

QEGS Academia

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QEGS Academia: An Introduction

Welcome to the first volume of QEGS Academia.

This journal is designed to showcase some of the best, most interesting and most thought-provoking work produced by A-level students of Queen Elizabeth's Grammar School, Horncastle. We hope that publishing this journal will not only offer recognition and reward to those that have contributed, but that it may also serve to inspire others to attain similarly high standards. At the very least, we hope that this provides an interesting read on a diverse range of topics!

The pieces featured in this volume have been volunteered for inclusion by students and/or their teachers. Whilst every effort has been made to check work carefully, the student contributors are only at the start of what for some will be a long academic career, and we would not claim that their work is in any way 'perfect'. We hope though that you will appreciate the quality of scholarship for the age and experience of the students involved.

We are hugely grateful to The University of Lincoln, The Jobson Trust and Vision for Education for their contributions towards making this a viable project. In the future, we hope to expand the journal to include some digital content, and would welcome the advice of anyone who has experience in this field.

For now though, enjoy the read. Thank you to all who have contributed and helped along the way. Volume 2 will be published in April 2018.

Z. Macdonald A. Brown



Chapter One

“While Alexander II was the ‘great reformer’, Alexander III was the ‘great reactionary.’”

Assess the validity of this view.

A level History essay – Bethany Lee

Alexander II is known as the ‘great reformer’ however, this isn’t necessarily valid because even though he does focus on reforming, the greatness (success and spread) of these reforms is debatable. Oppositely, Alexander III is known as the ‘great reactionary’ and whilst most of his actions and endorsements support this, some of the decisions he made contradict the ‘reactionary’ title he has frequently been given.

The Emancipation of the Serfs in 1861 by Alexander II is often used to validate him as the ‘great reformer’; it is probably the most well-known and perhaps influential reform that acted as a great liberating measure. In 1861 Alexander II freed the serfs from feudal obligations, allowing them to marry, travel, trade and vote, this was a huge step for Russian society. Peasantry had been the most prominent weakness in Russian society and so making a reform to emancipate and abolish serfdom should have made Alexander II the greatest reformer ever known. The Edict of Emancipation of the serfs granted 20 million people, previously in bondage, freedom as well as preserving social order; so, if being a ‘great reformer’ meant the widespread influence of your reforms then Alexander II was certainly valid as a ‘great reformer’. Alexander himself gave a famous speech in which he said, “It is better to abolish serfdom from above than to wait for the time when it begins to abolish itself from below”; the speech was in front of a deeply sceptical nobility and so Alexander had cleverly chosen his words to present the emancipation of serfdom as a way of maintaining control and authority. The reform was also introduced to avoid socialism and radicalism. In this sense, calling Alexander II the ‘great reformer’ could be considered extremely valid as he was able make a huge step in terms of creating a more fair, respected society and preserving social order by using an impactful reform.

Alexander II introduced numerous reforms intended to improve Russia and Russian society. Economic reforms such as the 1862 Public Budget or the

system of government excise being established in 1863, helped re-establish financial stability of the Russian government after the defeat during the Crimean War. These reforms prevented Russia from falling into a bigger economic crisis after the defeat and therefore Alexander II could be validly called the 'great reformer' as the reforms he made managed to protect Russia from potential devastation. Huge improvements to industrialisation came following Alexander II's reign as Tsar with the expansion of construction of railroads. Railroads went from 1100km to 22000km with the help of government subsidies, the development of greater railroads helped liberate serfs from years of bondage as well as making Russia more economically developed. Reforms surrounding industrialisation can be used to validate Alexander II as the 'great reformer' as there was clear success in the industrial development of Russia thanks to his reforms.

A greater Zemstva was also established due to Alexander's reforms, the form of elected rural local councils allowed initiative from below and improved everyday Russian life as local organisations were able to respond to local needs better than central bureaucracy could. The Zemstva also allowed wide suffrage as 40% of members were now chosen by peasants. This is yet another example of how Alexander II's reforms helped improve the fairness of the, previously degrading, social hierarchy therefore making him a valid 'great reformer' as he made successful widespread changes. Some of the strongest reforms introduced by Alexander II were his legal reforms which separated judicial and administrative powers, introduced a trial by jury and simplified court procedure. The new legal reforms were readily accepted as they established justice as administered by society rather than dispensed by government. Alexander II's legal reforms created a superior system that promoted a greater sense of fairness.

There are some reforms made by Alexander II that perhaps weren't very successful and could therefore be used to invalidate him as a 'great reformer' however, he still intended to make the reforms to improve Russia and so whilst they may not present him as a 'great reformer' they cannot be used to undermine his reforming intentions. For example, educational reforms were intended to improve education in order to better Russian society. Whilst there may have been some consequences to these reforms such as encouraged opposition and criticism, there's no denying that the reforms did improve

education as he had intended them to. Primary and secondary education was extended, and the number of students grew from 3600 to 10,000. Alexander's relaxation of censorship was another attempt to improve Russian society by encouraging educated public opinion and modernism through media expansion however, similar to education, it did increase public political revolt, a consequence Alexander II may have unforeseen whilst making the reforms. It is significant to mention that opposition that did arise very rarely offered a practical alternative and were not as influential as they may have thought they were as strong conservative attitudes remained, so it is debateable whether opposition to Alexander II's reforms can be used to present his title as the 'great reformer' as not valid.

Many other reforms, including post-Crimean military reforms that reduced the financial burden of the standing army and extended the conscription to all, were made by Alexander II during his time as Tsar. It can be argued that all of his reforms had the intention of improving and establishing a fairer and better controlled Russian society; whilst they may not all have been particularly successful, therefore decreasing the validity of him as the 'great reformer', they still marked a huge difference to previous Tsar's who perhaps didn't put as much time into making reforms as Alexander did which could furthermore validate his position as the 'great reformer' as he was much more reforming than what Russia had seen in the past.

Alexander II was no doubt a reformer. However, it may not be valid to give him the title of the 'great reformer' due to the unsuccessfulness of his reforms. The Emancipation of the Serfs in 1861 has forever been seen as the greatest reform made by the Tsar. However, the greatness is particularly questionable when you fully evaluate the events and rules established after the initial edict. The serfs were not entirely free after the emancipation, they still had to pay for their freedom through annual redemption payments over 49 years. Also, when they left an area the Mir would take control of the land not the serfs themselves which caused financial struggles and ironically led the serfs to having to labour on landowner's land, so they technically went from one ownership to another unofficial ownership by the Mir. After the emancipation, Alexander II allowed a 2-year temporary obligation period and some serfs weren't freed until 1881, 20 years after the initial emancipation. The reality is that although the emancipation of the serfs was a huge step in the right

direction for lessening the hierarchy of the classes in Russian society, Alexander II failed to continue to make effective and positive change in light of the new reform and therefore the title of the 'great reformer' perhaps isn't valid because although he reformed, it wasn't great in terms of the ploy and success of the reform.

