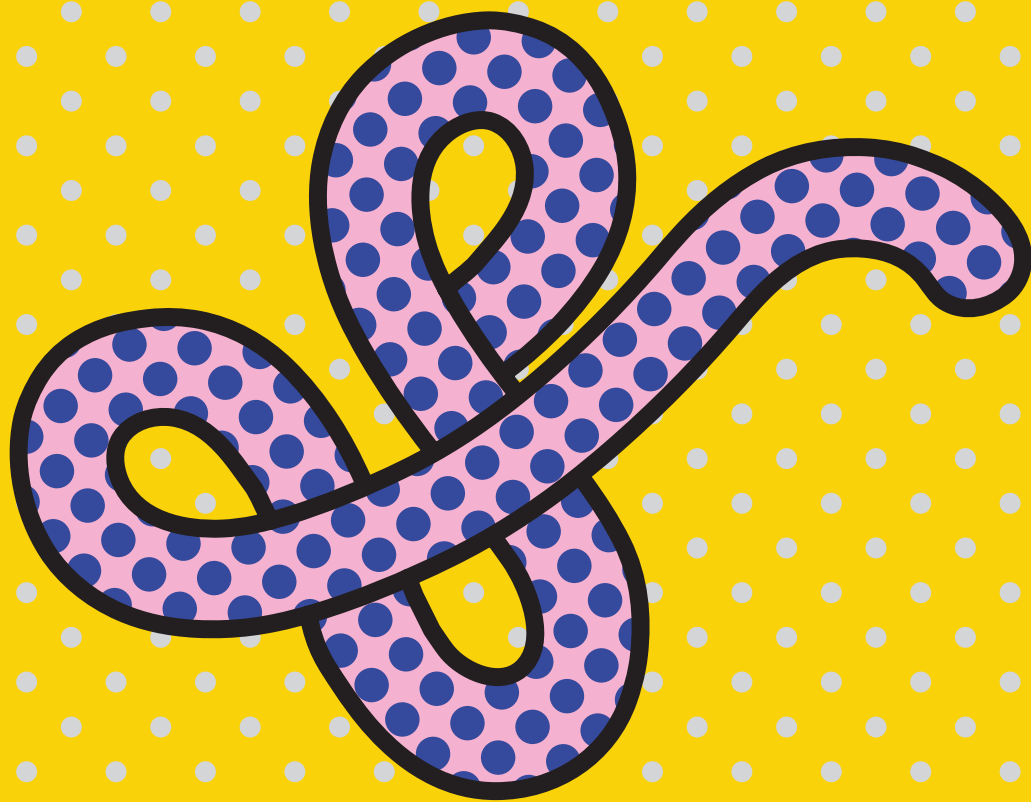


# The Scholar

**EBOLA:  
THE NEXT  
INTERNATIONAL  
PANDEMIC?**

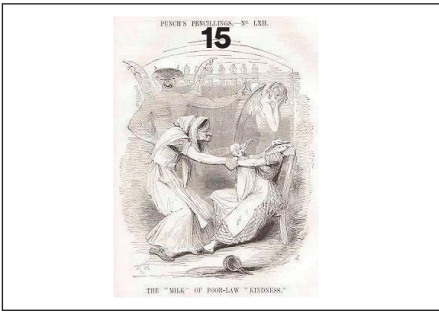
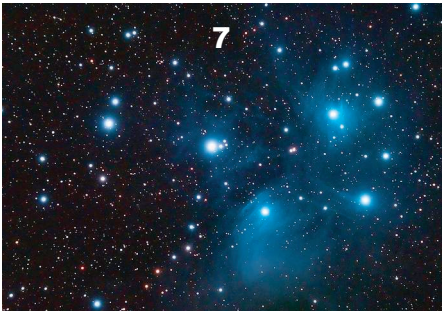


**18 NEW ACADEMIC  
ESSAYS FROM THE YOUNG  
SCHOLARS AT THE  
BRILLIANT CLUB**

Vol. 1 No.2  
April 2015  
[thebrilliantclub.org](http://thebrilliantclub.org)

  
The **Brilliant** Club

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# Editorial WELCOME TO THE SCHOLAR

**B**efore writing this, I was reflecting on how often we can neglect the importance of things that arrive second. After all, if I asked you who won the men's 100m sprint at the 2012 Olympics, you would probably have no trouble remembering Usain Bolt's emphatic victory. But what if I asked you who won the silver?

You rarely hear people rave about the second folio of Shakespeare, or having held the second edition of *Pride and Prejudice*. And while a lot of people can probably tell you that Buzz Aldrin was the second man on the moon, can anyone remember the crew of the second Apollo mission to reach the lunar surface? Second placers are, it seems, destined for less fame, to be seen as less momentous and important than the event, or person, or idea that came just before them.

Which is all to say that you could be forgiven for thinking that, with the first edition of *The Scholar* published a few months ago to great acclaim, the second edition wouldn't stand a chance of making us as excited. Not the case! Because while it was fantastic to think we were getting the incredible work produced by our young scholars out to a wider audience, the idea that we could keep on doing that again, and again, and again is even more thrilling. To us, the release of this second edition signifies that publication and celebration of our scholars' incredible work has become an integral part of what we do, and something that will continue to develop and grow. So, sorry first place, this time second's got it in the bag.

In this issue, you'll find a range of articles from our scholars from Year 5 to Year 12, who between them represent schools from across the UK. For the younger year groups, our PhD tutor work with their tutees on a range of courses designed by The Brilliant Club alongside primary teaching specialists, so you will notice there are multiple articles answering the same question. This doubling up is deliberate - partly to allow us to publish as many outstanding pieces of work as possible, but also in the hope that, by setting them side by side, our readers can appreciate the breadth of different approaches taken and the depth of creativity that this requires. The articles in this edition range from the history of Pythagoras' Theorem, through questions about whether Ebola represents the next international pandemic, to literary criticism of modernist poetry, the Placebo Effect and the definition of terrorism. We hope that you will enjoy reading them as much as we did.

Before you dive in, though, there is one small request I'd like to make. The work in these pages is, bar a bit of typographical correction, the original work of school pupils as young as 10 years old - we think it is an impressive testament to their academic achievements, and to the hard work of the teachers and PhD tutors who have supported them. If you agree, then we'd like you to do something about it: tweet about it, mention it on your blog, print it off and leave a copy in the staff room, write a haiku, anything at all to get the word out there and get these young scholars the readership they clearly deserve.

Here's to second place - happy reading.



Dr Tom Wilks  
Editor



Martha McPherson  
Editor



# Introduction

## WHAT IS THE BRILLIANT CLUB?

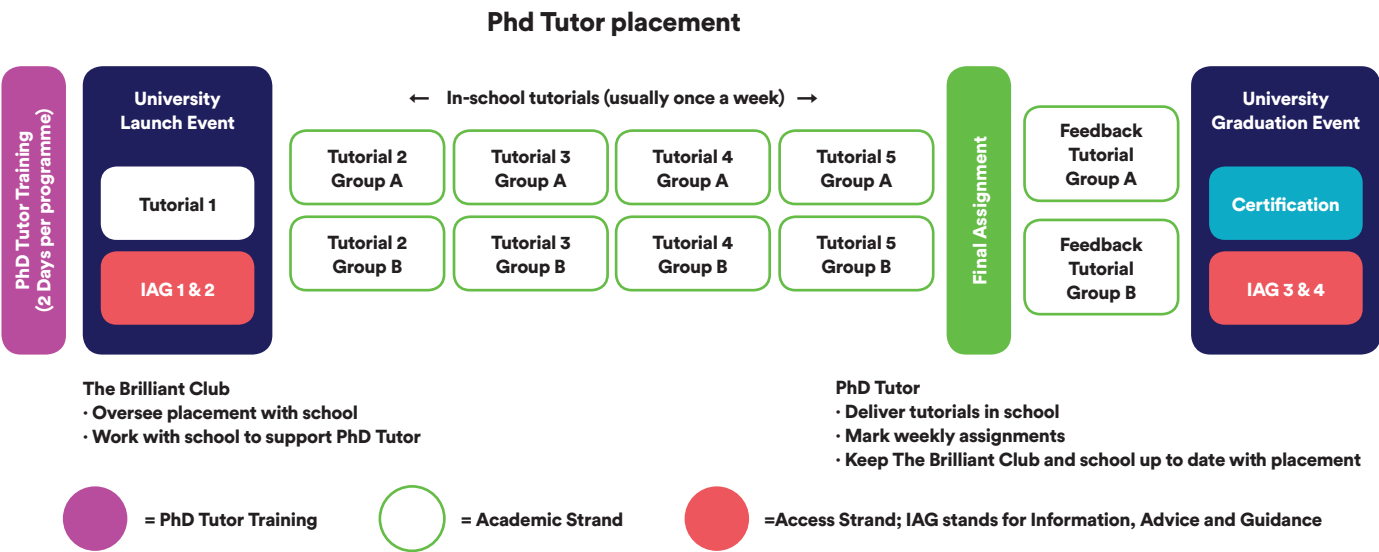
The Brilliant Club is an award winning charity that exists to widen access to top universities for pupils from non-selective state schools. We aim to do this by recruiting, training and placing doctoral and postdoctoral researchers in non-selective state schools and sixth form colleges to deliver programmes of university-style tutorials to small groups of pupils. Through our programmes, pupils develop the knowledge, skills and ambition that help them to secure places at top universities.

The Brilliant Club is building a national movement to mobilise doctoral and postdoctoral researchers to engage with schools serving low HE participation communities. We are currently working with over 200 schools and colleges across the country, placing over 250 PhD tutors to work with more than 5,000 pupils. Our PhD tutors are placed in schools to deliver the Scholars Programme to pupils from Year 5 through to Year 12. As the diagram below shows, the programme consists of a series of tutorials, trips and assignments.

The programme represents an authentic university-style challenge for the young people that we work with. Key Stage 2 and 3 pupils are asked to produce 1000- and 1,500-word assignment respectively, which is often the longest piece of work that they have tackled so far in their time at school.

By the time pupils reach Key Stage 5, they are asked to complete a 2,500-word assignment, which is at the same level as a piece of university coursework. Pupils receive marks at the key stage above their current level, and are marked in the style of university grades, gaining a 1st, 2:1, 2:2 or 3rd. We are delighted to be able to showcase our pupils' work and celebrate their achievements in an academic manner and we feel that a journal of academic articles by young scholars is not only the ideal format, but also a natural fit given the charity's work. Publishing original work is an important part of academia and it is enthusing for us to introduce our pupils not only to the world of research but also to the next stages of circulation and response from the academic community.

In creating The Scholar, we have brought together what we feel are the most exciting and compelling of the hundreds of assignments submitted as part of the 2014 Scholars Programme. We hope that all pupils who completed the programme are proud of their achievements but, given the number and quality of assignments submitted, we think that the pupils whose work is included here can be especially pleased. As well as highlighting the achievements of pupils, we would also like say thank you to the PhD tutors, teachers and parents who supported them throughout the programme.



# News

## OUR UPDATES

### The latest

Every year The Brilliant Club has its largest-ever year in terms of provision of the Scholars Programme to schools. This term was no exception and the national team lead 35 launch trips in ten days, from Durham to Brighton. We launched over 2,000 pupils on to the Spring 2015 Scholars Programme, and are hearing exciting news from the classroom about what they have been working on with their PhD tutors. We were delighted to begin working with Durham University over the past two terms, and over 200 pupils attended our largest ever trip in the North-East region to begin their programmes in February. The charity is now running programmes in the South West, East of England and North-East, and will shortly be piloting in the North-West.

### The Brilliant Club Summer Conference Hold the date!

We will be hosting The Brilliant Club annual conference, Wednesday 8th July 2015. It's our second-ever summer conference, and builds on the great success of the inaugural conference. This year, we are once again kindly hosted by King's College, London on their Strand Campus. The theme for the conference is 'Where can we find solutions to break the link between household income and admission to the UK's highly selective universities?'. We'll be looking at: the UK education sector; university and school practice internationally; as well as at industries beyond education to see if there are any lessons we could learn from them. Please check [www.thebrilliantclub.org](http://www.thebrilliantclub.org) for more information, and booking will open over the next few weeks.

### ThinkUni - Our new programme for parents and carers

As part of our mission to widen access to highly selective universities for pupils from non-selective state schools, we have been developing a programme which is aimed specifically at engaging parents and carers. Engaging parents in the Scholars Programme is something that several schools have shown an interest in, and we are excited to be able to explore this new area. We have been working on a programme called ThinkUni, which is made up of activities involving parents and is designed to sit alongside the Scholars Programme. ThinkUni is currently piloting in a small group of Midlands schools - watch this space for more news.



# Guest Article

## ANIMAL SACRIFICE IN THE CLASSROOM

Stuart McKie, PhD Tutor, Oasis Academy, South Bank

STUART MCKIE, ONE OF OUR PHD TUTORS, HAS PLACEMENTS AT OASIS ACADEMY, SOUTH BANK. HE USES HIS OWN RESEARCH TO TUTOR PUPILS IN ROMAN HISTORY, AND REFLECTS HERE ON HIS IMMERSIVE APPROACH...

I got some strange looks on the tube. Londoners pride themselves on “having seen it all”, but judging by a few reactions I think I might be the first person to ride the Bakerloo line carrying a Roman altar, toga and sacrificial toy lamb. I’ve just about got used to it now though- I’ve now taught my Brilliant Club course on Roman religion three times, and I’m getting surprisingly good at explaining why I’m bringing such strange things into school classrooms across London and the South East.



Of course the best way to explain what I’m doing is to actually see it. That’s the whole point of my lesson, seeing is often a better way to explain something than reading or talking about it. I think this is especially true of topics so far removed from our own daily lives that it’s almost impossible to get a handle on it just from reading a few paragraphs of text. In this case, the topic is Roman animal sacrifice, a central ritual to official religion throughout the thousand years of ancient Roman cultural history. Offering animals to the gods was such a normal and unremarkable feature of life at the time that hardly anyone thought to write about it; we only have one full account of a Roman sacrifice, and even that only exists because it was written by a Greek tourist for folks back home.

It’s the perfect text to show us in the modern world what happened, but reading it isn’t enough in my opinion. Reading Dionysius of Halicarnassus makes it feel like a story, whereas acting out the sacrifice makes it immediate, makes it real. After a procession, the students stand at the front of the classroom, bless the victim (a cuddly toy sheep) with water, incense and barley before ‘killing’ and ‘butchering’ it.

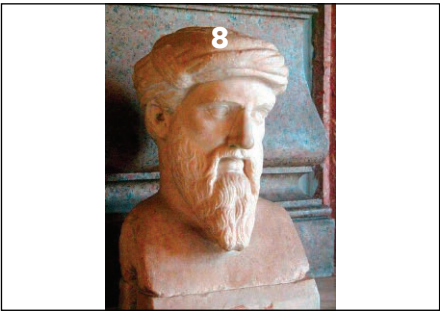
One student inspects the lamb’s organs for signs from the gods – if the omens are bad they have to do it again until the gods are pleased – and then we ‘cook’ the meat on the altar and have a feast. All in all it only takes 10 minutes or so, but the experience sticks in the mind. The students get a real sense of what it would be like, not only to participate in the ritual, but also to be a spectator. Having the students take on the roles of high priest, haruspex, and slave attendants also gets across the class divisions in the ritual. Roman society was fundamentally divided between upper and lower classes, and nowhere is that starker than in sacrifices, where the rich and powerful got the glory for paying for and presiding over the ritual, but the slaves did the dirty work of actually killing and butchering the animal.

We cover other Roman rituals and festivals in the course, including a festival of the dead, healing votives, curse tablets and the cult of Isis. There isn’t time to act out all of these unfortunately, but recreating the sacrifice in the first in-school tutorial plunges the students into the Roman world from the start, and provides a reference point for later. There is a performative element to all of these rituals and festivals, and having actually acted out something makes that easier to understand. In my opinion you can’t just read history, especially social history, which isn’t bothered about dates, battles or the actions of “dead white men.”

Through my course I try to teach the students about the whole of Roman society – the women, the poor, the slaves, and the immigrants as well as the aristocratic men who wrote all our literary sources. To do this we use a wide range of evidence, from texts to coins, sculptures, inscriptions and small archaeological finds, all centred around the different reasons why the Romans communicated with their gods, and the different ways they did so. Sometimes these were strange, even to other Romans, like the shaven-headed priests of the Egyptian goddess Isis, who would have been conspicuous on the streets of Rome. That’s a great selling point for the course, not only for the students who are learning something totally new, but also for the people on the Bakerloo line sitting near a PhD Tutor with a full toga!

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## STEM Articles



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Pythagoras’ Theorem is a very useful theorem about measuring right angled triangles. But who came up with it first?

*M. Hopkins, supervised by F. Silvertown*

### 11 EBOLA: THE NEXT INTERNATIONAL PANDEMIC?

The Ebola virus is very deadly and has seen recent outbreaks in several West African countries. But is it the next pandemic?

*A. Thapa, supervised by N. Pompa*

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How can you model real life scenarios using computational mathematics?

*R. Shany, supervised by D. Portelli*

### 9 WHO FIRST PROVED PYTHAGORAS’ THEOREM? THROUGH THE EYES OF A TEN YEAR OLD

Proofs exist that earlier civilizations already had knowledge of the same theory, so although the theory is named after Pythagoras, was he the first to discover it?

*J. Smith, supervised by E. Dry*

### 13 EBOLA: THE NEXT INTERNATIONAL PANDEMIC?

We have seen how Ebola can spread from country to country. This essay explores how we can tell whether Ebola is the next international pandemic.

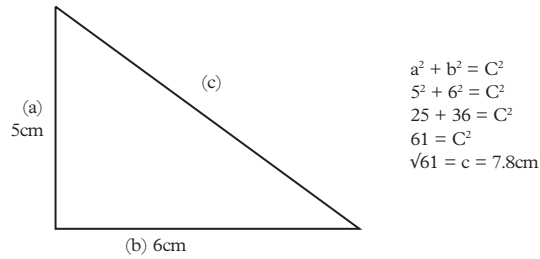
*J. Jadeja, supervised by F. Kenny*



# WHO FIRST PROVED PYTHAGORAS’ THEOREM?

M. Hopkins, supervised by F. Silverton

Pythagoras’ Theorem is a theorem about right angled triangles. It is used to find out the hypotenuse or missing leg length. To achieve the missing length you have to square the two known lengths, add the answers and then square root that to get the answer of the hypotenuse<sup>(1)</sup>. Here is an example:



Pythagoras was born on a Greek Island called Samos. He travelled a lot, eventually settling in a city called Croton in Magna Graecia<sup>(2) (3)</sup>. Pythagoras spent a lot of his life studying mathematics, and was also a philosopher. He also founded the religious movement Pythagoreanism<sup>(4)</sup>. He lived from 570 to 495 BC. He was 75 years old when he died. Pythagoras did not eat meat or beans because he believed they had souls.

Pythagoras and his followers, who were called the Pythagoreans, believed in a system of esoteric and metaphysical beliefs. The Pythagoreans were considerably influenced by mathematics, music and astronomy<sup>(11)</sup>. His followers undertook religious rites and learnt philosophical ideas developed by Pythagoras. Pythagoras had to leave Croton after his followers became political which led to their downfall and resulted in Pythagorean buildings being demolished.

Ancient Mesopotamians were using the same theory as Pythagoras to calculate the lengths of a hypotenuse over a thousand years before Pythagoras developed his theorem. The Mesopotamians were considered to be very sophisticated Mathematicians of their time. They used a mathematical theorem by carving into a clay tablet which today is known as the Plimpton Tablet (figure 1).

Mesopotamia could be found between the two rivers of Tigris and Euphrates. The people of Mesopotamia were alive from 625 BC, also they were called ‘the Babylonians’. They were intelligent and inventive, and had made significant developments in science and mathematics<sup>(10)</sup>. Mesopotamia was made up of many different regions. Here are two: North Mesopotamia, made up from of lots hills and plains, their grass is fertile due to seasonal rains. South Mesopotamia had a wide range of marshy areas but it was also quite barren<sup>(6)</sup>.

## PROOFS OF PYTHAGORAS’ THEOREM

The ancient Chinese proved Pythagoras’ Theorem to some extent, by using a square that was turned slightly with one square in the middle. Here is a diagram showing how they proved this form of Pythagoras’ theorem.<sup>(7)</sup>

This Chinese proof, however, is not a proper proof of Pythagoras’ Theorem as the theorem is only proved it for 3, 4, 5 triangles.

勾股容合以成弦圖

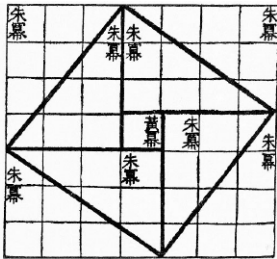


Figure 1.

The ancient Indians had a different way of showing a proof of Pythagoras’ theorem. Their way of showing Pythagoras’ theorem used diagrams of triangles. However, the Indians’ proof of Pythagoras’ Theorem is not a proper proof of it as they had only proved it for isosceles triangles.

The Greeks wrote down the rules of geometry that verified observations of ancient mathematicians which also included Pythagoras’ theorem.<sup>(9)</sup>

I think the Mesopotamians first proved ‘Pythagoras’ Theorem’ as they had a clay tablet, (called Plimpton), that had been carved writing in before it was baked. Over all there was four columns. My argument for this is that the Mesopotamians were alive from 625 BC and they had used Pythagoras Theorem over 1000 years before Pythagoras’ had found out about it.

## About the authors

M. Hopkins is a YR 6 pupil at Burnt Oak Junior School. Dr Francesca Silverton is an Epidemiologist, with a PhD in Statistics and Epidemiology. Her research is on the quality of life of the elderly in the UK.

## PhD Tutor’s note

I nominated this essay by M. for The Scholar as it is an excellent example of what primary school pupils can achieve. The essay covers course material, and also includes independent research. During the 6 weeks I taught the course, M. quietly persevered when she found the work challenging and displayed a level of personal resilience and maturity beyond her years. Both these skills are needed for any successful university education.

This course introduced primary school children to using Pythagoras’ theorem, and also introduced the history of the theorem to the students. We studied archaeological evidence of mathematics, and a range of different proofs of the theorem, from ancient Mesopotamia to China and India.

The children at this school all enjoyed the course and took on the challenges of a demanding course well. They were asked to use new mathematical skills, including the idea of a proof, and also to consider the historical background of mathematics. In addition, the children were introduced to accurate referencing, and structured essay writing.

