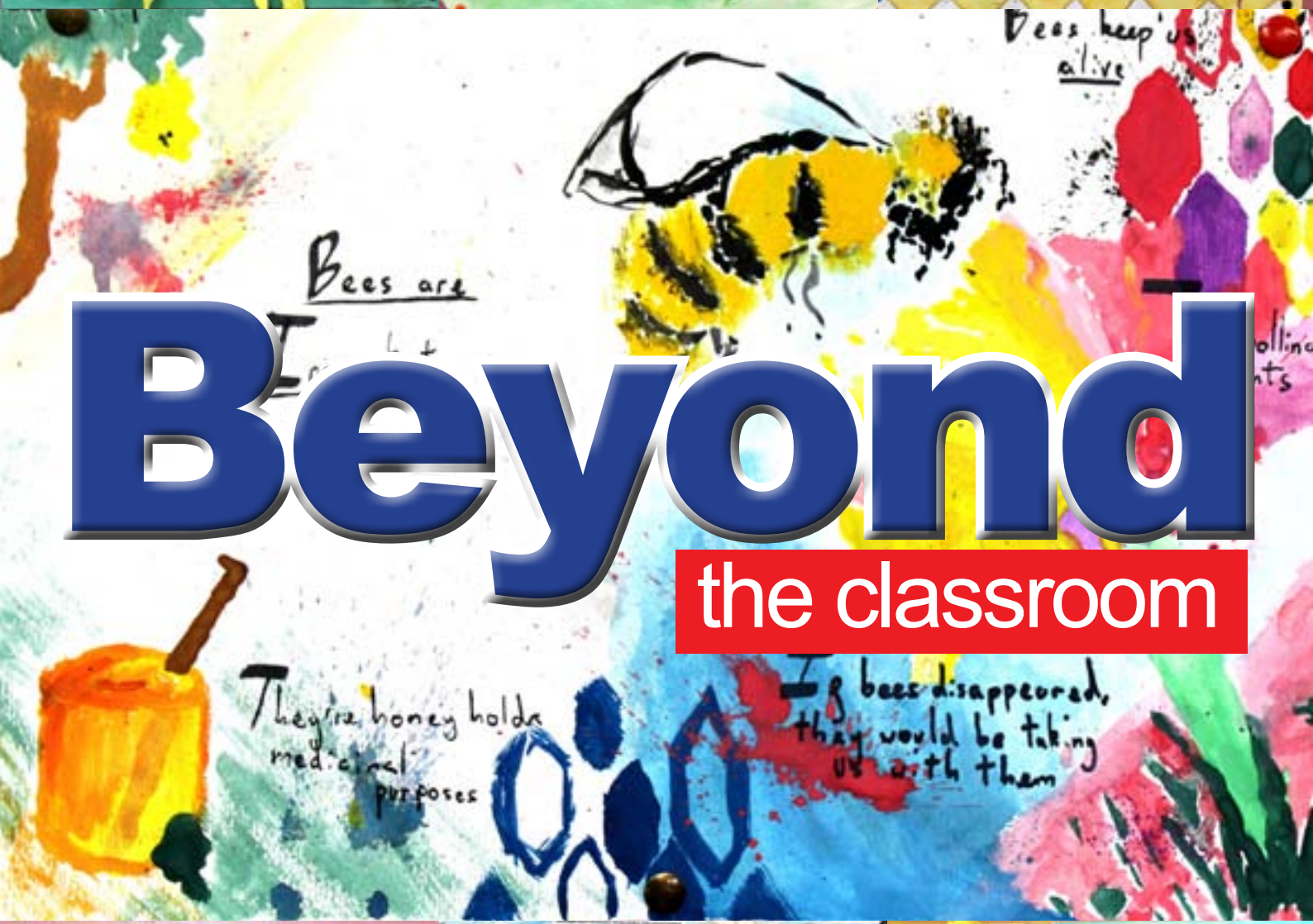
The magazine that
features the work of
Imberhorne School students

Beyond

the classroom



Busy Bees

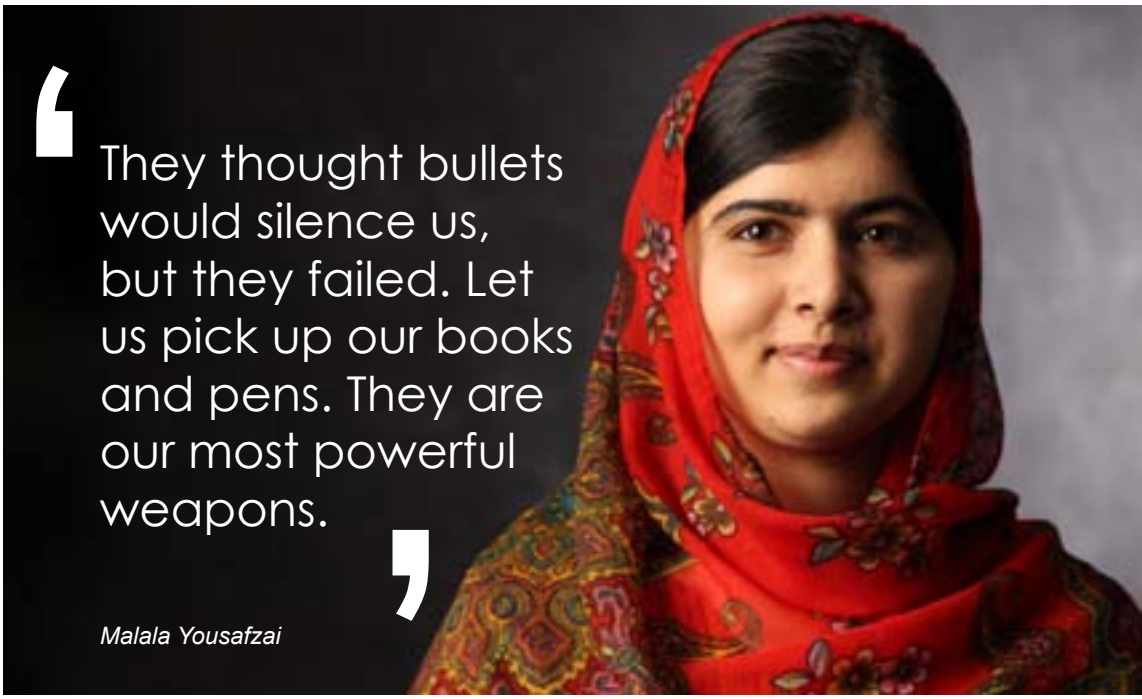
Year 7 students were given an extended homework to research five reasons why bees are so important to the world. The challenge was to present their findings creatively with lots of imagery.