Several of Alexander II's other reforms can be used to arguably disprove the title of the 'great reformer'; his finance reforms included no real tax reform and the government was still dependent on highly taxing the peasants, the Zemstva voting system was weighted to favour nobles. Whilst improvements were made to military finances and conscription was extended to all, the fact conscription still existed was a flaw of its own. Although the legal reforms were progressive, there was still a shortage of trained lawyers and the presence of the secret police. Within the legal reforms, interference from bureaucracy prevented the law from being applied universally; if you view the 'great reformer' as being able to spread the reforms widely and effectively then the fact the laws were unable to be applied universally strongly opposes the validity of called Alexander II the 'great reformer'. There were other problems that arose due to Alexander's reforms causing rebellion; whilst the education reforms increasing the number of educated people in Russia could be viewed as a positive thing it also led to an increase in people that are critical of, and therefore dangerous to, tsarism due to the spread of ideas between students and intellectuals. An opposition group known as the Narodniks (populists) are proof of this; in an attempt to spread socialist revolutionary ideas to the peasants, the group (thousands of students and intellectuals) organised the "Going to the People" revolt from 1873-1874. However, the campaign disappointingly failed but these types of rebellious events were common due to the way Alexander II dealt with his reforms after establishing them.

The relaxation of censorship is another example of how his reforms helped spread radical ideas, the 1865 movement allowing press to discuss government policy led to major criticisms of tsarist abuses and spurred on the creation of a liberal professional class more likely to push for further reforms that Alexander failed to bring. The Narodniks weren't the only opposition group, there were multiple others including Zemlia I Volia (Land and Liberty) who held a terrorist outlook, the Black Partition who were significantly more peaceful in there attempted to spread socialist propaganda and Naraodna

Volya (The People's Will) who strongly, and aggressively, argued that social revolution could not happen without a political revolution. The People's Will wanted to rescue Russia from Autocracy and demanded democratic reforms, the group is a perfect example of the passionate and rebellious citizens that Alexander II had sparked by introducing reforms. Two years after the formation of The People's Will, 1881, they successfully assassinated Alexander II. The assassination can be seen a true statement of just how wrong Alexander's reforms seemed to go. The issue with Alexander II's reforms was that he initially began to give small snippets of reform to please people and maintain control of society. However, once he had given a little, people started wanting and demanding more and he was unprepared to give them that, so they rebelled, they set up opposition groups and undermined his power to the point where they killed him. Whilst only a small portion of the population were involved in these groups, support for Alexander II still varied due to his negative treatment of the serfs after emancipation and the failure to carry out and correct any mistakes that rose from the reforms. It is this lack of support and satisfaction from society towards Alexander's reforms that contradicts the supposed valid title of the 'great reformer'.

After Alexander II's assassination, Alexander III became Tsar and automatically took an extremely opposite technique and attitude towards reforms previously set which is why he is often validated as the 'great reactionary'. As soon as Alexander III became Tsar he and his chief minister, Konstantin Pobedonostsev, proclaimed a "Manifesto of unshakeable autocracy". The fact he automatically established this shows that he had reactionary intentions from the very beginning of his reign. Working alongside Alexander III almost at all times was Konstantin Pobedonostsev who was a greatly passionate right-wing conservative who strongly opposed Alexander II and his reforms. The title of the 'great reformer' can be thoroughly valid for Alexander III if you look at the multiple counter reforms he placed to oppose the reforms placed by his father. He made massive changes to the voting system in 1890 by putting the Zemstvo under government control and reduced the peasants vote. However, the Zemstva were not stripped of all responsibility, instead their role in political discussion was replaced by things like education, health and local transport. The changes to the voting system and legal reforms (including the introduction of closed sessions in courts) are a good example to show that the title of the 'great reactionary' was more valid

as he continuously opposed previous political reforms. Alexander III also increased the number of police officers and spies as well as hiring agent provocateurs to secretly provoke rebellion. He, oppositely to Alexander II, reinforced the hierarchy; for example, he said that lower class children were allowed primary education only, so they were never “taken out of the social environment they belong” as he said, not only was this repressive it was also very reactionary as Alexander II had reformed for widespread improvements to education. In 1887 Alexander III announced that all jury members were required to have greater property and educational qualifications to be on the jury, whilst this on the surface may not seem like a big deal it was greatly undermining the voice of those of a lesser class which could also mean the juries were becoming increasingly biased. In 1889 land captains were appointed by state to enforce law and government in the countryside, an extremely repressive move on Alexander III’s part.

One of the biggest reforms Alexander III acted against was censorship, he decided that all publications had to be approved before being published which allowed greater government control and contradicted Alexander II’s relaxation on censorship. Regulations were also introduced in 1882 for publishers and anyone not conforming to these would be punishable with a life ban on reporting. Alexander III strengthening censorship can be used to validate him as the ‘great reactionary’ as it was a big counter reform to those previous set however, perhaps he made these changes because of the consequences Alexander II faced in the form of opposition after loosening the rules of censorship. Other reforms counteracted by Alexander III were those placed on education, he closed all women’s universities and forbid students from gathering in groups larger than five; he introduced these new counter reforms to prevent the spread of radical ideas and stop protests just as he had done with censorship. Perhaps this was him learning from his father’s mistakes of letting opposition get to strong which eventually led to his assassination or maybe he truly was so opposed to social and political reform that he felt the need to change previous reforms to a large extent which would further validate him as the ‘great reactionary’.