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- 4 - <http://answers.com>
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- 10 - <http://mesopotamia.co.uk>

# WHO FIRST PROVED PYTHAGORAS’ THEOREM?PYTHAGORAS’ THEOREM THROUGH THE EYES OF A TEN YEAR OLD

J. Smith, supervised by E. Dry

Pythagoras of Samos (C.569 BC – 475 BC) was a philosopher and mathematician.<sup>1</sup> In about 530 BC Pythagoras moved to southern Italy and opened a school for his followers to study, amongst other things, mathematics.<sup>2</sup>

Pythagoras is most famous for his Pythagorean Theorem which states that “the sum of the squares of the sides of a right angled triangle are equal to the square of the hypotenuse”; giving us the equation  $A^2+B^2=C^2$ .<sup>3</sup>

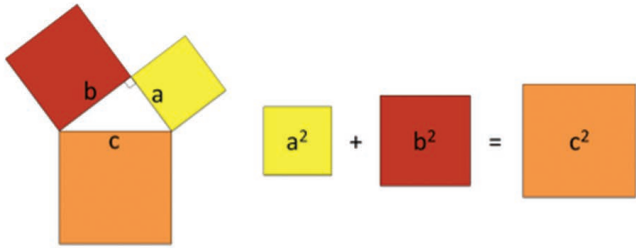


Figure 1 Pythagoras’ Theorem: for a right angled triangle (left) of sides a, b and c, the theorem states that  $a^2+b^2=c^2$ .<sup>3</sup>

Due to Pythagoras’ and his followers’ secrecy, no written evidence of his theories survived, which were only recorded by later Pythagoreans. We are not sure when Pythagoras made his proof; or whether it was even Pythagoras himself.<sup>1</sup>

Proofs exist that earlier civilisations already had knowledge of the same theory, so although the theory is named after Pythagoras, was he the first to discover it?

## BABYLONIAN PROOF

Back in 1800 BC around the Tigris and Euphrates rivers, which are in modern day Iraq, lived the ancient civilization of Babylonia. The Babylonians had a wide range of knowledge in mathematics, which they used for solving problems like time. They divided the day into 24 hours, each hour into 60 minutes, and each minute into 60 seconds. The Babylonians’ main examples of Pythagorean Theorem are four clay tablets dating back to around 1800 BC. Two of the most important tablets were the Plimpton 322, which lists Pythagorean triples (Figure 2), and the Yale tablet, which shows a square with dissecting diagonals and a calculation for the square root of two ( $\sqrt{2}=1.414$ ) which is used in Pythagoras’ Theorem for finding the length of the hypotenuse of an isosceles triangle (Figure 3 and Figure 4)<sup>4</sup>. This means they definitely had the same understanding for right angled triangles.



Figure 2 Plimpton 322, Babylonian tablet listing Pythagorean triples.



Figure 3 A black and white rendition of Bill Casselman’s photograph of the Yale Babylonian Collection’s Tablet YBC 7289 (c. 1800–1600 BCE), showing a Babylonian approximation to the square root of 2 (central line of numbers) in the context of Pythagoras’ Theorem for an isosceles triangle.<sup>4,5,6</sup>

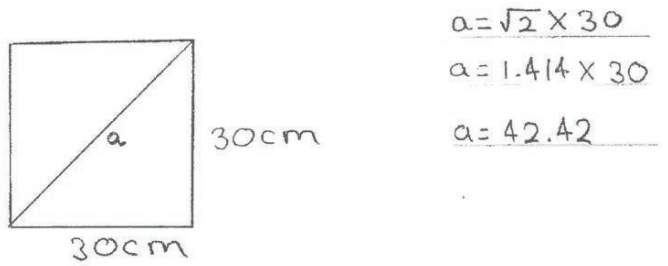


Figure 4 The Yale tablet also gives an example where one side of the square is 30, and the resulting diagonal is 42 25 35 or 42.42...<sup>4</sup>

## CHINESE PROOF

Zhou Bi Suan Jing, which is one of the oldest books in astronomy, and although it was written between 100 BC and 100 AD it holds a conversation between Duke Zhou and Shang-Gao who happen to date back to 1100 BC.



Their conversation relates to right angled triangles, and if the two smaller side of a right angled triangle are 3 and 4 then the hypotenuse would be 5, and as a result is a Pythagorean triple.<sup>7</sup> The book *Jiuzhang suanshu*, or the nine chapters of mathematical art, which was commented on by Liu Hui in 263 AD,<sup>8</sup> is believed to have information dating back to 1000 BC. The book lists 24 problems all based on right angled triangles, half of these are solved by using Pythagoras’ Theorem which the Chinese call GouGu rule (the names Gou and Gu refer to the two shorter sides of a triangle), suggesting Chinese knowledge of Pythagorean Theorem.<sup>9</sup>

INDIAN PROOF

Around 1500 BC the Verdic people from modern day Iran migrated into India. Their name derives from their religious writings known as the Vedas in which religious ceremonies and sacrifices were explained.

The sulbasutras were additions to the Vedas and give instructions for creating alters. Two of the most important are the Baudayana (written c.800BC) and the Katyayana (written c.200BC). These relate to Pythagoras’ Theorem, the Baudhayana saying “the rope which is stretched across the diagonal of a square produces an area double the size of the original square”. However the Katyayana gives more detail by saying “The rope which is stretched along the length of the diagonal of a rectangle produces an area which the vertical and horizontal sides make together”.<sup>10</sup> This sounds a lot like Pythagoras’ Theorem.

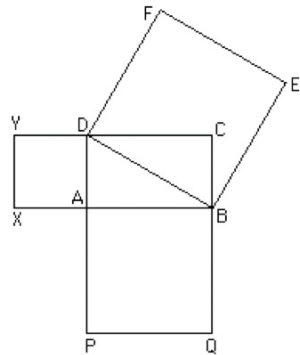


Figure 5 The Katyayana form of Pythagoras’ Theorem. Image reproduced directly from source with permission<sup>10</sup>

CONCLUSION

Although Pythagoras was arguably the first to prove the theorem, I believe that India, China and the Babylonians all seemed to know of the relationship between right angled triangles and the length of their sides. With both China and Babylonia having knowledge of Pythagorean triples, which are right angled triangles where the lengths of their sides are all integers (Figure 6).<sup>2</sup>

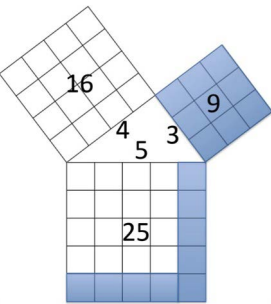


Figure 6 The smallest Pythagorean triple; 3<sup>2</sup> + 4<sup>2</sup> = 5<sup>2</sup>.

I believe I can rule out India, because the Verdic people migrated from Mesopotamia, so possibly knew about the Babylonian proof. China and Babylonia were both independent at coming up with the theory, but Babylonian proofs predate any known Chinese proof, therefore I believe the Babylonians first proved Pythagoras’ Theorem!

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About the authors

J. Smith is a year 6 pupil at Corringham Primary School in Essex. Dr Emily F. V. Dry completed her PhD at the University of Cambridge in Supramolecular Chemistry in 2014.

PhD Tutor’s note

Emily taught a course designed by Mairi Walker looking into the history of mathematics, and whether Pythagoras was really the source of the famous theorem named after him. The course involved teaching the year 6 pupils basic algebra and Pythagoras’ Theorem itself, which is not normally covered until secondary school. Original sources from ancient civilisations other than the Greeks were then examined, to evaluate whether earlier civilisations could claim to have a mathematical proof of the theorem. The final assignment included an essay in which the pupils were expected to choose a civilisation they believed were the first to prove the theorem, and support their conclusion with historical and mathematical evidence. This article was selected for publication in The Scholar because it was an exceptional essay for a pupil at his key stage. A clear argument based on logical evidence was presented and communicated in a very concise and well-structured way, which included analysis of a wide variety of sources for four ancient civilisations.



EBOLA: THE NEXT INTERNATIONAL PANDEMIC?

A. Thapa, supervised by N. Pompa

The Ebola virus is a lethal disease that first came to light between 1<sup>st</sup> September and 24<sup>th</sup> October, 1976 when 318 reported cases occurred, concentrated in the Bumba Zone of the Equateur region. Cases of Ebola became more noteworthy due to a recent outbreak on March 2014 when several cases dispersed across West Africa; according to the reliable, top-level domain source: World Health Organization’s first release about the disease. <sup>[1,2]</sup> West Africa is mostly made up of Less Economically Developed Countries (LEDCs), not to mention that Africa is a less developed region - in an MEDC, could a disease like Ebola be prevented? Due to the reasons that the Ebola Virus Disease (EVD) has no licensed vaccine, and is capable of slowly turning our immune system against us, causing liver failure and other internal dilemmas <sup>[3]</sup> and other feared reasons; the question is: “Ebola: is it the next international pandemic?”

HOW EBOLA WORKS

EVD is and works in a similar way like many other viruses, the Ebola virus has its RNA “(Ribonucleic acid which converts the genetic information stored in DNA into proteins <sup>[4]</sup>)”, proteins and a hull. Ebola immediately attacks the dendritic cells; it does so by binding onto receptors for cell transport, once inside it dissolves the lipid membrane and releases its genetic material, nucleoproteins and enzymes. It commands the cell to reproduce the virus, Ebola, and then afterward dissolves the cell membrane and millions of viruses are released leaving the empty cell to die. Ebola also infects macrophages and monocytes and then manipulates them to signal to the blood vessels to release fluids, which consequently causes internal bleeding and any other related symptoms after the incubation period of 2-21 days. Ebola also dominates the liver cells quickly, resulting in liver and other organ failures.

Consequently, due to the desperation of the situation, the immune system launches the cytokine storm which causes the immune system to release all its weapons which does attack the virus, however, it also attacks the immune system, where blood vessels are damaged even more and serious hydration kicks in and the lack of blood therefore is unable to supply the organs with oxygen. Death at that point is most likely. <sup>[3]</sup> Source 4 in my Brilliant Club coursebook BBC Bitesize, is a well-known site with a maintained reputation for its education and also is a government funded site where articles are written by the experts in their field so there is no reason to doubt this source as it is written first hand and therefore is a primary source, while source 3 is a video and while it’s a video made by a random person it’s backed up by correct scientific facts, so on the topic as to trust this website is so-so.

HANDLING OF THE SITUATION

A disease like Ebola, which one can get by contact with bodily fluids of infected people and which the virus can only replicate with a host cell, presumably is easy to prevent. During the start of the panic many weren’t prepared for it, both people and hospitals. As a result, the disease got spread carelessly due to lack of awareness and hospital staff either got infected or sick because of overworking, as the hospitals were packed, and in unhygienic conditions (many hospitals are not funded) and co-ordination was missing. Or due to most of the countries being LEDCs most of the staff wouldn’t have been educated fully and therefore wouldn’t be prepared for controlling highly infectious diseases or a likely situation where they haven’t even heard of it. <sup>[1]</sup> On the other hand, in such places like the U.K or U.S.A the people have immediate access to a local hospital, with professionally- educated staff that could control the problem because they have the necessary space, medication, equipment and knowledge to at least keep it contained. The source was accessed on Saturday 18:24 and information for this paragraph is from the Ebola booklet given by The Brilliant Club to supervise me throughout the course of the programme, which is made solely for educational purposes so incorrect information in the book is highly unlikely.

If it’s not contained as a result many people who carry the virus can flee if there isn’t required security enforced. An example of this happened recently in Sierra Leone, while all the aid was going towards major cities and a rural areas, Kono a remote district bordering Guinea, was infected. “World Health Organization workers heard rumours of deaths and travelled there to find scenes out of a horror movie. At least 87 people had died and been hastily buried, often without the precautions needed to stop the corpses from infecting the living.” The problem here again is that the country is less developed, if educated on such topics this could have been avoided in Kono, if there was enough money funded to build a hospital near the area. “In this case, because people were so remote, by the time they got to the hospital it was five days out. They were dehydrated. It was too late.”<sup>[5]</sup> The source used here is NBC news, which is an American news agency and this specific article was written by Maggie Fox, who has her own website and blog. Also, NBC being a news agency means that the published pieces were written and accepted, meaning not any random piece can go on display and that the public can’t publish/edit without permission.

WHAT IS AND SHOULD BE DONE ABOUT THE DISEASE

So far many plans are being put into action to prevent/cure Ebola. For example; doctors are taking a blood sample of people who have survived from Ebola as they have developed antibodies to fight it. They remove the red blood cells from the sample, and keep the antibodies which create a serum, that can hopefully help other people to fight Ebola.<sup>[6]</sup> Healthcare workers are equipped with most of the equipment to take care of patients, with known knowledge warnings and rules being put into place etc. <sup>[7]</sup> The BBC and United States Centre’s for Disease Control and Prevention (CDC) sites were used to provide the information in this paragraph, which I think is both reliable as BBC is a news agency and CDC is a government funded website.

The sources used are mostly websites as Ebola is a recent subject and there is not much information to be found in textbooks/books. However, the websites used are reliable as many, such as the NBC news and BBC, are news agencies, and their job is to inform, not tell biased lies. While sources such as BBC Bitesize and CDC are government funded and have information that can’t be edited by the public and are more often or always written by professionals and have no reason to lie about the subject, if a non-factual/biased piece is written, whether it’s true or not, it is checked before it’s published, which makes it less likely for the material given to be fake. Then there’s the World Health Organisation (WHO), which again is not a website where the public can edit information, the WHO website, “provides leadership on global health matters, shaping the health research agenda, setting norms and standards, articulating evidence-based policy options, providing technical support to countries and monitoring and assessing health trends.”<sup>[2]</sup> If international, it has no side to side on/against, therefore only states pure information with no regards to anyone’s point of view so is therefore legitimate information. There is also the book provided by The Brilliant Club to guide us through the Scholars Programme, this source I believe is extremely reliable as the purpose of it was to educate and therefore has no reason to lie, and only includes trustworthy information. The last source and the one that is the least reliable is the YouTube video, which is a video made by a random person, however this channel has a reputation of animated science videos using the correct jargon, and facts. I come to conclude that most of the sources used are reliable due to various reasons and when considering which one is the most reliable, I think most of them fall into the category of trustworthy.

If Ebola struck Europe I think the reaction to it would have been extremely different. The first report of it would already grab many people’s attention and international aid and actions that would help prevent it would instantly be put into place. As many and most of the countries are MEDCs and with the money and support Ebola could be prevented quicker than the situation we’re facing in West Africa. I disagree with the fact that Ebola is the next international pandemic because I believe that the spread of Ebola can be prevented in a less developed region such as Africa. My reasons to believe that is because MEDCs can definitely handle such cases and though LEDCs have a disadvantage (money), international aid always helps. The reason for the spread so far is because the realisation that

this is a serious matter was a late hit to everyone, and so their reaction was slow as well, if immediate action was executed at the start currently the case would be less threatening. If the serum and healthcare workers were helping during the start, the disease would be more controlled. As Ebola is similar to other viruses, if the case occurred in a developed region with access to hospitals with space, fully educated staff etc. people wouldn’t have to fear it. One of the benefits of Ebola attacking a less developed region and why I disagree with the fact that Ebola is the next international pandemic is because the fear and tension surrounding Ebola is the media build-up. <sup>[3]</sup>

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About the authors

A.Thapa is a Year 8 pupil at Rivers Academy, West London. Nara Elizabeth Lara Pompa is a 3rd year PhD student at the Institute of Child Health, University College London, where her research focuses on the use of body composition measurements in the nutritional management of sick children admitted to a tertiary referral hospital.

PhD Tutor’s note

A.’s essay was particularly well written and showed some deep understanding of complex concepts related to viral replication and action, using Ebola as a good case study to reflect upon the effects that this disease has in developing countries in Africa. She also assessed the reliability of her sources and critically appraised the evidence found. This essay was clearly above the expected skills of her current year. The course, titled ‘Understanding viral infections: Is Ebola the next international pandemic?’, used the current deadly Ebola epidemic as a case study to reflect upon the devastating effects of viral outbreaks on countries and people’s health. Expanding from basic concepts such as viral replication, gene transcription and host-virus interactions, pupils reflected upon the challenges of tackling this disease in the context of developing countries and the ethical implications of vaccine testing.



EBOLA: THE NEXT INTERNATIONAL PANDEMIC?

J. Jadeja, supervised by F. Kenny

Ebola is a very deadly virus with a mortality rate of up to 90%, symptoms that often resemble malaria and a long incubation period (from 2 to 21 days). EVD (Ebola Virus Disease) can be caught from two different sources: from infected animals (chimpanzees, gorillas, fruit bats, monkeys, forest antelope and porcupines) to humans and from humans to humans by coming into direct contact with any bodily fluids like blood, saliva and sweat or indirect contact through environments polluted with these fluids. Unfortunately there is yet no vaccine for this virus. The best way to treat a patient infected by the virus is to boost their immune system at the first sign of symptoms and through oral rehydration with solutions containing electrolytes, or by injecting the fluids directly into a vein<sup>(1)</sup>.

The first cases of Ebola took place in 1976 in northern Zaire and, ever since, for the last 40 years, we have witnessed several more epidemics. The most recent one was announced in March this year by the WHO (World Health Organisation) and has so far spread mainly in the West of Africa (Guinea, Sierra Leone and Liberia) and ever since the epidemic has been the focus of the media on a daily basis. Why? Because this has been the worst epidemic ever seen, because this time around it has re-emerged in a very aggressive way, infecting and killing thousands of people in a very short period of time (more than any other past outbreak) and because fear and panic of contagion have quickly dominated the minds of the worldwide population <sup>(2)</sup>.

So is Ebola the next International Pandemic? To answer the question we should first look at some of the facts in regards to the area affected by the epidemic and the response by the international community such as the WHO. Reliable sources like *The Guardian* and *National Geographic* have begun to analyse and have a deeper understanding of why, at least at first, the virus epidemic has been seen as a real and clear threat for the entire world (the next pandemic).

- To begin with, we need to understand that the alarmingly wide spread is firstly and partly down to geography. This outbreak has affected some of the poorest countries in the world where the population could not be more vulnerable. They have endured many years of civil war and violence and they are attempting to rebuild their economies with very little money to spend on an already weak and inadequate public health structure, which often will lack in basic training and knowledge of infection control measures and equipment like gloves and masks <sup>(2)</sup>.
- Cultural beliefs in these areas have also not helped containing the contagion as, traditionally, in these parts of the world, a dead person is kept at home for several days and frequently touched before burial <sup>(3)</sup>.

- These countries are also affected by shocking corruption levels and, especially in Sierra Leone, the disease has revealed quickly the alarming mistrust between citizens and the government, so much so that much of the population in this area strongly believed at first that Ebola was a government conspiracy to cut the population <sup>(4)</sup>.
- Another point to consider is that in the past Ebola outbreaks have taken place in small villages and eventually the virus has died out. This time it has touched many populated cities increasing dramatically the number of people infected <sup>(4)</sup>.
- Finally, the response to the epidemic by the WHO has not been great and in fact this organisation has been under fire for the last few months as suggested by BBC news for example. The WHO never expected a virus like this to spread in West Africa and therefore it was not quick to react efficiently when the outbreak began because did not have anything ready in place. Many have suggested that the lack of response was due to some financial cutbacks that the organisation was facing. The bottom line is that it was only at the end of August, and therefore many months later, that the WHO declared Ebola a health emergency but by then the epidemic was already in full swing <sup>(5)</sup>.

When we look at the facts explained above it is no wonder that the world feared a pandemic.

Furthermore, given the ability we have today to travel freely and easily among countries and keeping in mind that incubation period is quite long, it is no wonder why the world has listened and watched closely and with concern the unfolding events around Ebola. At first there was also a lot of misinformation that contributed the belief that this was the next pandemic. And as suggested by the *The Times* newspaper, there is no more effective contagion than fear. For example, lots of us initially believed that this was an airborne virus. It is only several weeks after the first news was reported that the media began to explain a bit more about the virus, the symptoms to look for and the way of transmission. But until then we were left all to wonder and expect the worst because when we don’t know answers to our concerns, we are left in doubt and panic <sup>(4)</sup>. Elisabeth Bradley, Faculty Director at the Yale School of the Global Health Leadership Institute and a professor at the Yale School of Public Health, also agrees that the main thing we can do to help people deal with anxiety about this is to provide clear information. When there is something terrorising the world like this, constantly sharing accurate and trustworthy information about the risk helps with the fears <sup>(5)</sup>.

Since the WHO declared the virus a health emergency a lot has been done to stop and contain the outbreak in West Africa. The world has finally come together and provided



funds, medical equipment and volunteer health carers. However, the opinion about how much the world leaders have done to take care of this problem is still divided. For example, from *The Guardian*, dated back in August, we learn and feel more positive learning that President Barack Obama promises global efforts and the reassurance that the virus can effectively be contained with the right measures in place<sup>(6)</sup>. On the contrary, many are still pessimistic, as we learn, from the same newspaper, that Brice de la Vigne, the Operations Director of MSF (Medecins Sans Frontieres), feels that there is an urgency to take action and that so far world leaders have failed to do so<sup>(7)</sup>.

Since there is yet no vaccine, Obama has also talked about some experimental drug, especially after news reports that some health care workers had returned to their country and became infected after caring for a person who had Ebola. But as explained in the international weekly journal of science, *Nature*, there is a lot of controversy and debate around the use of a drug that has not been tested yet<sup>(8, 9)</sup>. The WHO thinks that the use of the drug is somehow ethical because of the number of people dying. Their Assistant Director General Marie-Paule Kieny, said that it is not the number of people affected that led the group to take this unusual position, but the fact that usual prevention and infection control measures are not working to contain the outbreak. Other experts, like physician Armand Stretcher of Medicines Sans Frontiers, argue whether patients with a fatal disease can make a well-informed decision about using unapproved treatments. Others are convinced that using experimental treatments during an outbreak might be the best way to determine whether they actually work. I personally think that the drugs should be used because if I, or any of my family, was the one affected I would try anything to survive a virus that is known to be so deadly.

Since a few cases have been reported around the world, every developed country in the world has taken measures to control another epidemic, for example by introducing screening in the airports. Many countries have invested huge amounts of money in training and preparing health workers for any eventuality. Many hospitals are practising quarantine drills to be able to identify possible patients and isolate them quickly. Most experts believe that in developed countries like ours we have no reason to fear an epidemic and some say there is apparently an equation that the security world uses to assess the risk of a disease:

Risk = Threat + Vulnerability + Consequences<sup>(10)</sup>.

In the case of Ebola, the developed countries have a level of threat almost equal to zero, as Ebola is isolated to West Africa, unless we have travelled to these countries recently. Our vulnerability is also close to zero as we can rely on a strong and robust public health system and advanced medicine. The conclusion is that consequences, such as contracting the virus, are also close to zero. So the answer to the big question: “is Ebola the next international pandemic”? is no.

Meanwhile, as recently confirmed in November by Dr Gershoni, the spread of the disease seems to be slowing down

in West Africa, as practices for handling the sick and rituals in tending to the dead are becoming more careful<sup>(11)</sup>. However for these countries, as they are less developed and advanced than ours, the threat is still present and internationally the community should definitely do more. For example, Elisabeth Bradley believes that the following should be some of the measures:

- Work on training and developing inexpensive systems to equip hospitals to be able to efficiently manage routine healthcare needs, as well as outbreaks like this.
- We also should think in a strategic way about where the investments should be made to ensure trust between caregivers and the community<sup>(12)</sup>.