Each class selected six homeworks from their peers to go forward for judging by the art department and KS3 librarian Mrs Brown. There was a lot of excellent work and the following students were selected as winners (with their work going on display in the lower school library): Joseph Emery, Joseph Porter, Comfort Wallis, Freya Bradstock, Alfie Byers, Jacob Bachelor, Joe Goff, Oliver Shelley, Scarlet Hollister, Ella Rayner, Zara Saunders, Martha Shelley, Cassian Strachan, Josh Sketcher, Zoe Everson, Emilia Byrne, Patrick Arnold von Wedel, Thomas Poole, Laurie Corp, Tia Chapman and Nikola Ivanov.

INSIDE

A World Without Prejudice

By Camille French.



What is prejudice? Dictionary definitions agree that it is an unfair, unreasonable and preconceived opinion or feeling. Derived from a lack of thought, knowledge, or fact, it can lead to an intolerance or preference for one group of people or things over another, and can perpetrate discrimination.

Why are people prejudiced? People often feel threatened by difference or change, for instance when others break out of accepted norms or social patterns. They feel insecure, and don't want their power taken by anyone – so they feel somehow compelled to go out of their way to prove to everyone that whoever they are jealous of is "beneath" them.

On August 28th 1963, Martin Luther King made his now iconic "I Have a Dream Speech", against racial prejudice. He said: "I have a dream that my four little children will one day live in a nation where they will not be judged by the colour of their skin, but by the content of their character." But over half a century later, Martin Luther King's dream has yet to become reality.

How far have we moved on? The UK has passed many anti-discrimination laws, and yet our citizens still experience sexism, racism, homophobia, and disability discrimination. Parliament has 650 MPs but only 7.7 per cent of them are of an ethnic minority and less than one per cent are disabled. Futher, there are only 210 women MPs, even though 51 per cent of the UK's population is female.

There are still many major and influential organisations where if you are a straight, white, able-bodied man, you receive a "positive" bias. The United Nations calculated that, if we do nothing about the gender pay gap, it will be 75 years until women and men will be paid equally; the generations of our grandchildren and great-grandchildren will be the first to work in a non-prejudiced environment. THIS is what prejudice means, in practical terms.

Across the Atlantic, the United States of America astonished the world when they voted Donald Trump as President in November 2016. This is a president prejudiced against Muslims, the world's fastest growing, and second biggest religion, with 1.6 billion followers. A President prejudiced against Mexicans, a whole entire nation. A President prejudiced against refugees, who keeps immigrant children separated from their parents for months.

Yet prejudice is not just about presidents. It's something we all have to tackle - and education is the key to creating change. The British Psychological Society found that the more people are educated, the greater they understand other people and the less they fear them. Martin Luther King once said, "Nothing in all the world is more dangerous than sincere ignorance and conscientious stupidity."

Malala Yousafzai was shot in the head in 2012, aged 15, on her way to school, by the Taliban after they had banned girls' education. She recovered, and said afterwards: "They thought bullets would silence us, but they failed. Let us pick up our books and our pens. They are our most powerful weapons. One child, one teacher, one book, and one pen can change the world." Malala is the youngest ever winner of the Nobel Peace Prize.

When one group of people believe they are superior to another group of people it can be highly dangerous, especially if their prejudice is left unchallenged. It is beholden on all of us to challenge prejudice and discrimination, whenever and wherever we see it.

Think about apartheid, when white people thought that they were better than black people; and about the hundreds of wars over religion, when one religion was unaccepting of another. Think about the countless repressions of native peoples around the world, when one nationality thought that they were better than another; and the Nazis, who thought that they were better than Jews, gypsies, communists and homosexuals. Think about all of the terrorism and conflicts and wars that have been fought and are being fought around the world that are due to prejudice and discrimination.

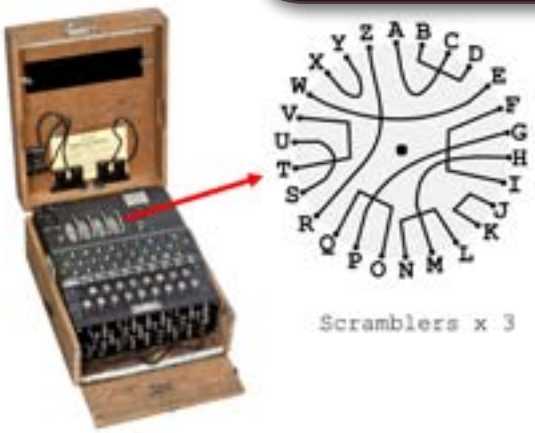
It is easy for someone who happens to be born into what would be considered a "superior" environment – for instance a privileged elite or a rich country - to say that equality does not matter. But, of course it does. Where you are born in the world, and what race, religion and gender you are can vastly affect the life you live.

It shouldn't. If, like the rest of the world, you have to make your own success, then you have to have the same equal opportunities and treatment as everyone else. Everyone is affected by prejudice; consequently, it is up to everyone to stop it. As the philosopher Edmund Burke once said: "The only thing necessary for the triumph of evil is that good people do nothing."

It's 2019 – why are we still having to have this conversation?

The Maths and History of Cryptography

(Stuart Kay)



By Emma Vince

I thoroughly enjoyed this masterclass and found it to be an excellent introduction to a branch of computer science I had never really delved into before. I have always seen cryptography as an interesting and mysterious part of the scientific and mathematical world, but I knew little about it beyond the portrayal of Alan Turing in the film The Imitation Game and also from reading Dan Brown's novel, The Da Vinci Code.