Repression was used once again by Alexander III in 1882 with a statute valid in all areas of subversion stating that anyone could be detained, exiled or questioned on suspicion of committing a crime or even for maybe be

related to a criminal. The statute makes Alexander III seem much more valid as the 'great reformer' as he appears to be deliberately trying to dismiss the fair society Alexander II may have been trying to introduce through certain reforms. A massive and key element of Alexander III's reign as Tsar was his focus on russification. With the influence of his chief minister Konstantin Pobedonostsev he sought to crush national aspiration; the idea of enforcing russification was brought to Alexander III through Konstantin Pobedonostsev's ideology of "Autocracy, Orthodoxy and Nationality". Russification was enforced in many ways including through theatres, art and culture which once again relates back to Alexander III's increase of censorship: Polish literature had to be translated to Russian. The use of the Russian language was increasingly demanded in workplaces, schools (all lessons, excluding Polish language and religion, had to be taught in Russian) and in general everyday life. Alexander III is valid as the 'great reactionary' in the fact that he strongly opposed social reforms benefiting ethnic minorities and therefore any uprising of ethnic peoples was mercilessly surprised in Guriya in 1892, Bashkiria in 1884, Armenia in 1886 and at Tashkent in 1892. Most of his hatred towards ethnic minorities was aimed at the Jews. Pogroms were encouraged by Alexander III and as anti-Jewish violence increased they were banned from certain jobs and over 2 million were forced to leave Russia entirely. In terms of religion, Alexander III russified adherences to the Orthodox Church by creating laws that benefited those who converted to the church; from this 37000 Lutherans converted. Furthermore, if anyone attempted to convert any member of the Orthodox Church to a different religion they were punished by exile. Alexander III's violent encouragement of repression and russification make the title of the 'great reactionary' extremely valid.

Although it is undeniable that Alexander III was opposed to many social and political reforms, the title 'great reactionary' may not be as valid as it first seems. If we consider 'great' to mean successful, then Alexander III's title may be less valid as he faced a lot of conservative backlash following the placement of the Church of the Spilled Blood in St Petersburg in the exact spot his dad was assassinated by The People's Will to make the statement that Tsar's cannot be undermined. This conservative backlash continued as he produced counter reforms; the backlash increased significantly with the introduction of inheritance tax in 1885 as whilst the tax may have benefited poorer people, it

was a lot more repressive to wealthy conservatives as the tax was much greater for them. The opposition he faced delayed the success of his reactionary approach. The 'great reactionary' is also less valid as a title for Alexander III due to the fact he himself made some reforms that supported social and political progress. He set up a Land Bank for peasants to give them better access to credit and enable them to modernise and buy much more land resulting in an increase of freedom for them; a Nobles' Bank was also set up. Possibly the greatest, and most opposing to the 'great reactionary', reform made by Alexander III were the Factory Reform Acts issued in 1882 that regulated child labour and reduced their working hours as well as reducing women's working hours at night and making education compulsory for children in factories. Other rules were made such as redemption payments being reduced and in some cases even cancelled in 1881 and the right to appeal judgements being introduced in higher courts therefore improving the justice system. These changes made by Alexander III contradict his previously stated actions of introducing counter reforms and perhaps changes the validity of the title 'great reactionary'. It is also notable that Alexander doesn't counter reform the emancipation of the serfs or the Zemstva which were arguably the two biggest reforms introduced by Alexander II. Surely if Alexander III truly was the 'great reactionary' against all social and political reform and progress, he would have opposed the two biggest progresses made by his father however, he didn't. Maybe this can be used as evidence to suggest that the title of the 'great reactionary' given to Alexander III is less valid.

In conclusion, the validity of this view is, of course, debateable. However, there is a lot of evidence that portrays Alexander II as not being the 'great reformer' whereas for Alexander III there is a large amount of evidence to support the title of the 'great reactionary'. Alexander II was undoubtedly a reformer who set out with the intention of reforming for society, but this does not mean he is valid as the 'great' reformer. Truly, it depends on how you interpret the word 'great'. If we assume 'great' is equal to success and accomplishment, then Alexander II could on the one hand be viewed as the 'great reformer' because he was able to emancipate the serfs and bring about strong legal reforms. On the other hand, however, it could be said he is not a successful reformer as although his reforms may have intended to bring social justice and stability to Russia, most, particularly censorship and education, led to increased rebellion and opposition to the point where Alexander II was assassinated by the

opposition group 'The People's Will'. The assassination of Alexander II is the most obvious objection to him being the 'great reformer' in the interpretation of success as the reforms he intended to bring social justice ended in disagreement and passionate social rebellion. Alternatively, the word 'great' could be interpreted as a magnitude for which his reforms were spread. If this interpretation is used, then the title 'great reformer' would suggest Alexander II's reforms were widely spread and accepted which is relatively true. Even though there was opposition, this doesn't mean that the reforms were less widely spread. The number of members and supporters of groups like The People's Will, Land and Liberty and the Populists varied from a couple of hundred to a few thousand (there were 2000 Narodniks) and whilst this may be an impressive turnout in a predominately autocratic country, if you put in into perspective in the large Russian population, the opposition doesn't seem so big anymore. Alexander II's reforms such as the emancipation of serfs and industrialisation (railroads) were widely spread and enforced around Russia which would indicate that, if 'great' is equal to magnitude, the title of the 'great reformer' is valid for Alexander II. However, overall it would seem as though Alexander II was unable to commit to his reforms after they were set in place. He seemed to assume that once he had set the reforms everything would fall into place, but this obviously was not how it worked. Alexander II gave a little reform which led to people in Russian society wanting and expecting more however, perhaps he had not been prepared or aware that he was expected to give more and, so he didn't which resulted in anger among the people leading to the development of protest groups. Alexander II's inability to maintain social order through reforms decreases the validity of him as the 'great reformer'. Alexander III had three main aims: reactionary, repression and russification. These three aims had going into his reign as Tsar are perhaps what enabled him to have such a strong and establishing beginning. He automatically distinguished a "manifesto of unshakeable autocracy" which from the beginning established his reactionary attitude and intentions, he was then able to continue these intentions using repression and russification. Whilst it could be argued that some of Alexander III's counter reformers were excessively repressive, it is important to note that his father had introduced these reforms and had consequently faced huge amount of backlash and was eventually assassinated by his opposition, the two reforms that relaxed the spread of ideas that led to this opposition were education and censorship reforms so it is no surprise that the two reforms Alexander III appeared to

counteract the most were education and censorship. Whether he made these counter reforms just to enforce his reactionary, repressive view of Russia or whether he perhaps established them out of fear of repeating his father's mistakes, is debateable; however, these counter reforms among others were extremely reactionary and therefore if 'great' is interpreted as success then Alexander III is a valid 'great reactionary'. Even so, Alexander III still faced conservative backlash that restricted the success of his reactionary intentions. If 'great' is seen as magnitude then Alexander III was immensely valid as the 'great reactionary' as his enforcement of russification was widespread and effected many different ethnic groups and religions across Russia which is evident in the Polish National Bank being closed as well as the spread of russification to Belorussia, Georgia and the Ukraine where further laws limited the use of the Ukrainian language and enforced the use of the Russian language. So, whilst Alexander II being the 'great reformer' isn't as valid as Alexander III being the 'great reactionary', both Tsar's were able to achieve what they set out to some extent; Alexander II produced many reforms including the liberating emancipation of the serfs in 1861 and Alexander III produced many counter reforms that acted as reactionary by enforcing repression of Russian society and russification of various ethnic groups. To conclude, it is clear that Alexander II became Tsar with the intention to be a reformer and, after his death, Alexander III became Tsar with the intention of being a reactionary however, unforeseen circumstances, such as opposition, restricted the extent to which each of these Tsar's were able to fulfil their desired rule and therefore prevents the complete validity of the titles 'the great reformer' and 'the great reactionary'.