Overall when we look back throughout history, humanity has been afflicted by diseases like this and we have fought them back. We developed penicillin and other antibiotics to treat bacteria like the ones though to be responsible for the Black Death<sup>(13)</sup>. However, the recent Ebola epidemic has reminded us that, although we are able to fight and treat diseases better than ever before, our cities are also bigger and populated more than ever before and that, with international travel becoming easier and easier, the risk involved in an outbreak grows really high. In less developed countries the spread of a virus like Ebola maybe cannot be totally prevented but certainly could be managed and controlled better with a prompt action by the international community. So although Ebola is certainly unlikely to become a pandemic, that does not mean that something else won't, and the risk of pandemic will always be with us.

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About the authors

JJadeja is a pupil at Hatch End High School. Fiona Kenny is studying for her PhD at Queen Mary, University of London, where her research focuses on how epidermal cells sense and respond to their mechanical environment. The course was entitled “Understanding Viral Infections: Is Ebola the next International Pandemic?” This involved discussion of viral epidemics and pandemics with a focus on the current Ebola epidemic.

PhD Tutor’s note

I nominated J.’s essay as it was an impressively researched and well written piece of work. He produced an essay that took the complex topic of viral epidemics and narrowed it down to carry out an in-depth analysis of whether Ebola will become the next international pandemic. Moreover, he discussed the reasons for the spread of this epidemic in West Africa and the ethics of giving untested drugs during an epidemic. These points were very well communicated and included his own opinion backed up with literature references from his independent research. Furthermore, his essay is well structured and addressed the question in a clear and concise manner. Throughout this essay J. demonstrated a high level of understanding of the challenging course material. Overall, it was an outstanding essay and very interesting for me to read. the course, and this piece of work serves to illustrate this hard work and effort.





# MAKING A DIFFERENCE USING COMPUTATIONAL MATHEMATICS

R. Shany, supervised by D. Portelli

CONTEXT OF THE PROBLEM

The ability to model real life scenarios is of interest in many engineering, safety and medical fields. This is in part due to industrial demand, but also advances in computer technology and research into numerical methods. The consequence of this is that more complex and wide ranging problems can be modelled.

An example of this is the modelling of fuel sloshing in a tank. Sloshing is basically the movement of a fluid inside a container. This is something you see every time you mix your morning coffee, but such a basic everyday thing that we see in real life can cause accidents such as rocket crashes and capsizing of ships.

To avoid this, tests are done to mitigate the risk. However it would be extremely time-consuming and expensive to keep building rockets and ships with different sizes, materials and so on to test under different conditions. Therefore, the best and most efficient way is to model these scenarios on a computer in order to test which designs work and under which conditions the accidents may occur due to the fuel sloshing. In order to do this, it is vital that we give the computer the correct information and the computer code we write to calculate variables such as displacement, pressure and velocity is correct in order to give us the correct results.

The work presented is a computer code that uses a novel mathematical method called the smoothed particle hydrodynamic method to calculate pressure from density. This is only a small part of larger code architecture, but nevertheless is vital as not calculating the correct pressure will lead to erroneous results for all the other variables and give the wrong result. Like links in a chain, if one is broken, the chains fall apart. In essence the work computer coders do saves lives and this code is a key link in the chain.

Subroutine calculating density  
Integer :: j,n,nps,i ! j,n and nps are integers. They must be whole numbers as they relate to specific particles and you cannot have fractions of particles.  
Real :: w,ri, mj, xi, xj, h ! These are real numbers because they can take on any value, including decimals and fractions.  
Do i=1,nps ! nps is the total number of particles in the system.  
Here, we repeat the loop with the values of i ranging from 1 to the number of particles in the system.  
r(i) =0  
!Resets all r(i) to 0. This is necessary as otherwise it will add the w\*m(j) calculated in this timestep to r(i) calculated in the previous timestep, which we do not want as density calculation is not time dependant.  
Do j=1,n ! n is the total number of neighbouring particles. Here we repeat the loop with the value of j ranging from 1 to n.  
Call subroutine kernel (w, h, x(i), x(j)) ! w, h, xi and xj are all variables called from the kernel subroutine. h is the smoothing length and dictates the width of the kernel, thus increasing h increases the number of neighbouring particles that are included in the calculation. W is the weighting function, a number ranging from 0 to 1. xi is the position of particle i, and xj is the position of particle j. We are calling the subroutine to calculate the kernel so that we can use it to calculate density.

Call neighbour properties (m(j))! mj is the mass of the neighbouring particle .We call the mass of the neighbouring particles as they are needed to calculate the density of each particle.

r(i)=r(i) +w\*m(j) ! This is the density equation  $\rho_i = \sum_j^n w_{ij} m_j$  written in code form. This will add the neighbour mass and kernel for all neighbours of a given particle i.

End do  
Call subroutine pressure (r(i), P(i)) ! This is the best place for the call pressure subroutine. The reason for this, is that we can use the density we have calculated for particle 1 to find the pressure for particle 1, then repeat for all i particles. Density goes in, pressure comes out.

End do  
Subroutine calculating pressure (r(i),P(i))  
Real ::  $\rho$ , r, r0, Pr ! these variables can take on any value and do not have to be whole numbers.  $\rho$  is the bulk modulus which is a measure of the incompressibility of a substance and  $\rho$  is a parameter related to  $\rho$  and these variables have different values depending on the fluid. Pr is the pressure of the particle, r is the density of the particle and r0 is the density at the previous timestep.  
P(i)= \*(r(i)/r0(i))\*\* -1 ! This is the Murnaghan equation of state used to calculate pressure for a semi-incompressible fluid. This is given by  $P = ((\rho/\rho_0)^{\gamma} - 1)$   
r0(i)=r(i) ! This ensures that the value of the old density is stored for use in the next timestep, where we will have an updated  $\rho_i$  and hence an updated pressure calculated for each particle. The updated density will then become the old density in the next timestep and so on.  
End Subroutine

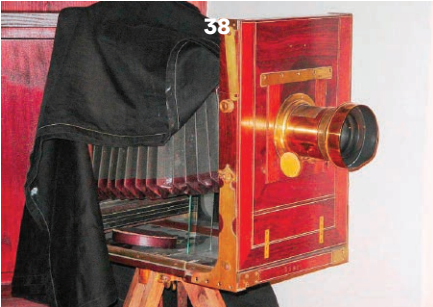
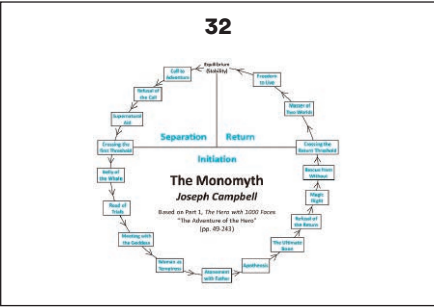
About the authors

R. Shany is Year 13 pupil at St James Catholic High School in North London. Daniel Portelli is completing his PhD in mathematical modelling at Cranfield University.

PhD Tutor's note

I submitted R.'s article for publication as it exceeded my highest expectations for the homework assignment. Tutorials in this programme were divided into 3 components. These were to understand how to take any real life physical problem and come up with the questions a mathematical modeller would need to ask themselves before computer simulation, to learn and apply a numerical method called the smoothed particle hydrodynamic method and to learn how to computer code this method. The achievement of any student even passing this course cannot be understated. The SPH method is only taught at Masters Level due to its complexity and the computer coding aspect is normally a week long course for adults. However the most difficult thing to learn was the mathematical modelling concept as it required students to change their mentality - they were not just answering questions set by a teacher, they were coming up with the questions themselves. The final assignment was not a final assignment that tested only some aspects of the course, instead everything that was learned formed parts of the final assignment so to achieve well you needed to understand everything. R. achieved 90% on this assignment. This is an amazing achievement and deserves to be recognised beyond getting a good grade.

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# BETWEEN 1834 AND 1948, PROVISION FOR THE POOR CHANGED BUT ATTITUDES TOWARDS THEM DID NOT. DISCUSS

E. Varian, supervised by J. Griffin

## INTRODUCTION

The New Poor Law was seen to be a horrible law by the people it affected; it lasted for approximately 114 years and was introduced by the government of Lord Melbourne. The poor law was a set of rules that the poor had to follow. They were made to encourage people to find work and earn money from employers instead of just the government. The poor law had many long term effects. Some of these effects were a huge decrease in spending on the poor by the Government. Some historians thought that the shame of working in the extremely harsh workhouses was so off-putting that people would rather live in poverty than seek help. Conditions in most workhouses were terrible. There was very little focus on people labelled the deserving poor: the elderly, sick, orphans, disabled and children. “The deserving poor” who needed help were often supported by charities.

## PROVISIONS FOR THE POOR IN 1834

In 1834 the conditions for the poor were horrible. This was because there were no health care provisions available for anyone living in poverty, the housing conditions were poor and most people lived in run down housing areas where they often caught diseases. All they had was the New Poor Law which provided work opportunities in “workhouses”. The workhouses were treacherous! They offered cramped working conditions, low wages, long hours and blacked out windows. Meanwhile, the rich had loads, such as medical insurance, excellent living conditions in grand houses; they had money and a good education.

Many of the poor living in these conditions thought that this was unfair so they came up with a group called the anti-poor law committee. The people in charge of this campaign were Joseph Rayner Stephens and John Fielden. The committees were groups of people who disagreed with the Poor Law, there would have been hundreds of thousands of people going to the meetings from all around the country such as London, Essex, Sussex or even as far north as Scotland.

## ATTITUDES 1834

Most middle and upper class people such as Edwin Chadwick agreed with the Poor Law. Edwin Chadwick helped to create some rules in the New Poor Law. He thought that the poor were lazy and that if the Government gave those in need food and shelter birth rates would just get higher and higher until there would not be enough food to go around.

In 1899 Seebohm Rowntree went to most of the working-class homes in the city of York to understand how the poor really lived and what the real causes of poverty were. I think he would have asked them:

1. How many people are there living here in your house?
2. How many people are working and earning a wage?
3. How much do you earn a week?
4. How do you manage to feed everyone on the low wages?
5. How many rooms are in your house?
6. Where does everyone sleep?
7. Why don't you work and why can't you work?

He discovered that laziness was not always the cause; the main causes were more often illness, old age, disabilities and bad living conditions. Unfortunately, some people disagreed with Mr Seebohm Rowntree's findings, they still thought the poor were just lazy and carried on believing the Poor Law was fair.

## PROVISIONS FOR THE POOR 1948

Over the next 100 years things changed a lot! Now in the 1940s the poor had many more privileges. The NHS was introduced, housing conditions got far better and working conditions became better and safer. The NHS stands for National Health Service. It provides doctors, dentists, hospitals, nurses, ambulances and free medicine and ANYONE can use it - man, woman, child, rich or poor, this helped because the poor finally had somewhere to go if they ever became ill. Thankfully, it was free and paid for by tax.

The thought of having better privileges would have made me extremely grateful if I was poor in these times.

## ATTITUDES 1948

After World War II attitudes towards the poor changed due to the fact that the poor and the rich had to work together during the war which showed them that they could work better together. Now most people actually understood the many reasons why people were poor and couldn't always work. The poor received better houses and working conditions as the workhouses no longer existed after 1948. The poor were treated much fairer but there were still some people who were very harsh on the poor and gave them very little support.

## TIMELINE

Here is a simple timeline from 1830 -1948:

- 1830- Workhouses were introduced
- 1870- Everyone aged between 5-10 had to go to school
- 1899- Rowntree carried out his research on the causes of poverty
- 1908- Pensions start
- 1911- The government gave unemployed benefits
- 1914- WWI started
- 1921- All children had to go to school until age 15
- 1939- WWII started

- 1946- People with children received more support (money) from the Government
- 1948- The National Health Service began

## SUMMARY

A summarisation of the New Poor Law is that between 1830s-1940s everyone who was poor and lived in poverty was treated unfairly and provided with little help. They were given poor living and working conditions and would become very ill from sickness and disease because of the poor living conditions.

Rowntree disagreed with the attitude toward the poor and how they were unfairly treated so he carried out an investigation into the causes of poverty. Rowntree discovered laziness was rarely the cause of poverty, his findings changed some people's attitudes toward the poor but not everyone's, some people still believed laziness was the most common cause. During World War II the people of the UK, rich and poor, were forced to work closer together, this helped people realise by working closer together, they achieved better results! This helped everyone see that the poor deserved better working and living conditions and so the government introduced the NHS, workhouses were closed down and people were given better working and living conditions.

## CONCLUSION

Although the poor law is over, there is still poverty in every part of the country today and the deserving poor are still sometimes believed to be lazy. Over 65 years after WWII, some of the poor are still struggling to feed their families and some live in very poor conditions.

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## About the authors

E. Varian is a Year 5 pupil at Harris Primary Academy Chafford Hundred. Dr. Joanna Griffin completed her PhD at Plymouth University in 2014. Her research is about the visual and experiential encounter with space technology, focusing on the Indian space programme and the Chandrayaan-1 spacecraft.

## PhD Tutor's note

E. worked exceptionally hard during the Scholar's Programme, taking her studies seriously and discussing the often complex and contradictory events of history with confidence and enthusiasm. Her essay, I think, conveys a commitment to intellectual curiosity and clarity of expression – an inspiring combination! It was a richly collaborative process to work with pupils and staff at Harris Primary Academy Chafford Hundre as a Brilliant Club Tutor – everyone helped each other. It is wonderful to be able to share something of the sparkle of those six participative, challenging and enjoyable tutorials through E.'s carefully constructed and enlightening essay.



# BETWEEN 1834 AND 1948 PROVISION FOR THE POOR CHANGED BUT ATTITUDES DID NOT: DISCUSS

L. Beddo, supervised by J. Griffin

The period between 1834 and 1948 was a time of great change in Britain. In Victorian times, there was a huge divide between rich and poor. Nowadays we are lucky because we have free education, free medical care and old age pensions. In the 1830s life for the working class was hard. There was not much sympathy for the poor and provision was lacking. This soon changed. At the turn of the century, Seebohm Rowntree changed many previously held views about poverty and its causes. While this changed the minds of people in the government and led to new policies, I will argue that not everybody's attitude towards the poor changed.

In the 1830s laziness was thought to be the main cause of poverty. In people's minds the poor were split into two groups: the deserving poor and the undeserving poor. The deserving poor were those who were either too old or too ill to work and so deserved help. But attitudes at this time were very negative towards the poor and it was believed that the majority of poor people were undeserving. The undeserving poor were those who were physically able to work but did not and so were thought of as lazy. These views about the poor were also held by some important people at the time. Thomas Malthus studied the population. He thought that giving money to the poor would give people no reason to stop having babies. He argued that the population would continue to grow until there was not enough food to go around. This view was supported by Edwin Chadwick who also believed that if the poor were given money they would become lazy and choose not to work. So you can see, people did not think much of the poor at this time.

The arguments of Thomas Malthus and Edwin Chadwick were very popular and so the government decided to make some changes. They needed to stop the poor people having babies they could not afford to look after. So in 1834 they introduced The New Poor Law. It was thought that poverty could be cured by teaching people to work. Workhouses were introduced. Workhouses were places where the poor were offered food and shelter in exchange for work. The government thought that this policy would reduce poverty. This is in the Poor Law Commissioner's report:

I sincerely believe, that if, instead of giving relief in money, all persons were taken into the workhouses, and there made to work, and have no other benefit other than a bare maintenance, that would almost immediately reduce pauperism one third, and in less than twenty years annihilate it, (Poor Law Commissioners' Report, 1834).

In the majority of workhouses, conditions were horrendous. An illustration in *The Penny Satirist* at the time, showed starving inmates fighting over bones meant for fertiliser. At

this time although provision was beginning to change, attitudes were still negative. It was believed that if workhouse conditions were bad, people would prefer to try and get a job. Only the most desperate of the poor would accept the shame of entering a workhouse.

The policy of introducing workhouses was not successful as the research of Seebohm Rowntree showed. In 1889 he found that still one third of the population was living in poverty. Rowntree's research was very important because it began to change people's minds about poverty. He found that poor people were not lazy but actually their wages were too low to survive on.

It is of course obvious that the income earned by these 474 families is totally inadequate to maintain them, even in a state of merely physical efficiency. (Rowntree, 1889)

If working class people got ill, they could not afford treatment and therefore were not able to work. He found that poor health was a major cause of poverty. Many important people began to think about how the state could help to tackle the causes of poverty. In a speech made to Parliament, MP H. W. Forster said: "It is remarkable that in the last few years there seems to have been a general consensus of opinion that the health of the individual is no longer and can no longer be treated as a matter of purely individual concern" (Forster, 1911).

The state began to take more responsibility for looking after people who needed help. For example, in 1908 old age pensions were introduced and in 1911 unemployment benefit was given to those who did not have a job. Attitudes were changing, but it was hard to change everybody's mind about the poor.

In 1939 Britain declared war on Germany. World War 2 brought together people from all classes and started to make people think about what was fair. For example, during the war, the government started a policy called rationing. Food was scarce so this policy made sure that the food was shared out so that everybody got the same amount. This amount was not very big but it was enough to keep a family fed. Rich people got an understanding of what it was like to live a poor life. Another example is people working together. People from all classes worked in factories or fought on the front line. So I would say that during this time a lot of attitudes did change towards the poor.

Having gone through the war together as a nation, you would think that the new National Health Service would be popular. However, there was a lot of controversy and opposition. The

country was used to the state control after the war, but this was a huge reform. The NHS was introduced on 5th July 1948 and offered free health care to everybody regardless of wealth. It was needed because of the poor health of the working class.

Many children lucky enough to survive to their twelfth birthday were likely to have rotten teeth, brittle bones, lung problems and a weak heart. (BBC)

Surprisingly doctors were the NHS's biggest opposition. They were very worried that it would lower their status to treat the poor for free. They looked down on the working class. This shows that the negative attitudes to the poor by the rich didn't really change.

I conclude that life for the poor between 1834 and 1948 definitely improved because of the state provision, but I have argued that some people's attitudes changed but many attitudes did not change. There are still negative attitudes today on TV and in newspapers. There are programmes about people on benefits. There is still work to be done on changing people's minds about the poor.

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## About the authors

L. Beddo is a Year 6 pupil at RJ Primary Mitchell School. Dr. Joanna Griffin completed her PhD at Plymouth University in 2014. Her research is about the visual and experiential encounter with space technology, focusing on the Indian space programme and the Chandrayaan-1 spacecraft.

## PhD Tutor's note

I put forward L.'s excellent essay for publication, for one, because it is a great read! But I also think that L. has written in a way that respects the realities that people in the past lived through. These were not just characters in a play, but real people and he has clearly thought about this. Good history writing does not try to iron out the contradictions of historical events, or even the contradictions in the thoughts and actions of individuals and this essay gives a sense that a variety of attitudes led to the changes in state provision, none of which took place without immense social struggles.

This essay makes particularly good use of quotes, which L. uses both to provide evidence for the points he makes and to push forward the narrative of his argument. He shows how state provision emerged from attitudes and did particularly well to independently research the difficult campaign to introduce the NHS and this informs the final part of his argument.

Tutorials at RJ Mitchell Primary School were extremely enjoyable and participative. Pupils generously help each other with their learning. A big 'thank you' must go to all the staff who gave great support and encouragement to the pupils through a distinctly challenging project.



# WHAT IS FAIRNESS?

N. Thanni, supervised by K. Nash

Fairness is a concept that is difficult to interpret as it has many meanings to it. It is initiated by people perceiving the world as a perfect place, which is impossible. Through this essay I will try to explain several concepts of fairness.

First of all fairness is treating other people like you would want to be treated - sharing, taking turns and giving everyone an equal chance. An example of this is when you and your friends are playing a board game and one person rolls the die twice. That is not fair as it gives them an advantage. If someone cheats that is also not fair as they are not playing the game correctly or following the rules. If a cheater wins it is not a fair win. So consequently fairness is giving people an equal chance.

Fairness is also sameness. For example everyone should pay the same price, for everything, not one person should pay more than another. Glasses should be free for adults too, not just for children as that is not fair, because glasses are needed for some one’s health. Either they should be free or everybody should pay the same price. Another good example is according to Psychology Today, “an infant and an adolescent will receive the same amount of food. It doesn’t matter that one needs more than the other. Fairness is finding the average and applying it across the board. This is fairness as equality of outcome.”<sup>1</sup>

My second point is inequality in fairness. In inequality there are two sides to it one which is good and the other not so good. I will now explain the good side of inequality. Sometimes fairness may mean treating people differently. For example if children in an education setting have different abilities the teacher has to adapt the work according to their abilities. Another example of this is if a person from a different country comes to England and they can’t speak English the teacher could adapt the work so the student could at least complete the work. Inequality means treating certain people differently could be fair. It would be unfair if it was for no valid reason. So overall fairness is treating people differently in different cases.

The dreadful side to it is that 85 people now own as much wealth as half the world’s population, while nearly a billion people can barely afford to feed their families. Extreme inequality is one of the biggest barriers to ending poverty; it takes life chances away from people and creates war and conflict in different countries. Many children have to walk to school which takes them several hours or even to collect water.

My third key point is equity. Equity means being impartial and fair. When people think of fairness they often think of sharing and giving equal parts but sometimes it means giving people things to make their lives fair. For example some people need wheelchairs to help them move around. Some people need guide dogs so they can get around easily and have better lives. Other people live in poverty in bad overcrowded accommodation with poor hygiene, and this

leads to health issues. Giving them a renewed house will improve their chances of surviving and reduce the risk of illness.

Fourthly I would like to consider Fairtrade. Fairtrade is a label given to empower workers with rises in their wage. Fairtrade is becoming worldwide and is improving in some countries but is still a problem. Farmers are not paid the correct wage for all their hard work each year and all the effort they make to grow fruit and vegetables or other products, such as tea, coffee, chocolate, sugar and cotton. Some farmers work in tough conditions with pesticides, a low wage, long hours and a boss who doesn’t let them have their say. Even though they work for so many hours they do not have enough money to survive or buy food for themselves or their families.<sup>2</sup>

According to the research I have done, more than 1.4 million farmers and workers are in Fairtrade. UK sales of Fairtrade in 2013 were increased by 14 percent from the previous year. In the UK, sales of Fairtrade products in 2012 reached £1.5 billion and an 18 percent increase from the previous year. Forty-four percent of bagged sugar sold in the UK is Fairtrade certified. Just over 25 per cent of all roast and ground retail coffee in the UK is Fairtrade certified. Fairtrade products are now sold in more than 125 countries. The Fairtrade mark is the most widely-recognised ethical label globally.<sup>3</sup>

On a global level, fairness means to be equal between countries including: funding, facilities, rights and wages depending on jobs. For example thinking about some areas of Africa where there is less funding and some parts that aren’t even developed yet compared to a country like America which is fully developed. You can see the big difference in the two as one country, America, has more funding which is not fair. Another big issue is the difference between countries’ yearly gross income. In Luxembourg, for instance, the average gross income is \$66,821, compared to Tanzania which only has an income of \$720.<sup>4</sup> That is really not fair because then the difference between the class and money leaves a big gap.