Mr Kay made this very tricky element of maths easy to understand and fun to listen to, keeping the audience intrigued. Moreover, the puzzles he gave us to decipher codes were very engaging. We went through many aspects of mathematics and the history of breaking codes, from learning about differences between steganography and cryptography to various ciphers and codes, such as the ancient Roman Shift Cipher (a mono-alphabetic cipher) which was used by Caesar's legions in the Gallic Wars. Mr Kay also talked about the RSA, which stands for the mathematicians who created it: Rivest Shamir and Adleman. Mr Kay showed us how to encrypt and decrypt code and messages using RSA and series of formulae.

By Eloise Price

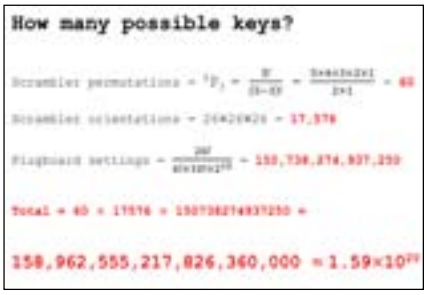
During the lecture, Mr Kay also explained how the methods of deciphering have become much more complex scrambles than they used to be.

The enigma machines were an interesting story. It is truly amazing how during the Second World War we were able to create different code combinations each day to pass messages to sections of the army, navy and air force so that a tactical war could take place.

Learning about history from a maths teacher is quite possibly another reason it was so engaging. Mr Kay's enthusiasm towards the topic was clear as he explained the codes from the perspective of those who created them, thereby giving an insight into the thought process.

I enjoyed the format of the masterclass, in that it was not like a normal lesson yet it felt familiar and gave us space to experiment.

We had the opportunity to try to break codes ourselves and spot the hidden message in a piece of text; when we were able to it was a good reward yet, when we were struggled we got a sense of the complexities of the methods and efforts put into creating a hidden message.



By Merlin Ohta

In this masterclass we learned about the arts of perfecting cryptography (the practice of writing plain text in an unintelligible way and vice-versa) but also the more uncommonly known steganography (the practice of concealing messages or information within other non-secret text or data). However what was greatly highlighted throughout the lecture is the ongoing battle between cryptographers and code breakers. In the past, we used frequency analysis to unravel the secret messages hidden in ciphers but now breaking down modern codes in this way would take far too long. With the top codes having 158,962,555,217,826,360,000 different possibilities, it would take millennia to crack. Instead we need to revolutionise our technology. There is talk of quantum computers which could test all these possibilities in just a second, but at the moment we are not quite there. All this was incredibly fascinating to watch and try to grasp. I personally loved the idea of using the power of primes to protect our cyber security, however others enjoyed the confusing labyrinth of the enigma even more. This was a fascinating lecture!

The Global Positioning System

(Andy Yule)

By Merlin Ohta

We all use positioning apps, whether it is google maps or SatNav. Yet the extent of the process required to make these things work is often overlooked. That's what made Andy Yule's masterclass on GPS so engaging.

First of all, orbiting our planet are 32 satellites for this sole purpose. However, we learned that the minimum number needed to position a device is not three, but four. Using loci, we are able to get a rough idea of someone's location on our planet, but the fourth satellite allows us to reduce the amount of error in that measurement. Then we discussed how to accurately calculate the time taken for the signal sent to reach the satellite. This was explained with long, puzzling equations and took up a lot of brain power. As if that wasn't a great enough consideration, combine this with the spin of the earth. It was definitely the most challenging lecture to understand in this respect. Still, I massively enjoyed the talk, especially using a rubber-sized chip to locate our school building. The final factor was how on earth (pun intended) do we manufacture something tiny enough to fit in an average phone! Fascinating stuff.

Journalistic Journeys

(Jane Hughes)

By Alice Durrant

It is clear from the way she describes even the tiniest details of journalism (such as the whirr of the printing press as a story is brought to life), that Ms Hughes has a real passion for her subject. Even something as seemingly basic as fact-checking, was imbued with a rush of excitement by Ms Hughes as she related an incident where she had to check out a story on 'male pregnancy' that had been reported as 'news' in a Sunday broadsheet. She did this seamlessly using the technique of colour writing, which she told us brought life to her articles and could be seen clearly in her lecture.
A real insight was given into Ms Hughes' personal experience as a journalist. For example, she shared stories of reporting at a 9/11 memorial service and writing an emotional article on one of the families affected, reporting from Buckingham Palace on the morning of Princess Diana's death, and covering the extraordinary events surrounding the Drumcree Marches in Northern Ireland. More insight into her journey was given when Miss Hughes relayed the steps she had taken to be where she is and her involvement in institutions such as The Independent, The Times and the Brighton Argus, which she said seemed a step backwards at the time but actually gave her the confidence and versatility she needed to progress.
The idea that lectures are boring was entirely disproved by Miss Hughes' 'Journalistic Journeys'. Her use of multimedia - such as video clip intermissions, examples of her own work, as well as different perspectives from journalistic greats such as Katie Adie, ensured that we students were kept enthralled, as well as informed. Miss Hughes, staying true to her journalistic background, also provided an unbiased opinion of the industry, talking about the problems in journalism in relation to fake news and the bad reputation journalism has gained in terms of reliability. She ended with some warnings to any future journalists but gave tips on how to manage these.
'Journalistic Journeys' was not only a call to arms for budding journalists, but a clarification of the role of the media in today's society as well as a catalogue of vital transferable skills and tips to take into later life. Ultimately, the lecture was packed with anecdotes, advice and examples, and completely fulfilled its purpose to inform, inspire and intrigue.

