formally these could be avoided. However, I believe that this won't happen because of protesting which leads to limited testing. If there were fewer/no protests then more research could be done to determine whether SRM is a safe or potentially dangerous method. Additionally, energy providers won't want to switch over to greener alternatives because they can't put faith in SRM, a technology that hasn't physically been proven to be effective. For these reasons, I believe that in the next 5 years, geoengineering will fail to show any effect on global warming. However, after this, it could start to show its potential through the years as more come to realise its potential benefits.



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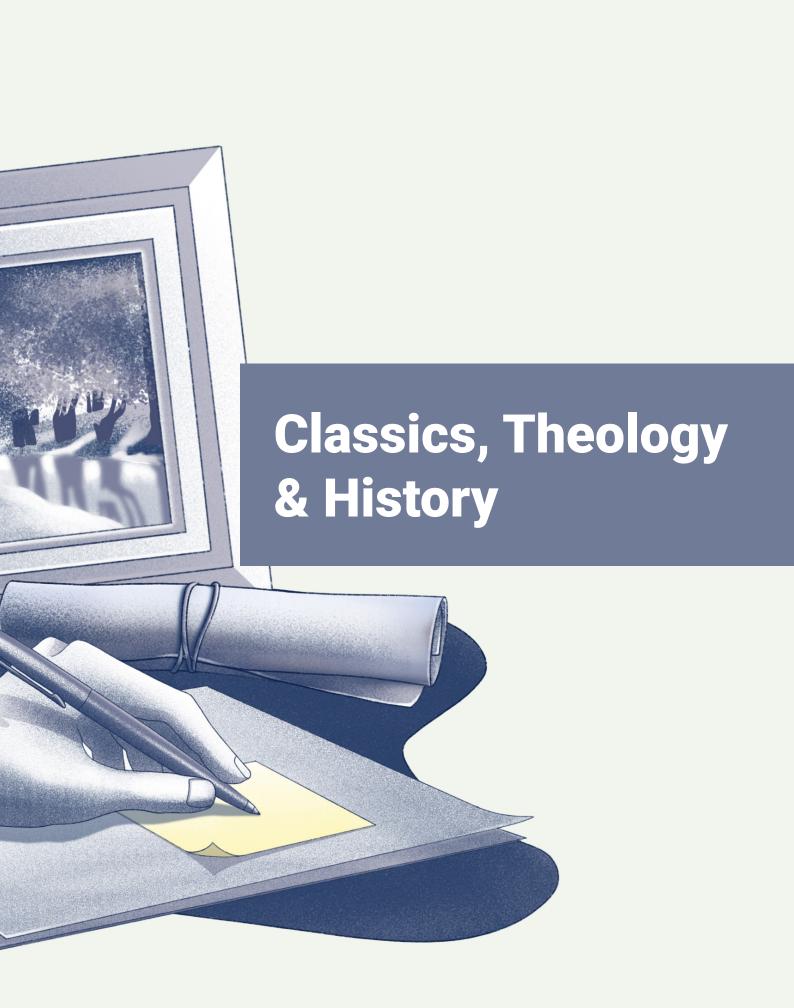
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To what extent do Rome's foundation myths promote Roman values?





Introduction

The myths telling of Rome's foundation can be broken into three distinct stories woven together by the prowess of historians and embellished by epic poets: Aeneas with the fall of Troy, the Alban kings and Romulus and Remus. Therefore they serve not only as entertainment but also a form of propaganda (used by Augustus) and a means to promote typical Roman ideals.

This essay will explore Aeneas' story through its depiction in Virgil's Aeneid and how though it was first used to stress the animosity between the Greeks and the Romans, in the hands of Virgil, this hellenocentric tale became a means to reconcile them.1 Additionally, being one of the most influential pieces in circulation, how Augustus used the poem as a vehicle for propaganda to promote and forward his regime alongside his own Res Gestae and several monuments. The poem tells of the sack of Troy by the Greeks and how the surviving Trojans, with Aeneas as their leader, travelled across the Mediterranean and landed in Latium, Italy. Virgil promotes Roman values such as piety 'pietas' shown by Aeneas' honour towards his father and the gods and the advanced culture of Rome under Augustus' rule. In addition to this, marriage is emphasised through

the selfless actions of a deceased Cruesa and the coming together of the native Latins and the remaining Trojans through Lavinia, both wives of Aeneas.

Later, in his History of Rome, Livy details how Romulus and his twin Remus, descended from Aeneas, overthrow Amulius, their granduncle who had deposed his brother Numitor and plotted their deaths. Subsequently Romulus founds a city nearby, calling it Rome from which the Romans are descended. Though Romulus shows honour through his interactions with the Sabines after the war, it raises many questions on how effectively Roman values were shown through foundation stories. Through these two different works of literature the Romans showed how they saw themselves and how they wished to portray their customs and ideals to others. Therefore this essay will discuss the effectiveness of Rome's foundation stories in promoting the Roman values: pietas, honour and marriage.

Marriage

Marriage within Ancient Rome was primarily for the sake of producing children, however through its function of joining two people together, could be a channel by which peace was brought between nations. Though, during the late Republic, the sanctity of marriage deteriorated with adultery becoming not only tolerable but even fashionable and divorce common.² Such a decline in morality sparked Augustus to reform the legislations

 $^{^{\}rm 1}\,{\rm T}\,{\rm J}$ Cornell, "The Beginnings of Rome," Routledge History of the Ancient World (1995): 65

² Pamela Bradley, "Ancient Rome: Using Evidence," Edward Arnold (Australia) (1990): 443

on marriage, placing heavy importance on monogamy and child bearing within marriage with ramifications as a means to dissuade the citizens from adultery. One of these moral legislations were the Lex Julia de adulteriis coercendis in 17 BC which criminaliswed adultery, with extreme penalties, whereby a woman's father could kill his daughter and lover, lovers were exiled to different islands and the men lost half their property. However this was counteracted with the ius trium liberorum allowing women with three or more children to be exempt from the law that required them to have a guardian 'tutela mulierum' and had succession rights over their children's inheritance.

With Augustus as Virgil's patron, the Aeneid would strengthen his beliefs' and further cement his power. However this power had its limitations as many of Augustus' supporters were unmarried, including the poets Horace and Virgil with Ovid himself even speculated to have committed adultery with his daughter Julia the Elder or granddaughter, Julia the Younger. This questions Augustus' power in Imperial Rome and how marriage may not have been valued by Early Imperial Roman citizens as much as portrayed to the rest of the world.

Creusa

In the Aeneid, Creusa, daughter of the Trojan king and gueen Priam and Hecuba, was the first wife of Aeneas and the mother of Ascancius/Iulus. While fleeing Troy with her husband and son, she is left behind and eventually killed, with her final appearance in the narrative as a ghost, telling Aeneas of his great destiny and placating his mourning spirit. Creusa's importance for the Romans, was based on her fulfilment of her role as woman by bearing Aeneas a child, which is rewarded by her son going forth to find a long race of people, who are the ancestors of the Romans. This emphasises the primary function of marriage to the Romans as a means of producing offspring to carry on the family name and lineage. A woman who had done this would be praised and respected within Roman society. This role of a woman within marriage is asserted through Creusa's character due to the women of Roman aristocracy being notable for their divorces, adulteries and reluctance to bear children during the late Republic.3 This was returned with the ius trium liberorum which would have acted as an incentive to Roman women to have children as a means to gain independence. Virgil uses Cruesa as an example of what Augustus envisioned a Roman Imperial woman to be and how that was achieved through her marriage with Aeneid, promoting marriage to the womenfolk within Rome. Creusa's shadow comes back to tell Aeneas of his fate of arriving in Italy and how he will find happiness, kingship and a royal wife. She presents desirable ideas, portraying marriage as the most joyous event awaiting Aeneas in a foreign country. Though Aeneas had a son, Iulus, the same principle of encouraging a remarriage for young widowed men is shown, and conveyed through Creusa's ghost, creates a more striking message to the reader, promoting marriage as a Roman ideal.

Dido

Later in Aeneas' travels, he meets the Carthaginian queen Dido, who Venus had spelled to love him in an effort to prevent him from hostility. After their love affair, Aeneas decides to leave and follow his destiny to found the Roman people, angering Dido so much so that she accuses him of forsaking the 'inceptos hymenaeos'4 (marriage we have begun). The fact that Dido considers her and Aeneas married even through they had no ceremony, because of their sexual intimacy expresses the Roman view that for women, intimacy is had with one's husband. However Aeneas uses the justification of never having held the marriage torch with Dido 'conjugis' umquam praetendi taedas'4 to deny his responsibility for marriage. Aeneas' refusal of his and Dido's marriage directly contradicts the ideals of a Roman marriage, instead presenting marriage as wavering and subject to interpretation rather than the steady constitution it was valued as. Neither does it align with Augutus' new marriage laws he tried to enforce, leading one to believe this scene was more for the effect of a good story rather than to promote Roman ideals. However when one considers if Virgil used Dido to play the role of a distraction to Aeneas from his mission, then leaving her was fated. Recognising Aeneas' destiny to found Rome it can be concluded that in this case, his pietas outweighed his integrity in marriage.

Lavinia

Lavinia, daughter of King Latinus and Queen Amata, was given to Aeneas to be his last wife. She played a critical role in the establishment of Aeneas in Italy and of Roman power as her marriage joined together the Trojans and the Latins. Though it was through her broken engagement with the neighbouring Rutulian king Turnus that war between these two peoples began, her marriage strengthened the relationship between them after the war, allowing the Trojans and the Latins to merge, forming a stronger race. Here Virgil associates marriage with divine obedience therefore linking marriage with pietas and respect to the gods, another important value. Additionally this idea of accumulating strength and resources through union, promotes marriage as a means to gain power. This was especially true as under Augustus' new laws, freedmen with two or more children were exempt from certain obligations placed on them by their former masters and the consul with more children and who is still married would be considered the senior. Later Jupiter tells Juno of the future of the Latins and the Trojans and how from them will be a race that 'supra homines, supra ire deos pietate'5 (surpass men and gods in virtue) and how no other nation will worship her with 'aeque...honores'7(equal devotion). By claiming that the merged race between the Latins and Trojans, the Romans, surpass the gods anyway emphasises the importance of the marriage between Aeneas and Lavinia as the starting point of the great Roman race. Additionally the comparative advancement of this race compared to other nations appeals to a Roman citizens sense of pride and upholds the superiority felt living in such a prosperous era of Augustan culture.

³ Richard I Frank, "Augustus' Legislation on Marriage and Children" University of California Press (1975): 43

Sabine Women

However an unfavourable depiction of marriage is shown in Romulus' acts against the Sabine women. With his city established and populated with vagrants, Romulus then turns to the nearby Sabines, inviting them for a banquet and seizing their married and unmarried women. This led to a war, reconciled by the women⁶ themselves. Livy may have used this story as a metaphor for the initial separation between the bride and her natal family, the transfer of authority to her husband and the building of a new family. Having the focus be on the women, and how their appeal 'movet'⁷ (moved) the generals and soldiers promotes the role that women, specifically married women, can have within their communities. In addition, Romulus' actions of uniting the couples using the women's own marital customs shows how his aim was not violation but unification of two races by marriage. Roman historiography often associated Rome's stages of political development with the physical violation of a woman, meaning this may have been recorded as a way to mark the merging into one State.8 However this story could draw parallels with Augustus' abduction of Livia apart from the lack of avengeance by her relatives and the fact that Augutus gains more power. In addition Livia, much like the Sabine women, causes political change, playing a part in the revolution from Republic to Principate. Therefore the promotion of marriage and Augustan laws is debatable as even Augustus flouted them by taking Livia without punishment.