Fig. 1

Chapter Two

‘Bonjour Tristesse’: Examinez les aspects du comportement de Cécile qui causent des disputes entre elle et Anne.

Vous pouvez utiliser les points suivants :

- Le rapport entre Cyril et Cécile
- L’attitude de Cécile envers ses études
- Comment Cécile veut profiter de ses vacances
- Ce que Cécile pense de la présence d’Anne

A2 French essay by Hannah Bunting

Il y a beaucoup de raisons pour lesquelles Cécile et Anne se disputent ; par exemple, l’attitude d’Anne envers le rapport entre Cécile et Cyril, ce que Cécile pense de ses études, ce qu’elle veut faire pendant ses vacances et l’attitude et les actions de Cécile qui ont été provoquée par l’arrivée d’Anne. Tous ces problèmes causent des disputes entre les deux femmes.

Les rapports entre Cécile et Cyril, il est un coup de foudre ; ils deviennent d’entichés vite l’un de l’autre. Quand Anne découvre les relations, elle veut que Cécile ne voie plus Cyril ; cela cause des querelles entre les deux, en particulier parce qu’Anne n’aime pas la vie bohème qui implique l’amour libre et beaucoup d’amours « rapides, violentes et passagères ». Anne lui impose ses mœurs bien qu’elle ne soit pas sa mère ; par exemple, elle croit que Cécile devrait vivre une vie plus rigide et stricte, comme elle. Comme Cécile ne veut pas changer, elle ignore Anne, ce qui cause plus de disputes, particulièrement quand elles parlent de Cyril et l’amour. À mon avis, Anne est trop stricte, trop tôt, et cela ne plaît pas à Cécile ; si Anne n’avait pas eu de problème avec Cyril, je crois que Cécile aurait eu une relation peut-être un peu vite, mais toutes les mêmes heureuses et plaisante, qui l’aurait rendue plus heureuse que d’entendre des conseils d’Anne. Cependant, Anne ne comprend pas que Cécile et son père ont eu une vie assez libre sans l’influence d’une femme ou d’une mère, et ils ne sont pas habitués aux règles et manières d’ordre et d’engagement. En ce qui concerne l’amour et les relations avec Cyril, Anne et Cécile ont des idées et des croyances différentes, ce qui cause des disputes entre elles.

Cécile ne pense pas qu’elle ait besoin d’examen afin d’avoir une vie heureuse. Par exemple, quand elle devrait étudier, elle fait du yoga et elle essaie « d’atteindre l’état supérieur du Yogi » au lieu de lire son livre. Anne veut qu’elle réussisse, mais Cécile n’aime pas suivre l’exemple de cette femme. C’est la raison

pour laquelle Anne est si énervée, parce qu'elle croit qu'elle sait ce qui est la meilleure chose pour Cécile. Les attitudes des deux femmes envers les études et les examens sont complètement différents ; sans aucun doute cela cause des disputes. Si Cécile avait pu accepter les conseils qu'Anne lui a donnés, je crois que la situation aurait été plus civile. Cependant, à cause de son attitude assez tête, Cécile ne peut pas le faire ; au lieu d'accepter ces conseils, elle se dispute avec Anne.

Pendant les vacances, Cécile a envie de se relaxer sur la plage et d'avoir des relations amoureuses. Dès l'arrivée d'Anne, sa façon de vivre doit changer. Au lieu de se relaxer sur la plage ou de passer du temps avec Cyril, elle doit étudier pour ses examens. Avant, Raymond et Cécile avaient eu une vie bohème sans règles ou mœurs. Quand ils sortent au casino (Raymond, Cécile, Anne et Elsa), Cécile devient très ivre ; dans le passé cela n'aurait pas été un grand problème, mais Anne lui donne une gifle quand elle commence à être un peu grossière. Cécile n'avait jamais souffert une telle chose avant. Anne apporte un type de sévérité à laquelle Raymond et Cécile ne sont pas habitués. Cette attitude relie aux idées susmentionnées, parce qu'Anne voit tout ce que Cécile veut faire comme une perte du temps ; sans cette attitude 'démodée', je crois que Cécile aurait accepté Anne. Cécile semble aimer Anne, et la manière de laquelle Cécile se comporte nous suggère que, sans l'intervention d'Anne, la situation aurait été très différente.

Finalement, il y a la présence d'Anne. On peut dire que Cécile ne veut pas qu'Anne reste avec eux, mais cela n'est pas le cas. Bien qu'il y ait un rapport plus amical entre Elsa et Cécile, celle-ci est beaucoup plus flatteuse envers Anne. Elle semble avoir un conflit interne, car elle a des sentiments d'admiration et d'amour, aussi bien que la haine et l'irritation au même temps. Par exemple, quand ils visitent le casino, Cécile dit qu'Anne est « magnifique », mais elle ne décrit que les problèmes avec l'apparence d'Elsa, comme « ses cheveux desséchés et...sa peau brûlée ». Plus tard, Cécile admire Anne, même si elle se plaint des actions et des règles d'Anne. C'est une situation assez bizarre, particulièrement à cause des changements dans son attitude envers d'Anne. Quand elle déteste Anne, elle a des pensées qu'elle n'aurait pas eues normalement.

Cécile et Anne ne s'entend pas quelque fois, à cause du fait que Cécile ne peut pas accepter le changement, et parce qu'Anne essaie de changer la situation plus vite. C'est pour ces raisons qu'il y a des disputes. À mon avis, les disputes auraient été évitables si les deux femmes avaient eu une attitude ou un caractère plus aimable, et si l'une d'elles auraient pu s'adapter pour subvenir aux besoins et opinions de l'autre. Le comportement de Cécile cause beaucoup de problèmes, mais Anne n'aide pas la situation avec ses gestes et ses actions qui sont un peu strictes et sévères.

Chapter Three

To what extent have unequal labour and investment flows led to ‘growth and stability’ or ‘conflict and inequality’?