Seismology and Exploration

(Dr Artem Kashubin)

By Cameron Cove

Many students at Imberhorne were buzzing with excitement when geophysicist Dr. Artem Kashubin, of Imperial College London (one of the most prestigious universities in the country) delivered his masterclass lecture. With the tantalising title 'Seismology and Exploration', the lecture explored the highly interesting scientific field of geophysics, specifically the use of ground imaging and calculations to study the structure of the earth and seismic activity such as earthquakes. As two of my favourite subjects happen to be geography and science, I had been eagerly anticipating this lecture and I am very pleased to say Dr. Kashubin did not disappoint!
After the sizeable audience was squeezed into room 403, Dr. Kashubin explained how thousands of ultrasound emitters are positioned around the world and how the 'echoes' they generate were used to discover the earth's layered structure. This consists of a solid inner core, a liquid outer core, a semi-molten mantle and the crust, which in turn is made up of many monumental slabs of rock known as tectonic plates. Some of these are moving apart from each other, leading to new oceanic crust being created inbetween. Other oceanic crusts subduct under the continental crust. Huge friction can develop between two plates, eventually being released in an earthquake.
I found it fascinating that earthquakes can also be caused by crust rising after being compressed by glaciers in a process known as glacial rebounding. For this reason earthquakes occur in the UK on a fairly regular basis, albeit usually on a very small scale.
Have you ever wondered where fossil fuel companies know where to drill? It turns out that scientists use low-frequency waves of energy, emitted from sources such as controlled explosions and very strange-looking 'vibration generating' vehicles. These 'seismic waves' travel through the ground and reflect to give a response similar to

ultrasound. This can be used to create detailed maps of the earth beneath our feet and even predict certain properties, such as density and rock type.
In the final part of the talk, Dr. Kashubin discussed the opportunities in geophysics that can develop from studying maths, physics, geography and computer sciences at school. Judging by the overwhelmingly positive responses I heard from those attending the lecture, this eye-opening talk has definitely inspired a generation of budding geophysicists at Imberhorne.

The Mechanics of Fracture Fixation

(Dr Rebecca Eveleigh)

By Ella Dye and Natasha Abdul-Razzak

Until this engaging lecture by Dr Eveleigh, we had not given much thought to how fractured bones could be treated. Dr Eveleigh supplied us with lots of specific knowledge on the theory behind fractures - the engineering, packaging, the stages of regulation needed and the commercial aspects involved in the design and manufacture of the fixators.
Moreover, she inspired us by speaking about her academic career, the qualifications she has achieved, and the path of decisions she made about university to get her PhD, which led her into this particular field.
Dr Eveleigh revealed how she became fascinated with engineering fracture fixations, and the ways to go about addressing them to fulfil each individual's needs.
Firstly, she spoke about the variety of fracture types there are, such as oblique (at an angle), comminuted (several bits of bone that have broken due to a high energy impact), spiral (if not fixed surgically, the bone can heal incorrectly) and compound (the bone bursts through skin due to the incident).

Why use an implant?
A stable fracture is one where the bone ends line up, and are not out of place and unlikely to move. However, using a plaster cast isn't always the best option as it can lead to further problems. A fracture fixation device is used when both ends of the bone are not in line and could heal in the wrong position.

Types of fracture fixations (long bones):
- Plate and screw fixation (Internal and easy to use, little x-ray exposure)
- Intramedullary nail (Can treat multiple fractures, far from the fracture)
- External fixator (Few holes and a bar, less invasive and no open fracture site)

In addition, we learnt that there are many different stages in producing these implants.
For example, you need to take into consideration the forces that act on the bones as the hip joint reaction force is always greater than the body weight. You also have to consider whether it is biocompatible and radiopaque - to help with insertion, correct placement and removal.

Cities in the year 2050

By Luca Bowe

If we carry on burning fossil fuels for our electricity, then by the year 2050, we may all be wearing gas masks to escape the toxic gases that will fill the atmosphere. Climate hazards will get worse, the earth will get warmer, the ice caps will melt, and the sea levels will rise. Thankfully, I have thought of a way that this will simply be a nightmare in a psychopath's dream.
The way forward is solar panels. Yes, they may look ugly, but they have zero emission energy, and are low maintenance and low cost. Most importantly, they are a renewable energy source. Solar panels work by allowing photons to free electrons from atoms, which generates a flow of electricity. The cells that do this are called photovoltaic cells (photovoltaic simply means they convert sunlight into electricity).

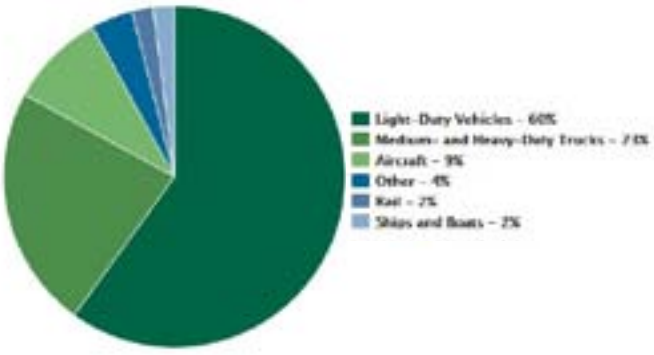
Solar energy has lots of advantages:
It's a renewable energy source. Because the sun is very big and quite hard to ignore, we can harness the energy from the sun in all areas of the world every day. We cannot run out of solar energy, unlike fossil fuels. Solar energy will be accessible as long as we have the sun, and sunlight will be available to us for at least five billion years. But that's much longer than how long fossil fuels will last.

Reduced electricity bills:
Since you will be meeting some of your energy needs with the electricity your solar system has generated, your energy bills will drop. How much you save on your bill will be dependent on the size of the solar system and your electricity or heat usage. Moreover, not only will you be saving on the electricity bill, but if you generate more electricity than you use, the surplus will be exported back to the grid and you will receive bonus payments for that amount (since your solar panel system is connected to the grid). So basically, you get paid for having put some panels on your roof. Savings can further grow if you sell excess electricity at high rates during the day and then buy electricity from the grid during the evening when the rates are lower.

However, as good as solar panels are, they do have some disadvantages.
Cost: The initial cost of purchasing a solar system is fairly high. Although the government has introduced schemes for encouraging the adoption of renewable energy sources, you still have to cover the upfront costs. This includes paying for solar panels, inverter, batteries, wiring, and for the installation. Nevertheless, solar technologies are constantly developing, so it is safe to assume that prices will go down.

Where I'd place solar panels:
Solar panels can adapt to a rising population as they can be attached to the increasing number of rooftops, car roofs, windows, etc. This means that as the human race expands across the globe, it'll always have power on these essential things. With an increase in electricity, electric cars can become more efficient and more advanced. Aircraft can be modified to run off electricity. With solar panels, electricity will be generated without people doing anything, apart for maintenance.