In general, marriages within Roman foundation myths are used as a means to present the roles of women within a marriage and the power it can bring through the union of two families. Augustus' legislation on marriage lay out the framework for an ideal marriage, with these myths acting as propaganda. However, how effective these tales are at laying out such a family dynamic and promoting marriage may be hindered due to its structure as a mythic story and the Romans' own complicated association with marriage.

Pietas

Pietas was a Roman virtue that encompassed respect for the family gods and your city9 and was one of the prime values amongst them. It was more than just religious devotion but a virtue that admonished us to do our duty to our country or our parents or other blood relations. 10 It allowed one to recognise the divine benefits one receives and a pious Roman would carry the virtue everywhere, following the will of the gods in business transactions and everyday life. 11 To the Romans, being called pious would have been the most important attribute, therefore was constantly reiterated within the Aeneid, especially with the character Aeneas who Virgil structured as the precursor to Augustus. In this way, the description of Aeneas firstly presents the noble founder of the Roman race and also acts as propaganda emphasising Augustus' own character. Augustus believed that it was necessary to return to the old Roman values such as pietas to raise the general level of morality

and in order to strengthen his new regime and bring about permanent improvement.¹² Therefore pietas was emphasised and promoted within the Aeneid to make reference to his religious policy and legislation.

Family

Aeneas' dominant characteristic is pietas towards his family, country and the gods. Aeneas showed pietas towards his father Anchises in Book II when he he told his father that 'ipse subibo umeris nec me labor iste gravabit¹³(I will carry you on my shoulders: that task won't weigh on me). Although as a strong young man he could have fled alone, Aeneas refused to abandon his family and chose to bear this 'oneri'14(burden) whilst clutching his son, showing his willingness to sacrifice himself for the interests of his family. They fled unharmed and were one of two groups of people that escaped the fall of Troy, highlighting to the reader the rewards of pietas and service to one's family. Later after his death, Ascanius' ghost tells him to 'ditis...infernas accede domos'15(go to the infernal halls of Dis) and meet him. Despite the grim description, Aeneas still followed Anchises' orders, showing his pietas. By depicting the underworld negatively in this passage, Virgil emphasises Aeneas' respect to his father through his willingness to go to extreme lengths to obey him. In the end, Aeneas is rewarded for his obedience, by being given the opportunity to see the future race of the Romans: from the Alban kings to Romulus and his descendents the Caesars. Being shown this view into the future success of his descendants would have been considered as an extremely honourable gift from the gods as a reward for his pietas and respect towards his father; therefore advocating the virtue and emphasising its rewards.

Gods

To Aeneas, pietas meant not only faith, but obedience to the will of the gods, especially Jupiter, as to live his life in line with his divine fate. While in Carthage with Dido, Mercury on the orders of Jupiter came to Aeneas telling him how Jupiter had sent him to remind him of his destiny and think of his son lulus 'cui regnum' Italiae Romanaque tellus debetur'16(to whom will be owed the kingdom of Italy, and the Roman lands). Aeneas was truly struck dumb and stunned from this vision, however he realised his true duty and obeyed Mercury, praising Jupiter for helping him. Here he demonstrated that his focus is on the gods and what they command him to do. His constant obedience to his fate and Jupiter's commands gained him Jupier's favour that he helped him placate Juno to bar her hindrance of him and aid of Turnus. In this way the Aeneid promotes pietas towards the gods as a means to ensure protection from the gods. However the fact that the pietas of the Carthaginians towards Juno and the prophecy that a race descended from the Trojans will destroy them causes Juno to harbour anger towards Aeneas. This contrasts the rewards Aeneas receives for his pious behaviour and instead shows how this pietas can be outweighed by fate.

Patriotism

Additionally Aeneas showed his pietas towards his country and the future race that he was destined to found. At the beginning of the poem Aeneas leaves his homeland of Troy and immediately sets out to find a new Troy. This was done many times, with many different cities being founded by Aeneas as a new Troy and homeland for him and his companions such as Aenaedae in Thrace and Pergama in Crete. At each new city however, Aeneas would receive a sign or vision that told him that this wasn't the new location of their new Troy. Even with continuous failure, Aeneas still travelled on a boat across a sea with 'inimicum imbrem'¹⁷(hostile tide) which destroyed many of their ships. Additionally Aeneas showed pietas to his country through his abandonment of Dido. Though he was in a long relationship with her he realised his true fate was not towards Carthage and Dido. Pietas in this sense is shown not as a lack of free will but rather a difficult choice that a character must make. Dido tried to persuade Aeneas to stay with her and forgo his fate while Turnus refused to allow Lavinia to marry Aeneas even when it had been prophesied. In the end, Dido commits suicide burning with ardent love for Aeneas and Turnus is killed in the final lines of the poem. This shows the reader the disastrous endings for the characters who tried to block Aeneas' pietas and in founding a new race, servitude towards his country and the gods, was Aeneas able to receive a heroic ending.

Tarpeia

Pietas could be argued to have not been promoted with foundation myths, especially through the character of Tarpeia and her vice: greed. When Rome was attacked by the Sabine king Titus in retaliation for the abduction of their women, Tarpeia, daughter of the Roman commander Spurius Tarpeius and a Vestal virgin, offered the Sabine soldiers entry into the Capitol supposedly in return for gold, specifically 'guod in sinistris manibus haberent'18 (what they held on their left hands) which referred to the golden bracelets commonly worn by the Sabines on their left arm. However what she received instead was a heavy shield thrown on top of her, suffocating her and providing an example for the fate of traitors. Pietas included one's sense of identity and honour towards their country and homeland, which contrast the betrayal by Tarpeia. Here therefore pietas isn't promoted as much as the ramifications for treachery emphasised. Livy even speculates that the Sabines killed her to show how no faith should be kept with a traitor. This shows how the enemy forces viewed betrayal, even if it was the means by which they entered the city. However there is an alternative interpretation of this story, with Tarpeia demanding the Sabines' shields as a means to disarm them but

¹⁰ Cicero, "De inventione": 2.66



⁵ Virgil, "The Aeneid": 12.839

⁶ Virgil, "The Aeneid": 12.840

⁷ Livy, "The Early History of Rome": 1.13

⁸ Thomas E Strunk, "Rape and Revolution: Livia and Augustus in Tacitus' "The Annals"" Société d'Études Latines de Bruxelles (2014): 126

⁹ Ben Greenley, Dan Menashe and James Renshaw, "Classical Civilisations: Myth and Religion" Bloomsbury Academic (2017):

was met with death by the very items she demanded. This duality leads to different interpretations by the Roman public. If her deed was prompted by greed, she deserved her fate however if her deed was motivated by patriotism and therefore pietas, should she be honoured as a heroine?¹⁹ The implications of her actions may not aid in presenting her in a heroic light, but rather cements the most apparent explanation, that she was a traitor. The character of Tarpeia is used by Livy to create an origin for the Tarpeian Rock, which became the execution site for Rome's traitors. Because of this the rewards of pietas aren't praised but rather this scene acts as a cautionary tale for the Roman public.

Pietas, apart from selfless dedication to the gods, is shown in these foundation myths as a link between opposing forces. From Aeneas recognising the similar filial pietas within Lausus as he killed him, to both the Trojans and the Latins conducting funeral rites over their dead, pietas is recognisable on both sides of this war. In particular with the Latins and the Trojans, their acts of pietas are a good symbol, forewarning their joining as the Roman race, and presenting a rich history for its importance as a value

Honour

Honour is the recognition by appropriate members of society of an individual's attributes and behaviour or as Roman author Seneca defined as the 'favourable opinion of good men'.20 However it was more than just public opinion, and could be seen as personal possession with the extent of one's honour being dependent on which family they belonged to and their legitimacy. Legitimacy was of great importance to the Romans, as it determined whether they could inherit or hold property. with claims of illegitimate or uncertain heritage being used as insults shown when Priam insinuates that Pyrrhus is 'mentiris'21 (falsely claims) to be Achilles' son. Legitimacy was elevated particularly under Augustus, with his laws that stated that illegitimate children 'spurii, spuriae' would not be allowed to be written on the household register. On the other hand, legitimacy particularly when the gods were involved, could be used as an advantage with the Caesars themselves tracing their family lineage back to Aeneas in order to legitimise their right to rule Rome.²² However this claim of heritage brings to light the uncertainties and faults within both Aeneas and Romulus' parentage. Aeneas, the fruit of Venus' bewitched love to Anchises and the uncertainty of Romulus' godly heritage. This brings to question whether foundation myths promote the honour that comes with legitimacy or rather dismiss the questionable ancestry of Rome's founders.

Romulus and Remus

Rhea Silva, the mother of Romulus and Remus, is normally thought of as an innocent victim of tyrannical oppression.²³ It is commonly believed that, compelled to live as a Vestal virgin by her uncle, she was raped by Mars - the Roman god of war - and gives birth to twin sons. However this is not explicitly stated by Livy who writes that 'seu ita rata seu quia deus auctor culpae honestior erat, Martem incertae stirpis patrem nuncupat' ²⁴(She named Mars as their father, either because she really believed it, or because the fault might appear less heinous if a deity were the cause of it). Specifically he uses the verb 'nuncupat' (she named) and the possible thoughts of Rhea to establish uncertainty in the paternity of Romulus and Remus, whilst also staining Rhea's moral purity by insinuating her active participation in the violation of her Vestal oaths. Livy goes on to describe how the children are fed by a 'lupa' (she-wolf) and then found by Faustulus, a nearby shepherd, and his wife Acca Larentia after being thrown into the Tiber to drown. Acca Larentia helped the twins grow into formidable men, allowing them to later overthrow their grand uncle. However Livy undermines Romulus and Remus' honour again when recording how Larentia was also known as 'lupa' (prostitute) due to her promiscuity amongst the shepherds. Livy's rendering of Rome's founding forces the reader to contemplate far less epic origins for the twins - and then indeed for Rome making the narrative of Rome's foundation becomes increasingly less stable.25 Additionally honour is marred with Romulus' fratricide. Any rendition, whether it be that Remus had taunted Romulus into a great rage or that a sacrifice was needed and Remus gave up his life, exposes the truth that Rome's walls had been built and city established by the blood of its founder's brother. Romulus' honour as a respectable member of society is questioned here, and further through his sordid abduction of the neighbouring Sabine women. Romulus' misdeed tarnished Rome especially after the civil war with many coming to see his apparent act of fratricide as the stain that cursed the Romans at the very moment of their city's foundation.26 In this way rather than establishing an honourable origin for Romulus and Remus to properly reflect the glory of Rome, Livy constantly makes the reader question their legitimacy, link to the gods and Romulus' own respectability and honour.