Another key point is women’s rights. Over a million women in 17 countries worldwide have been helped by Oxfam so their voices can be heard. Women’s rights are very important and women deserve to be treated as fairly as men. When it comes to making important decisions their voices should be heard as much as others. The majority of people who live in poverty are women as they have had no education, been discriminated or have been abused.

In conclusion, fairness means being equal or getting what you need. I have clarified fairness on an individual level, which means being equal. Even though I then spoke about inequality, which was about treating people differently according to their needs or abilities. I also explored Fairtrade as well as a global level of fairness. Personally I believe that

‘fairness is rationing things out equally no matter where you are from’.<sup>7</sup> It’s important to learn and know about fairness as it comes up a lot in everyone’s day-to-day life.

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**About the authors**

N. Thanni is a Year 6 student at North Beckton Primary School. Kathryn Nash is a PhD candidate at the School of Oriental and African Studies in the Politics and International Studies Department. Her research focuses on the evolution of conflict resolution norms at the regional level in Africa.

**Phd Tutor’s note**

I have been a tutor with The Brilliant Club since summer 2014. This tutorial examined what is fairness and included sessions on Fairtrade, equitable access to healthcare, and global inequalities. I chose to submit N.’s essay because she explored all aspects of fairness from the individual to the global level, and she also presented very sophisticated arguments about how something like inequality can be both fair and unfair. When describing N., her teacher says, “she is extremely hard working and always gives 100% to her work. She is a beautiful writer and always listens to any advice given to her.”



# WOULD FAIRNESS MAKE THE WORLD A BETTER PLACE?

M. Oswick, supervised by P.Clark

What is fairness? This is a difficult question as fairness can mean one thing to one person and the total opposite to another. Fairness is when everyone is treated equally, weighing up the advantages and disadvantages to each individual person. We would have no more moaning saying, “It’s not fair!” as everyone would be treated the same. Being fair also means giving people equal rights and equal opportunities. No matter how they look or act, everyone should be treated the same. Playing by the rules, sharing and giving everyone a fair or equal chance would change our world.

There are many stories which are examples of what is fair and what is not. One of these stories is called ‘The Drowning Child’. This is the basic outline of this story: You are walking past a pond, on your way to school, when you see a child drowning. If you save the child you will get your clothes muddy and will be late for class. If you don’t save the child you will be on time for class, but will have to live with the fear that the child might drown. What would you do? In my opinion, I would save the child, if I were a good swimmer, as you can always catch up on missed schoolwork. However, I do understand that in other people’s views they would just leave the child, especially if they have high hopes for the future and are very selfish. If you don’t save the child, he drowns and that unfortunate event gets put on the news and you will always feel guilty as you had the opportunity to save that child but refused to do so. Fortunately most people would say they would save the child, but the question is would they really if they were put in that position?

There is also another story which could be used to explore the topic of fairness. It is a very famous fable, so you may have heard it before, ‘The Ant and the Grasshopper’. In brief, this is how the story goes. It is summer time and a grasshopper was lazing around in the sun. Meanwhile, the ants were collecting and storing food for winter. As winter eventually came, the grasshopper had no food at all in store. He was getting very hungry, but he wasn’t prepared, so he had no other option but to knock on the door. If you were in the ants’ shoes would you give the grasshopper some food? Was it fair that the grasshopper didn’t work all year round, while the ants slaved away? I don’t think it would be fair to just give the grasshopper food straight away because he has done no work at all and has just been lazy, whereas the ants worked all year round. If it were me, I would not give the grasshopper food straight away. I would make him do some jobs in return for some food. I would hope he would have learned his lesson this way.

Playing a game can be great fun but somehow the mood darkens as soon as someone cheats. Have you played a game where someone cheated? How did this make you feel? It has made me feel quite upset knowing that I can’t trust my opponent. I couldn’t give them the responsible role in the game, such as banker, because they might steal the money. You might feel unsure about what they might do next. However, some people may not be bothered by this, perhaps if they have grown up with older siblings and have got used to admitting defeat. This is one of the experiences many children have shared, but it is still not fair to cheat. It gives the person who has cheated a higher advantage to winning. If this person does win then it is not a fair win, as they do not deserve it because they did not follow the rules. Another situation of being unfair is by giving one person loads of sweets and the next person one. This is unfair because no matter how much you like that first person, you have to make it fair by giving the same amount. If you don’t, it can lead to all types of arguments and even best friends can be separated by this. It just makes sense to do it the fair way and then it will prevent all of these disputes.

Bullying is one of the most common occurrences in schools today and is a prime example of unfairness. Getting pinched and called names is not right and should not happen to anybody. Teachers can make it worse when they refuse to do anything about this unacceptable behaviour. Everyone has the rights to feel happy and safe. Everyone deserves to be treated the same.

An example of fairness would be when a teacher makes sure that every child in the class gets a turn to do different jobs. You could ensure this is happening by writing every child’s name on a lolly stick and every day pick one out at random. Once everyone has had a turn the process starts again. This is a fair way to do it because everyone gets a turn and no one gets left out, even when they are absent.

In conclusion, fairness means getting what you rightly deserve and or need. Every person has the right to be treated fairly. However, looking into everyone’s individual needs and acting according to this can be quite difficult. It isn’t fair if people are treated differently according to their sex, race or religion, but you have to take a moral judgement to try to be fair to everyone you meet. In this essay, I am also trying to convey that life isn’t fair, no matter how hard you try, because individuals have different views on what fairness is and it would be impossible to take everyone’s views into account. However being fair makes life just easier for oneself, there are less arguments and people feel generally happier and safer in a fair world. Everyone trying their best to be fair would make our world a better place.

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Topic of discussion with tutor- The Ant And The Grasshopper, The Brilliant Club coursebook

## About the authors

M. Oswick is a pupil at Wayland Junior school in Norfolk. P. Clark is a PhD researcher at the University of East Anglia, currently working on Buddhist influences in contemporary performance.

## Phd Tutor’s note

In the Autumn term 2014 I taught a philosophy module to students of Wayland Junior Academy in Norfolk. The module was designed by The Brilliant Club to reflect and analyse the issue of fairness and included topics such as bullying, medical practice, Fair Trade and human rights. It was important to me that the pupils were given the opportunity to develop their own voices in respect of these issues and to make connections to the subject of fairness within their own lives and in the wider world. I drew from my own skills as a PhD researcher which I have been developing through my project in the drama department at the University of East Anglia. Given my background as a researcher I chose to nominate this essay due to the level at which the student addresses structure in relation to the topic of fairness and draws links between the arguments she is making as well as her excellent use of grammar, punctuation and spelling. As a result of her attention to detail, she made my job as a reader easy and engaging and, for that reason, I feel this student deserves to be published in *The Scholar*.

# CAN TERRORISM EVER BE JUSTIFIED?

R. Althaus, supervised by V. Walden

Terrorism instils fear and usually causes the violent death of innocent people. Nonetheless, these abhorrent actions can, in some cases, be justified. This paper works through definitions of terrorism. It will then consider different academic theorists and their views of terrorism; addressing the consequentialists and deontologists: Virginia Held; Leon Trotsky; Rüdiger Bittner and Ted Honderich. It will conclude by demonstrating that terrorism can, in some cases, be justified. Numerous cases have proven that terrorism is sometimes the only way of achieving certain ends.

One definition of terrorism, cited from the United Nations, is: We (the world leaders) affirm that the targeting and deliberate killing of civilians and non-combatants cannot be justified or legitimised by any cause or grievance, and we declare that any action intended to cause death or serious bodily harm to civilians or non-combatants, when the purpose of such an act, by its nature or context, is to intimidate a population or to compel a government or an international organisation to carry out or to abstain from any act, cannot be justified on any grounds, and constitutes an act of terrorism. (Deen 2005)

The definition given by the U.N is inadequate, because it refutes the possibility that any act of ‘terrorism’ might be justified.

Igor Primoratz (2013) gives a broader view, claiming that “we should rather understand terrorism in terms of just what is done and what the proximate aims of doing it are”. He also states (2011) that some of the people committing acts of terrorism believe that, “if the ultimate aim is liberation or justice, the violence used in order to attain it is not terrorism, whereas the violence aiming at maintaining oppression or injustice, or some of the ‘structural violence’ embodying it, is”. The definition given by the U.N is widely accepted; however it does not distinguish acts of ‘terrorism’ that could be justified. Igor Primoratz considers the potential that certain acts of ‘terrorism’ could be justified.

This paper adopts a definition that is similar to Igor Primoratz’s definition: terrorism is any act of violence against people outside the army that is carried out for unjust reasons. However, some acts that may be viewed as ‘terrorism’ can be justified. It adopts this particular definition because it considers the potential that some acts of ‘terrorism’ could be justified, but states that most acts of ‘terrorism’ are not.

There has been much debate regarding whether terrorism can be justified or not. While Bittner and Held have a deontologist view; Trotsky and Honderich are consequentialists. Philosophical thought about ethics is distinguished by two schools: consequentialism and deontology. Consequentialism is when you consider whether the action is justified by the consequence. In the case of terrorism: does the reason for the act of terrorism justify the end result? Deontology is when you believe an action is morally wrong or right. On the subject of terrorism: is

violence towards innocent people wrong or right?

Bittner, a deontologist, explains, “There is nothing worth asking here. It is wrong, and obviously wrong, to kill innocent peoples for political aims without political authority. Terrorism ... is a matter as clear as can be” (Bittner 2005). This is a very narrow view, leaving no space for acts of ‘terrorism’ that are for just reasons. An example of this is the military wing of the African National Congress: Umkhonto we Sizwe. They, led by Nelson Mandela, carried out a series of attacks against infrastructure in the 1960s. They were legitimate terrorists as they were fighting for a just cause: black rights for people in South Africa. This is not terrorism, but freedom fighting. Bittner states that killing innocent people for political aims is never justifiable. This is wrong, as the example of the A.N.C proves.

Honderich, a consequentialist, discusses the 9/11 attacks:

What was done was wrong because there could be no certainty or significant probability, no reasonable hope, that it would work to secure a justifying end, but only a certainty that it would destroy lives, ... The killers... could not know that the killing of several thousand people would, in due course serve the end of the principle of humanity, saving people from bad lives. They could have no such rational confidence. (Honderich 2000)

The 9/11 attacks were committed by the terrorist group al-Qaeda. Al-Qaeda claims that their aims are to reshape the Muslim world and drive Americans out of Saudi Arabia (BBC). al-Qaeda is generally described as a terrorist organisation because they killed many innocent people by bombing the Twin Towers and other political buildings. Their main attack was on the 11th September 2001 (9/11). In Honderich’s view, if the 9/11 bombers had materially improved people’s life in Saudi Arabia then it would have been justified.

Primoratz quotes consequentialist Trotsky’s beliefs on terrorism. He believed that: The liberation of humanity is possible only through revolution; therefore the revolutionary cause is the supreme moral law. In pursuit of the cause, all means are right, if they are efficient. Although aiming to take us beyond class society, revolution is still a product of that society and exhibits its traits and limitations. There it cannot dispense with violence. The type and degree of violence is a question not of principle, but of expediency. (Primoratz 2013)

According to this view, al-Qaeda and the A.N.C were justified, as they were fighting for revolutionary change.

Primoratz also cites Held, a deontologist, who states:

[Terrorism] would still be justified if an additional condition were met: that of distributive justice. If, in a society, (a) basic human rights of one part of the population are effectively respected while basic human rights of another part of the population are violated; (b) if the only way of overcoming this state of affairs and ensuring the effective respect of basic human rights of all is a limited use of terrorism – that is, the violation of basic human rights of those who end up as its direct victims; (c) if terrorism is directed against members of the first group, that terrorism will be morally justified. (Held summaries in Primoratz 2013)

In this perspective, the African National Congress was justified, because the black people of their country were being violated whilst the white people were not. According to that view, if the human rights of the people of Saudi Arabia were being violated by the American people and the attacks were the only way of overcoming it, then al-Qaeda’s acts of terrorism were justified.

Acts that are considered ‘terrorism’ are, in some cases, justified. The African National Congress was justified, because they fought for black rights in South Africa. Without their actions, the black people in South Africa may still be discriminated against as badly as they used to be and the apartheid regime, which was a government that supported racism, might still be intact. For this reason, the violent acts carried out by Umkhonto we Sizwe were justified. After Nelson Mandela was imprisoned for 27 years, black people in South Africa were given the same rights as white people in legal terms: the end result justified the acts of ‘terrorism’. This example thoroughly proves that terrorist acts can, in some cases, be justified. The vast majority of terrorist acts however, are not justified, for example, al-Qaeda. Their acts of terrorism should not be considered justified, because there have been no positive outcomes from their acts. However, the wars in Iraq and Afghanistan might be considered a cause of al-Qaeda’s terrorist acts. These reasons prove al-Qaeda was not justified. Also, they killed many innocent people and have not made life any better for people in Saudi Arabia. Overall, ‘terrorism’ is generally not justified. However, there are some cases when certain acts of ‘terrorism’ can be justified.

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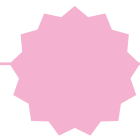
### About the authors

R. Althaus is a Year 7 pupil at Richmond Park Academy. Victoria Grace Walden is a PhD researcher at Queen Mary, University of London, exploring Holocaust moving-images and the materiality of memory. She is particularly interested in the ethical dimensions of the spectatorial experience.

### Phd Tutor’s note

The course ‘Can terrorism ever be justified?’ encouraged students to engage with the philosophy of ethics and a wide range of case studies of different ‘terrorist acts’ in order to assess what they would define as terrorism and whether it could ever be justified. Students were incredibly engaged in debate about a range of examples from Nelson Mandela to Greenpeace, and the Dresden bombings to al-Qaeda. I nominated R.’s essay because of its sophisticated and balanced integration of theory and analysis. She evidences a strong understanding of in-depth theoretical ideas and is able to provide a convincing and intellectual response backed-up with a range of sources. It is certainly well above the quality one might expect from Year 7 work.





# CAN TERRORISM EVER BE MORALLY JUSTIFIED? A MORAL ENQUIRY

A. Tichouce, supervised by G. Kordonoulis

## INTRODUCTION

The morality of terrorism is indeed a notion that has been contested for decades and still continues to frequent the political sphere. It is an emotionally liable topic that seems to meander through an array of normative ethics, political groups, and double standards. The following essay will aim firstly to outline historical examples of terrorism and demonstrate how its character has changed. As a result, a definitions section will follow, listing how a changing character creates changing definitions. We will then adopt a particular definition that will shape the interior of the analysis, in which a number of pressing theories will be analysed. It will be through a series of essentially critical sound judgement and noesis that the justification beneath Kant's ethics will be reached as a temporary answer, in that empirical veracity will reach the conclusion that permanent moral justification cannot be reached.

## LITERATURE REVIEW

The primary obstacle in answering this question of morality lies in the definition of the term 'terrorism'. There lies a vast range of definitions of terrorism, and each of these definitions has shaped terrorist action throughout history. It would be entirely plausible to begin with the Sicarii, who strived to achieve a political goal, that of expelling the Romans from Judea. However, as we actuate further through historical examples of terrorism, this definition falls out of depth. The Middle Ages gave new lease for the definition of terrorism, creating a blurred line between terrorist and insurgent. Both the Gunpowder Plot and French Revolution targeted non-combatants, but both against what was an oppressive-government, and so may be deemed as revolutionary actions. Conversely, the Ku Klux Klan, (KKK), which was racially segregating, suits the definition of 'any unjustified aggression against any human being'. Their actions were indiscriminate and unjustified. It is the Nizaris, whom by aiming for a political goal through religious principles, combine both definitions and highlight the complex phenomenon triggered in the Middle Ages. In the modern world, terrorist actions seem to entail the majority of definitions, from Arabic terrorism to the Irish Republican Army (IRA) to global jihadism. They have all undemocratically used violence and killed civilians for political reasons. As outlined by Crenshaw (2010), terrorism through the Ancient World and Middle Ages has radically transformed into that of the modern world's, which 'compared to "traditional" terrorism is structured in loose networks, instead of organizational hierarchies; is transnational, rather than localized, in its reach; deliberately targeted at innocent civilians; motivated by religious fanaticism, rather political ideology; and aimed at causing maximum destruction' (Martha Crenshaw, 2010).

The underlying principle here seems to be the fact that, in the Middle Ages, a sense of nationalism was sought, as made explicit by the French Revolution, which depended upon politically charged violence centered upon the state in order to form a coalition of these groups. As the modern world soon came into play, nationalism was growing tired, and so this sense of *internationalism* was sought, as pillared by the United Nations (UN) (Andreas Gofas, 2012). At the basis of internationalism is the requisite of cosmopolitanism, which soon creates religious and social schism, centered upon, due to the cross – culturalism, civilians and responsible for today's terrorist groups.

## DEFINITIONS

Defining the term 'terrorism' has provided problems for many. In order to decide which definition this essay will take on, it is not just the definitions, but their nature that has to be taken into consideration. Bruce Hoffman states 'words with intrinsically negative connotations that is generally applied to one's enemies and opponents or to those with whom one disagrees and would otherwise prefer to ignore' (Bruce Hoffman, 1998). Another suitable definition is 'it is the unjustified act of violence against an innocent life'. Immediately, we are able to ascertain what problem is at the core of defining terrorism. Hoffman's definition seems to take on a historian's perspective, that of acknowledging that many invocations have sought to substantiate their own political agenda, and relating this to causation. Contrariwise, the latter definition takes on a philosophical perspective, that of attributing the ethical justice of an action against a human life. What is more, the fundamental character of the former delineation is abstractly wide, in that it determines that terrorism can be against anyone; the latter delineation appraises that terrorism is solely against the innocent, and so is narrow. It goes without saying that we must take on a philosophical perspective as normative ethics does. And so the question now is a philosophical wide or narrow definition? Are we to take the wide definition and focus on the history of terrorism, with highly targeted Russian Revolutionary propaganda of the deed and Sicarii actions in mind, or the narrow definition, focusing on terrorist acts that have deliberately instilled fear amongst civilians for a political goal? The narrow definition seems wholly more credible due to two reasons. Firstly, a civilian's vulnerability to terrorism certainly stirs up a sense of compunction in one's reasoning. This compunction is undoubtedly the cardinal element that creates ethical rationale, and so a narrow definition relates to this philosophical branch at a greater scale than that of which a wide definition would. Secondly, perhaps more weightily, is the fact that, not all, but the majority of innocent deaths due to terrorist action have been caused by non-state actors

(NSAs), take for example the French Revolution and Mandela's African National Congress (ANC). *As they are NSAs, their actions are ergo not protected by the legal framework of jus ad bellum*, the morality of engaging in warfare, nor *jus in bello*, the morality of warfare conduct, and so it is left to other ethical theories to vindicate their actions. In brief, a narrow definition would appropriately allow greater room for moral discourse.

## ANALYSIS

Given the current high profile debate with regard to the morality of terrorism, it is quite predictable that there lie a considerable number of systematic views. Each of these theoretical positions makes an important contribution to our understanding of terrorist thought and mind-set. There stand two major types of conceptions in answering the question at hand; the consequentialist and the deontological, both of which are categorised in *jus ad bellum* and *jus in bello*. Consequentialists hold the belief that the morality, or justification of one's actions depend on the consequences. Therefore, a morally right act is one that would produce a 'good' outcome. Deontologists, on the other hand, base the morality of actions according to their adherence to pandemic rules or moral obligations. We shall make a rather stochastic start with the deontological approach of 'complicity of victims', as forwarded by anarchist Emile Henry and Wahhabi extremist Osama Bin Laden. Bin Laden elucidates '[t]he American people should remember that they pay taxes to their government .... Their government makes weapons and provides them to Israel, which they use to kill Palestinian Muslims'. This quote embodies the sentiment that civilians violated by terrorists, by following through with their societies' orientations, are indeed rightful victims of this violence. This proposition however should not subsist without detraction. Both anarcho-communist and militant Islamist terrorist acts have, in the midst of their violence, extinguished children's lives. It has to be asked, are children, who are destitute of the ability to act without a major's interference, also responsible for perpetuating their societies? Furthermore, in order to escape the reproaching nature of 'complicity of victims' rebellion is pivotal. This poses two problems, in terms of both improbability and uncertainty. The dynamics and modus operandi of today's strongest societies are of paramount importance in explaining the improbability of insurrection. Manipulation, mass media and propaganda from governments all play their roles in shaping a civilian's insight and perception of their administration's actions and beliefs, and, at times, support a somewhat distorted shaping. A significant example would be Hitler's Third Reich. His cult of personality and fascism in a state recovering from great disaster were the very things that had led to German mass adherence to every aspect of his ideology and actions. Through this example, one is able to question whether civilians should be seen as victims, rather than perpetrators of deception. If, hypothetically, a civilian were to inaugurate an insurrection, death would occur on an unimaginable scale, perhaps a scale not worth risking, and so, in Camus' words, he becomes 'A man who says no, but whose refusal does not imply a renunciation' (Albert Camus, *The Rebel*). Evidently, the theory of 'complicity of victims', though coherent, raises questions that overshadow its calibre.

Whilst the theory of complicity of victims in the preceding paragraph focused on a very much liberal deontological principle, permitting deaths to an extent, the following will consider possibly the most conservative of deontological views, one that completely rejects the ethics of killing. Rudolf Bittner states '[i]t is wrong .... to kill innocent people for political aims without political authority. Terrorism .... is a matter as clear as can be'. Bittner asserts that the act of killing is abominable, regardless of the circumstances, intentions and consequences (Rudolf Bittner, 2002:64). In truth, his perspective is clear-headed and in accordance with candid deontological principle. Having said this, 'To decide a normative issue by definitional consideration, then, ends the discussion before it begins' (Andrew Valls, 1992:67). Indeed, this quote highlights the underlying crux of Bittner's argument; its rigidly theoretical nature is largely utopian. It is both a natural human need and human want for there to be an opposition and absence of violence towards others. Having said this, this want and need does not correlate with circumstance. Certain times have called for desperate, violent measures, including terrorist attacks. Due to this, Bittner's insight begins, and ends, on paper.