2016 U.S. Transportation Sector GHG Emissions by Source



Weather Dependent:
Although solar energy can still be collected on cloudy and rainy days, the efficiency of the system drops. Solar panels are dependent on sunlight to effectively gather solar energy. Therefore, a few cloudy, rainy days can have a noticeable effect on the energy system. Also, solar energy cannot be collected at night, so you'd have to buy electricity from the national grid.

This renewable way of generating electricity will decrease the enhanced greenhouse effect and stop the earth from overheating. We could put solar panels anywhere, for example the Sahara desert isn't being used, but the countries around it continue to use fossil fuels.

Transport
In my futuristic city, there will be electric cars, buses, trains, planes and boats. By 2020, Transport for London has committed to the use of electric or hydrogen single decker buses in Central London, and the use of hybrid double decker buses. This is part of the ultra-low emissions zone. Tesla and other companies are also developing new electric cars to make them more efficient and safe. Tesla also brought out the Tesla Semi, a fully electric lorry. Left is a pie chart showing pollution from different types of transport. Notice that the highest percentages, by far, are light duty vehicles and medium and heavy duty trucks. If we get rid of these vehicles or make them release less air pollution, then we could reduce the greenhouse effect significantly. Transporting goods is very important, especially from different countries. Normally we do this with boats or planes. At the moment, electric planes only exist in remote control form, and we are years away from making big 747s out of electric motors. However, we may need electric planes soon as aircraft already account for 9 per cent of the US's transport sector GHG emissions. Electric boats are much closer to being a reality, however, but they only exists as a luxury. In order to power an electric boat or plane, you'd need to have a VERY powerful battery and VERY efficient motors. All of this electricity would have to come from solar panels in my futuristic city.

Drowning in Plastic

By Abbie O'Shaughnessy

Plastic is one of the most useful things ever created, from countertops to the pen I'm writing with. But every piece of plastic ever manufactured still exists today. We are producing 300 million tons of plastic every year; eight million tons of that plastic is now dumped in our oceans annually…

Jellyfish, plastic bags and balloons all look like food to a hungry sea turtle. Once ingested, the plastic can cause a variety of different issues, such as digestive tracts becoming blocked, leading to starvation and death. In early January 2018, a male pilot whale died from ingesting 80 plastic bags off the coast of southern Thailand. Over 100 million marine animals die each year due to debris, according to the Sea Turtle Conservancy. We are killing and putting animals on the brink of extinction because we have not found a better solution. Each year we buy and toss 20 billion plastic bottles in the trash. Yet if we carried a reusable bottle with us, then that number would decrease incredibly. So with that one small thing, you could help save a species from extinction. Between five billion and one trillion plastic bags are used each year around the world. Bringing your own carrier bag when you shop means you could use that bag for months or maybe years. Disposable shopping bags are banned in a number of cities such as San Francisco and Washington DC.

The amount of plastic in our oceans is staggering. The United Nations Joint Group of Experts on the Aspects of Marine Pollution (GESAMP), estimates that 80 per cent of the world's marine pollution is plastic. And it is all caused by us. Every single one of us has bought a plastic bottle or 'forgot' to bring a carrier bag, and we say something like 'it's only one time'. But if millions of people say that just so psychologically they can feel better then what difference does that make? Thinking about the solution when buying a bottled drink isn't solving the issue. We have to stop being lazy and arrogant and make this change before it is too late. By 2050, there will be more plastic than fish in our oceans. Also by 2050, it is estimated that ten plastic bags filled with rubbish will be found on every foot on a beach … because of us. It is time for us to make a change by using refillable coffee mugs and choosing cardboard over plastic. Every small change everyone makes is the beginning of a healthier marine life, but if we ignore every headline, advert and documentary about plastic then it is the beginning of the end.

8

million tons of plastic is now dumped in our oceans annually

Sean

By Helen Bellinger

Good times have passed,
Bad times are gone,
I now peacefully lie,
Where I belong.
You can't see my face,
Or hear me talk,
But here is my letter about my life's work.
I did not see you much,
I was sick yet again.
This is what should've been told,
There and then.
I lost the fight,
Defeated in war,
But I miss someone lots,
It's who this letter's for.
Life's not a song,
Where we all sing along,
But you can change that,
I knew all along.
With small hints of love, kindness and care,
Help others, from fingertips to hair.
This is the goodbye I had no time to say.
Just be yourself, every single day.
Don't ever be doubtful,
And please don't mourn
I am always here,
Yours faithfully,
Sean.

This poem is about a recent event that took place in my life, the death of my great uncle Sean. I have written this poem to remember him.
Growing up, I didn't have any grandfathers but my great uncle Sean was always around. He grew up in Ireland and, in the 1950s, moved to England. He helped a lot of people because he was a nurse. The line in the poem "Defeated in war" is a metaphor for his fight against his illness. The poem is like a letter from him, telling me that he is now at peace but that he will always be there for me, and that I should live my life with kindness..

Adrian Mole Accrostic

By Eleanor Hill

Awkward
Disturbed
Rambling
Intellectual
Abnormal
Nerdy

Misunderstood
Overdramatic
Lonely
Embarrassed.

I Am From

By Katie Cox

I am from long walks
and muddy boots.
From homegrown vegetables
and smelly chickens.
I am from fairytales,
from beautiful books.
I am from Sunday roasts and Christmas gatherings.
I'm from hand-me-downs
and know-it-alls.
From happiness and laughter.
I am from twin photographs
with happy twin smiles.
I am from paddling pools
and splashing in the sun.
From rainy days and snuggling by the fire with our pets,
I am from the place I can call home.

Acting

By Zoey Goldberg

I'm from rehearsing to performing,
from plays that are forming.
I'm from red curtains to blue,
from audience to actors too.
I'm from pitch black to bright light,
from the morning to the night.
I'm from using a script to learning lines,
from different costumes to using what you find.
I'm from clapping to speaking,
from singing to shrieking.
I'm from breathing in the smell that's unknown,
from playing with friends to being alone.

We're not here to be perfect

By Anika Sandi

We're not here to be perfect,
but that's not what the media's saying.
"You're beautiful just the way you are!"
But that's just one big lie.

We're not here to be perfect,
but people are saying that the only way
to be beautiful is to have big hips and
a tiny waist.