Honour had a significant effect on the personal identities of the Roman public, especially the elite, being the primary element of an individual's identity. One's position of power reflected the degree of honour an individual had and the rights he could execute. In this way, by aligning himself with Aeneas and Romulus, taking advantage of their diving heritage and status as founding fathers, Augustus not only placed himself at the top position, but also made honour a foundational concept used in organising Roman hierarchy and a core value in the pursuit of Roman life.

¹¹ Max Pfingsten, "Roman Virtues and Stoicism" Ashville School (2019)

¹² Pamela Bradley, "Ancient Rome: Using Evidence," Edward Arnold (Australia) (1990): 439

¹³ Virgil, "The Aeneid": 2.708 ¹⁴ Virgil, "The Aeneid": 2.729

¹⁵ Virgil, "The Aeneid": 5.731-2 ¹⁶ Virgil, "The Aeneid": 4.275-6

¹⁷ Virgil, "The Aeneid": 1.123 ¹⁸ Livy, "The Early History of Rome": 1.11

¹⁹ Tom Stevenson, Women of Early Rome as 'Exempla' in Livy: 'Ab Urbe Condita': Book 1" The John Hopkins University Press (2011): 179



Conclusion

In summation, Roman foundation myths tell the story of Rome, and were used to educate others of its city and people. On the one hand there was Aeneas who showed pietas and had divine birth, used by Virgil to structure the formation of an ideal 'vir' (man), and Roman 'virtus' (manhood). On the other, there was Romulus, whose character as Rome's founder represented the origins of Roman national character, therefore lending his characterisation tremendous significance in establishing Roman individuality. Yet Romulus' deeds are not always easy to understand morally and many times directly degrade Roman values. Though these myths allow Rome to glamorise their origins, their main values of marriage, pietas and honour aren't promoted throughout. However since these values may not have been practised, especially during the late Republic, both the Aeneid and History of Rome may be more a reflection of Rome at that time than a vehicle to promote Roman values.

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 $^{^{20}}$ Vittorio Nicholas Galasso, "Honour and The Performance of Roman State Identity" Oxford University Press (2012): 179-180

²¹ Virgil, "The Aeneid": 2.540

²² Ben Greenley, Dan Menashe and James Renshaw, "Classical Civilisations: Myth and Religion" Bloomsbury Academic (2017):78-79

 ²³ Tom Stevenson, "Women of Early Rome as 'Exempla' in Livy: 'Ab Urbe Condita': Book 1" The John Hopkins University Press (2011): 176
 ²⁴ Livy, "The Early History of Rome": 1.4

 $^{^{25}}$ Tom Stevenson, Women of Early Rome as 'Exempla' in Livy. 'Ab Urbe Condita': Book 1" The John Hopkins University Press (2011): 177

²⁶ Rex Stem, The Exemplary Lessons of Livy's Romulus The John Hopkins University Press (2007): 438

Year 6 - Mokshapat Boards and Hinduism

In the Lent Term in Religious Education pupils study a range of beliefs in Hinduism. As Hinduism is such a diverse religion pupils have to navigate the many differences within Hinduism and work out which beliefs are held more commonly. The pupils develop their skills of evaluating and refining their work through designing their own Mokshapat Boards. As the pupils will tell you, the Mokshapat Board is the original Snakes and Ladders game but designed to educate children in vices and virtues.

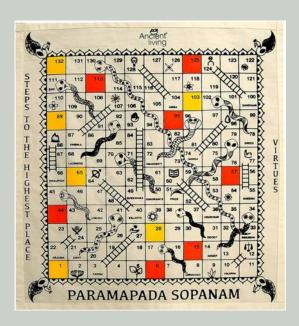






The pupils undertake three stages in the development of their Mokshapat Boards:

- Design Stage. Setting out their ideas and creating a draft board.
- **Testing Stage.** With their drafts complete the pupils play their boards with the aim of making it hard but not impossible to win. And for it to be fun.
- Final Product Stage. Pupils reflect on what they wish to keep or change from their draft board and then produce their final Mokshapat Board.



In RE we have been learning about beliefs in Hinduism.

The Indian game of Mokshapat is the original Snakes and Ladders Game. It teaches us that life is hard and if you are bad, you will be reincarnated so you don't go to heaven.

When I made my draft Mokshapat board I was in the Design Stage. I really liked the new rules I created, but I felt I needed to improve the neatness of the board.

In the Testing Stage, I played my board to see if it was fun and challenging but not impossible to win. This showed me I needed to add some more actions to the board.

I then moved to the Final Product Stage when I made my best version. My final product is similar to my draft because the rules are the same and the design is the same.

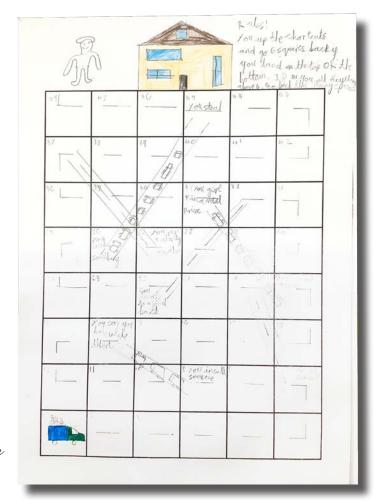
When I made my board I included the virtues of charity work and kindness. I also included the vices of arson and theft. I think if a child were playing my game it would teach them the difference between right and wrong.

A shared belief in Hinduism is we are all unique but connected through the qualities we share. Such as being able to be kind and clever. This means we are all different in a good way but we are connected by abilities to be kind.

For example: a child from Canada and an adult from Indonesia are not related by blood, but they both have the ability to be kind.
My opinion on this belief is that it is not true as I believe that everyone can be kind but that can't connect them in any way.

Another shared belief in Hinduism is there are clear ways to be a good person and this is done by practising virtues. There are vices that you should avoid. This means that there is a clear path to being good and a clear path to being bad.

For example: I want to be good, but if I do anything wrong, I can't ever be really good. My opinion on this belief is that this is not true and there is always more than one path and good people sometimes still do bad things.

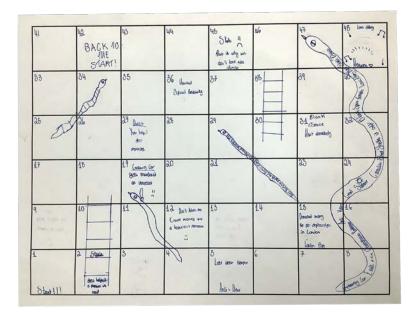






Scan this QR code to hear Grayson's full reflection

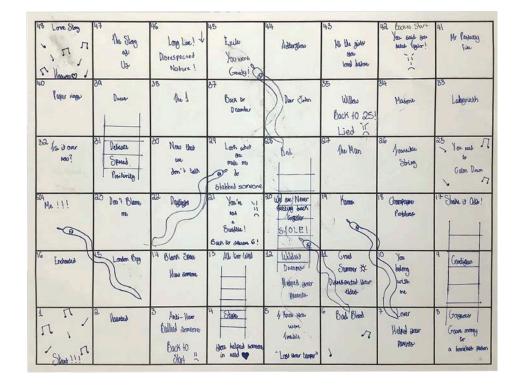






Scan this QR code to hear Hana's full reflection







Scan this QR code to hear Rowan's full reflection

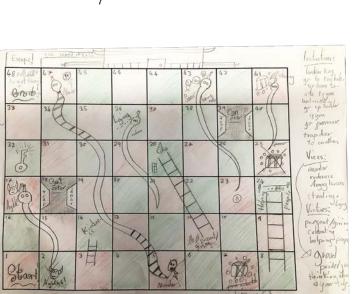


The game of Mokshapat is an Indian style of snakes and ladders. It teaches us the importance of vices (bad things) and virtues (good things).

When I made my draft (it was the design stage). I really liked that we add vices at the top or bottom of the snakes because snakes are deadly and bad but that the top and bottom of the ladders were virtues because there's a ladder to heaven and heaven is the good space we're as hell is for the bad.

I think what I could have done better is that I added more vices and virtues and I liked the colours I did (orange, green and white) because they are the colours of the Indian flag and India is where this game originates from.

I played my board a few times just to make sure that it was hard enough but was not impossible to solve.

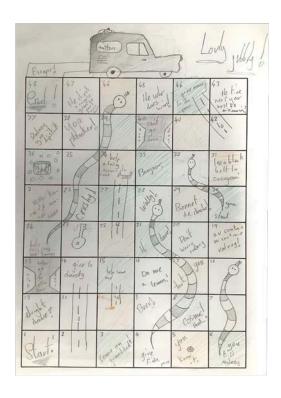


Then I made my final product stage of my Mokshapat. It was kind of different because I had different and forgot to add the same vices and virtues and new ones too.

When I made my board I included the vices of; committing murder, hate only fools and horse coz who doesn't like it! Stealing, you kill Rodney.

And the virtues were: help an old lady cross the road with her shopping, give to charity, help someone out and give money to the poor. A shared belief in Hinduism is human rights, free speech and democracy and lots more.

My opinion on this is it is very important to everyone and is a very strong belief it shows that everyone can achieve anything.





The Arts

To what extent has gender inequality been driven by Britain's portrayal of women in literature?





In the following accompanying written report to my artefact, which I chose to present in the form of a dance performance video. I will be presenting my research in response to the following question, 'To what extent has gender inequality been driven by Britain's portraval of women in Literature?'. Gender inequality is 'the social phenomenon in which men and women are not treated equally'. (G, Bradley, 2016) I decided to present my findings in the form of a piece of contemporary dance - a style that I feel enables self expressionism and has the fluidity and ability to convey a specific message. My research entailed reading and studying parts of various works of Literature, across the past century, delving into how women are being portrayed and written about by each author; along with statistical research into aspects such as the gender pay gap and other external reasons for gender inequality. After doing this, I will be analysing whether the authors' depiction of women in these books have influenced gender inequality today, inferred from statistics such as the gender pay gap and varying gender rights in the United Kingdom. I was particularly interested in

fulfilling research for this project question as it links to my current A-levels and future academic plans. As I am currently studying Economics, Dance, English and Business, hoping to complete a business degree in the future, I feel like this links seamlessly to different aspects of my project. In addition to this, I also had a personal interest in studying about the rights of women and varying progressions, if applicable, over the last century in Britain. I will divide the latter part of my accompanying report into several subsections; I feel this is appropriate as I will be able to give explanations into elements such as staging, lighting and costume that contribute to my choreographic intention which is my project title. For my dance performance, I decided to hone in on the 'gender inequality' aspect of my project, along with the economic and industrial strengths of women in our ever changing and growing society versus life for women over 100 years ago. I will be measuring the success of my artefact by using a survey where I will ask people a series of questions and ask for their opinion on my dance and the subject matter.