A level Geography essay – Cate Baxter

Labour flows are the flow of people around the world or within a country to where they are needed to work. Investment flows are the flows of capital around the world in the form of foreign direct investment and within countries in the form of government investment. Both these flows can be unequal due to demand for workers, TNC operation and how wealthy a country is. It could be said that unequal labour flows mostly create conflict and inequality while unequal investment flows can lead to growth and stability. Some examples to demonstrate this include EU migration to the UK, Somalia’s independence on remittance payments and Qatar’s migrant labour force for labour flows, as well as Walmart and the Yamal Mega Project to demonstrate the importance of unequal investment flows. It should be considered that both flows can create the opposite effect to that stated above but predominantly can be thought of in that way.

Unequal labour flows can be thought of as causing inequality and conflict. One example of an unequal labour flow is from Eastern Europe to the UK; for example, in 2014 there were 853,000 Poles living and working in Britain (gov.uk). However in 2011 there were only 2058 British citizens living and working in Poland. The result of this is that there is low unemployment in the UK but that competition for jobs, especially from British people, can cause conflict. The most prevalent example of conflict caused by this is racism and the rise of right wing politics, e.g. UKIP, which causes conflict between economic migrants from the EU and the native British. It isn’t only in Britain that unequal labour flows result in racism; in Qatar, 90% of workers are migrants, many of whom are Nepalese. These Nepalese workers face exploitation by forced labour and confiscation of passports through racial discrimination by employers. Unequal labour flows also result in the loss of skilled workers from one country to another, including IT workers, accountants and doctors. LICs lose their skilled workers to HICs which can offer higher wages to these workers, therefore offering incentives for these people to leave the LICs and resulting in an overall lack of skills in these poorer countries. Unequal labour flows clearly create large amounts of ‘inequality and conflict’ in many areas.

Despite this, labour flows can create ‘growth and stability’. One example of this is in Somalia, where citizens receive remittance payments from migrant workers. 40% of the Somalian population rely on remittance payments as a large part of their income, which allows growth and stability; without these payments many Somalians would have insufficient income to support themselves and their families. Unequal labour flow can also take the form of factories in LIC countries to which many people move in order to work. This can cause ‘growth and stability’ by widening the job market and bringing money into a country. This can allow growth to occur in the economy as well as cause improvements in infrastructure, which again aids the growth and stability of a country. Some sectors, such as banking, insurance and advertising, rely heavily on the flow of labour. These are high-paying, wealthy industries and by ensuring they have few job vacancies, the overall productivity of a country can increase, again leading to ‘growth and stability’.

Qatar, despite showing how unequal labour flows can cause conflict and inequality can also show how they lead to growth and stability as the prosperity of the country depends on their migrant workforce. They are needed to support the \$20billion worth of new roads which need building and the over \$177billion building programme, both of which will allow the country’s economy to grow. However, there are many issues in Qatar and even Somalia, where remittance payments can fall in to the hands of the terrorist group Al-Shabaab. It is therefore obvious that despite showing evidence of promoting growth and stability, unequal labour flows do cause considerable inequality and conflict.

By contrast, unequal investment flows cause many examples of growth and stability. Unequal investment flows can result in improved infrastructure in countries that may otherwise have no way of funding these projects therefore allowing the country to thrive, grow and stabilise. They also allow countries to access their full potential by extracting their wealth, as seen, for example, in the Yamal Mega Project in Russia. This is an example of unequal government investment within a country. The company Gazprom are investing to extract the 55 trillion cubic metres of gas below the Yamal peninsula, to earn the money from selling the gas as a resource, profits from which will come back into the Russian economy. This also provides evidence of the aforementioned infrastructure improvements, as a 570km railway has also been erected to support this. TNC investment can also allow ‘growth and stability’, for example, Walmart chose to invest money into developing their brand in China. This has created growth and stability for Walmart as a company and for China as a country. Walmart now has 11000 stores outside of the USA, therefore helping countries to grow their economies and stabilise them by offering employment opportunities. Clearly, unequal investment flows can be positive for many stakeholders.

There are some drawbacks to unequal investment flows and examples of conflicts and inequalities that can arise from them. In Russia, the Yamal Mega Project has led to significant conflict with the native people. The Nenet people are indigenous to the Yamal region and the Mega Project has resulted in the disturbance of reindeer herds on which the nomadic Nenet rely, thus creating conflict. The results of unequal investment flows can also be seen in theories such as the ‘Dependency’ theory pioneered by A.G. Frank and the ‘Core-Periphery’ model, which imply that investment flows are purposefully unequal in order to keep rich countries rich and poor countries poor – ideas that are seemingly controversial and which could cause conflict and inequality.

Overall, it could be argued that despite having some positive aspects such as remittance payments and infrastructure improvements, unequal labour flows predominantly create conflicts and inequalities, including racism and worker exploitation. Contrary to this, it could be said that unequal investment flows allow growth and stability in the main, despite having some drawbacks such as the effect on indigenous peoples.

Chapter Four

“Choose two songs by Stevie Wonder and explain the musical reasons why, in your opinion, they became hits.’

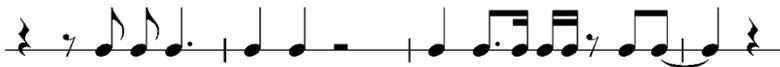
A level Music analysis – Emma Sintim

(All music notation images produced with Sibelius Software)

Stevie Wonder’s *Signed, Sealed, Delivered*, from the 1970 album of the same name, became a hit due to its strong rhythmic groove. This is created in the intro by a backbeat of drumbeats on beats 2 and 4, along with a tambourine. This strong drumbeat is continued into the verse, where the bass guitar plays a conjunct and chromatic riff :



This, along with the dotted rhythm and ties across the barlines, creates a syncopated bass riff with a fitting funk feeling, which undoubtedly contributed to its success. The song's hook *here I am baby, signed, sealed, delivered, I'm yours* is catchy and makes use of rhythmic groove due to the rests, syncopation and dotted rhythms:



In addition, the use of blues notes (Abs) in this melody add to the song's funk. The chorus also has a strong bass line, due to the bass ostinato: At the bridge, the horn riff in the chorus has a syncopated entry, and gives the



song a sense of momentum. Wonder also creates variation in the verse and chorus with ad libs, and, typical of his style, ends the song with the chorus fading out.