We're not here to be perfect
for those who won't accept us as we are.
We're here to LOVE every square inch
of our bodies,
because, no matter what they say,
We're all beautiful, inside and out.

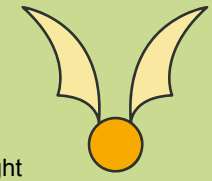
Thomas

By Lois Collett

Thomas Becket, was Archbishop but less powerful than the Pope,
When the former Archbishop left his post Henry II had some hope,
He offered the job to Thomas Becket and he gladly agreed to take it.
But things took a turn, when their friendship began to burn and many other things with it.
A feud began, they try as much as they can to try and put the fire out,
But try as they might, people just couldn't stop the fight and this made Henry shout,"Will no one rid me of this turbulent priest?"
The king had had enough of this beast, but some dumb knights didn't get it right and began to travel east. Towards the cathedral,
The knights searched high and low to try and find this man, when they finally got there, they thought it was only fair, so the murder began…
Thomas Becket, Thomas Becket, killed by information's delay, he had finished his time so they built him a shrine, visited by pilgrims today.
It was believed if you visited these shrines, that at the end of your time, you would end up in heaven not hell, at Thomas' grave they touched his blood remains because it would cure you of being unwell.

Quidditch

By George Perry



Lightning broomsticks swirling round
High in the sky, the deafening sound.
Roaring cheers flood the stadium pitch
Who will win the golden snitch?

The whistle is blown, the players take flight
Seekers and Keepers battle to keep
Ahead of the game, avoiding defeat.

Backwards and forwards in the blur of the brooms,
The turbulent air resounding with booms.
The crowds cheering wildly for the game to be won
The chasers and beaters together as one….

With one frantic rush and a whoosh of the brush
The seeker decides that enough is enough!
He turns sharply right and into the light,
The golden snitch is there in his sight.
Hovering gently it appears to say:
"Grab me now before I flutter away."

With one final push, the seeker reaches out
And grabs the prize with all his might.
The game has been won!

Lightning broomsticks swirling around,
High in the sky the deafening sound.
Roaring cheers flood the stadium pitch
A seeker has claimed the golden snitch!

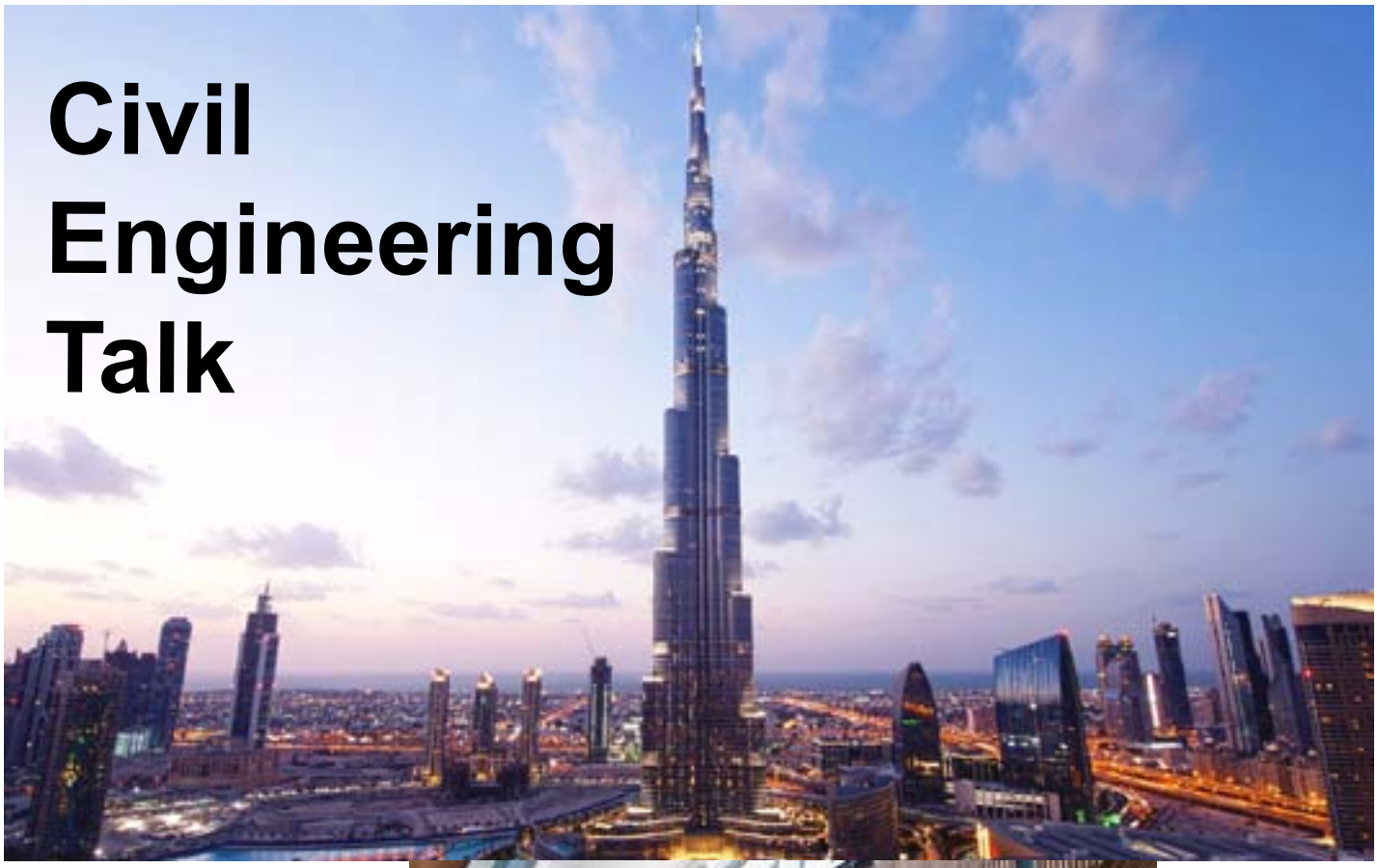
The Recruit

By Malachi Mungwira

From the mistake of a lifetime,
A fear inside,
From the scene where my poor mother died.
The police station and children's home,
My best friend on the phone.
From a new friend I met,
From the new homework set.
The invitation to a new home,
To a new family,
To see my sister again.
To challenge 1: the IQ one
To challenge 2: the one with kung-Fu
To challenge 3: the anger in me
To challenge 4: heights where you don't want to fall.
To cherub, the place which changed me,
The place that set James Adams free….