Across my extensive research, some might say that gender inequality has been driven by Britain's portrayal of women in Literature to a large extent. Literature is often influenced by an author's personal experience or a frequent societal stereotype of women and their position. Women have been interpreted as wicked, heartless, prostitute, mother, wife, sister, deceit, partner, and confidants. (S, Singh, 2019) Hence how in the mid-1980s, close to half of people supported a gendered separation of roles, with the man in the 'breadwinner' role and the woman in the caring role (J Scott + E Clery, 2013). These stereotypes and descriptions of women in various pieces of Literature could therefore be seen as the fuel for the stereotypes and subjugation of women within society. Feminists would argue that women in literature must be considered peripheral voices, as they have been repressed in the arts for centuries. Furthermore, there is a continuous gender pay gap in publishing, which in the last survey (by Bookcareers.com) was revealed to be 16% in the UK. (L, Paterson, 2019). Another example of this direct correlation is Emily Bronte's 1947 novel 'Jane Eyre'. Jane was painted as an assertive heroine who was often overpowered by powerful dominant male figures, against whom Jane has to find her own voice and her own identity. (J Bowen, 2018). There is clear evidence for this relation and awareness as a year later after the novel was released, (Bouldrey B, 2017) Frances Willard became an important voice in the fight for women's suffrage. One of the major concerns of contemporary Literature throughout the world has been to highlight the plight of oppressed individuals, women, their physical and emotional exploitation, and their mental anguish in their families by subjugating them within their families. These writers focused on the dual image of women to break the shackles of their traditional position and search for their identity as an individual (T Akhter 2020). Personally, I believe that it is undeniable that through the above evidence, how women were portrayed by specifically male authors over the last century has definitely played into the real world and gender inequality, however on the other hand, I do believe there were other reasons that factored into the history of discrimination against women.

However, on the other hand, due to other sources I interacted with, some might say Literature only influenced gender inequality to a smaller extent, with other factors such as media and clear social history playing a more significant role. Something to note firstly, although my research and report is focused on Britain, subjugation of women is predominant everywhere in the world, as well as in developed countries. It occurs in many forms like abuse, psychological, sociological, economical, physical etc, yet the problem is often overlooked, excused, or denied.(T Akter 2020). An example of this would be the significant influence that Hillary Clinton's 1985 speech at a UN conference on 'women's matters' had directly on British society. Twenty-five years later, a single phrase from Clinton's speech has entered mainstream parlance: "Women's rights are human rights." The concept wasn't new. But the excitement and energy that Clinton's speech

generated at the Fourth World Conference on Women helped elevate the idea to one that fuels modern feminism and international efforts to achieve gender parity. (E Blakmore 2020). An example of another factor that clearly impacted gender inequality, is media influence; whether that be newspapers, posters and propaganda, or more recently social media and online articles. According to a 2019 study made by the 'National Research University Higher School of Economics', researchers found that posts about sons receive, on average, 1.5 times more likes. (National Research University of Higher Economics, 2020). Therefore, this imbalance could send a signal that girls are less significant than boys. In addition, a recent large survey revealed that more than two thirds of men in Britain believe that women now enjoy equal opportunities. (E Glayen, 2019). Personally, I believe that that sentence extrapolated from English lecturer Elise Glayen is actually more significant in finding out the real cause for gender inequality; this statistic infers a change is not going to be made and males are satisfied with the power balance they think is equal. Another factor is the economic evidence as to why gender inequality exists. Women are often restricted in terms of education, the ownership of wealth, monetary return for their work, financial opportunities, and opportunities to influence the decision making at the level of the family and the society. (A Mikkola, 2005). This particular economic aspect and quotation from Elise Glayen is what inspired my artefact choice of a dance performance, which I believe is an opportunity for me to create a raw and emotional video that helps encapsulates people's awareness and willingness to make a change towards equality in the future.

After weighing out several options of how to measure the success of my dance, I decided that sending out a survey (I Colvill, 2022) to a group of around seventyfive people, half being with a dance background and half not, to see their opinions on the choice of a dance to convey this message, as well as gaining insight into their personal opinions and belief of the importance of this topic today. I measured the success of my dance performance by sending out a survey to a group of over 75 people. This survey entailed an attachment to my final draft dance footage along with the following questions: Firstly, 'Do you feel that the dancers clearly conveyed their characters, thus a good understanding of what the dance is about and aims to convey?'. In response, I found that over 88% of people who watched the footage agreed that the dancers conveyed their characters clearly and that they understood what the dance was about. Secondly I asked, 'Have you ever noticed that how women are portrayed by authors in various works of Literature over the past 100 years have aligned with the expectations of women in society?' - In response I found that only 25% of respondents said they noticed women's expectations alignment within Literature; a crucial statistic that led me to explore other reasons as to why there is and has been gender inequality in the UK. Next, I asked 'Do you feel that a dance performance is an interesting and innovative way to convey a message about a topic such as gender inequality in a refreshing light, that

could ultimately help spread more awareness?' - to which over 95% of respondents said that they do find a dance performance an interesting and innovative method of creating awareness and stating stark facts surrounding gender inequality and its history. Finally I asked a more open-ended question to conclude my survey, ''To what extent do you think that gender equality has been reached in 2022 and is there still a beaming awareness and vitality to the subject?". With a range of answers, the majority agreed that although most are aware that there is still gender inequality and differences within our society in 2022, they seemed to feel collectively that not much is done to combat this, rather it is something that has just always existed and so people are just expected to' put up with it.'

Dancer Utilisation

For my dance performance I decided to perform as a group of five to best portray two contrasting ages and societies. Anna Romhany and Arabella Plackett took on the roles of younger schoolgirls (teenagers) in and around the early 1920's who were actively campaigning to gain basic rights and equality to men. To contrast this, Isobel Crichton, Erin Young and myself took on the roles as young female successful CEO's in today's society, illustrating the progression for equality of women in the United Kingdom.

Lighting

For the lighting of the performance I decided on varying washes and hues of different shades of blue that were filtered by the black and white editing at the start and end of the footage. I chose the colour blue, which is in direct correlation to some of the costumes, as the colour blue represents freedom, something that everyone, despite any societal progressions that had been made over the last century, were trying to achieve. In addition, I chose a black and white filter at points to show the progression of time throughout the piece, enhancing the element of persistence to equality and freedom that women sustained at all times throughout history.

Costume

The two dancers representing the older British society, Anna and Arabella, wore a basic school uniform which consisted of black rayon tights, a white t-shirt and a grey flexible hemmed skirt. This helped to convey their age (young teenagers) to differentiate the two time periods being conveyed. Accompanying this, Isobel, Erin and I wore a long blue flared jumpsuit with sequin embellishment on the top, giving off a smart aura as successful female entrepreneurs. The colour 'blue' has associations to emerging freedom and equality which enhanced their roles as older female successful business women.

Props

I utilised two pieces of thin cardboard with phrases such as 'Vote For Women' and 'Deeds Not Words' that were held up and used throughout the piece by Anna and Arabella. This provided a visual aid to the audience to highlight how they were campaigning in the early 1920's for equality with men.

Song

An essential element I carefully thought about when constructing my piece was the choice of song. After changing my song several times and exploring different options, I decided on a song by The Irrepressibles, 'In This Shirt'. I felt that there was a direct correlation between the lyrics and the emotions that the characters of the dancers were portraying. Some of the key lyrics are 'I am lost' - symbolising how the young teenagers from the 1920's felt confused about why men were seen as the superior gender. Similarly, 'Overcast by your shadow', this could convey how the younger teenagers may have felt overpowered by the stigma of inequality and potential burden they must have felt when not automatically gaining the same rights and respect to men. This same managerial male superiority could also be foreshadowed by the lyrics 'there's a crane knocking down'. Finally, the lyrics sung at the denouement of the piece, 'Ever changing, moving on now', represents how society is constantly changing and how women are finally being given a voice and proving they too can achieve what men can.

Motifs

Anna and Arabella performed three recurring motifs throughout the performance. Progressive arm reaches towards the other three dancers to evince three longing to have the rights and equality of the female businesswomen, deep spinal contractions which enhanced the depressive and emotive outlook that the younger two dancers upheld when not being viewed as equal to men and finally a series of staccato movements that highlighted their ever growing frustrations. The older girls utilised two recurring motifs throughout the piece. explosive leaps and jumps were intermingled through the piece to add an element of vibrancy and jubilation to their new societal equality to men along with a fluid undertone to transition movements to show how their lives were a lot easier and satisfied when newly gaining this societal equality. Thus this helps show how 'It is not to say we haven't made progress. The gender pay gap has decreased, there are more women in higherpaid occupations, and gender inequality in political representation is decreasing.' (Phipps, C 2021').

Motif Analysis...







Picture 1

Picture 2

Picture 3







Scan the QR code to view the full performance

Picture 4

Picture 5

Image 1 shows all dancers lifting their right fist high in the air at the end of the performance. This connotes a sense of power and unity between all dancers and how there is hope for the future to achieve total equality, all over the world, for women.

Image 2 shows the two youngest dancers playing teenagers campaigning over a century ago, holding up two cardboard signs with the phrases 'Vote for Women' and 'Deeds Not Words'. These phrases are a visual aid to the audience to help them understand the message of the dance - along with this relating to my research; these were two real signs that were held up by women campaigning over the last century.

Image 3 represents the two young teenagers looking at each other and meeting hands, something they do often throughout the dance, to show how they are both attempting to achieve the same goal of equality and are standing together for justice and female empowerment.

Image 4 shows the dancers playing successful entrepreneurs in today's society in a vivid line leaning towards the left, where the younger dancers were placed. This could enhance the idea of stability and confidence for women of today in comparison to that of a conflicting society throughout the past century.

Image 5 shows a mixture of the dancers trying to pick up one of the campaigners who may have fallen to the ground in despair over obstacles being thrown at her whilst trying to achieve equal rights.

To conclude, although there is clear evidence from extracts of writing such as Jane Eyre that have proven that writing did seem to have a direct impact on to the real world and societal power imbalance and subjugation of women, there are also other factors such as social media that prove just as significant along with the ingrained history to women being below men for centuries. I feel like I successfully choreographed and created a raw and captivating dance performance that allowed the audience to talk about the issue of gender inequality and to break down the power imbalance once and for all; thus even to achieve this basic human right globally. Some things you could consider to reinstate women's freedom once and for all is listen to and partner with women: Meaningfully engage with women and women's rights organisations to support solutions driven forward by their experiences and expertise and invest in evidence and data: invest in unofficial data sources to ensure progress on gender equality leaves no one behind. (A, Rawlence 2022). Women's rights are human rights, no matter what year or country we are in.