Wonder's *Sir Duke* from the 1976 album *Songs in the Key of Life* became a hit for many reasons. The song's intro has a decorated arpeggiated melodic riff played by an electric bass guitar, a full horn section in unison and a drum kit. There are also chromatic auxiliary notes, and in the third bar there is an accented chromatic note, which is very effective as it is the longest note of the bar and on the beat – before resolving onto the dominant. The next bar contains only a drum fill, which creates a sense of anticipation. The verse has two halves, the second half having a faster harmonic rhythm than the first due to its chromatic line: E9, Eb9, D9, Db9, D#9, E9. Compared to the first half's B, G#m, G and F# chord pattern, the second half creates variation and more interesting harmonies. The first chorus has a saxophone run in the third and fourth bars, as well as in the seventh and eighth bars. Then in the second and third chorus a horn riff is played each bar:



This syncopated horn riff provides rhythmic groove and momentum. The bridge (with its highly memorable melody) comes after every chorus, and has a unison at octaves texture, as the electric bass and horns play together, accompanied by the drum kit. It could be considered as one long riff, as it is a series of mostly conjunct, scalar passages with syncopated rhythms. This is

quite unusual for a Wonder bridge, thus it captures the listener's attention. His use of chromaticism also does this. The bridge is also used as the outro, but instead of fading out like you might expect, it has a very definite ending, which leaves a significant impact on the listener.

Chapter Five

“Natural Law Theory’s situationism means that it does not offer precise answers to difficult dilemmas.” Discuss.

A level Religious Ethics essay – Matthew Jeffries

Natural law sets a standard for morality, in accordance with nature, that all humans can loosely follow. But, because of Natural Law's situationism it can be argued that the theory does not offer any precise answers to difficult dilemmas, rendering Natural Law theories somewhat useless.

Aquinas' 'Primary Precepts' are derived from rationally observing human nature, and are supposed to act as a reflection of God's eternal law in determining generally how humans should act morally. However, the generality of the principle of the primary precepts makes it impossible for them to give precise answers to difficult dilemmas, and since they are teleological in their nature they can only act as guidelines in an ethical situation. One of Aquinas's main primary precepts, to "preserve life", gives a clear moral guideline that, in general, humans should always endeavour to promote the sanctity of life. However, the lack of detail within the primary precept leaves it up to the person to decide how they are to achieve this moral guideline in an ethical situation, hence why they can be considered teleological in nature. The 'Secondary Precepts,' which lead to the achievement of the primary precepts according to Aquinas, are relative to different people; a secondary precept is not set and acts as a relative guide for a society or person to achieve an unchangeable primary precept. In a sense, the absolutist nature of the primary precepts means that they do offer clear moral guidelines, but because they are teleological in principle it is left to an individual person's own experience and rationality to decide what secondary precepts are needed to achieve the primary precept in a given situation, meaning that Natural Law tends not to offer any precise answers to difficult dilemmas. Although arguably, in a few senses Natural Law is able to offer a clear answer in a difficult dilemma, since if an action directly contrasts with a primary precept and what seems to be basic human instinct, such as the "preservation of life", then it can be clearly concluded that that action simply should not be undertaken under any circumstances. Although, it is very unlikely that in every

ethical dilemma a decision will either fully comply with a primary precept or fully oppose a precept meaning, for the most part, Natural Law is unable to offer precise answers to difficult dilemmas.

However, the primary precepts are not definitive and can be added to by individuals, and since the primary precepts are simply derived from rationally assessing human nature it is perhaps possible to gain a precise answer in an ethical situation by doing just that; assessing the nature of humanity. However, Aquinas's theory of natural law assumes that right human reason will always reach the same general precepts, but there is no evidence to prove that this is the case. Kai Nielsen argues that not all humans do have the same basic, knowable nature that Aquinas asserts there is, and as a result it is up to someone's own personal assessment of human nature to decide ultimately what to do in any given situation. Alongside this idea is the fact that human nature seems to have changed over the centuries, meaning that solving ethical dilemmas according to natural law is not simply relative to a person's own perspective of human nature but the also the time period in which the ethical dilemma is taking place. For example, despite most European countries being accepting of homosexuality in the modern period European kingdoms of antiquity often viewed homosexuality as utterly abhorrent. This is suggestive of the fact that human nature is not fixed, seeing as homosexuality is presently thought of as natural by the majority in most Western countries, so in a sense it could be argued natural law is intrinsically relativist if what is 'natural' is always changing. Furthermore, Darwin's Theory of Evolution supports the interpretation that nature is always changing; natural selection would assert that human nature is simply the accumulation of characteristics which have best served humans for surviving in the natural world. As the natural world changes, so does human nature. A prime example could be the archaic need for humans to live in a strict social setting, where the men provided food whilst the women bore children. Whilst this method of society came naturally to humans and was essential to survival for many years, this is no longer the case with many societies becoming increasingly egalitarian in nature. Thus, arguably natural law is useless in offering any inclination of what to do at all in an ethical dilemma purely because every person interprets what is natural differently, which in turn leads to disagreements among followers of Natural Law about what should be a primary precept. John Finnis agrees with many of Aquinas' primary precepts, however his interpretation of what is good in relation to human nature is slightly different to that of Aquinas, and this idea acts as testimony to the differences there can be in interpreting human nature. Finnis adds "practical reasonableness" and "aesthetic experience" to his equivalent of the primary precepts, what he calls the "basic goods." Furthermore, Aristotle's original version of natural law differs in his equivalent of the "primary precepts" to other theories. Aristotle wrote in his *Nicomachean Ethics* that he thought leading a good life in accordance with

human nature meant fulfilling the human need for growth, reproduction, sense, emotional experience, thinking and choosing. Aristotle's version of Natural Law differs fundamentally as well with Aquinas's in that Aristotle's telos for humankind was not unity with God by Eudaimonia; human flourishing. In a similar way to Aquinas's theory of natural law, Aristotle's theory is unable to offer any precise answers to difficult dilemmas because the theory involved, as Cicero wrote "right reason in agreement with nature", and in link with arguments earlier mentioned the perception of nature can be seen as ultimately relative and everchanging. However, if a follower of natural law was simply to accept Aquinas' primary precepts, or those of another philosopher, as true then this would probably be less of a problem, although even Aquinas himself stated that his list of primary precepts was not comprehensive and could be added to. Aquinas also argued in his theory of natural law for *Syndresis*, the idea that humans have an innate, God given nature to pursue good and avoid evil. Aquinas argues that this is because humans are designed for perfection above all, and that that bad action only comes through pursuing the 'apparent good'. If this is the case then arguably Natural Law according to Aquinas becomes even more relativist and indecisive in that doing what is 'good' depends on correctly, rationally interpreting human nature. However, it is unclear how a human is supposed to differentiate between what is actually good and what is apparently good. Aquinas argued that proper, rational thought could reveal what was actual good, but again what is 'good' according to human nature is incredibly relative to individuals, time and society. The difference in interpretations on ever changing human nature heightens the situationism already present in Natural Law, which in turn means that natural law is not able to offer any precise answers in difficult dilemmas.