This poem is inspired by The Recruit, a novel by Robert Muchamore.

Civil Engineering Talk



By Alice Durrant

Being a teenager is a confusing time. Part of this confusion stems from future decisions and the pressure that comes with making them, particularly when you aren't sure what you want to do. Business Challenge Week at Imberhorne brings qualified professionals from different fields into the school each day to talk to students. For one talk, two employees from Arcadis (an international engineering company that specialises in civil engineering and structures such as underground tunnels and airports), discussed what they do, how they got into it and why they love it. Despite not being previously inclined to a career in engineering, I found myself becoming more open to possible career paths that I hadn't thought about.

The talk not only redefined my preconceptions about engineering, but gave some top tips that could be applied to almost any profession. In particular, the 'typical day in the life of an engineer' segment stood out as it corrected stereotypes and gave an honest view about what being an engineer is really like. The speakers revealed the diverse working life of an engineer, and the high proportion of time

spent in meetings designing new projects and working out logistics, as well as on the go, working at different locations and organising the running of the projects. They also revealed that equations and mathematical theories are a big part of the job, as they have to remember and manipulate certain equations on a daily basis.

The preconception that engineering is very hands on and therefore not suited to many people was also revealed to be false. With so many fields of engineering to enter, from chemical to aeronautical, there is something for everyone and the engineers from Arcadis advised us to be open-minded when looking for courses and careers.

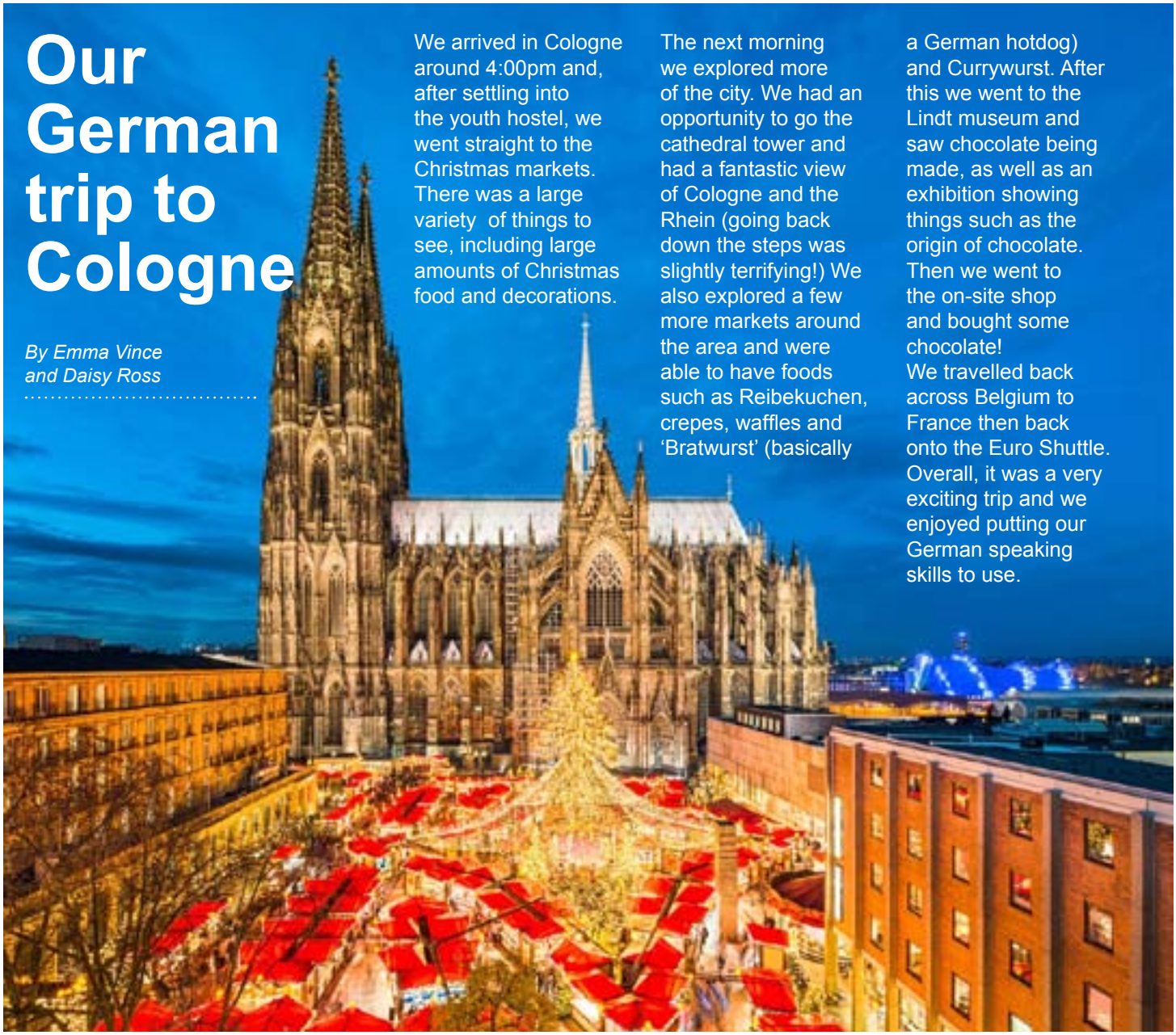
The professionals conducting the lecture were an engineer with over 20 years of experience and an apprentice fresh out of university. This provided two different perspectives and a clear example of the possible progression in the career. Having a young woman apprentice talking about her experience was extremely inspiring as a female engineer is somewhat of a rarity, with only 8 per cent of the engineering workforce in the UK being female. Her apprenticeship status allowed her to talk to us about starting in the career and how much of a 'steep learning curve' it has been for her, especially working in a company as big as Arcadis.

If you're unsure where you want to go in your life, it is important to look into as many options as possible.