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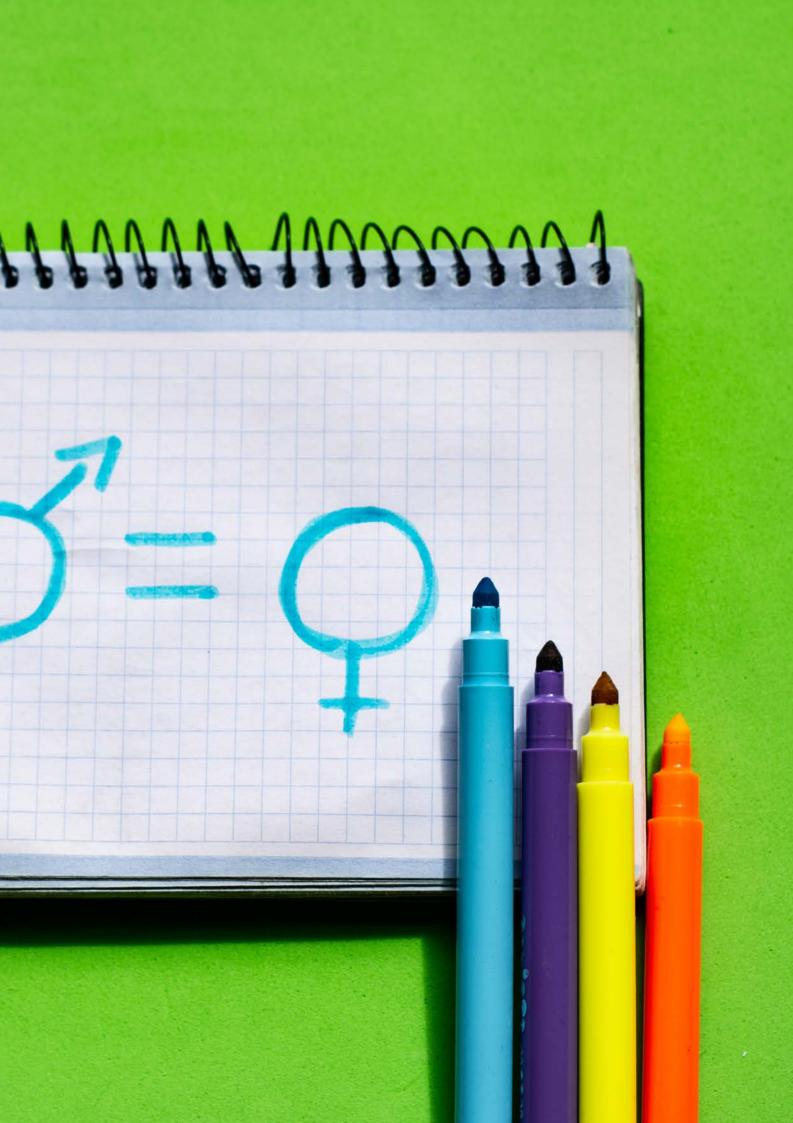
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In what way do the works of Alphonse Osbert force us into a microcosm of ethereality?



The prospect of the 'ethereal' has always been something I have been drawn to, particularly all the different aspects. How, in some form or another, everyone is drawn to their own version of ethereality, a promised land, unique to one's individual self. A light hearted desire, a passionate flame, or something that burns, light, airy and tenuous within their hearts. Perhaps this was something that was evoked within me when I first saw Alphonse Osbert's work in the Musee D'Orsay in Paris this summer. A pure sense of focus and tranquillity overcame me as I sat and observed, shaped by the poetic imagination of the imagery that he had created, through his cohesive use of colour, and the seraphic imagery moulded on canvas. It is these aspects in particular that I wish to explore in this study, particularly through the pieces "Vision De Saint Genevieve" and "Lyricism in the Forest"; to be able to fully appreciate how the atmosphere and symbolism of these paintings force us to become reclusive. Forcing us into a false, alternate, albeit beautiful reality, perhaps of what we wish our lives could truly encapsulate.

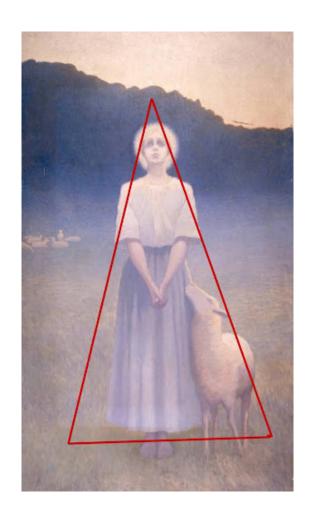
"Vision de Saint Genevieve" (1892), was produced as an oil painting on canvas, however, it is worth noting that the typical thick and heavy handed usage of oil paint, as commonly used at the time, is not prominent. Instead, a wispy, willow-y, almost pastel like softness washes over the atmosphere of the painting from top to bottom. Maybe, this is to do with the imagery within the painting itself, the poised and elegant portrayal of Genevieve, the patron saint of the city of Paris. Her prominence within this particular piece, I believe, comes from her story of experiencing visions of spirituality and guidance, something that may have been visually represented through an angelic like and, dare I say, ethereal manner. Maybe this is why the faint glow, in the horizon past the hillscape, as well as in the halolike crown around her head, resemble the same soft peach toned glow as each other. The early morning

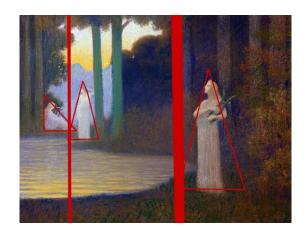


luminescence of daylight equals that of Genevieve's aura. Thus we may draw a holistic conclusion that Genevieve herself represents light, in particular the arrival of daylight, and the glimmer of new hope. This is something that appears best fit given the religious representations of her saint-ship, in particular her saviour of the city of paris from an attack by Attila the Hun in the year 451 ac. As well as this, her legend tells the story of her prevention of famine, and becoming the patron saint of young girls, the latter of which bodes to be particularly interesting when looking at the next work of "Lyricism in the Forest".

Following on from this, the importance of the composition and colour palette, must not be overlooked, particularly due to the importance of the surrounding context. Osbert limits his colour palette to green and blue hues, from a darker, midnight blue, to the almost translucent glazing of sap greens within the grass, colours which symbolically represent the melancholy, nature and/or hope respectively, which is very vindictive of the symbolism behind the portrait. Additionally, the transitional shades between colours are feeble, producing a mist like aura. Ultimately this creates a sense of calm, and forces the viewer to immerse themselves within this, the mist-like effect wrapping over us like a shroud or blanket, and so we indulge in a feel of protection and comfort, under the saint's guidance. Although the cool tones provide a sense of mystery, we ultimately find comfort and solace in the Chiaroscuro, 'light-dark' contrast of the composition, particularly Genevieve, as the central focus, acts almost as a beacon of light, within a slowly emerging new day, blanketed by a haze of coolness and uncertainty. It is with this that I point out the composition of the grass rising from the floor. As previously mentioned, the symbolism of nature, and the regrowth of hope, affiliated with green in particular, helps to further push the narrative of this painting, through the idea perhaps, that hope is rising from the ground, and breaking through this mist of calm, in a similar way to the dawn breaking behind the brooding structure, of the natural landscape behind Genevieve. This is something in particular that I experienced myself when observing the painting in person in Paris, an overwhelming sense of calm and wonder at her ethereality, almost nymphlike. Her skin seemed unbelievably pale-like polished marble, but softened with the effect of clouds or perhaps cotton, she seemed almost beautifully 'in-human', and, I found, as a modern viewer in a complicated and dangerous world, wanting to be like her, something possibly alien, to escape any of the harsh realities of real world conflict. Which, I suppose in many ways, encompasses the essence of what I am exploring.

Something that is also especially worth mentioning, are the shapes formed within the composition, within "Vision de Saint Genevieve" but also "Lyricism in the Forest" as well, when we later explore that in more depth. There is a particularly obvious repetition of the triangular formation. As seen centrally within "Vision de Saint Genevieve", and "Lyricism in the Forest" (annotated below)



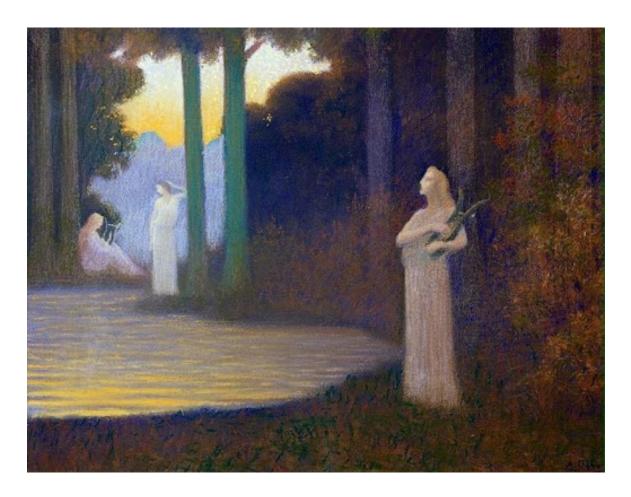


The triangular shape commonly represents a sense of unity, a profound harmony that strikes a chord of sanctum within the viewer, as well as presenting a harmonious atmosphere within both paintings. Regardless of the obvious presence of unity and tranquillity, one could interpret an alternative sense of unity between the two paintings themselves. What has been noticed is that the positioning of the head of the closest figure in "lyricism in the forest" is the same as that of the sheep in the "vision of saint Genevieve". Could this perhaps demonstrate how others follow a spiritual like figure, like a shepherd and its sheep, hoarding them to safety? It is through this that an entirely different sense of unity is born, one of religious, spiritual tendencies, but also one that deepens the symbolist approach within Osbert's work. Contextually, could links be drawn here from the Bible? Being a symbolist painter we can almost certainly say so. The idea of a 'shepherd and its sheep' herding them to safety, is particularly prominent to that of the story of Moses and the Red Sea, where, Moses, tasked with the protection and guidance of the Jewish Israelites, frees them from the clutches of slavery, under the word of God. The composition of the "Vision of Saint Genevieve" could perhaps be comparable to this. The sheep or lamb within the painting is nestled lovingly against Genevieve's leg, gazing up at her with a sense of wonder, respect and protection, almost illustrating how the sheep is under Saint Genevieve's guidance, much like the people of Israel were under the guidance of Moses. This may indeed be too abstract of an interpretation, but given the symbolist status of Osberts paintings, it is an idea that almost certainly runs at a parallel.

Something that also runs noticeably parallel, between 'Vision de Saint Genevieve' and 'Lyricism in the Forest', is the subtle use of pointillism throughout both paintings. Although in a 'Vision of Saint Genevieve' the pointillism is noticeably much softer, and thus appears to have a sort of modern day, 'photo filter grain' effect on it rather than a bolder pointillism. The shading in the background, particularly amongst the grass further away from the subject of Genevieve and the lamb, has a stippled effect, which perhaps Osbert cleverly placed in order to illustrate the detailing within single blades of grass, whilst keeping the subtle wispy effect of the overall painting. Dissimilarly Osbert's use of pointillism is far stronger within 'Lyricism in the Forest', although still being most prominent within the foliage, as seen within 'Vision de Saint Genevieve'. Perhaps there is something that could be taken note of within this, a prominence that is undeniable- the importance of the natural world. Osbert certainly seems heavily intent on not only the figures, but the natural landscape being a standout in his worksomething that only enhances the ethereal nature of his work through the element of the sublime. Additionally, as pointillism is not particularly a main feature, and overall can be deemed relatively subtle within Osbert's work, we wonder where perhaps, inspiration from this was drawn from? Georges Seurat was active at the same and a close friend of Osbert, having studied at the same academy as one another, and therefore it could be insinuated, through his frequent use of pointillism

as well as the common subject focus, figures in nature, between both Seurat and Osbert, that there was perhaps at the very least, subtle influence. For example, "A Sunday on La Grande Jatte" (1884), comes to mind, for its very similar subject focus, as well as soft pointillistic style"

Furthermore, from a modern perspective, the use of pointillism emulates the textured nature, perhaps, of graphics within TV technology. In Particular the pointillism technique represented by the RGB colour scheme. Additionally, being analogous to the four-colour CMYK printing process used by some colour printers and large presses, that place dots of cyan, magenta, yellow and key (black). However, instead of the pointillism seen through painting techniques, it is the pointillism created by the combination of thousands of pixels to create an image- which is why in past models of television sets, they emulated a 'grainy' effect on the screen. This is something that, as a modern viewer, definitely holds resemblance in Osbert's paintings-particularly within 'Lyricism in the Forest' which emulates this same sense of a television grain, through the use of paint to capture a similar pointillistic effect. Why might I be talking about television and technology, printing presses and pixelated images? What relevance does this have to the entirely natural and religious imagery of these paintings, which can, and should, be deemed entirely ethereal in their own right? The connection between the modern and the classic through these paintings crafts an entirely new sense of ethereality, through the creation of an alternate reality, evidenced by modern technology, in particular television and other forms of visual technology. The use of pointillism acts as a bridge between Osberts work and technology, but most importantly, links them both to an undeniable ethereality, as both his paintings, and technology, are always a little out of touch, in one way or another, with the real world.