An equally significant aspect of the normative ethics of terrorism lies in consequentialist theory. Nicholas Foiton, in particular, has focused on consequentialist conditions against the moral justification of terrorism. He believes that the means in reaching a favourable end are not justified due to the absence of fidelity to his three conditions justifying terrorism. They include:

- (1) That the end sought is good enough to justify the means
- (2) That the end will be achieved by means of terrorism
- (3) That the end cannot be achieved in any other way that is morally and otherwise less costly

(Foiton, 1981:464). In his view, terrorists fail in doing the above. In addition, resulting from the notion that terrorist ideology does not typify civilian ideology, meeting the criteria is infeasible, as people are seen as 'objects' that bring about the end. Still and all, although elaborate, Foiton is inconsistent. He explicitly states that there are always other means of instilling change within a society, but he fails to develop this specific argument. Have there not been groups that have tried but were incapable of finding other means, such as the ANC? If not, do the other means connote other pacifist contrivances or the repetition of pacifist contrivances, which would certainly cause frustration? Moreover, Foiton states that people are seen as a means to an end rather than as people with human rights. In retrospect, the majority, if not all of terrorist attacks have aimed to create or destabilise a social order for the benefit of the people. As they have been carried out for the betterment of a population, are civilians, *prima facie* and during terrorism, not seen also as human beings with rights? I certainly think so. In this manner, I strongly disagree with Foiton's statement that civilians are seen as objects, as at times terrorist attacks are for their welfare, and so they are seen as people. Virginia Held's deontological principle for terrorism mirrors Foiton's, focusing on human rights, but goes about it in a different way. She asserts that if a group is violated, its human rights taken, and terrorism is the last resort, then terrorism is justified. Though sound, Held's theory to me seems

indeterminate, in that it is very much collectivist. Foiton condemns the fact that terrorist groups represent ideology rather than people’s specific interests, a statement of his that I completely, and solely, agree with. Why represent despotic ideology? In this manner, we can see that, observing her first point, the group she observes is precisely the terrorist group Foiton speaks of, one that represents ideology. Consequently, Virginia Held’s theory is one that supports a political system rather than people’s social needs and aspirations. It is suited better to particular state policies rather than the ethical justice we seek.

Perhaps the most prominent of moral justification of terrorism within normative ethics is that of the ‘best available means to an end’. Kai Nelson, a notable proponent, states: ‘[t]errorist acts are justified (1) when they are politically effective weapons in the revolutionary struggle and (2) when there are sound reasons that by the use of that violence rather than no violence at all there *will* be less injustice .... [T]han otherwise would have been the case’ (Nielson,1981:446). Kai Neilson views terrorism as rightful when it is the most effective action in bringing about a desirable social order. What is more, the consequentialist standpoint defends the killing of civilians through the ‘doctrine of the double effect’. The doctrine of the double effect asserts that the killing of government officials is the direct effect, and that the deaths of civilians is (1) not intended and (2) a side-effect. Nonetheless, this ethical theory has met its fair share of critics pointing to its blindness. The death of civilians is not intended, but it is most definitely prevised. Arguably, is not the anticipating of innocent deaths as morally wrongful as the intending? Deontologist Immanuel Kant, in his categorical imperative, opposes Neilson’s delineation, taking on a more meta-ethical account and asservates that, since the perceptions of a maxim are themselves objective, isn’t the morality of consequences automatically, by definition, neutral (Robert Johnson, 2004)? In this way, the consequentialist standpoint is rendered null, in that it is a hypothetical imperative and consequently, morality cannot be deliberated from consequences.

In his categorical imperative, Kant asserted that morality comes from the willing of an event itself, heedless of the actual consequences achieved. This is summed up somewhat perfectly in his words, ‘[m]orality is not the doctrine of how we make ourselves happy, but how we make ourselves worthy of happiness’. Ultimately, Kant felt that we should treat others as ‘ends’ and not as ‘means to our end’. But what, you may ask, is the basic difference between being a means, and being an end? The underlying factor here is instrumental value, and intrinsic value. To be a means, one is of instrumental value, their very existence relies on the fact that they are to achieve a particular goal, and without achieving that goal, one is living in nihility. To be an end, on the other hand, is to be of intrinsic value, to have essential value in one’s self without the dependency upon generating greater value. Kantian ethics argues, rightly, that, the nature of recognition of the distinction between good and evil is inborn, and so must lie inherently, thus being an end of intrinsic value. It is this autonomous will that Kant called dignity and attributed to us, as rational agents. As rational agents, it is duty to act according to maxims, maxims that

we will to become universal. The categorical imperative’s role here in this essay is its groundings upon the morality of terrorism. Is political violence a maxim within Kantian ethics? It is Barbara Herman whom has already answered the question. She, assuming the violence is self-defence against an assailant, creates three conditions. Firstly, killing the other preserves the categorical imperative, in that it stops the assailant using one as a means to an end. Kant asserted that it is a *requisite* that we do not use others as a means, and so this particular condition is adhering to his theory. Secondly, the violence is not, rebutting consequentialist criticism, to save oneself, but to protect one’s dignity and status as a rational agent. Lastly, she refutes the fact that violence would remove the aggressor’s rational will by stating that there are degrees of proportionality of violence, and so the degree of violence must be considered carefully (J Angelo Corlett, 2003:55). It can be seen from the above analysis that the justification of terrorism, under Kant’s theory, is both momentous and esteemed. Critique of it can certainly be met with esteemed rebuttal, as that of Herman’s. Most interestingly, Herman’s conditions under Kantian ethics are reminiscent of Michael Walzer’s deontological proposition of ‘supreme emergency’. He states that terrorism can be justified on the grounds that the violence threatened has the capability of destroying the society, freedom and rights of a state. In a somewhat conceptual manner, are these three things not applicable to the dignity of rational agents under Kant’s theory. Noting the compelling nature of this new evidence, one is able to conclude that, at the core of the categorical imperative’s esteem is its ability to relate to the other theories discussed, which fundamentally aimed to retain the given individual’s sagacity through core conceptual and moral principles. One can say, with slight irony, that the categorical imperative’s vigour derives from its staunch universality.

CONCLUSION

This essay has explored, having assumed a narrow definition, the morality of terrorism. It began with a brief history of terrorism and its evolution, paying close attention to different terrorists’ conceptual reasons for and principles of terrorism. We then proceeded onto the task of adopting a specific definition of terrorism. Albeit, a rather Herculean goal, largely due to the fact that, as made explicit in the literary analysis of terrorism, the definition of terrorism rapidly changes, adapting to novel systems of governance. The analysis section then came into play, and through a system that could perhaps be called nothing less than resolute elimination of significant theories, a conclusion was eventually reached. That is to say, the justification of terrorism lies under the conditions of Barbara Herman’s interpretation of Kant’s categorical imperative. It is the inborn moral rationalism of morality a rational agent uses to guard dignity. There is also, however, a further point to be considered. Throughout, the primary problem concerned the definition of terrorism, the subjectiveness it creates, both in terms of historical examples and theoretical viewpoints, and, consequently, perhaps double standards rose to the surface. As shown in the literary analysis, legal rights have progressed and as a result, the definition of terrorism has ranged from violence with a political goal, to violence against civilians, to absolutely any aggression. Each of these definitions has

suited a particular time and particular people. As a result of the vast array of definitions, historians and philosophers alike find pinpointing examples of terrorism difficult - was the French Revolution an attack against civilians or simply an insurgency? Even more so, is an insurgency indeed terrorism, or is it simply perspective? What we are left with is a potpourri of definitions and examples of terrorism, I repeat, each suiting a particular time and particular people. For these particular reasons, the basis for answering the very question at hand was readily challenged. Why answer a question highlighting such indefinity, prejudice and changing tenets? However, it is important to note that the question at hand did not specify *permanent moral* justification. This essay took on a current mutual definition of terrorism, violence against civilians. It included examples of this narrow definition, which were followed by a number of notable theories. These three things were all utilised in order to reach Kant’s categorical imperative. However, definitions, examples and theories of terrorism will all certainly adapt. For there to be a permanent answer, there must be permanent means to reach it. Due to this, Kant’s theory is only temporary, its means are all dynamic. On this note, one ends affirming that ‘absolute justice is achieved by the suppression of all contradiction; therefore it destroys freedom’ (Camus, 1951:5). Perhaps it is this destruction of freedom that prevents the formulation of an eternal moral justification for violence, for, at times, freedom is the very thing this violence craves.

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About the authors

A. Tichouce is a pupil at Convent of Jesus and Mary Language School in London. Georgios Kordonoulis is completing his PhD at the Open University on Moral Responsibility, Justice and the Reactive Emotions.

PhD Tutor’s note

I believe that A. produced an excellent paper that really stands out considering her age group. She managed to eloquently explain and critically respond to all of the relevant moral issues pertaining to the justification of terrorism, while at the same time held a clear view which she defended very well. I was particularly impressed by her use of Kantian ethics and her understanding of the categorical imperative. She did her own research apart from only using the booklet, and her view was unique and different than any other. What impressed me even more was that her critical thinking skills were accompanied by excellent communication skills. For the most part of the essay she expressed herself in strictly academic terms.



# HOW USEFUL IS JOSEPH CAMPBELL’S HERO WITH A THOUSAND FACES AS A TOOL FOR LITERARY CRITICISM?

J. Kolgjini, supervised by E. Whipday

Personally, I think that Joseph Campbell’s *Hero with a Thousand Faces* is arguably a reasonably good tool for literary criticism. Because of Joseph Campbell’s theory, we are now able to learn new things about stories to do with character, plot and genre, and also compare them against the structure of films/ TV shows/ fiction and non-fiction books. *Hero with a Thousand Faces* also bestows us with Campbell’s explanation of the Monomyth, from which we can fairly judge a book according to originality and imagination. It shows us whether today’s authors rely on one theory of the past to base their own story around, or whether they want to think out of the box to produce better work. The Monomyth also shows us how and why stages are linked, and without even reading all of a story, we can correctly predict what will happen in it, if the author has followed the plot of the Monomyth. In this essay I will explore how useful the Monomyth is as a tool for literary criticism with reference to *Harry Potter*, *Cool Runnings*, and *Twilight*.

Joseph Campbell believed that a single Monomyth exists. This is the idea that there is a pattern running through all stories and that there is a similar structure between all narratives and myths all around the world. This pattern was described in Campbell’s book *A Hero with a Thousand Faces* (1949). The summary of the Monomyth is:

*“A hero ventures forth from the world of common day into a region of supernatural wonder: fabulous forces are there encountered and a decisive victory is won: the hero comes back from this mysterious adventure with the power to bestow boons on his fellow man.”*

Campbell’s belief was that stories follow seventeen stages, however, there are three main stages: separation, initiation and return.

It is my opinion that the Monomyth is quite useful as a tool for literary criticism because it can be successfully applied to some books and films. For example, *Cool Runnings* is a film which can fit into all 17 stages of the Monomyth. *Cool Runnings* tells a story of the loose truth about the Jamaican bobsleighing team. The separation is when the team faced difficult hurdles on their journey to success. But they continued training hard and never losing hope. The initiation is everything that happens in between. These events can include one member of the team falling out with his father (Atonement with the father- step 9), meeting their coach (Meeting with the Goddess- step 7), considering giving up after believing that their goal is non-existent (Road of Trials – steps 6), and striving for success. The return section is when the team are supported back home in Jamaica and despite the team not winning, they are praised and have given everyone the gift of love and pride; especially when the team

carry bobsleigh to the finish line after a crash, showing great courage.

Despite the fact that *Cool Runnings* fits perfectly within the boundaries that the Monomyth offers, few other stories do the same. An example to support this statement could be the story of *Harry Potter*; the separation is when after years of living with the Dursleys, Harry is finally told that he is a wizard and after some encouragement, he enters the magical world of Hogwarts and meets both friend and foe. The initiation takes place every time Harry thwarts Lord Voldemort during his years, and all the bits in between like Quidditch, problems at school with homework, teachers and unsolved mysteries. Finally, the return section of *Harry Potter* is when he defeats Voldemort and is praised by the whole wizarding world, free at last.

Contrary to the fact that the novels of the *Harry Potter* series do follow the basic structure of the Monomyth, not all stages are included in the story. These stages include the likes of steps 5- Belly of the Whale, 7- Meeting with the Goddess, 12- Refusal of the Return, 13- Magic Flight, 14- Rescue from Without, which are not included in the story because these steps are not relevant to the stories and stages of *Harry Potter*. This is a good example of how the Monomyth cannot be completely reliable, and therefore not the best tool for literary criticism.

Another literary theory I have studied is Jungian archetypes. Jung also had a belief that there was a common pattern that ran through all characters in stories. In every story, there was always a:

1. Hero
2. Shadow/devil
3. Parental figure
4. Child archetype
5. Trickster
6. Wise old man
7. Anima/animus

This ties in with the Monomyth, because for example, in *Harry Potter*, there is one of each listed above portrayed in characters; the hero is Harry, the shadow/devil is Voldemort, the parental figure is arguably Sirius Black, the child archetype could be the baby Harry, the trickster is also Sirius, the wise old man has to be Dumbledore, and finally the anima/animus are Ron and Hermione. Jung’s archetype tells us that in stories, there will always be certain characters that play particular roles to influence the outcome of the story. For example, without a parental figure, the step ‘Atonement with the Father’ would be non-existent, and therefore the story would be less eventful.

Plus, in my opinion the Monomyth is quite biased when it comes to the genres it is aimed at. I think the main genres are action, adventure and the supernatural. The reason *Harry Potter* fits quite well into the Monomyth is because it contains all of these genres. However, a story like *Twilight* may not be so well suited for the Monomyth because it contains the genres of tween-fiction and romance which are quite the opposite of adventure. Therefore, *Twilight* does not fit into the Monomyth, so as a result I think the Monomyth is quite closed-minded and there’s not much of a choice.

Furthermore, contrary to Jung’s archetype fitting into most stories, I do still think that, as with the Monomyth, they’re sexist. You can tell from the name being the hero – no mention of a heroine or feminine power there. There is also the father figure, likewise in Campbell’s theory there is atonement with the father. I think mothers can also play a great role in stories – take Lily Potter for example. She dies to save her son, and therefore, good things came her son’s way.

Moreover, there is the wise old man. I do acknowledge that most recent stories like *The Hunger Games*, *Harry Potter* and *The Hobbit* do have wise old men as main characters, but traditional fairy tales all have a fairy godmother. So overall, I feel that Carl Jung is another example of sexism in books, but his archetype theory is quite correct and reliable in most cases. A woman called Maureen Murdock expressed the same views, and she wrote *The Heroine’s Journey: Women’s Quest for Wholeness* (1990) in response to *Hero with a Thousand Faces*. This book showed Maureen’s feminist view as to how the Monomyth should include more about women, and Campbell replied: *“Women don’t need to make the journey. In the whole mythological journey, the woman is there. All she has to do is realize that she’s the place that people are trying to get to.”* I thought that was a very sexist response indeed, because there are a lot of things women can do, and Campbell just portrays us as a prize for the quest of the hero.

There is a Bechdel test to check whether modern day movies are sexist. There are three questions:

1. Are there two or more women in it who have names?
2. Do they talk to each other?
3. Do they talk to each other about anything other than men?

It’s honestly surprising as to how many movies fail this test, which just shows that there is still sexism not only in books, but now in movies too. Films such as *The Hobbit*, *Avatar* and *Pirates of the Caribbean* all fail this test.

I think to make the Monomyth less about men, they should talk about an adventurer rather than a hero, and there should be an atonement with a parental figure rather than the father. Jung should also include a heroine in his archetype to make it more about women.

I think the fact that the Monomyth was written during a time where women were not treated equally to men influences the sexist side of it because people are what they know, and Campbell must have grown up with the idea that men were

greater than women, and reflected that in his Monomyth.

In addition, if authors do believe the Monomyth is useful, then all our stories will have the same structure and it will get quite boring. Neil Gaiman actually said, *“I think I got about halfway through The Hero with a Thousand Faces and found myself thinking if this is true – I don’t want to know. I really would rather not know this stuff, I’d rather do it because it’s true and because I don’t want to accidentally wind up creating something that falls into this pattern than be told what the pattern is.”* I do agree with this statement because the generations of authors may grow up thinking that it is all real, and all our stories will be the same and just predictable.

Overall, my opinion is that Campbell’s Monomyth isn’t the best tool for literary criticism because it was written mainly based on supernatural stories, and in current time we have all sorts of different genres. It may also encourage more sexism in stories. However, I do also think that it’s alright for writers to use the Monomyth for structure and as a back bone to their writing.

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## About the authors

J. Kolgjini is a Year 8 pupil at Eastbury Comprehensive School. Emma Whipday has recently completed a PhD at UCL on violent homes in Shakespeare’s tragedies. In her research, Emma explores how Shakespeare draws on popular representations of murderous husbands and wives in *Hamlet*, *Othello* and *Macbeth*. Emma lectures on Shakespeare at UCL, Royal Central School of Speech and Drama, and Brasenose College at the University of Oxford.

## PhD Tutor’s note

‘The Hero’s Journey’ is a Brilliant Club English Literature Programme for Key Stage 3 pupils. This course introduces pupils to literary criticism using Joseph Campbell’s theory of the monomyth, which suggests that all myths and stories around the world use the same basic structure. I have nominated J.’s essay because constructs a sophisticated argument about the usefulness of Campbell’s theory. J. analyses a wide selection of recent novels and films, and draws on an impressive range of literary theories, from Jungian archetypes to feminism. She expresses her opinion clearly and confidently, and gives concrete examples to support her points. This is a well-constructed and convincing essay, and an outstanding piece of work: I hope that J. will continue to demonstrate her elegant essay style, her confident opinions backed up by sound evidence, and her wide reading, in her humanities essays in the future!



# PYTHAGOREAN SILENCE BY SUSAN HOWE – AN ANALYSIS

E. Cramp, supervised by D. Castiglione

## INTRODUCTION

In my final assignment I will be interpreting and analysing the first excerpt of 'Pythagorean Silence' by Susan Howe. I will also be doing a literature review of the difficulty of a poem and looking at other reviews by Bernstein, Stein, Purves, Chafe and Press. I have chosen Susan Howe's poem because it was rich with meaning and I found it fascinating and attention grabbing, but on the other hand, subtle in its meaning. Her poem is engaging by virtue of its writing technique, but challenging in meaning, possibly making it more enjoyable.

## LITERATURE REVIEW

My first extract on the topic of difficult poems is from Chafe. He argues 'It is not only unfamiliar words, phrases, and locutions that may create some difficulty, but also the description of unfamiliar patterns of behaviour' (1991: 12). I agree with Chafe's comment completely. I think Chafe's extract is very relevant to the poem I have chosen because there are no unfamiliar words or phrases, yet it is still difficult to decipher. It is the locutions and unfamiliar patterns of behaviour in the poem that make it difficult, such as this line, 'View odds of images swept rag-tag'.

Chafe's extract is relevant to the argument about difficult poems. Purves's extract (1991:1) is also relevant to the argument on difficult poems, and he talks about readability formulae, created to mathematically work out the difficulty of a poem, based on its sentence length and word frequency. But there must be a flaw in this formula, since the poem I'm reviewing does not have long sentences and certainly does not have a lot of words, but is not an easy poem. Purves points out, 'They seem to work with non-literary texts, but do these formulas really hold up when one deals with poetry, drama, or fiction?' As an example of the formula's flaws, you could have an extremely long sentence with an unnatural amount of words and it might be an easy read because of the simplicity of the words and sentence structure. Purves gives another example, 'Many of William Blake's lyrics would be low on a readability formula, but many readers find them difficult'. I have read some of William Blake's poems and agree with his comment about them; they are easy to read but not easy to understand.

Bernstein also takes an interest in difficult poems, and my next extract is from him. It is from his essay 'The Difficult Poem', and I will also be including parts from his essay which are not in his given extract. He gives 5 questions that help work out whether one is dealing with a difficult poem or not. I answered those questions with the poem I'm reviewing, and though the questions are not an exact formula, I've worked out that my poem is not a difficult one. I do not find the questions hard to appreciate, I do not find the poem's vocabulary hard to understand, and even though I have struggled a little in places for my interpretation the poem does not make me feel stupid and my imagination has not been affected by the poem.

There is another side to the difficult discussion about the authors of difficult poems. Steiner has interesting comments about how authors of poems approach the difficulty of them. Steiner (1978: 33-34) says 'The poet may choose to be obscure in order to achieve

certain specific stylistic effects' which is likely in the case of the poem I am reviewing. I think Susan Howe uses abruptness and confusion as a writing style and it is a very effective writing style for the subject she wrote her poem about in my interpretation.

## ANALYSIS

In my poem, I found the style of the writer, Susan Howe, was very subtle but effective. There are very few words in the poem compared to the story it tells, which is a result of her subtle, though in some places sudden, writing style. These abrupt snippets of action highlight the important parts of the poem, such as the start of the poem where she writes 'fails' and 'falls' on lines 4 and 5 by themselves, spaces away from the rest of her writing, and also the word 'suddenly' on line 3 by itself. This also creates the sense that the poem is going faster, and the story it tells is moving on quicker than the longer, more drawn out parts of the poem, which is an engaging element of her writing style.

Enjambment is an important part of Susan Howe's writing style and technique. She uses it to emphasize certain words and phrases, spacing out the poem and using it to control the reading speed. The first example of enjambment is 'or character / suddenly' emphasizing that it's sudden, and even making the word 'suddenly' come suddenly. She then continued to use it in lines 3-4 'steps out to seek for truth fails / falls' to emphasize the fails and falls, possibly hinting they came quickly. Other good examples of her emphasizing specific phrases and words are 'Sequence /trails off', 'Which is / which / view odds of images swept rag-tag', and 'tense / as an order'.

These sudden fragments of her writing almost lead to lack of coherence in places. In lines 16, 17 and 18 she writes 'Which is / Which / View' which has no coherence at all. I cannot find a reason why she wrote this and how it fits in with the rest of the poem. I think it works as a good technique to create a sense of confusion in the reader. Or it could be used to express things happening too quickly for the character to register which makes sense with her sudden way of writing. There is another potentially confusing part, but instead it is a wonderful effect of semantic deviation. 'Flocks of words flying together' has a slight hint of semantic deviation, and even though it contributes to lack of coherence, it still classes as coherent. It fits in with the next line of the poem which is 'Cast off to crows' keeping on the theme of birds and flying. It is a good use of a metaphor.

'Flocks of words flying together' also counts as defamiliarization, since it relies upon an ordinary aspect and turns it into an unordinary one, and it's portrayed in a different way by the writer to make an effect of semantic deviation and metaphor.

In the first five lines, Susan Howe uses very abrupt verbs and adjectives such as 'fails' by itself spaces away and 'falls' with the same space technique, making it seem even more abrupt and sudden, as well as 'suddenly'. That is the only place in the poem where she uses that effect, and could be to portray that time went

more quickly at the start. Perhaps it is referring to the fact that time seems to pass quicker when you are younger, like the character mentioned. In the next five lines, 5-10, her sentences and lines are longer, slowing down the speed of reading and describing things more thoroughly. As an example she uses the line 'waving fables and faces War' with two verbs before the two nouns. I am not sure if it is an effect or simply by accident but she uses a word beginning with w then f, and after she uses words beginning with f then w. . . From lines 10-15 reading speed stays at the same rate, maybe slightly slowing down from the fives line before. 15-20 gets faster with the two lines 'Which is / which' and spreads across three lines, but lines 15 and 18 are longer: 'Holes in a cloud are minutes passing' and 'view odds of images swept rag-tag'. Lines from 21 to the end have the most words in the poem:, 'seconds forgeries engender' and 'flocks of words flying together tense / as an order'.

## SUMMARY OF ANALYSIS

During my analysis, I have discovered a lot about the style and technique of the poet Susan Howe. Her techniques are clear and strong, and she uses her words and spacing carefully to create a certain effect to the poem. In some places she uses speed of reading or confusion or abruptness, and she chooses her words carefully to create a very precise effect to the reader to express the story in the exact way she wants. She uses as little words as possible; portraying the story in snippets of technique and phrases, and her writing style is one of my favourites and engages me the most.