Karl Barth argues that Aquinas's Natural Law relies too much on reason as opposed to divine revelation and divine law, and arguably this lack of biblical support in Aquinas' theory of natural law is one of the main reasons why the theory is ultimately so relativist, and as a result useless in giving precise answers to ethical dilemmas. The Bible's 10 commandments, as well as other rules found within the text, are explicitly clear about what should be done in ethical dilemmas. Commands such as "thou shalt not kill" give a clear answer to dilemmas involving the sanctity of human life. By contrast, Natural Law as advocated by Aquinas is much more teleological and relativist, advocating only that humans should "preserve life", however offering no answers as to how this should actually be done. Arguably though, the doctrine of double effect gives a greater degree of accuracy from which difficult ethical dilemmas can be solved. The Doctrine propounds the concept that committing a bad act to bring about a good end is morally incorrect, since the bad action would innately go against human nature. It is fine however to do a good action if it unknowingly brings about a bad consequence. The doctrine of double effect within Aquinas'

natural law is arguably more deontological and absolutist than the rest of the theory, meaning that as a result it offers more clear guidance in an ethical situation. Through following the doctrine, it becomes clearer that a procedure such as a hysterectomy performed on a pregnant cancer patient is morally sound seeing as the death of the baby would be unintended. However, any of procedure which involved directly killing the foetus in order to save the mother would be immoral. Taking into account the doctrine of double effect, Aquinas's theory of natural law seems much more absolutist and deontological and so is more specific in giving answers to difficult ethical dilemmas.

G.E Moore argues that Natural Law theories on the whole commit what he calls "naturalistic fallacy", in that they "derive and ought (value) from an is (fact)". Moore argues that just because humans have an innate nature to, for example, care for other animals does not mean that humans necessarily should. Furthermore, Moore states that humans usually combine values and facts to form a moral code, and this idea would go against Aquinas's assertion of synderesis, that all humans pursue that which is good in accordance with nature. Moore's argument would strengthen the idea that Natural Law on the whole is unable to offer precise answers to difficult dilemmas since even if humans are correctly able to rationally analyse human nature to come to a conclusion of what they should do in a dilemma then they still cannot be sure that is the correct answer to come to morally, since Moore asserts that human morality is a mixture of human nature and values that have developed during lifetimes. This idea links in with Aquinas's own understanding of the 'apparent good', in that a person can never truly be sure whether or not the action they are about to take fits in with nature and is morally good. Although, whilst Natural Law may not offer clear answers in itself to difficult dilemmas, and societies may interpret what is natural differently, it could be argued that Natural Law inspires much human law which in turn offers clear answers to difficult dilemmas. The Catholic Church uses Natural Law as a basis for its morality and teachings and acts as a prime example for the way that natural law can influence human law which, in effect, can be considered akin to Aquinas's "secondary precepts." Whilst it can be argued that the concept of a "secondary precept" is relative and teleological in respect to a primary precept of nature, the secondary precepts themselves are much more absolute and deontological and so are much more useful in various ethical situations. Thus, Natural Law expounds a philosophy that inspires the creation of laws which are deontological and absolutist in societies and organisations that follow it, meaning that in a sense Natural Law may well be considered useful in giving precise answers in ethical situations. In these cases, the secondary precepts that are developed by individuals or societies will depend on the context and situation in which they are developed, meaning that in a sense the situationism of Natural Law theories in general does mean precise answers can be given to difficult ethical dilemmas.

Scientists of the modern era have argued that the world is not founded on a rational system of law, as Natural Law implies. Darwin's theory of evolution asserts that the only true 'natural law' is that of natural selection, the battle to survive against various threats in the natural world. If the Catholic Church's interpretation of natural law was enforced worldwide then there would likely be a mass scale AIDS epidemic in Africa as well as severe overpopulation due to the Church's stance against contraception, seeing as contraception goes against the natural human instinct to reproduce. Clearly then, if Natural Law is realistically going to give precise and accurate answers for societies and peoples to follow it needs to take into account the fact that what is 'natural' is constantly changing. Thus, because of Natural Law's basis on the idea that the world functions on a fundamental, everlasting set of laws, Natural Law is unable to give precise answers in difficult ethical situations because of the lack of consideration the theory has for the dynamism of nature.

Chapter Five

A geological analysis summary of selected volcanic eruptions

A level Geology – Hannah Smith

Etna (Stratovolcano, Recent activity is Strombolian)

Significance: Mount Etna is the largest active volcano in Europe; it is also the volcano with the longest record of continuous eruption. **Where:** The city of Catania on the east coast of Sicily, Italy.

When: The last eruption was March 16th 2017, it was captured on the News/video (a member of the BBC news television crew was injured) **What:** The eruption sent magma and lava into a valley triggering a violent explosion injuring ten people. The eruptions often produce slow-moving pyroclastic flows at low altitudes, which threaten agriculture, public services and transportation in the densely populated towns surrounding the mountain.

How and Why: The eruption produced a lava fountain over the summit of the volcano, this is caused by gas-rich magma reaching the surface and erupting explosively. The explosive eruption threw lava bombs hundreds of meters from the vent but ash and dust did not disrupt any transport.



Fig. 2

Eyjafjallajökull (Stratovolcano, Peléan)

Significance: In 2010 it released a massive ash cloud that accompanied by the high wind was carried to Europe resulting in planes grounding across the continent. **Where:** Southern Iceland **When:** Last eruption March-June 2010 (captured by video/media)

What: The eruption was in the top crater in the centre of the glacier causing meltwater floods and requiring 800 people to be evacuated (this eruption was explosive) Then the second eruption threw volcanic ash several kilometres up in the atmosphere, which led to air travel disruption in northwest Europe from 15 April to 21 April 2010, next in May 2010. The eruptions also created electrical storms. The volcano continued to have multiple earthquakes daily even after being declared to have stopped erupting.

How and Why: On 26/02/10 abnormal seismic activity and rapid expansion of the Earth's crust were registered by the Meteorological Institute of Iceland, evidence that magma was pouring from underneath the crust into the magma chamber of Eyjafjallajökull the process created pressure which caused a huge crustal displacement. In March 2010, almost 3,000 small earthquakes were detected near the volcano.