'Lyricism in the Forest' clearly emulates many of these elements that have been previously explored, such as pointillism as well as chiaroscuro and depth in contrast. As well as this, the focus is again primarily that of the natural landscape and how the occurrence of natural light impacts the environment, as well as the statuesque figures within the painting-drawing a close resemblance to that of 'Vision de Saint Genevieve'. The, again, female figures in the image resemble that of soft, polished marble but with a chalk like delicacy that shrouds over the figures in their entirety. This can once again be seen evidently with 'Vision de Saint Genevieve', where this likeness is of parallel. Dissimilarly, however, it should be noted that there is a warmth in the colour palette within 'Lyricism in the Forest' that in comparison to 'Saint Genevieve' can be described as the main cause for contrast. This is evidenced not only by how it emulates a greater sense of dark and light, but by how there is contrast through the direct opposition of the colour wheel. The warmth of the yellow sunrise placed next to the cool lighter and darker blues heighten the depth between foreground and background. This illustrates an aura of ethereality because the contrast within the painting, and the depth it creates, makes it feel like a more natural scene, with diverse colouring, just as nature should be, and hence explores feelings of romanticism and the sublime respectively. Although within 'Vision de Saint Genevieve' ethereality is presented through the actual imagery within the painting, be it religious or partially whimsical, ethereality is certainly presented alternatively within 'Lyricism in the Forest'. This is primarily through the exploration of nature as a focal subject. This is perhaps

evident through how, there are multiple figures within this painting, whereas within 'Saint genevieve', due to there only being one main figure (and a lamb that was right next to her lower left leg), there was a more obvious focus on the figure, and thus the background was an accompanying feature. It is curious though, that perhaps within 'Lyricism in the Forest', this is the other way round, and the figures, as a lesser focus (they take up physically less space), are the accomplices to the environment and the natural beauty that surrounds them.

Osbert's work has notably been described as "The colour blue [being] omnipresent in his work that evokes woodland and lake scenery, mostly nocturnal, where elegiac figures carrier lyre or melancholic druids". There is a particular significance within the adjective "nocturnal", especially in relation to "Lyricism in the Forest", as well as how this draws comparison with "Vision de Saint Genevieve". 'Belonging to the night' is certainly an apt description of "Lyricism in the Forest", where it appears as though, unlike in "Vision de Saint Genevieve", where the sun seems as though it is rising due to the rosy glow, the sun is in fact setting, as can be seen by the warmer toned sky (showing a greater sense of tenebrism, as the orange tones offset the blue, making it appear a deep, almost black colour.) The darker shadows around the submergence of the foliage, indicating a growth in darkness, the nocturnal aura to the painting, therefore, is well adjusted to the viewer, and we again enter into this contrast between light and dark, and the chiaroscuro between paintings. However, this time, the chiaroscuro is highlighted through the themes of 'night' and 'day'. It is pleasantly apparent that

Osbert, being a symbolist painter, touched on these connections, particularly through the comparison of these two paintings, as there is a symbolist, and rather mythological association that can be made-through the likes of the greek god of the sun, Helios, and his sister, Selene, Goddess of the moon. This absolutely highlights a sense of ethereality by the reference of celestial beings, as well as celestial bodies (the sun and moon), since as they are off planet, they could be vastly considered "other worldly", as well as being incredibly powerful, and sublimely beautiful. The association of the celestial bodies with a human-like figure such as the Greek Gods and Goddesses, only further enhances the overall feeling of ethereality due to the sense of worship that comes with them. Additionally, the fact that the celestials of the sun and moon were considered brother and sister, means that there was another feasible and deeper connection. This could be seen to be applicable to both "Vision de Saint Genevieve" and "Lyricism in the Forest", as they share similarities, and are both connected by each other opposing factors, much like the 'Ying' to the other's 'Yang' (the contrast in night and day, the similarity in the shape and structure of the figures, as well as the obvious potency in the same subject matter.)

Overall, it can be seen through Alphonse Osbert's work, in particular "Vision de Saint Genevieve" and "Lyricism" in the Forest", that there is indeed a microcosm of ethereality. This is noticeable both by colour palette, but more prominently so by the subject focus within his paintings. The symbolist nature of "Vision de Saint Genevieve" reveals a tale of religious strength and beauty, thereby alluding to etherealism within. The potential mythological connections within "Lyricism in the Forest", take an alternate spin on religion, and attribute natural elements, to create not only a worship of a higher power, but a worship of the natural world itself. Together both of these paintings unlock sublime elements such as divinity and the power and beauty of nature, whilst the simplistic and focused designs, such as 'Genevieve' and the lamb, or the Greek statue-like women, remind us of a simpler time, where the world itself was less complex. It is in this way that ethereality is explored, and in doing so, the viewer can indeed feel self-contained in a microcosm, an alternate world, of ethereality- different to the modern day, and technological society we live in today.

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Focusing on the presentation of sexualities and gender, to what extent are ancient narratives adapted and retold for a modern audience?



'Jocasta had never enjoyed being married to her husband more than at his funeral. She loved everything about it.'

In recent years, there has been a vogue for modern retellings of ancient myths. Recently, Natalie Haynes and Madeline Miller have taken up this mantle. Yet their work is more influenced by the social, political and cultural landscape that they inhabit than by the ancient world that provides their source material. They recast ancient characters in twenty-first century moulds, creating relatable figures for modern readers. In Children of Jocasta, Haynes breathes life into Jocasta's daughter Ismene, who says 'my story would never be told if I didn't tell it'. In doing so, she brings an oftenoverlooked ancient woman into the foreground - from the skene to the centre stage. Haynes' characters are strong, complex women who conform to modern rather than to ancient social norms. Through the title alone, it is evident that Haynes intends to provide an alternative to ancient androcentric narratives: her Children of Jocasta recalls Euripides' Children of Heracles, rescuing female figures from the peripheries. Similarly foregrounding marginalised identities, Miller retells the relationship between Achilles and Patroclus within a narrative of a modern-style gay relationship at the heart of the Trojan War, rather than the ancient model of a pederastic relationship. These authors, whose careers have developed in tandem with flourishing queer and feminist movements, have transformed ancient narratives. Embracing anachronism, rather than resisting it, Haynes and Miller have created highly relevant and compelling works that bind the concerns of ancient and modern readers alike.

Part I. Recasting Ancient Homosexuality

The Practice of Pederasty

Modern authors' presentations of ancient relationships are undoubtedly influenced by their contemporary political and social climates. This is evident in Madeleine Miller's portrayal of Patroclus and Achilles' relationship in her book, The Song of Achilles. Although a close bond is suggested in Book 18 of the Iliad when Achilles is grief stricken by Patroclus' death, nowhere in the Iliad is there an explicit mention of a romantic attachment. Instead, an Ancient Greek reader would have been more likely to understand their connection in terms of a pederastic relationship. This occurred between an older man called the Erastes and a younger man called the Eromenos. Erastes directly translates as 'lover' and Eromenos means 'beloved'. This was an acceptable practice amongst the Greek elite and was seen as an integral part of social life. The younger man would be provided with an education and gifts in exchange for providing interfemoral sex. This practice has left its mark on art, for example the red figure Kylix from c. 475 BCE by Apollodoros. According to Sandra Boehringer, Plato argued that 'pederasty is good when it leads towards philosophy', revealing that respected contemporary philosophers believed that pederasty was a route to a priori knowledge. Boehringer also argues that these relationships were especially valued if 'the lover took part in the education of the young man, and if he was from a noble family, with a good reputation'. Similarly, G. Parker. Rossman has suggested that 'love between man and boy is essential to a boy's growth in spirit'. This emphasises the emotional component to pederastic relationships - a perceived source of psychological fulfilment, rather than merely an economic transaction or a physical exchange. The complex hierarchical nature of pederasty in the ancient world sets it entirely at

odds with the modern homosexual union within which Achilles and Patroclus have been imagined. W.M. Clarke's article 'Achilles and Patroclus in Love' challenges Miller's presentation of their relationship, and argues that the pair were in a pederastic relationship. He uses Plato's Symposium to support his view, as Phaedrus indicated that they were engaged in a symbiotic relationship rather than a romantic one, as presented by Miller. In Book 16 of the Iliad, Homer even says that Achilles slept "with a woman he had brought from Lesbos, fair cheeked Diomede" and Patroclus with "fair girdled lphis", further undermining the presentation of an equal, monogamous relationship which Miller constructs.