## INTERPRETATION

In this section I am going to give evidence towards my interpretation and explain in further detail about the story I read when I read Susan Howe's poem. I have thought carefully through many different interpretation possibilities, and know that the interpretation I have worked towards is the most plausible and agreeable I could have found. Susan Howe's poem does not have a clear interpretation, and I think for this poem it is very much the case that no interpretation is wrong or right, since there are many possibilities of how you read it.

I think Susan Howe's poem is based on a character and the travels he makes in his life time, but also has a strong mention of war. It is also unclear whose view the poem is from, with only a mention of 'we' and the rest in third person and no hint as to who it is. This character comes 'suddenly' or 'suddenly / steps out to seek for truth', then 'fails / falls / into a stream of ink', the ink possibly meaning depression or sadness since he failed to find the truth, and their 'Sequence trails off', meaning possibly his regularity of life goes due to depression/sadness portrayed by the 'stream of ink'. This character then gains renewed hope and 'must go on', and the poem dives into the mention of the war, which is where there are even more interpretation possibilities to choose from. 'Waving fables and faces War' quite clearly means there is word of war, and then the war begins, but due to the time the poem is written and the fact Susan Howe is American it is unlikely there was a real war to inspire her poem. Or it could be an exaggeration of something happening in the character's life, just an argument or fight rather than a war. 'Manoeuvring between points / between / any two points' brings to mind someone dodging two points, going in between any two points, the use of the word 'any' implies aimlessness rather than planning.

'Which is / what we want (issues at stake) / bearings and so' suggests that there are influences into whoever 'we' is acting. It makes you wonder who Susan Howe had in mind when deciding whose point of view the poem is from. It must be someone involved in 'we', and it cannot be the character since this is presented in third person. 'Holes in a cloud are minutes passing' means that a lot of time is going by, since clouds are known to be slow, and brings to mind images of cloud watching. 'View odds of images swept rag-tag' hints at things destroyed and ruined, possibly by the war.

'Seconds forgeries engender' suggests a negative approach to someone, portrayed with the word 'forgeries' and the fact they're provoking something, possibly describing the opposing side of the war. 'Flocks of words flying together / tense as an order' could be the army talking and planning, or could hint at the mention of carrier pigeons used in the war to carry messages, which would make sense since they carried orders.

## CONCLUSION

In my review of Pythagorean Silence Excerpt 1 I have found out a lot about the writing style of Susan Howe. Her techniques are engaging and easy to understand, and her way of writing and the words she uses captivates the reader, and is very enjoyable to read. Her poem in my mind is split. At first it is about a character, and his struggles with finding the truth, and his emotions, and then it mentions war and brings images of manoeuvring between points and ruins. I think her writing style and technique expresses the poem effectively. Her abrupt way of writing expresses certain affects, either confusion or rapidness or randomness, and is created with good use of enjambment and spacing. She creates good images with the words and lines chosen, and I enjoy reading the poem immensely.

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## About the authors

E. Cramp is a Year 8 pupil at George Spencer Academy in Stapleford, Nottingham. Davide Castiglione is completing his PhD at the University of Nottingham, on the topic of difficulty in the language of modernist poetry.

## PhD Tutor's note

E.'s essay is the best one across the two groups of pupils I have been working with. She has chosen a challenging poem by Susan Howe and explored in detail its stylistic features and the effects these create in the reader. She has adopted a range of techniques introduced in the course, from introspection to stylistic analysis, from argumentation to evaluation. It is challenging, for pupils this age and in such a short time span, to understand and interiorize the basics of a literature review, but E. engages effectively with the critical sources provided. The essay is well-structured, with useful signposts for the reader and interim summaries. Her academic style is remarkably mature for her age. I have also been impressed by her overall interpretation, in which I glimpsed a strong sensitivity to literary language and an enthusiasm for an experimental, postmodernist poet who is certainly not part of the syllabus.



# CAN TERRORISM EVER BE JUSTIFIED?

M. Hussein, supervised by M. Prodromou

## INTRODUCTION

In my essay I will be using the narrow definition of terrorism: terrorism can only be against ‘innocent’ people (Primoratz, 2015). I have chosen a narrow definition because it focuses on one area of terrorism. In my essay I will be highlighting the key parts of terrorism against innocent people and show examples of terrorism in the past.

## DEFINITIONS

There is no single definition to the term terrorism and all depends from which side of the conflict you look at it. A hero of someone could be seen as a terrorist by the opposing side. The Oxford Dictionary’s definition of terrorism is, “the unofficial or unauthorized use of violence and intimidation in the pursuit of political aims”. In my opinion, there are a couple things wrong with this definition. The first thing being that it says that you need to be official or authorized not to be classified as a terrorist. But governments are authorized and official which means that they can’t be terrorists. The second thing wrong with the above definition is that it rules out any other objective other than a political one.

Another definition I found incorrect was the Collins Dictionary’s definition: “terrorism is the use of violence in order to achieve political aims or to force a government to do something”. This one is very similar to the first one. They both say terrorism can only be against governments and that if you’re after the government you’re a terrorist. But this one also says that if you are trying to force the government to do something then you are a terrorist. So if the government is trying to force someone to do something they’re not terrorists. Also the government probably has more power than the ‘terrorist’ and this definition fails to explain what is that something they are forcing the government to do.

So I have come to the conclusion that these do not fully explain terrorism and I decided to come up with my own definition of terrorism: the unfair or forceful use of violence and intimidation against a particular group of people to cause terror, kill or to bring harm to innocent people; killing without good reason (e.g. defending your freedom or rights) or killing for religion. Many people believe that the government cannot be terrorists but I believe that if they kill innocent people or cause harm to innocent civilians in any way they can be considered as terrorists.

## TYPES OF TERRORISM

There is more than one type of terrorism so I have found two that probably cause the most damage to innocent people.

### 1) State terrorism

Many people argue that states cannot be terrorists but I disagree because states have the power to cause terror to innocent people of their own country and of others. An example would be communist countries that suppressed their own people and that of Nazi Germany, which conquered neighbouring countries, and the killing of six million Jews in WW2.

### 2) Bio terrorism

This is the international release of toxic agents to harm or bring terror to people. The U.S. centre of disease control has classified the bacteria, viruses and toxins that could be used in an attack. These include: anthrax, botulism, the plague, smallpox, tularaemia, and hemorrhagic fever due to the Ebola virus or Marburg virus. (Bioterrorism, 2014)

## EXAMPLES OF TERRORISM IN THE PAST

There are many different examples of ‘terrorism’ in the past but should all of them be considered as terrorism? For example Nelson Mandela who is now a very important figure in black history was considered a terrorist by the government of South Africa. But I believe he was a freedom fighter fighting for equal rights in South Africa. A freedom fighter is someone who fights for freedom not always through violence. According to my definition he had a good reason for his actions, which was freedom and equal rights. Nelson Mandela did not attack innocent people instead he targeted government buildings and other important infrastructure when left with no other choice. He was also the head of an organisation called the Umkhonto We Sizwe (Spear of the Nation), which was the militant wing of the ANC (African National Congress). The ANC was accused of some attacks on innocent civilians, but Nelson Mandela said that he was not part of them and he never endorsed killing people. His actions are justifiable. When Mandela was in court he said: “This conclusion was not easily arrived at. It was only when all else had failed, when all channels of peaceful protest had been barred to us, that the decision was made to embark on violent of political struggle . . .” (Mandela, 1964).

Another example of terrorism is Adolf Hitler who was the leader of Germany in WW2 (World War Two). A World war is a war involving many large countries from all around the world. Hitler ordered an unprovoked attack on Poland, which made France and England declare war against Germany. He was a racist who believed the German race was the most superior race in the world and he only liked blonde haired people with blue eyes whom he called the “Aryan race”. Someone who is racist is someone who thinks one race is superior to the other or someone who hates a certain race. His plan was to eliminate the Jewish and the gypsies, to rule all over the world and enslave any race that weren’t Aryan. In fact he was not Aryan himself. I believe Hitler was a terrorist because he attacked innocent people, he killed for the purpose of world domination, he killed innocent people, because of who they were and that they weren’t Aryan. His type of terrorism is state terrorism and his actions are unjustifiable.

A more modern example of terrorism is Al-Qaeda (“The Base”). They are an Islamic extremist group who were the cause of 9/11, one of the most remembered terrorist attacks in history. 9/11 refers to the date when al-Qaeda attacked the twin towers in America; they used suicide pilots to crash commercial planes into them. Many innocent people were killed in the attacks. They also forced their beliefs on people.

Al-Qaeda was funded by Osama bin Laden in the late 1980s. Osama was the son of a wealthy Saudi-Arabian and was also an engineer by profession. He became the most wanted terrorist and the FBI placed a \$25 million bounty on him. Eventually he was shot and killed in a private residential compound in Abbottabad, Pakistan. Al-Shabaab (“the youth”), an extremist group based in Somalia, was also part of Al-Qaeda. In 2012 they pledged alliance with Al-Qaeda. They are also held responsible for many deaths. I believe that Al-Qaeda and Al-Shabaab are all terrorists because they both are responsible for many deaths and attacks on innocent people, such as 9/11 and their attack on Somalia, they were forceful and forced their beliefs on people and they killed for their interpretation of religion. Their actions are unjustifiable.

An example of terrorism that is happening at the moment is Isis (Islamic state of Iraq and Syria), which is also an extremist group. The group kills Muslims and non-Muslims and anybody who does not embrace their twisted ideology. They are also in charge of the beheadings of many aid workers who went to Iraq and Syria to help those in need, but were kidnapped and shortly after killed. They have made videos of them beheading these innocent people and committed their crimes on camera. Many young Muslim children and teenagers have been brainwashed to go to Iraq and Syria to help Isis commit their crimes. Isis, Al-Qaeda and Al-Shabaab claim to be Jihadist groups. When talking about jihad there are two extreme views: the ones who say that there is no such thing in Islam and the ones who say you always need to perform jihad, like Isis, who are so extreme that they believe that you can kill Muslims if they commit a sin and you can kill any non-Muslim. But this isn’t the real Islam this is just their interpretation of it. They have taken the real religion and twisted it so it can suit their needs. But why is Isis killing fellow Muslims in Iraq and Syria if they are the practically same religion? So therefore I believe that Isis’s actions are unjustifiable because they kill innocent people, torture them and they do it for their false interpretation of a religion, which isn’t a good enough reason to justify their actions.

## CONCLUSION

My conclusion is that terrorism is unjustifiable and killing is always wrong. I have arrived at this conclusion because if you kill it doesn’t just affect one person it affects their family, relatives, friends and people who knew them. What if the person is on your side? And in the end if you use violence people will remember you for that and all the innocent people you killed and not what you achieved. Even if it’s for freedom you shouldn’t hurt people because they have a right to live just like you have a right to freedom. I also think that is wrong to kill for religion or your interpretation of it because which religion would allow people to kill people? Even if you are part of the government you should not use your position to your advantage. For freedom fighters there is the non-violence option of civil disobedience; a type of struggle successfully used by Dr. Martin Luther King and Mahatma Gandhi.

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## About the authors

M. Hussein is a Year 8 student at Whitefield Academy. Maria Prodromou was awarded her PhD in Continental Philosophy at the University of Essex, where her research focused on writing as a political form of resistance. She currently teaches Philosophy for Children (P4C) in Oxford and London.

## Phd Tutor’s note

The course was entitled ‘Can Terrorism Ever be Justified?’ and introduced students to the moral and philosophical dilemmas of terrorism. M.’s essay was chosen for submission to The Scholar because it demonstrates signs of philosophical aptitude, first and foremost the courage to question convention as evidenced in its critique of standard definitions of terrorism. M. then proceeds to provide an original definition of the term, which is not only interesting but also quite convincing. She evaluates contextual information clearly and comprehensively and addresses some of the fundamental conceptual difficulties in defining terrorism.

Finally, her concluding answer to the question, though rudimentary, nonetheless bears witness to the ideas of radical freedom and choice and how they should inform moral decisions and political action.

# COMPARE TWO OR MORE TECHNOLOGIES COVERED IN THIS COURSE WITH REFERENCE TO THEIR IMPACT UPON THE VICTORIAN PERIOD. WHICH DO YOU THINK WAS THE MOST IMPORTANT TO VICTORIAN LITERATURE AND CULTURE?

J. Inkster, supervised by N. Bush

Throughout the Victorian period, numerous advancements in technology came to pass, with each of them impacting upon different aspects of cultural and social life: transport, communication, artistic creation, and so on. I argue that the telegraph, the camera, and the railway were the most important to Victorian literature and culture; I will explain why throughout this essay, making reference to the works of Charles Dickens, Bram Stoker, George Eliot and Charlotte Brontë.

I turn first to the railway. The railway was introduced in England at around 1830. The country's clear-cut metropolitan and rural divide suddenly became linked; a land of winding, haphazard roads was straightened; goods travelled faster, steam filled the air and even time itself was amended to suit this new age. An advancement of such enormity and bearing such wide implications as this was naturally going to draw the attention of those whose job it was to describe the world they saw, particularly the writers of that time.

This essay will first consider the writing of Charles Dickens. The railway found its way into his work, most notably but not singularly (for he wrote a short story set by a railway called 'The Signalman') in his novel *Dombey and Son*. In this novel—written in 1848—he describes in lavish detail the impact that it had on the communities through which it advanced. His representation recognizes the capitalist boons the railway gave rise to (commerce, boarding houses, repairs, exportation), but he focuses heavily on the negative aspects, with a particular emphasis on the destruction of old ways by the introduction of new ones. We find examples of this from the very start of his description. There are no descriptions of gleaming new marvels gliding into the streets; instead he writes that the railway was as 'a great earthquake' that 'rent the whole neighbourhood to its centre' (p. 67). This is a very dramatic and violent way to look at the railway: the word 'rent' implies that great force was used in bending the community and 'earthquake', naturally, suggests the railway was a disaster.

Dickens focuses on the struggle between the past and the encroaching modernity brought by the railway. He describes it as a 'monster train'; he calls them, collectively, 'the conquering engines' and describes those that they affect as 'the vanquished'. This is very negative imagery and highlights quite plainly the damage he feels it has inflicted on people and their communities. Within all this destruction, he makes sure to mention that a vestige of the old ways 'Stagg's Gardens—is secure!' (p. 233-4). Here he is displaying his concern for the old ways being eroded by the new.

Overall, it is clear that Dickens's novel displays a concern about how much of the old world will be left in the end, and whether the railway will continue to damage communities and the environment. From this we can see that its impact was huge in both reality and in the fiction at the time. His writing has been influenced so greatly by the railway that he cannot help but—in his representation and description—note how enormous its negative impacts were on Victorian culture. It affected communities geographically and physically, and it impacted upon society too: it seems the railway that linked the country at the same time broke apart the links between classes. For, as Jane H. Berard writes in *Dickens and Landscape Discourse*, 'The increased wealth of some only seemed to separate classes further' (p. 37).

Now I will consider the telegraph. The telegraph gave its users the ability to send messages across great distances—even across the Atlantic! This technology, therefore, gave people an agency in conquering distance. The railway before it had done so, but this method was faster, of much greater subtlety (it did not damage societies like the railway did) and it was information-based, given that you could send only words. Despite all this, I feel that the most impactful element of all, in regard to literature, was that the telegraph worked with electricity; the messages were transmitted by an invisible force. The messages left where they were and then arrived somewhere else without—seemingly—any physical movement. To imaginative and creative minds this would have been both astounding and stimulating; ideas would have formed that hitherto had been too fantastical or outlandish. I believe this subtle, invisible movement of information was the origins of 'telepathy' in Victorian literature, and this is best exemplified by its use in Bram Stoker's *Dracula*.

*Dracula* is a vampire: a supernatural being with power over the physical and metaphysical realms. His powers include telepathy, immortality and shape-shifting. I believe his telepathy was directly inspired by the telegraph, for, as I stated previously, the telegraph allowed you to send messages across great distances, apparently without physical movement. For, as Jill Matus writes: 'The invisible force of electricity, apparently an immaterial phenomenon, spurred the cultural imagination of communication and transmission (as in the telegraph) that collapsed time and space' (p. 136). Something that is 'invisible' is to the imagination magical and supernatural, like *Dracula* himself.

Furthermore, *Dracula* has an impact on Mina's friend Lucy whilst he is elsewhere; he is having an effect across 'time and space'. Lucy reveals in the novel that she is losing control of her mind and body, that she is under *Dracula*'s command. This she shows by the words 'I know that when the Count wills me I must go' (p. 303). This supports my idea of

telepathy, for, not only is the Count out of the area at this point, Stoker uses the word 'wills'. This word we see commonly used when you 'will' your body onward. This suggests that Lucy is now an extension of *Dracula*, and can be willed into action via his thoughts, like his own body can. To conclude, this telepathic transference of information is, in essence, how the telegraph appears to work in reality, and demonstrates its impact upon the literary and cultural imagination of the time.

Lastly, I come to the introduction of photography: it had an impact on literature because it encouraged ideas of realism in the style of the Victorian novel. Photographic technology had a great impact on the Victorian mind, because, all of a sudden, moments could be captured and stored forever on paper, quite as if they were still real and extant (much like the phonograph offered for sound.) This immortality was an impactful factor—for now moments could not be lost—but greater still was the immense amount of detail a photograph could provide. Some novelists thereupon wanted to provide this same level of realism and detail in their works. One such writer was George Eliot.

George Eliot strove to make her novels photographic; in *Adam Bede* she describes that she attempted to refrain from representing things as 'they never have been' and to instead provide an almost photographic text, which offer truthful stories filled with detail, thus achieving realism. However, I said George Eliot made her novels almost photographic. The almost is key here, for she expressed that no matter how tenaciously she worked at her novels, no matter how much she tried to reflect reality and realism, 'the mirror is doubtless defective' (p. 158-161). The use of the word 'defective' shows clearly that Eliot was conscious of never being able to achieve her goal, and the novels would always be just a verisimilitude of reality. Though she felt she had failed, the sheer amount of effort she put into achieving realism in her novel can be used as a measure of how important photography was for the aims of literary writers.

Conversely, Charlotte Brontë felt that realism—and trying to stick to it invariably—was debilitating to the writer, and that he 'may be in danger of repeating himself' should he stick to the facts all of the time. This shows that photography had a negative impact too. Brontë argued that 'when she [in reference to 'the imagination'] shews us bright pictures are we never to look at them and try to reproduce them?' (Letters, p. 90, 98). Brontë uses the words 'picture' and 'reproduce'. Often, artists try to 'reproduce' the pictures of other artists, mimicking their style, colour, tone and technique; I think she felt writing to be similar to artistic expression and a place for exciting pictures to be created, rather than a mere representation of reality.

However, Brontë, though more in favour of artistry and imagination than of photographic realism, still poured out words onto the page and described all in lavish detail. I think that this shows that even though she did not try to write in a realist style, she still wanted to make her imaginary pictures, made from words, as detailed and truthful as they could be without actually being so. This creates a kind of hyper-realism—as if the novels became 'hyper-photographic'—and

is exemplified in her description of Rochester's house *Thornfield*, where Jane Eyre works as a governess: 'Its grey front stood out well' from 'an array of mighty old thorn trees, strong, knotty, and broad as oaks. [...] Farther off were hills: not so lofty as those round Lowood, nor so craggy, nor so like barriers of separation from the living world; but yet quiet and lonely hills enough, and seeming to embrace *Thornfield* with a seclusion I had not expected to find' (p. 97-99). This helps support my argument that her works were more artistic pictures than photographic ones, and that her words were her paint, as it were. But it also suggests that even in writers not directly supportive of realism, photography was still having its impact in their use of detail to represent an imaginative scene to readers.

Photography had a great impact on the idea of realism because people had long felt realism was the same as truth (a thing artists and writers often tried to convey), as shown by the writing of William Dean Howells: 'Realism is nothing more and nothing less than the truthful treatment of material' (p. 966). But I would argue that truth can be found and placed in works of fantasy as well, and that truth is not always in the real. For, as the critic George Levine states, 'Language, in representing reality, most forcefully demonstrates reality's absence. At best, language creates the illusion of reality. Language, finally, can represent only other language', meaning that, after all, even 'realistic' works are only a representation of reality, not reality itself and therefore not truth itself either (p. 6).

To conclude, out of all these momentous advancements in technology, which was the greatest in its literary impact? I would argue that the telegraph was the most significant. The railway conquered distance but was in essence a step-up from earlier transportation; it had wheels, it moved, you could see it, you could ride it, much like the horse-and-cart. Whereas the telegraph was quick, further reaching, and made information all the more easy to send and receive. Moreover, from a literary standing, it was invisible. This fact is key in its appeal to the literary imagination at the time. The development of photography, too, was important in the sense it promoted realism, but this was also touched upon by the Dutch Realist painters sometime earlier (as Eliot describes in Chapter Seventeen of *Adam Bede*), whose ambition it was to capture the reality of everyday life. The telegraph out of all these advancements in technology was unique, it was the most ambitious, and was the most fantastical, thus appealing to and influencing the literary minds of the Victorian Age.



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About the authors

J. Inkster is a Year 10 pupil at St Wilfrid’s RC College, South Shields.  
Nicole Bush is in the completion year of her PhD at Durham University, in the Department of English Studies, researching Victorian Literature and the Early Cinematic Imagination.

PhD Tutor’s note

I am nominating J.’s final assignment for publication because it represents exceptional work for a pupil of his age group. J. has worked diligently throughout the course, engaging in discussion and completing all the required reading and homework tasks. From the start, his grasp of the topic, innovative and bold ideas, and written expression have been impressive, and this level of achievement continued into his final assignment (for which he scored a high First).  
In his essay, J. engages with three new technologies of the Victorian period, and considers each in relation to the language and content of a selection of literary fiction.

His writing is clear and engaging and demonstrates an excellent grasp of correct punctuation, scholarly referencing, and use of terms relevant to the discipline of literary studies. This clarity of prose allows his imaginative ideas to really stand out. His essay goes beyond what was discussed in tutorials to make some very insightful comments about the influence of technology upon literature. Further, he correctly uses work from secondary critics to support his ideas, and has even done some archival research on Victorian periodicals to find further primary sources in addition to those provided in the handbook.

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# RELATING THE IMPACT OF HAZARDS FROM VOLCANIC ERUPTIONS TO THE TYPE OF VOLCANO

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### Abstract

This study has attempted to compare and contrast both primary and secondary hazards from two distinct types of volcanoes; shield and composite volcanoes. A specific example of each type of volcano: Kilauea, in Hawaii (a shield volcano) and Mount Etna, Sicily (a composite volcano) was used in this study and their eruption statistics summarised from the online database in the Global Volcanism Programme (Smithsonian Institute). The formation and structure of both types of volcano are shown to be closely linked to the local chemistry of magma. Also, it is shown that the magma chemistry has an important bearing on the energy density of the magma for eruptions in terms of a specific difference in the volume of dissolved gases, found to be lower in rock type basalt (shield volcanoes) and higher in rock type rhyolite (statovolcanoes). This is shown to relate closely to the Volcanic Explosivity Index (VEI), with Kilauea, a basalt shield volcano, having a typical VEI of 0, whilst the Mount Etna rhyolite volcano has a typical VEI of 2-3. A survey of the primary hazards (lava, ash fall and pyroclastic flow) and secondary hazards (tsunami, atmospheric effects of ash and dust, lahars and landslides) from both types of volcanoes is undertaken and also related to the chemistry of the magma. The impacts of the hazards have been categorised as one of three classes; either local (close to the source volcano), regional (in the same continent as the volcano) or global.