Fig. 3

Krakatoa (Caldera, Plinian)



Significance: In modern history it is considered the explosion that created the loudest sound ever heard, with reports of it being heard up to 3,000 miles from its starting point. **Where:** Between the islands of Java and Sumatra in Indonesia. **When:** 1883, it is recorded in books such as Krakatau 1883: The volcanic eruption and its effects by T. Simkin and R. Fiske as well as it being illustrated in lithographs. **What:** The eruption created volcanic ash, pyroclastic flows and tsunamis. A region in Java was so greatly affected it was never repopulated and became the jungle of Ujung Kulon National Park. The official death toll was 36,417. It collapsed into a caldera and the additional after-effects were felt around the world (e.g. seismic activity).

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Fig. 5

caused by subduction of the Indo-Australian tectonic plate as it moves towards mainland Asia. Before the eruption there was frequent seismic activity, eruptions of ash and explosions which stopped for a period of time and then started again (the main explosions) it has been attributed to new vents that had formed.

Lake Nyos:



Fig. 6 dioxide gas. This suffocated people and livestock within 25km of the lake, making the death toll 1,746 people and 3,500 livestock. **How and Why:** It is unknown why the eruption/release of Carbon dioxide occurred, suggestions include a landslide, a small eruption on the bed of the Lake or a small earthquake. All that is known is that the eruption resulted in the supersaturated deep water mixing with the upper layers of the lake, where the reduction in pressure allowed the stored carbon dioxide to effervesce out of solution.

Significance: The Lake Nyos disaster(eruption) led to the release of approximately 100,000 to 300,000 tons of carbon dioxide. **Where:** Northwest Cameroon **When:** 21st August 1986 (therefore was captured in photographs etc) **What:** The carbon dioxide cloud rose at around 62mph, it flowed down the 2 valleys and filled the air with carbon

Mauna Loa (shield volcano)

Significance: It is one of the 5 volcanoes that form the island of Hawaii, it is the largest in both mass and volume. It is considered the largest active volcano on Earth. **Where:** South Kona, Hawaii

When: March-April 1984 **What:** Mauna Loa caused damage largely in three

ways; lava flows, earthquakes and air pollution. The lava flows in 1984 only caused damage to 16 miles of land owned by the state, In 1973 Mauna Loa interacted with its sister volcano Kilauea and caused a major earthquake resulting in a \$7million financial loss (but no lives lost) Mauna Loa creates volcanic smog which forms when volcanic gases e.g. Sulphur dioxide reacts with the moisture and oxygen in the atmosphere. This smog causes respiratory issues, kill crops, reduces transport visibility and results in acid rain. **How and Why:** Mauna Loa erupted following a 3 year period of gradually increasing earthquake activity beneath the volcano that included a series of earthquakes between 5 km-13 km deep in mid-September 1983.



Fig.7

Current QEGS research

A number of current A-level students are working towards their **Extended Project Qualification**, a Level 3 qualification that provides an opportunity for students to extend their abilities beyond the A-level syllabus and prepare for university or their future career. The EPQ requires students to carry out research on a topic that they have chosen and is not covered by their other qualifications. They then use this research to produce a written report and, in the case of practical projects, an artefact or a production. EPQs currently being undertaken include the following:

How is domestic abuse presented in film and TV drama in Britain and America? – A documentary

- **Emily Jackson**

The topic I wanted to cover and research for my Extended Project Qualification (EPQ) is the topic of domestic abuse. When thinking about the topic, I thought I knew most of what it is about however, after further research it is apparent that we are all aware of domestic abuse but, not aware enough. We hardly see any adverts or even any influential figures like MPs or world leaders address the issue. In this country alone, it is estimated that domestic violence costs the UK £23 billion a year and with so much money been spent on the issue, it is rarely ever mentioned. I began watching a television programme earlier this year which highlights the issue as one of the main themes of the storyline. I have watched films and programmes where domestic violence has been addressed slightly and with television and films been some of the most watched mediums of the twenty first century, spreading awareness via these platforms seems like the best way to do so. Consequently, I would really like to find out how domestic abuse is presented in television and film along with whether or not the audience are becoming more aware of domestic violence issues.

To what extent could the Zika virus as a treatment increase the current survival rate for glioblastoma brain cancer?

- **Karan Gupta**

My EPQ was inspired by a recent news article on a trial showing how the Zika virus was used to effectively treat the most aggressive form of brain cancer. I was shocked on reading this because it was only recently when the connection between Zika and birth defects related to brain development became apparent. This mouse trial was successful due to the fact that this brain cancer resembles

the stem cells killed by Zika in the brain of developing fetuses. If Zika is able to significantly increase the current 5% survival rate for this type of brain cancer in humans then its perception in today's world could radically alter and hundreds of thousands of people worldwide could benefit. My project therefore will be a written report focusing on the extent to which the current 5% survival rate could increase if a treatment using the Zika virus was developed and its significance.

To what extent is supercooling the most significant cause for the Mpemba effect?

- **Vaibhav Mahajan**

I am doing a research project where I try to determine the main cause for the Mpemba Effect. The Mpemba Effect is a natural phenomenon where hot water appears to freeze faster than cold water. I discovered this while on Facebook, surprisingly enough, and it intrigued me because it goes against normal scientific intuition. The effect has been observed since the times of Aristotle but even now scientists are still unsure as to why the effect occurs. For my research I have designed my own experiments and created cooling curves of water from the data. I then analyse my own results and other academic papers and use differential equations to model the changes in temperature of water. From this I can consider the importance of supercooling, evaporation, frost, dissolved solutes and gases and whether they are significant in causing the effect.

Picture references:

Fig 1: ‘Family of Emperor Alexander II of Russia’, attributed to Serbey Lvovcvh Levitsky , sourced from https://commons.wikimedia.org/wiki/File:Family_of_Emperor_Alexander_II_of_Russia.jpg and licensed for use in the public domain.

Fig 2: Italy volcano map, adapted from en:Image:It-map.png and sourced from https://commons.wikimedia.org/wiki/File:Italy_volcano_map.png and licensed for use in the public domain.

Fig 3: ‘Eyjafjallajökull ash’ from http://www.metoffice.gov.uk/aviation/vaac/data/VAG_1271331761.png sourced from https://commons.wikimedia.org/wiki/File:Eyjafjallaj%C3%B6kull_ash.svg

Fig 4: 1888 Lithograph of the eruption of Krakatoa, attributed to Parker & Coward, sourced from https://commons.wikimedia.org/wiki/File:Krakatoa_eruption_lithograph.jpg and licensed for use in the public domain.

Fig 5 -7: map screenshots courtesy of Google Maps under guidelines from <http://www.google.com/permissions/geoguidelines.html>

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