Queer Identities

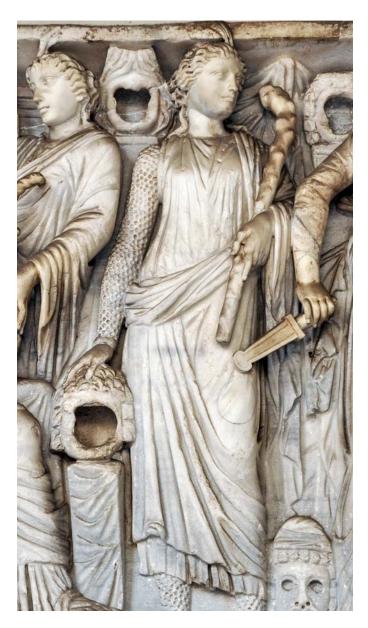
In the twenty-first century, sexual preferences are understood in terms of social identities. This mode of labelling is in stark contrast to the ancient world, where people moved in and out of sexual relationships but did not define their identity in terms of the gender of their sexual partners. Casey C. Moore charts these differences in sexual identities, arguing that modern writers often present ancient relationships with 'modern conceptions of sexuality', which perfectly encapsulates Miller's approach to her ancient source material. Moore states that the 'biological gender of [a citizen's] sex partner(s) did not establish his identity', and indeed ancient people 'did not constitute an identity as modern society conceives of it'. Sandra Boehringer builds on this point, as she argues that in studies of sexuality in the ancient world, the terms familiar to modern readers - homosexual, heterosexual, bisexual—are employed; however, although these are used for ease, such categories were not recognized by ancient Greeks or Romans'. The use of these terms can thus be understood as anachronistic as they were not recognised by the societies that produced the original narratives. She goes on to say that 'there was no "homosexual" identity in the ancient world within the dominant public discourse'. Within the context of

Miller's work it is apparent that she, along with other modern writers such as Haynes, alter ancient narratives to fit with modern societal norms. Social conceptions of sexuality as an identity have shifted over time, as is navigated by Thomas Laqueur in his seminal text, Making Sex: From the Greeks to Freud. Miller, in her work The Song of Achilles, aims to represent and reflect the modern gueer community through her presentation of the relationship between Achilles and Patroclus. Miller's heroes are in a loving romantic relationship that defines their characters and the novel as a whole, whereas in Ancient Greece their bond would not have been seen as a defining characteristic of their respective identities. Miller's Song of Achilles presents a loving and committed relationship between Achilles and Patroclus which is central to the very fabric of the narrative that she has created. This devotion is evident as Patroclus claims that he 'did not plan to live after [Achilles] was gone' which amplifies their love by suggesting that it was Patroclus' very reason for existence. Patroclus centred his entire life around Achilles; he is consumed by his adoration for

his companion. Patroclus reveals that Achilles 'is half of my soul as the poets say' which demonstrates that their bond is a spiritual link which binds them together in perpetuity, rather than being a transient pederastic relationship. Miller focuses on the emotional and physical intimacy that the characters share, and her extensive descriptions of their bond frames the narrative. Patroclus 'could recognise him by touch alone, by smell; I would know him blind, by the way his breaths came and his feet struck the Earth'. Miller does not write these two characters as an Ancient Greek couple in a pederastic relationship but as a modern queer couple, demonstrated by the fact that Achilles describes Patroclus as his 'equal' as opposed to his Erastes. Miller is not influenced by the ancient sexual landscape but by her own social and political climate, fuelled by discussions of queer identities. Manuel Sanz Morales similarly suggests that 'the relationship between Achilles and Patroclus [is] a noble, loving relationship'. Miller presents the relationship between Patroclus and Achilles to make her narrative more accessible and appealing to her target audience; in presenting their relationship in the style of a modern homosexual couple, she not only creates a link with the gueer community, she also implicitly suggests that homosexual identities have existed throughout human history. Miller's depiction of the relationship between Achilles and Patroclus is more influenced by the LGBTQ+ movement and its representation of homosexuality than the ancient pederastic relationships which was previously understood as the model for their union.

Pederasty Bleeding into Modernity

However, Miller's work is not entirely divorced from the pederastic source material from which her characters sprung. Miller incorporates the theme of pederasty into her novel as she establishes a marked inequality between the pair. Throughout the retelling, Miller displays the power imbalance which exists between Achilles and Patroclus. When Achilles is sent away from his father to Chiron, and when he is sent to marry Deidameia -Patroclus follows him. It is Achilles' trajectory within the novel that drives the plot, and Patroclus is often relegated to a passive role, his dutiful attendant. This power dynamic is similar to that which is depicted in the Iliad, where Achilles is presented as a domineering man who orders Patroclus to do his bidding. Homer also unmans Patroclus in his narrative, under the influence of Achilles he is domesticated and fulfils a feminine role. For example, when Diomedes, Odvsseus and Phoenix come to Achilles in order to convince him to return to war, 'Patroclus fetched some bread and set it out on the table in handsome baskets'. In Miller's retelling Patroclus says that 'I will never leave him. It will be this, always, for as long as he will let me' which not only demonstrates how Patroclus' entire life is focused around his love for Achilles, but it also conveys the absolute power that Achilles holds in the relationship. This amplifies the differing characteristics at the heart of this relationship, including interweaving the theme of pederasty which Miller modernises to suggest a romantic element to the pair's relationship.



Part II. Empowering Ancient Women

Gender in the Classical World

In the ancient world, women were seen as vastly inferior to their male counterparts and viewed as a commodity to be swapped and traded. Women were at the bottom of the social hierarchy: they did not have the capacity to vote and so had no real political representation or power. Marilyn Katz argued that 'some have regarded women's position in Greece as demeaned, in the manner characteristic of barbarians' and describes ancient Greek women as being 'trapped' within their marriages, stressing their lack of freedom. Throughout ancient literature, women usually fall into the category of wife, slave or whore. Art imitated life, as living women were similarly constrained within these narrow roles, lacking autonomy over their own lives. This powerlessness resulted in the abuse of consent which is omnipresent within classical literature. C. Cerci argues that women who were raped often faced social rejection, as their trauma was understood as akin to an adulterous act. He writes that a woman 'was barred from the public temples, and if she ignored the bar could be beaten by anyone with impunity', highlighting the repulsion felt towards rape victims. This is epitomised in the story of Medusa, who was violated by Poseidon and

was then cursed by Athena, having been raped in her temple. Medusa is described by Susan R. Bowers as 'an innocent victim' who was punished for her rape by Athena, who gave her a 'mutilated body'. In the ancient world, there was a vast disparity of power between the sexes which resulted in the exploitation of the female body through marriage and in all aspects of ancient life.

Feminism and Modern Social Discourse

Consent and female bodily autonomy has become a defining topic of social discourse in the twenty-first century, especially in the wake of the 'Me Too' movement. This was a phrase coined in 2007 by Tarana Burke to 'raise awareness and stand with victims of sexual abuse'. However, the term rose sharply in usage following the sexual assault scandals in 2017 regarding the abuse of power within the Hollywood film industry. 'Me Too' gained huge publicity following the significant number of sexual harassment allegations made against the Hollywood mogul Harvey Weinstein. This feminist-driven social movement formed the immediate backdrop to Natalie Haynes writing of A Thousand Ships, and the effects of this movement leave a distinctive imprint upon the pages of her novel. The topic of female bodily autonomy and female agency is central to the narratives of the women within her work. She embeds continual references to the abuse of female bodies, and in doing so she reflects the idea that the issue of disregarded consent is as much of an issue in modern society as it was in the ancient world. For example, the character of Polyxtena says that 'she would be impregnated by her owner or another slave and there would be nothing she could do to prevent it', which exemplifies the lack of control that women had in the ancient world. Haynes unifies the ancient and modern experience through her literature. When Cassandra refuses to have sex with Poseidon, he spits at her and curses her to 'a life of solitude' which conveys how although she escapes the fate of Medusa, who was raped by him, she does not escape punishment. This shows that female consent was neither sought, nor valued. This theme of violated consent, as influenced by the contemporary feminist discourse is also evident in another of Natalie Hayne's works - The Children of Jocasta. After Jocasta is denied the fruits of her labour as her child is taken from her, she is also cast as physically weak, as she 'was too bloody and exhausted even to cry'. Haynes' powerful prose demonstrates how Jocasta's lost physical power is symbolic of her amputated political, social and bodily autonomy which has been taken from her by the patriarchal Ancient Greek society. This theme is clearly central to the work of Natalie Haynes, as her most recent modern retelling of an ancient narrative - Stone Blind - details the rape of Medusa, sympathising intensely with her central heroine in a manner that is often lacking in the ancient source material which depicts her as a monster who was complicit in her violation.

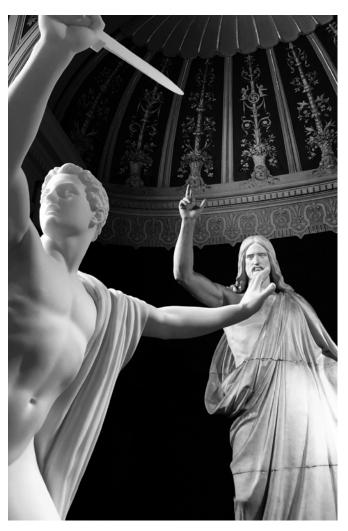
Ancient Women Reimagined

Natalie Haynes wrote A Thousand Ships to breathe life into some previously forgotten women who were denied their part in ancient myths. Haynes provides a feminist perspective on ancient events which is heavily influenced by the social and political environment surrounding her. This is evident as Haynes includes distinctly modern themes in her narrative, in order to build a connection between her ancient characters and contemporary readers. Twenty-first century feminism has evolved from its origins in the suffragette movement of the early 20th century. However, contemporary feminism still contends that gender equality has not been reached. Debra Baker Beck argues that 'for feminists, being cast as outsiders, trouble-makers, even evil women. is inevitable since they challenge the very basis of a patriarchal society'. This succinctly encapsulates the ways in which women who break the social mould and resist patriarchy face rejection - in modern society, ancient society and the books that bridge the gap between the two. Beck's description of feminists being 'cast' as 'evil' implicitly acknowledges the huge role that literature can play in debates about equality. A Thousand Ships counters ancient methods of depicting women, whereby the ideal was subservience and frailty. Haynes redefines the place of women in ancient myths as she displays strong, confident women working together alongside the men who had previously absorbed all of the kleos. For example, in A Thousand Ships, Haynes has Antenor's wife see through the Trojan Horse, arguing that, 'they are inside the horse they must be'. In overlooking her, the men spell the doom of their city. Haynes thus engineers her narrative such that patriarchy brings about the destruction of Troy, not the ingenuity of the Greeks. This revolutionary female empowerment chimes with modern demands for female empowerment within literature. Haynes is writing in a post 'Me Too' society, more conscious than ever before of female voices being uplifted and their claims being listened to. Inspired by this movement, Haynes argues through her narrative that when female voices are ignored, this has destructive and even fatal effects for society at large.

Morally Complex Women

Part of Natalie Haynes' reshaping of these classical texts is her attention to the nuance and complexities of her heroines. Just as ancient authors were attuned to the moral complexities of their male heroes, Haynes emphasises how the women in her novels are also complicated individuals who have the capacity to do great good as well as evil. For example, Hecuba is graphically described as having 'dragged her small sharp blade across the neck of Polymestor's older boy', and referring to Helen she menacingly tells Menelaus that 'I would happily have your wife's throat for you at any time'. Here Hecuba is a figure directly responsible for heinous acts of physical violence; she adopts the position of warrior in a manner similar to Achilles or Patroclus. Hecuba is characterised as an almost god-like character as she holds the power of life and death in her grip, and this epitomises the agency that Haynes gives the women in her book. This stands in direct contrast with Virgil's Aeneid, in which Hecuba is described as a dutiful wife who is given no real voice except when she prays to the gods and goddesses to save her husband. Haynes affords active agency in place of quiet passivity. Crucially, these women are afforded moral complexity as well as

physical strength - they are violent, but also humanised. Haynes creates nuanced figures from two-dimensional character moulds. This presentation chimes with contemporary discourse about what a woman can and should be, within and beyond the bounds of literature. Claire Snyder, in her article 'What is Third-Wave Feminism?', argued that women today 'feel entitled to interact with men as equals, claim sexual pleasure as they desire it ... and actively play with femininity'. Haynes takes this modern assertion of female equality, and applies it to the figures in her novels. She takes the attributes of ancient male heroes and transposes them onto the female characters too. Similarly, drawing on the trope of revenge that is so prominent throughout the Illiad and Aeneid, Haynes establishes the same motivation behind one of her heroines. Clytemnestra 'prayed daily that [her husband] would be killed in the war', in revenge for how he had sacrificed her daughter to the gods. Here, again, Haynes draws out a complex range of emotions experienced by women. Like Achilles' aristeia, driven by revenge and grief after the loss of Patroclus, Clytemnestra is also driven in her hate by loss and rage. Rather than simply portraying the men as bad and the women as sad, Natalie Haynes puts flesh on the bones of overly-simplified constructions of femininity. Haynes writes about the stories of ancient women, but within the landscape of modern social norms - she allows them to be strong and complex, instead of meek and mild. Haynes imbues the women in her narrative with violent, aggressive and vengeful characteristics, which are usually reserved for men in ancient texts.