### 1. INTRODUCTION

Hazards from volcanic eruptions globally vary in accordance with the type of physical structure found in volcanoes. This report will look at two distinct types of volcano structure; shield volcanoes are commonly referred as ‘heterogeneous’ because they are made up of different types of rock, and likewise composite volcanoes are ‘homogenous’ because they are made of the same type of rock. Upon comparing and contrasting these two types, the range of hazards found can also be indexed from localised (impact to its immediate surroundings), regional (impact over continental sized area) to those having a global footprint. To explain the processes in detail, two representative samples from each type of volcano; Kilauea, Hawaii (shield volcano) and Mount Etna, Sicily (composite volcano) are studied alongside their specific eruptive properties, frequencies and magnitude of eruptions.

### 2. BACKGROUND TO KILAUEA AND MOUNT ETNA.

Mount Etna, Europe’s highest<sup>2</sup> and most active volcano, standing at 3,350 m above sea level (AMSL), is typical of a composite volcano. Figure 1 shows that Mount Etna is formed on a convergent plate boundary<sup>6</sup>, with the subduction of the African plate under the Eurasian plate, creating the subduction zone. The latter of the two plates deforms as the African plate melts beneath the surface, causing a build-up of magma which can exert enough pressure on the overburden rock to break through and fracture the rock, forming vents and dykes for the magma to travel through. Composite volcanoes are high conical<sup>6</sup> type structures having steep slopes up to 30° near the top, down to 5-10° near the base<sup>7</sup>. The characteristic conical shape is largely controlled by the composition of the magma. High viscous magma results in thick, slow moving flows which do not travel far from the vent openings, and over time help to shape the conical mound. The structure of composite volcanoes is composed of layers

of lava flows, separated by pyroclastic material (from previous eruptions) in up to equal proportions (sometimes successive layers of lava and pyroclastic flow). Mount Etna has had a very eruptive history with the majority of eruptions classified as a strombolian style, with sub-plinian tendencies<sup>8</sup>; this giant structure has been under constant stress, erupting non-stop since 1983. On the other side of the world, Kilauea is a typical homogenous or shield volcano situated on the Hawaiian Islands<sup>1</sup> at 1,247 metres above mean sea level (AMSL), surrounded by 4 other volcanoes, some of which tower over Kilauea. Kilauea has a very interesting formation, which is uncommon in volcanic structures. Instead of forming at tectonic plate boundaries (like Mount Etna), it is instead known as a hotspot volcano, shown in Figure 2. Hot mantle from beneath the earth’s surface has risen through the lithosphere surfacing as a volcano, which in turn fractures the rock forming dykes. This hot spot is fixed whilst the plates move, making a new chain of volcanoes along a line.

Typical shield volcanoes are large scale shallow structures with small upper slopes (~5°) and slightly steeper lower slopes (~10°). As with composite volcanoes, magma chemistry has a major contribution on the shield volcano structure. Low viscosity magma tends to flow further, and hence the shield volcano is composed of successive thin layers of flat level lava which build up over time (Figure 3). This results in a typical circular shape found in shield volcanoes. Close to the vent; the magma tends to be hotter and less viscous, and so flows faster (shallow slope of the shield close to the vent). The further away from the vent the magma is, the more viscous it is (flow slows down) leading to a steeper slope. In contrast to composite volcanoes very little pyroclastic material is found within the structure (associated with previous eruptions). Kilauea has very eruptive history with a continuous series of low-level eruptions spanning the last few decades.



Figure 1 Typical composite volcano structure (St. Augustine Volcano, Alaska)

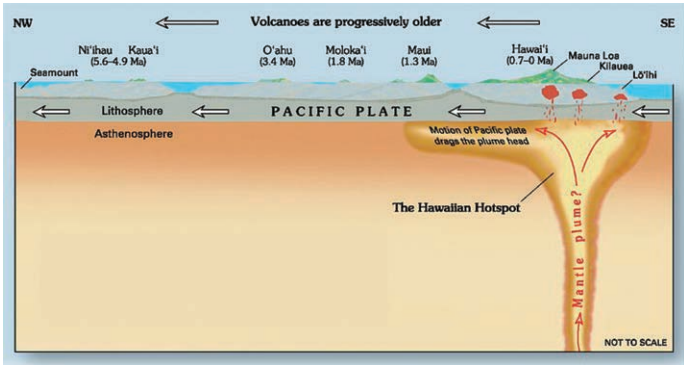


Figure 2 Hawaii hot spot.

### 3. PRIMARY AND SECONDARY HAZARDS

Lava flows are common for all volcanic types and are relatively slow moving, which do not usually present a hazard to people who can generally move out of the way. However lava flows can be damaging to any structure, property and land over which they flow. The speed of flow of lava is highly dependent on the composition and temperature (Figure 4). Lava found typically in shield volcanoes (Kilauea) constitutes as basaltic (lowest concentrate of silicon dioxide, high in trace metals such as iron calcium and magnesium); whilst lava typically associated with composite volcanoes (Mount Etna) are rhyolitic (higher concentration of silicon dioxide, low in trace metals). It is this higher concentration of silicon dioxide which shapes the property of the magma; the silicon dioxide forms large tetrahedral based polymeric structures greatly increasing lava viscosity. The typical viscosity of rhyolite is 108 Pa.s with classic temperatures of 800°C, whilst for basalt it is 1-102 Pa.s with temperatures of 1200 °C. Increasing temperature tends to reduce viscosity by effectively breaking down the extent of silicon dioxide polymerisation. So in general, the lava from shield type volcanoes is expected to be relatively faster moving whilst having the ability to cover larger areas close to the volcano. As the lava moves it cools and becomes more viscous before the flow stops and solid layers form. The hazard from lava eruptions for either type of volcano is relatively localised around the volcano (although covers a large area for Kilauea) and does not have a regional or global impact.

Pyroclastic flows refer to the fragmented rock and dense gases that move ‘fluid-like’ at high velocities away from the erupting source, usually when violent volcanic eruptions occur. Volcanic eruptions can be categorised using the Volcanic Explosivity Index (VEI). This index is a logarithmic scale above VEI of 2 up to a maximum at VEI of 8 (super volcano) in terms of parameters such as increasing volume of tephra (rock fragments > 64 millimetres), plume height and frequency of eruption, etc. An analysis of VEI for historic and current eruptions from the Smithsonian Volcanic Survey<sup>12</sup> for both Kilauea and Mount Etna is summarised in Table 1 and Figures 6 show that Kilauea, typical of shield volcanoes, have VEI of zero; a characteristic of effusive, Hawaiian style eruptions. These are distinctive of basaltic lava having low gas and water vapour content. In contrast, Mount Etna, typical of composite volcanoes, have a much higher VEI (Figure 6); in the case of Mount Etna averaging VEI of 2 with some eruptions up to VEI of 5.



Figure 3 Typical shield volcano structure (Skjaldbreiður, Iceland)

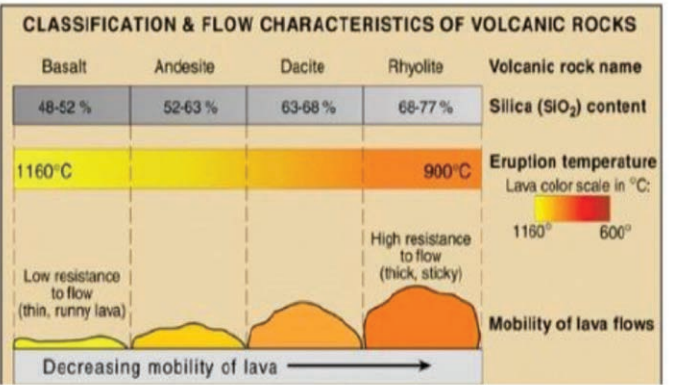


Figure 4 Classification of magma.



These powerful explosive events are characteristic of composite volcanoes having highly viscous lava with very high gas and water content. When the magma rises above a critical height (corresponding to a critical pressure), explosive forming and bursting of the gas bubbles fragment the magma into the gas/liquid mixture under high pressure. Explosive release during a volcanic event forces ‘clumps of liquid’ which cool as they fly in the air forming pyroclasts or volcanic ash. At high release pressure, (high VEI explosions) the material can rise very high into the atmosphere only to be carried by the prevailing winds across long distances away from the source with potential global footprint. At lower explosive pressures (lower VEI about 2-3); the eruption column is only several hundred metres high and when that collapses, it produces a pyroclastic flow rapidly travelling down the sides of the composite volcano.

Pyroclastic flows can form in many ways from the collapsing of the eruption column, or an explosion on a lava dome or lava flow. With the mass of the dense mixture combined with velocities<sup>18</sup> up to 200m/s this flow can destroy almost anything it comes into contact with. The temperatures can vary within such a flow, with the pyroclastic flow generally between 200-700°C. Following this flow, a mixture of ash and gas accumulates together forming a very dense, opaque cloud. What makes this hazard dangerous to people is the amount of momentum it can gain in response to gravity, which in turn makes it very hard for local inhabitants to escape in time. Figure 7 clearly highlights the fast travelling pyroclastic flow, with the rising cloud of smoke and ash lagging behind due to its lower speed and greater buoyancy. Ignimbrite deposits remain hot and could be hazardous to those trying to prevent lava flow, such as in the Mount Etna eruption of 1992, where controlled explosions and specific unearthing diverted the lava flow from affecting the town of Zafferana, Sicily. Applying the principle of conservation of energy, it is easy to understand that the conversion of gravitational potential energy into kinetic energy of the debris, contributes to the speed of the mass down the steep angle of the slope.

Table 1 Summary of VEI statistics from Smithsonian Volcanic Survey		
VEI	Kilauea	Mount Etna
0	74	3
1	11	47
2	4	89
3	0	25
4	1	1
5	0	2

While Mount Etna has both effusive and explosive eruptions, the latter can cause a significant pyroclastic flow. The ash produced poses a major hazard for local villagers and with the nearest airport being only 35km away (Figure 8) from the volcano, large areas can be affected. Despite the known frequency of eruptions, many people wish to live near the active volcano since the soil located around the site is very fertile and excellent for agriculture. Although pyroclastic flows have occurred in Kilauea’s history, they are not very commonly associated with shield volcanoes. The most recent eruptions (within the last few decades) have been mostly effusive due to the volcano being fed low-viscous basaltic magma.

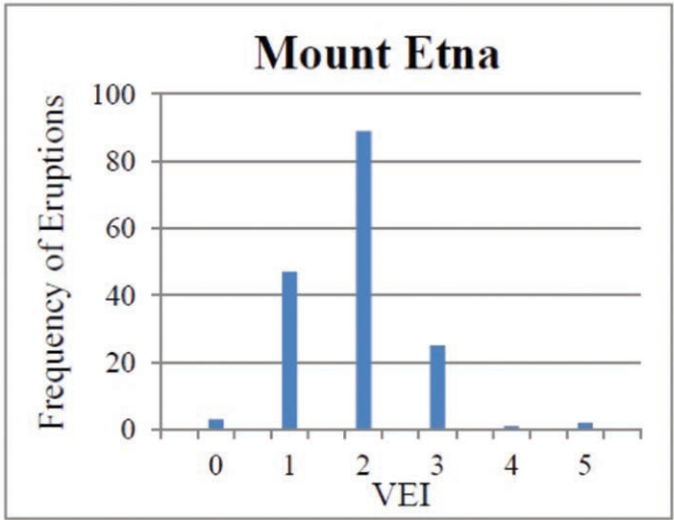


Figure 6 Histogram of Mount Etna VEI

Pyroclastic flows are naturally associated with the more violent composite volcanoes, with VEI 2-3. The famous historic eruption of Vesuvius in Pompeii (79 AD) is an example of such a powerful event killing over 20,000 people. In spite of the power of these events, pyroclastic flows are only dangerous locally; the flows will lose energy over flat surfaces and eventually deposit as a surface layer extending many tens of kilometres and do not have enough energy to have a regional or global impact.

The greater the explosive nature of the volcano, the more the ash can contribute to a local, regional and global footprint. Low VEI explosive events, typical of shield volcanoes (Kilauea), eject small quantities of material up to a 10-100m into the air (sometimes 500m, typical of a Hawaiian style eruption). This material is not carried far and forms dense ash deposits quite locally to the eruption. In populated areas, evacuation is usually the only action; the ash density is sufficient to collapse roofs, damage structures and destroy any agriculture, as well as cause asphyxiation. High VEI explosive events, characteristic of composite volcanoes have the power to eject large volumes of material high into the atmosphere. This fine material can be carried over significant distances by the trade winds, can remain in the atmosphere for momentous timescales (months to years, from a composite volcano such as Krakatoa, 1883) and be deposited globally. Hence, ash from shield volcanoes is only a significant hazard locally, whilst for composite volcanoes the impact of the ash can be significant locally and even regionally and the global impact (apart from a thin layer of ash dust) is generally felt through secondary effects such as reflection of sunlight (leading to cooling of the earth), colder winters and impacts on crops.

Together with ash, volcanoes also release large quantities of gases into the atmosphere, mostly water vapour (H<sub>2</sub>O) along with more harmful gases; sulphur dioxide (SO<sub>2</sub>), hydrogen chloride (HCl), hydrogen sulphide (H<sub>2</sub>S), carbon monoxide (CO) and carbon dioxide (CO<sub>2</sub>). Basalt lava from shield volcanoes (such as Kilauea) has a lower concentration of dissolved gases compared to rhyolite lavafrom composite volcanoes. Once released into the atmosphere, these acid gases can be carried by the winds and ‘washed out’ of the atmosphere to be deposited as acid rain while carbon-dioxide

and water vapour adds to the ‘greenhouse effect’. Carbon monoxide (CO) can be fatal through asphyxiation which poses an additional local hazard. The extent of the secondary impact from these gases tends to mirror that of ash; for shield volcanoes the impact is local while for composite (for very high VEI) the impact can be global.



Figure 7 Typical pyroclastic flow. (St. Helens Washington)



Figure 8 Showing the locations of Mt. Etna and the nearest airport (Catania Airport), with a displacement between them of approximately 35km.



Figure 9 Typical gases from eruptions:

Tsunamis, another secondary hazard, are usually associated with volcanoes (or earthquakes) close to the oceans (e.g. Pacific ‘Ring of Fire’). The mechanism for the tsunami generation for both types of volcano is the deposition of large volumes of material rapidly into the water (through direct effects such as flows or indirect effects such as lahars and landslides). The tsunamis generated can have a devastating impact on local and regional areas and extend to the line of sight of coastal zones around the world (coastal regions typically having high populations).

Lahars (mud flows) are formed when water, from melting snow, ice or even rainfall, combine with loose ash deposits and start to flow. These almost exclusively occur on composite volcanic edifices which tend to erupt explosively. Their tall, steep cones tend to be either snow covered (like Mount Etna), topped with a crater lake, constructed of weakly consolidated rock debris that is easily eroded, or internally weakened by hot hydrothermal fluids. Lahars are also common from the snow and ice-covered shield volcanoes in Iceland, where eruptions of fluid basalt lava frequently occur. These have the consistency of wet concrete and can be very fast moving

down valleys. They will rapidly lose energy over flat ground and like pyroclastic flows is only a local hazard. Similarly, debris landslides can happen for both shield and composite volcanoes. However, as for lahars they are commonly associated with composite volcanoes where over steepened slopes may become unstable through volcanic eruptions or earthquakes. These also are only a local hazard and do not have the energy required to have a regional or global impact. Similar to lahars, ‘jokulhaups’ are another hazard which can occur when even larger amounts of water are present (e.g. glaciers). Since Mount Etna is located near the Mediterranean sea, the potential hazards due to its higher VEI (compared with Kilauea) such as tsunamis and lahars are more likely to occur, which can cause a significant impact regionally.

#### 4. HAZARD ASSESSMENT

This study has shown that it is possible to categorise the impact of both primary and secondary hazards from shield and composite volcanoes. Using specific examples of each type of volcano; Kilauea, Hawaii (shield volcano) and Mount Etna, Sicily (statovolcano) their eruption statistics have been related to their formation, structure and hazard to the local chemistry of the magma. The impact of the primary and secondary hazards are broadly categorised as local, regional or global in Table 2 for composite volcanoes and in Table 3 for shield volcanoes. Despite advanced scientific equipment such as GPS tracking, tiltmeters and seismographs, nature is very powerful and unpredictable. However, with continued work and investigation, it may be possible to control or reduce potential hazards of the future.



Figure 10 Pacific Ring of Fire



Table 2 Impact of hazards from Composite Volcanoes

Hazard	Local Impact	Regional Impact	Global Impact
Lava	Yes	No	No
Pyroclastic Flow	Yes	No	No
Ash Fall (including tephra)	Yes	Yes	Yes
Released Gases	Yes	Yes	Yes
Tsunami	Yes	Yes	No
Lahars/Landslides	Yes	No	No

Table 3 Impact of hazards from Shield Volcanoes

Hazard	Local Impact	Regional Impact	Global Impact
Lava	Yes	No	No
Pyroclastic Flow	Yes	No	No
Ash Fall (including tephra)	Yes	No	No
Released Gases	Yes	No	No
Tsunami	Yes	Yes	No
Lahars/Landslides	Yes	No	No

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About the authors

R. Hansla is a Year 12 pupil from The Heathland School in Hounslow, London. J. Browning is a PhD student in Volcanology at the Department of Earth Sciences at Royal Holloway, University of London.

Phd Tutor's note

I nominated the paper of R. Hansla on 'Relating the impact of hazards from volcanic eruptions to the type of volcano'. The study provides a detailed explanation of the main types of volcanic edifice, and offers clear and well referenced explanations for their formation. This information is then used to select two contrasting volcanoes from the Smithsonian Global Volcanism Programme, data on eruption frequencies and magnitudes is extracted and analysed. Finally a comprehensive study of hazards relating to each volcano is presented based on historical eruptions and an understanding of physical volcanological eruptive processes. A key hazard diagram is plotted which clearly shows the difference between the two volcano types. The paper is very well written and illustrated throughout; it demonstrates a tremendous amount of hard work and the author clearly has an aptitude for conducting independent research and critical thinking.

CAN THE PLACEBO EFFECT OF WATCHING AN ADVERTISEMENT VIDEO OF AN ENERGY DRINK INCREASE A PERSON'S ABILITY TO COMPLETE MORE WORD PUZZLES? AN EXPERIMENTAL STUDY

S. Lumley, supervised by E. Castle

Abstract

A study looking at whether or not advertisements can have a positive effect on people's expectations of the products, in particular focusing on whether or not watching an advertisement of an energy drink can help to enhance their performance, hence creating a placebo effect. To test this hypothesis simulated data of 200 participants was used. There are 100 individuals in each group who all had to drink the same energy drink, and then see how many word puzzles they could then complete in 30 minutes. However, the treatment group watched an advertisement of the chosen energy drink beforehand which showcased what the effects and benefits of the energy drink were, whereas the controlled group didn't watch this advertisement.

INTRODUCTION

Marketing plays a major role in today's society, and is often a crucial element of being able to sell a product well. Many people get subconsciously persuaded by all of these marketing techniques, and fall to the pressure of buying the product and believing it will have the same effect on them. Therefore, part of the purpose of this study is to look at the effects that marketing can have on a product and assess its importance. In particular, this research experiment will be mainly focusing on advertisements and whether or not this marketing technique can cause a placebo effect. A placebo effect is when you take or use something, that should have no physical or chemical change or effect on the person, but yet it still provides results. "The placebo effect is a favorable outcome arising purely from the belief that one has received a beneficial treatment" (Clark et al, 200). In regards to this research, the participants who watch the advertisement should experience a placebo effect, allowing them to be able to complete an increased number of word puzzles than the other group.

LITERATURE REVIEW

There are a few empirical studies that have previously addressed the placebo effect in association with either energy drinks or marketing. Looking at Shiv, Carmon and Ariely's article (2005) they found that pricing could create a placebo effect, as "pricing can alter the actual efficiency of products to which they are applied" (Shiv, Carmon, Ariely, 2005). They therefore, based their hypothesis on the pricing of energy drinks and whether discounted energy drinks can affect the result that people expect it to have. They tested this on two groups of people, where one group had the normal priced energy drink and the other group had the same energy drink but at a discounted price. Their results showed that people who had the original energy drink overall were able to do more word puzzles than the other group who had the discounted one.

However, their study has been criticized as Karp and Rondeau claim that they replicated the work of Shiv, Carmon and Ariely's research experiment, and they found the reverse outcome. In fact, their results showed that lower prices lead to better product efficiency. They then point out that "in reality

consumers have their own preferences of differing prices and can choose to purchase discounted or regular priced goods at different outlets" (Karp, Rondeau). I agree with this criticism of Shiv, Carmon and Ariely's work as I believe that if people had the option most people would in fact choose the discounted product rather than paying the normal price for the same product, as in my perspective they are still going to end up with the same product just cheaper. However, I do agree with the idea that pricing can cause a placebo effect, so I believe a better way of testing whether price has a placebo effect would be to use the same type of product but of different brands. For instance they could test a cheap home brand energy drink against a different more expensive energy drink, as given that they are different products people will automatically expect the more expensive product to be better and more efficient, which could then lead to a placebo effect as "marketing actions such as changes in the price of a product, can affect neural representations of experienced pleasantness" (Plassman et al).

Caglar, Lauren and Gavan have extended the research of Shiv, Carmon and Ariely in a different way by demonstrating the importance of motivation and "a person's desire to experience the products purported benefits" (Caglar, Lauren and Gavan, 2005). They believe that when people want the physical symptoms and are highly motivated, a placebo effect will more likely manifest. So whilst drinking the energy drink all participants were then asked to answer a short questionnaire testing their motivation levels, questions included "How much would you like the energy drink to increase your mental performance?" and "How much would you like to have the benefits of the energy drink?" The results showed that the participants who answered higher in the motivation questions and showed they had higher motivation levels tended to get higher marks in Wechsler's digit test no matter what group they were in. Hence, then proving Caglar, Lauren and Gavan's hypothesis that motivation and 'wanting something to work' are major factors in causing placebo effects. I agree with the idea that if you want something to work, it is more likely to happen. However, one thing I must point out is that I believe that motivation and the placebo effect are different things and "it might be further argued



that a placebo effect should only be so described if the participants themselves do not propose an alternative explanation, such as increased motivation” (Beedie, 2007).