Consent in Classical Revivals

Madeline Miller was similarly influenced by contemporary discourse regarding consent and sexual violence, as epitomised by the 'Me Too' movement, in her presentation of the women that interacted with the eponymous hero of her novel - Achilles. She entirely reshapes the contours of Achilles' encounters with Briseis. In the Iliad she was a Trojan slave girl whom Achilles took as a spoil of war, a sex slave, and he repeatedly raped her. In Miller's retelling of this narrative, this grisly part of ancient warfare which would alienate the character from a modern audience is entirely divorced from the actions of the romantic hero that she has created. In The Song of Achilles, he picks Briseis to be his prize 'before Agamemnon does' to prevent her from being the other man's sex slave. In Miller's narrative, Achilles becomes a feminist figure, who respects the autonomy of the female body and abhors the violence done to it by other men, while Agamemnon is cast as a violent misogynist who is a threat to women. In the Iliad, however, this distinction was non-existent. While the men did clash in the source-text, this was not over the issue of female bodily autonomy, but instead Achilles' desire to hold onto the woman that he had initially enslaved - Chriseais - and Agamemnon's demand that she be freed because of her high status. The ancient audience would have venerated Achilles' bloodthirsty and aggressive traits, and even the rapes he committed would be evidence of his sexual virility as opposed to something shameful. Achilles as he is described in the Iliad is a representation of perfect masculinity - an ancient ideal, of strength, courage and domination. However, the ideals upon which masculinity have been built have changed over time. In the wake of the contemporary focus on the topic of consent, and the universal condemnation for figures like Harvey Weinstein who have become infamous for their abuses of women, a man who uses his strength to overpower a woman is no longer seen as a hero but the epitome of villainy and moral weakness. As a result, Madeline Miller, influenced by the society in which she writes as opposed to the society which birthed Achilles, remade her hero into a reconstructed twenty-first century man, who respects women and shares modern values about the importance of consent and equality in sexual relationships. Indeed, Miller scrubs clean the violent, blood-soaked figure of the ancient Achilles who would have been associated with what has been termed 'toxic masculinity' in modern social discourse. Modern feminist conversations have influenced the way in which Miller depicted Achilles' relationship with the women around him, spotlighting the concept of consent that is paramount in modern society but was almost entirely absent in the culture that produced the Illiad.

The History of Classical Feminist Revivals

Natalie Haynes and Madeleine Miller certainly refigured ancient narratives, influenced by the social and political climate in which they wrote their works, however, we should not see this process of retelling as one that is exclusive to the modern world. Authors of the later classical period also retold ancient narratives, reforming

the character of Jocasta over time, just as Haynes was to do millennia later. Affording ancient women agency is not something that only a modern author can do, indeed women in ancient tragedies transformed from men's props into active participants in the action. Sophocles writes about how Oedipus won his mother's hand in marriage, after having deciphered the Sphinx's riddle. Jocasta's body is offered as a reward, in a marriage over which she has no agency. She is powerless over her body and her future, she is more a trophy than an autonomous person. Yet, this vision of Jocasta as a prize is rewritten in Oedipus Rex; the scene which ought to stage Oedipus' triumph is in fact centred on the moment of incest. However, Sophocles' depiction of Jocasta's suicide is the ultimate example of her refusal to become a background figure. Even when the chorus 'stood there, watching [Oedipus] move like a bull, lurching, charging', her death forces them to turn towards Jocasta instead: 'we could see her- | his wife dangling by her neck from a noose of braided, silken cords | tied to a rafter, still swaying'. Jocasta turns 'silken cords', which signify her royal status, into weapons - she takes on the violent power of a soldier, not a passive wife.

Euripides' The Phoenician Women similarly transforms Jocasta into a powerful figure with control over her own death, if not her life. 'She thrust the sword right through her I throat, collapsed to the ground, and between her beloved sons | she now lies dead, her arms embracing both'. While, on the face of it, Jocasta's death represents the end of her agency, the nature of her suicide chosen by Sophocles and Euripides is important for their part in rewriting this character. Nicole Loreaux claimed that the hanged female body was the form of suicide chosen by virgins, which Burns built upon to argue that Sophocles' Jocasta takes her own life through hanging in order to reclaim power over her body. She is no longer just a trophy passed between men, as she chooses to return to a state of purity in death. Similarly, Euripides' Jocasta, using a sword to end her own life in a particularly bloody and visceral manner, shows that Jocasta is being re-written as a powerful figure. She dies by a sword, more like an ancient man than a stereotypically passive woman. Jocasta moved throughout the ancient world, from a background plot in Oedipus's story, to a powerful, sword-wielding killer capable of controlling her own destiny. Much as Clytemnestra in Agamemnon is described by saying that she 'manoeuvres like a man' - ancient women, like Jocasta, were rewritten in the ancient world as having power and agency. This rewriting continued throughout the medieval period, and especially flourished under the Renaissance and early modern period in Europe. Steven F. Kruger, in his article on 'The Legend of Good Women', states that 'Chaucer suppresses the less savoury aspects of the lives of Cleopatra, Medea and Philomela', simplifying their complex characters to conform to narrow social ideals of femininity circulating in the medieval period. Interestingly, it seems that medieval authors removed some of the agency that later classical playwrights afforded women - showing that feminist progress in literature is not linear. Natalie Haynes can be understood as continuing the work of these ancient playwrights, who first began to rewrite Jocasta as a powerful figure. However, while

Sophocles still called his work 'Oedipus Rex', centring her son in the story of her violation, Haynes goes one step further and renames her work in terms of the woman at its heart. Jocasta is finally freed from the shadows by Haynes, who does not write the story of Oedipus and his mother, but instead The Children of Jocasta.

Conclusion

Maurice Godelier wrote that 'Society haunts the body's sexuality'. Therefore it must come as no surprise that society also shapes the way that both sexuality, and the sexed body are represented in cultural forms, most notably literature. The disparity between the way that ancient and modern authors deal with the topics of sexuality and gender are revealing of the very different social and cultural contexts which produced these books. This disparity is therefore expected. However, the fullest and most nuanced comparisons arrive when exploring the contrasting, and converging, representations of ancient characters in their original narrative landscapes, and their modern retellings. It is apparent that both Madelaine Miller and Natalie Haynes have been influenced by contemporary discourses surrounding gender and sexuality when recasting their ancient figures. Modern lenses are applied to these stories, and the unappealing elements of these characters are expunged from the literary record. Miller's retelling of Achilles and Patroculs' relationship bears more of a similarity to those found within the modern LGBTQ+ community, than the forms of homosexual relationships that were more common in the ancient world, namely pederastic ones. Similarly, the women that Natalie Haynes describes are evidently influenced by the waves of feminist thought that have dominated gender relations through the last century. Haynes does not tell the story of ancient women, passive and silent, subservient to their husbands, instead she writes about women with agency, imperfect, complex, powerful and brave women - traits that her twenty-first century readers would admire, but undoubtedly these attributes would seem shameful to the men who first penned the narratives of her heroines. However, this study must be undertaken with nuance. The relationship between Achilles and Patroclus still bears some of the hallmarks of the pederastic union that it was once conceived as - theirs is an unequal union with Achilles evidently the dominant partner. Similarly, we should not view retellings of ancient myths as an entirely modern phenomenon. Classical authors wrote and rewrote their heroes and heroines, and ancient women did possess some power and agency within these retellings, even if not by the same standards that we would apply today. Modern retellings of ancient narratives use the stories, the names, and the backdrops that were first laid out in their source texts, however, the social, cultural and political landscape which these modern authors inhabit determine the contexts of their pages, rather than the ancient world in which the stories originated. Achilles, Patroclus, Jocasta, Ismene, Briseis, and Helen are as much shaped by the twentyfirst century as the seventh century BC. By presenting Achilles and Patroclus as a modern homosexual couple and by creating feminist heroines of silenced

classical wives, ancient narratives are indeed adapted and retold for a modern audience; and in doing so the evolving characters at the centre of these works bridge the gap between the ancient and modern worlds.

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Sam Mason Director of Development

Introduction to bursaries at Brentwood

Sam Mason - Director of Development

At Brentwood School we strongly believe in providing access to a Brentwood School education - irrespective of socioeconomic background - based solely on individual merit. This is why the School and our Foundation strive to provide transformational bursaries to talented young people who would otherwise be unable to attend. We currently have over 120 bursary award students at Brentwood, and over three quarters of these are on transformational (>70%) bursaries.

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much at the heart of Brentwood School, and in keeping with our core values. We know that bursary awards are truly life changing, not just for the recipient, but also for those around them, and they in turn enrich the School.





Sammi L

Bursary Ambassador

2023 Graduate Sammi Li reflects

It is now just over halfway through my first year studying Mathematics and Philosophy at the University of Bristol.

In retrospect, the EPQ represented a pivotal moment in my academic career; I'm glad I had the space and freedom to explore the connections between my A-level subjects and of course philosophy, having never formally studied it before. It made me realise that philosophy was the right direction for me, and I can confirm this now!

The ability to carry out research at school, all the way from the Human Universe project and HPQ in secondary and the EPQ in sixth form, has been incredibly useful in building the foundations needed for the next stages. These projects have familiarised us with the entire research cycle, including the formulation of an idea, gathering research data, its analysis and interpretation, and having this culminate in a dissertation.

It's also developed more general skills - it's most certainly tested my ability to manage my time, but most rewardingly, I've had the opportunity to present my EPQ to a variety of non-specialist audiences: my class, younger students in JSABS, staff. Indeed, it has played a part in encouraging me to pursue the things that I find interesting, arguably one of the most important lessons learnt, and something I am still working on today.



Looking forward

Every year at Brentwood our students have the opportunity to take part in activities similar to those highlighted in this journal. We are working to create links with neighboring schools and educational professionals, to run collaborative projects and programmes with professionals from other educational settings, all to create opportunities for our children to develop as lifelong learners. Our aim is to create a platform for the sharing of innovative, bespoke practice not just from Brentwood School but also from the local educational community.

If you are interested in understanding the lifelong learning our teaching staff are engaged in, then please use the QR code to access a copy of our teacher research journal, The Pioneer.

If you are interested in getting involved please get in touch with Aisling Chaudhuri (née Fahy), Head of Research and Development (agc@brentwood.essex.sch.uk) or Greg Justham, Director of Innovative Curriculum (grj@brentwood.essex.sch.uk).



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