HYPOTHESIS

For this study, both groups will drink the same energy drink and then see how many word puzzles they can complete in 30 minutes. However, the treatment group will watch an advertisement of the chosen energy drink beforehand, whereas the controlled group won’t. The hypothesis is that ‘advertisements do affect people’s perceptions of how effective a product can be, and thus cause them to unconsciously carry out the perceived effects’. This will take the form of an alternative hypothesis (H1), where the treatment group will perform significantly better than the control group in the number of puzzles completed in 30 minutes.

THEORY

The two theories that underpin the placebo effect are the expectancy theory and classical conditioning theory, as they can both lead to a placebo effect. The expectancy theory is based on the idea that if a person is told that a product will have an effect upon them, they are likely to unconsciously change in the way that is expected. This leads to a placebo effect, because the product will be exactly the same, but because they’re told the product will have an effect it will then cause a placebo effect, resulting in them having the expected effect.

The other theory is the classical conditioning theory, which is based on forming an association between a stimulus and response. Some of these responses can be unconditioned and happen naturally, for instance moving your hand away from a hot surface. Whereas, other responses can be conditioned, for instance a well-known example is Pavlov’s dog experiment, which basically consisted of a dog being conditioned to salivate when a bell is rung due to the fact that the dog had been taught to associate the bell with the food. The placebo effect can also be explained by this theory, as if a behavior has been learned; our response will also have been learned. Therefore, if a person is given what they think is a pain killer, but in fact doesn’t contain any pain relief they will still associate getting the pain killer, with the pain decreasing. So even though there isn’t an active painkiller, they believe it is so their pain will still decrease causing a placebo effect.

The expectancy theory underpins my hypothesis and research, as the treatment group will watch the advertisement video, which will inform them of the effects of the energy drinks. This will then cause a placebo effect, as they will unconsciously expect to be able to perform in accordance with the advertisement allowing them to be able to complete more word puzzles than they normally would.

EXPEREMENTIAL DESIGN

The population size of this experiment was based on 200 volunteers, who were randomly broken down into two separate and groups, each group containing 100 participants. The benefit of using volunteers for my research is that they were willing to invest their time in my study. I used a random control trial to sort my participants into the two groups, as

this allowed my participants to be randomly allocated into the groups and help to minimize allocation bias. The benefits of using a randomized controlled trial, is that all participants should remain unaware of which treatment was given until the study is completed, helping to stop other factors from affecting the results. The drawbacks however, of using a randomized control trial are that in some cases they can cause ethical concerns. Moseley et al used a random- controlled trial in his study to sort participants into groups, where one group had fake knee surgery and the other group had the real knee surgery. The study tested whether or not the participants who had the fake surgery would still get better; due to the fact they thought they had the real surgery (placebo effect). This study was unethical, as participants were sorted using a random control trial, which meant they were unaware of which treatment was given until the study was completed.

For that reason before I decided whether or not to use randomized controlled trial, I made sure what I was testing was ethical and since the only difference between my treatment group and the controlled group is that the treatment group watches the advertisement; I have come to the conclusion that using randomized controlled trials in this study won’t cause any ethical issues.

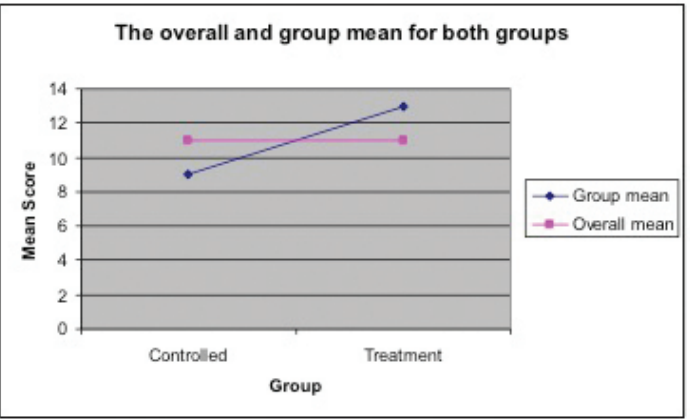
ANALYSIS

Quantitative data was collected for my analysis, as I wanted numeric data that can then be assessed and analysed. The statistical methods used for this were a statistical analysis table and an ANOVA test. The statistical analysis table was completed so that I could interpret and compare both the mean and the standard deviations of both groups, to see which group overall got the best test scores. An Analysis of Variation Test (ANOVA test) was carried out so that I could analyse all of the variants including both between group and within- group variables, to determine whether the difference between the mean of a group and the overall mean is due to either sample fluctuation or the treatment effect. Sample fluctuation helps to show that the placebo effect wasn’t effective and the results could be due to anomalies pulling the mean up or down whereas, the treatment effect shows that the placebo effect did in fact take place. ANOVA tests will also allow the significance levels to be tested, to see how significant the results are and to gather a percentage of the likelihood that the results were caused by the placebo effect or not.

RESULTS

To assist in the analysis of the initial data I first completed a summary statistics table this allowed me to gather up the initial data. This then give me an indication as to whether or not my research would match my hypothesis. For instance, looking at the statistics table it can be seen that group 2 has both a higher mean and standard deviation than group one, which describes the increased performance of group 2’s distribution being centered on an increased average of 4.81 puzzles completed in 30 minutes than group 2. To get a more accurate picture of the results an ANOVA test was then conducted to compare the effect of advertisements on the amount of puzzles completed in 30 minutes in timed and controlled conditions, where one group watched an advertisement video based on the energy drink and the other

group watched an unrelated video. There was a significant effect of the advertisement on the performance of the participants and the amount of puzzles completed in 30 minutes at the P<. 05 significance level for the single condition [F (1,198) =28.88, P=<. 05]. The significance level was 0.0000, which shows that there is basically zero chance that these results could just be just a coincidence, and that it is definitely a result of the placebo effect. These results support my hypothesis that advertisements can affect people’s perceptions of how effective they think a product will be via the placebo effect. Looking at the graph (shown below) it represents both the group mean and the overall mean for both groups. Looking at the difference between the mean of a group and the overall mean you can clearly see that the treatment group's mean is higher than the overall mean of the controlled group. This therefore helps to represent that the treatment effect could be in place, which means that the placebo effect must also be happening.



DISSCUSSION

Although my experiment did produce significant results and the results do support my hypothesis, there are still some possible limitations to this research. For instance, a major weakness of using a random control trial to sort the participants into the groups is that it doesn’t account for the participant’s academic ability. This may have caused one group to have more academically able participants than the other and could potentially have affected the overall results, as the test I used required participants to carry out word puzzles. So therefore people with higher academic ability will automatically be able to perform better. For this reason one of the possible extensions that I would add if I were to do this experiment again would be to control variables such as the participant’s natural intellectual ability, due to the fact that the test I am using tests to see if the participants intellectual ability has been enhanced after watching the advertisement and drinking the energy drink. So therefore, if I could control intellectual ability and try to make sure there are the same types of academic ability in both groups it will help to produce more accurate results and help to prove that it is in fact the placebo effect that is causing these differences. I could do this by making the participants see how many word puzzles they can complete before the drink the energy drink. So that I can compare these to the amount of puzzles they can complete after they have drank the energy drink and the treatment group has watched the advertisement. This will allow me to compare both sets and see if the energy drink and advertisement did help to increase their intellectual performance.

Also a further direction for this experiment would be to try a different outcome, for instance I could test to see if watching the advertisement of the energy drink could also increase someone’s physical performance. As there are a few empirical studies that have looked at the placebo effect in regards to exercise “the placebo effect plays a role in the health benefits of exercise: ones mind- set mediates the connection between exercise and one’s health” (Crum, Langer, 2007), the placebo effect in sports performance (Beedie, 2007) the effects of caffeine on exercise (Cox et al 2002). However, I haven’t come across any on the placebo effect that both advertisements and energy drinks could have on physical performance, which will allow me to look at a different perspective. I would do this by making the participants carry out a bleep test, rather than the word puzzles. This would allow me to see the difference between the increase in physical ability and the increase in someone’s intellectual performance after watching the advertisement of the energy drink. It would also allow me to compare both sets of research and evaluate which it had the biggest placebo effect on. I would also carry out a pilot study this time, as this will allow me to do a small scale test beforehand to try and make sure the experiment works and will produce the required results.

In conclusion, this experiment proves that advertisements can cause placebo effects as the results show that a placebo effect did in fact take place in the treatment group, where the participants watched an advertisement of the energy drink before they drank it. Confirming the hypothesis that advertisements do in fact cause a placebo effect, as they showcase what the product is meant to do, so people automatically assume it will work the same for them. Even though variables such as academic ability weren’t accounted for, I don’t believe that it is significant enough to have affected my results due to the fact that the population size of the study was still considered large enough to normalise the specific talents of individuals. So for that reason I believe the results still support my hypothesis.

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Source 1: Summary statistics

	Observations	Mean	Standard Dev.	Min	Max
Group 1	100	8.58	5.86	3.00	23.00
Group 2	100	13.39	6.76	3.00	25.00
Total	200	10.99	6.757447	3.00	25.00

Source 2: ANOVA Table

Source of variation	SS	Df	MS	F	Prob>F
Between-group	1156.805	1	1156.805	28.8	0.0000
Within-group	7930.15	198	40.0512626	28.8	0.0000
Total	9086.955	199	45.6630905		

### About the authors

S. Lumley is a Year 12 pupil at Churchill Community College in Wallsend, North Tyneside. Elizabeth Castle is studying for a PhD at Durham University in the area of Economics, exploring time preference, risk attitudes and health behaviours.



# TO WHAT EXTENT DO STORIES PLAY A ROLE IN THE BUILDING OF PEACE BETWEEN COMMUNITIES?

R. Finney, supervised by M. Rohse

## INTRODUCTION

It was famously said by Plato that ‘those who tell stories rule the world’ (Gottschal, 2012). It must be initially recognised that whilst stories have a progressive impact in conflict transformation, undeniably they also withhold an inescapable power to diminish an entire population into violence. Therefore it would be incomplete to consider the extent of the role of storytelling towards peace without also identifying the role within conflict and violence. Consequently the contrasting outcomes of story and narration will be discussed in order the conclude that: whilst the use of stories and dialogue can have a dramatic impact in reconciliation and peace building between communities, there is greater evidence to support that stories play a larger role in the origin of conflict. This conclusion will be explored initially upon human psychological disposition concerning the approach to forgiveness, whilst also considering the importance of time.

Literature surrounding the topic often focuses on particular definitions of violence. Throughout the analysis four definitions will be considered: structural and direct violence, and objective and subjective factors. The first of the terms originate from sociologist Johan Galtung, who describes violence manifesting in two different forms: ‘direct’, referring to physical, verbal and immediate behaviour to inflict pain, and ‘structural’, which defines a social structure as a source of harm when denying people of their basic needs (Galtung, 1969). The second are taken from Zizek’s short book ‘Violence’ which labels violence as ‘subjective’, immediate and influenced by a clearly identifiable party concerning understanding and behaviour, and ‘objective’, independent of personal perceptions for example territory or language (Zizek, 2008).

## VIOLENCE

Psychologists Melanie Green and Tim Brock argue that engaging in storytelling ‘radically alters the way information is processed’. Their studies have proved that as a listener becomes more engaged, they in parallel become more changed by the story. Notably they also observed that more absorbed listeners were unable to recognise inaccuracies within the dialogue (Green and Brock, 2000). It is within this research that the threatening power of stories is demonstrated: when reading alone one is often unconvinced and critical, however, when captivated by dialogue one becomes emotionally stimulated and consequently left defenceless in identifying indoctrination techniques or false information.

## Forgiveness and Time

Undoubtedly stories take a certain amount of time to make a definitive change within society. However upon its initiation through story, violence is rapidly accepted, particularly when

taking a direct and subjective form. It is this combined with the difficulty of forgiveness that makes violence through stories more prominent than peace: the fear of unknowingly accepting evil makes it difficult to forgive.

Research by Lynette Hoy states that humans are “hard-wired” to experience ruptured relational bonds, psychological distance, physiological arousal, and the desire to retaliate when they have been hurt by another person’, further suggesting that through personal disappointment human nature leads to a desire to ‘recompense for the damages’ (Lynette Hoy, 2007). This difficulty in relation to forgiveness is noticeably prominent within three specific factors that cause violence: History, Power and Identity and Culture. All of which are able to facilitate mass loathing and intolerance towards those who are defined as ‘the other’ through specific methods individual to each factor.

## History

It is extremely difficult to overcome stories that are embedded into history as people are essentially programmed with ideas of ‘the other’, resulting in the process of dehumanization. Dehumanization becomes easier following an upbringing based on a single historical viewpoint formed from collective stories and within a collective memory; it follows that dehumanization obstructs the forgiveness process as it becomes impossible to recognise the other as having genuine emotion and reason, consequently resulting in the ease of violence yet a greater difficulty regarding healing.

An example of historical control within the reoccurrence of violence can be understood from the story of the Ku Klux Klan (KKK). The KKK originated in the 1860s but then re-emerged in the early 1920s and again following WWII, attempting to restore white supremacy through murder against black and white Republicans. Their racist approach against African-Americans originates from the dominant ideology of society in the context of the African slave trade at the dawn of capitalism in the 1500s and 1600s (Lance Selfa, 2002). The power of the KKK was kept operational by the power of dialogue throughout history; personal stories, folktales and assumptions were stated to create perceptions that would essentially justify both structural and direct violence from a subjective form.

This notion is centred upon cultural violence: prevailing attitudes and beliefs rooted into the morals of the impressionable child or adult begin to occupy their behaviour concerning the power and necessity of violence. (Galtung, 1969) This aspect of cultural violence essentially justifies misdemeanour, the individual recognises killing a person as murder, yet killing hundreds or thousands is declared ‘war’.



Power and Knowledge

Power provides for easy exploitation. Those in power have the ability to decide what stories are created, destroyed, censored and heard and the quantity of truth.

Examples of mass exploitation through one-dimensional narratives represents the power to reduce whole nations into conflict. An analogy of power in storytelling can be taken from Palestinian poet Mourid Barghouti, who writes that someone in power may easily dispossess a people by telling their story and starting with a simple linguistic trick: ‘secondly’. By neglecting to speak of what occurred first the storyteller can manipulate any situation. Barghouti describes that through this technique ‘the arrows of the Red Indians are the original criminals and the guns of the white men are entirely the victims’. (Barghouti, 2008)

It follows from this therefore that those in power can create the definitive and single story through their influence in the creation of popular knowledge by access to journalism, academia and literature. There are many ways to inspire and control people through story; sadly hate is among the strongest and its results are conflict and violence. It is what leads to the two fundamental types of violence termed by Galtung. Notably, the most powerful dictators have used structural form to construct the foundations for a swift establishment of direct action, the most famous example of this method being revealed by Adolf Hitler during the Holocaust. Hitler knew that hatred must stem from outrage and so created his story through propaganda. His success was achieved through repetition; ideas were reiterated to form a new horrific anti-Semitic reality and, furthermore, effective messaging moved the audience to subconscious actions before realization. This was the structural form, which led to the ease of dehumanization when implementing direct violence. (Kathryn Kinser, 2010)

Furthermore, power dictates the time it takes for a story to be heard; in occupying a powerful political position it is possible to control perceptions most successfully through media and accurate censorship, as Hitler did and recent dictators have continued to do. It is also easy to prevent peace from occurring through the denial of personal rights that enable reconciliation between communities, in this way the forgiveness process is abolished, consequently supporting the power of storytelling in violence over peace.

Identity and Culture

Stories allow people to re-humanize as well as dehumanizing others. Whilst the process of re-humanization is often a leading factor to peace, this process also allows people to create an isolated identity and negative peace within their own collective story, as the process of dehumanization creates an enemy through ethnocentrism. Conflict has the ability to encode itself amongst a group’s identity, creating a cycle of ‘rigidification, separation and distortion’. (Northup, 1989)

A recent situation illustrates specifically the seemingly unrecoverable effects of conflict within culture and identity. The Israeli and Palestinian conflict arose from claims by both cultural groups concerning the same area of land as their rightful habitation. For years there has remained significant

disagreement concerning the settlement, which has led to numerous acts of severe direct violence. The conflict has been described as ‘intractable, ungovernable and insoluble’ due to political unwillingness to reach a settlement and severely unorganised peace negotiations. (Bar-Siman- ov, Y., 2010).

Identity and culture and conflict are inextricably linked. Violence predominantly arises from problems between cultures, concerning politics, the economy, and racial or religious complications. Although deemed a part of social interaction, conflict by means of culture has a tendency to diminish into war or direct violence. The role of culture within violence consequently outweighs the equivalent within peace as it is extremely challenging to discover and comprehend motivations behind struggles regarding preconceived assumptions. (LeBaron, 2003)

PEACE

Forgiveness and Time

Whilst stories enable peace building through forgiveness, it becomes difficult to achieve following the destructive effects of violence. In contrast to stories involving indirect violence, peace stories for forgiveness are rarely intensified by physical action and hence require more focussed efforts, and so more time, in order to function effectively. ‘A Gallup Poll in 1988 found that, while 94% said it was important to forgive, 85% felt they needed outside help to be able to forgive. Communities resent people who lie, steal, cheat, sell out, or betray their own values, since they threaten everyone.’ (The Psychology of Forgiveness, 2014) The long-term nature of peace building means that storytelling plays a role to a lesser extent in the manifestation of peace than violence. As previously discussed, it is difficult for humans to forgive; yet forgiveness is still achievable, providing that both the narrator and listener hold a certain level of compassion and integrity.

Power and Knowledge

Storytelling and narrative projects are productive as a means to peace by their accessibility and ability to allow each voice to be heard, in contrast to peace treaties, laws or a simple acceptance of defeat. Dialogue or narration of personal experiences has been proven as a voice of resistance against destructive authority and exclusion.

Developments in storytelling have proven effective against violence through both spoken and literary means. Literature results in social and political change and aims to provoke stability within these fields by neutralising ideology. Testimonial literature, or the Testimonio emerged in Latin America. The Testimonio is ‘an authentic narrative told by a witness who is moved to narrate by the urgency of a situation’; the narrator describes their experience from a collective memory or story in attempt to overturn undesirable situations such as war, oppression and revolution. (Coral Walker, 2011)

Storytelling gives way to both personal and collective empowerment. Narration allows one-sided stories to be contended and consequently makes way for change within the definitive story. The challenge arises from allowing each voice to be heard in undemocratic societies. It is only when

power is overcome that fear too can be suppressed, allowing the narrator to feel safe in expressing their own struggles through realisation that they are not the only one who has suffered.

Empathy

Narration helps connections to be formed that enable genuine consideration into how people interact, carry out thought processes and react to situations. Most importantly, storytelling allows peace through empathy providing that it is understood that each person is both sympathetic but flawed. It is this empathy that evokes emotion and furthermore eases the breakdown of prejudices and subsiding of the past.

Empathy allows the single story to be completely overturned in order to gain a different understanding of the protagonist, therefore essentially counteracting any evil that they may have caused. Empathy in storytelling often creates peace in situations of war, segregation and isolation as it ensures that both the listeners and speakers obtain a full understanding of the other’s motives and personal situation.

Although unconventional, a model of the power of empathy to form understanding can be taken from a narration used within a modern television program, Breaking Bad. ‘Walter White of the hugely popular AMC series Breaking Bad is a chemistry teacher leading a normal life until cancer hits at age 50. He decides to get into the drug business to ensure financial security for his family in his absence. He essentially starts to establish a drug empire and cuts no corners when it comes to his family’s safety.’ (DeepaIyer, 2014)

Undoubtedly the viewer recognizes the immorality of the drug industry and it is unlikely that they approve of the actions; yet upon gaining an insight into the life of the character we understand their reasoning and motivation. Consequently this allows the viewer to side with the ‘untraditional antihero’ (ibid.) through empathy, despite recognizing that they have committed an immoral action. It is this approach that can be mirrored to realistic situations representing the power to achieve peace and understanding between sides, regardless of immoral or hostile action that has occurred previously. Again however it is often difficult to combat defiance of persons who are truly fixated upon a single story and are resistant to listening and co-operating in order to overcome underlying issues.

Identity and Culture

Following the reconciliation process, identity can be reconstructed; the listener begins to understand what it is to be the other. It is by this method that they are able to restore their human characteristics through experiencing and sharing in their emotion and distress; furthermore allowing one to retrieve the other within them.

Possibly the most famous example of identity in peace storytelling is the Truth and Reconciliation Commission (TRC), which was founded to heal the damage of the Apartheid years in South Africa. The commission endeavored to ‘enable South Africans to come to terms with their past on a morally accepted basis and to advance the cause of

reconciliation’ by terms of the Promotion of National Unity and Reconciliation Act, 1995. The methods used proved to be vastly successful in restoring human dignity through dialogue by gaining a perspective of the victims and an understanding of the motives of others, thus transforming the cultural identity of South Africa. (The DOJ&CD, 2009)

The acceptance of another through story is a peace building process that allows contrary views to be exhibited on equal terms, however although this process is liberating it is also considered distressing; allowing oneself to accept and forgive the story of another eliminates evident identity and cultural restrictions between communities. Through eliminating these beliefs people become afraid of exposing themselves to vulnerability concerning their culture in societies that are intensely segregated.

CONCLUDING SUMMARY

In order to build peace between communities there are specific factors required regarding the storytelling process. These factors are essentially more challenging to achieve than storytelling techniques in order to generate direct or structural violence, and are answerable predominantly to human attitudes towards forgiveness and the function of time in fuelling structural aggression and direct violence. In violence the time taken for manifestation occurs quickly and forgiveness proves problematic, however in peace storytelling the time for effect is relatively long-term although forgiveness proves to be less challenging. It therefore seems that the role of stories in peace is less successful; four wars may be established in the time taken to reconcile a singular cultural conflict.

Undeniably, once conflict has sown the seeds for violence there occurs numerous obstacles to understanding and compromise. These may stem from cultural or identity prejudices, historical collective memory, personal resilience or even social position regarding undemocratic power. Hence peace building proves difficult until the threat of violence is fully removed, which proves more demanding than the initiation of violence as individuals feel that they are personally in danger through confronting the other and vulnerable in re-humanization, as they are fundamentally accepting an enemy.

Consequently stories only play a role in peace building to a small extent, and to a significantly lesser extent than stories that cause violence. Although stories have proved to be an effective technique for reunion and understanding, their application should hold a greater position within society to permit the offset of violence. In order to match the process of time for violence and time for peace, it is necessary find a balance between ingenuousness and limitation, whilst contending the dehumanization process caused by subjective factors.

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About the authors

R. is a Year 13 pupil at Painsley Catholic College in Cheadle, Staffordshire. Mel Rohse is doing her PhD in Peace Studies at the University of Bradford.

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I am putting forward R.’s work as she has shown a great degree of originality in the way she has structured her answer to the essay question, which demonstrates her advanced understanding of the complex concepts that were discussed during the tutorials. In addition, she has shown high independent research skills. She has provided and aptly used a wide range of references, which shows that she carried out her own research beyond the material that was provided in the handbook. Her work showed academic rigour and is of an exceptionally high standard for her age-group, notably thanks to its level of analysis.

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