Business Challenge Week at Imberhorne provided an opportunity to do just that. Other topics included: Being a Serial Entrepreneur by Jason Greystone, and The Wonderful World of Business Finance and Banking by Imberhorne specialists Mrs Goss and Mr Batsford.

Our German trip to Cologne

By Emma Vince and Daisy Ross



We arrived in Cologne around 4:00pm and, after settling into the youth hostel, we went straight to the Christmas markets. There was a large variety of things to see, including large amounts of Christmas food and decorations.

The next morning we explored more of the city. We had an opportunity to go the cathedral tower and had a fantastic view of Cologne and the Rhein (going back down the steps was slightly terrifying!) We also explored a few more markets around the area and were able to have foods such as Reibekuchen, crepes, waffles and 'Bratwurst' (basically a German hotdog) and Currywurst. After this we went to the Lindt museum and saw chocolate being made, as well as an exhibition showing things such as the origin of chocolate. Then we went to the on-site shop and bought some chocolate!

We travelled back across Belgium to France then back onto the Euro Shuttle. Overall, it was a very exciting trip and we enjoyed putting our German speaking skills to use.

Knitting Club

By Helen Bellinger and Esther Bindloss

Knitting club (Monday lunchtime Room 3), is relaxing and entertaining. It gives you a break from all the work at school and lets you meet new people and learn a new skill.

At the start, you learn the basic stitches and techniques, and eventually you move on to more difficult projects. Some of us have made ruffle scarfs, which is challenging and something we'll be able to wear! People don't always realise the benefits of learning to knit, for example you will be able to make clothes for yourself and for others. At this club you also get the chance to meet people who aren't necessarily your age and help them if they are struggling. The teachers running knitting club are very supportive and help a lot when you make a mistake. Knitting is a great skill to learn and is really enjoyable!

Blood of the Enemy

By Emma Chatten

Tomorrow shall bring the long night. The depths of winter have draped their wrath of ice and dark over the lands. This past week has been tiresome, cold and morally draining. All the men I know are of low spirit and lethargy. Winter depression has worked its way into our hearts. Frost covers the greenery and, in the pale of the night, gives all life a grey, dull sheen.
But the morrow should bring the warmth of the sun; the elders have promised it.
My men and I will feel the warmth of the sun at the rise of the morning colours. Tonight, we celebrate. I, the leader of this powerful army, shall give a speech of tomorrow's victory.
We will tell tales of great achievement and noble sacrifice. We will sing songs and drink like gods, for it is the eve of the greatest battle ever fought.
It was not two nights ago when I heard of the plague that has struck our enemy. They are weakened and their acute disease will surely bring us victory. I have heard of their savage behavior, of their pale faces. I have heard of their weakness, of how their skin has been stretched and strained to fit over their skeletal bodies. We shall rise to the top, for they are barely strong enough to stand, let alone wield a sword.
Every night of our travels I watch the sun set - hues of orange and pink stretched into purples and inky blues overhead. As I sit, I hear the whispers of the men and the trees. I smell the low, icy mist that settles and swirls around the ground. This mist is bitter. Poisonous. It makes all shadows wave and sway, all forests look eerie and restless. It has hung day and night, drowning the fires so they look like infernos of hell blazing in the distance. But tonight is different. Mist has enveloped us all. The trees are but mere silhouettes standing, waiting to grab us. The sky is blazing red and looks as if the heavens are burning, burning as if hell is taking over.
The food of the small feast has made every man jollier, but the cold of the long nights does not go away. My speech is a brief one. All the men cheer, chant or sing, but behind their laughter I can hear the monotony of their hearts and minds. Only one side gets to bathe in the blood of the enemy.

Wolfy

Opening extract

By Henry Emmett

Mist from the forest crept in, blocking my vision. The sun was setting, and twilight was near. The only light left was cast from the carriage lantern. We arrived at the village as the world plunged into darkness. As the coachman helped people with their bags, the flapping of bats could be heard and I reached for my crucifix. Bats. Ever since my first encounter with a vampire I had never trusted the devils.
I hired a coach to take me to the castle that was said to hold the evil vampire. I had seen him once before - and that is what had brought me to this forbidden place. The castle was completely isolated and we galloped through a darkness pierced by the howls of wolves.
Mist surrounded the castle but moonlight shone down on the coffin at the entrance. I shuddered as I saw pale, wrinkled fingers gripping the coffin's edges, the nails long and sharp. The coffin creaked as I got closer and a pair of demonic eyes, filled with hatred, stared out.

Gothic Novel Chapter One

By Elsie Board

Xena

I'm hurried along the dark alleyways, my mother's thick cloak swirling round her ankles, her golden curls bouncing under her hood with each frantic pace she takes. We skirt the buildings, keeping to the shadows. The sky is a dark, velvety black, cast over with a smog that hides the stars.

No sensible mother would bring her young child out in these freezing temperatures this late at night. But then, *she* isn't my mother. My real mother died shortly after I was born, twelve years ago. After her death, my father kept us fed and warm by stealing. The rich people he targeted had more money than they needed, bedecking themselves with jewelled brooches and rings so heavy they looked like they would break the fingers of whoever wore them. Father was caught and put in prison a few months ago. Because of my lack of close relations, *she* took me in.

Yawning, I count the tolls of the huge clocktower echoing to the edges of the city: one, two, three…seven…ten, eleven. Eleven o'clock at night and I haven't even been told where we're going.

She pulls her cloak more snugly around herself. Is it to hide her face? The darkness does a good enough job of that, but it would make sense. She's Elnora Averin, high in the complex web of the Court. If she were seen in the slums of the capital then her reputation would crumble around her.

Every so often, when she looks down at me, I see her lips curl in disgust. However, I keep a blank face, my right hand trapped in her vice-like grip. We turn a corner, the cobbled road cracked and worn. Rows of cramped houses are squished together, some with their windows boarded up and straw stuffed in the gaps to keep out the bitter cold. A few of the houses even have their doors nailed shut, abandoned for the winter.

Elnora's boots click rapidly on the uneven stones, and I struggle to keep up with her, despite being tall for my age. All she does is yank me forward by my hand, not caring when I trip and stumble.

When we reach the end of this street I'm confused. It's a dead end, there's nowhere to go. But I'm wrong. We take a quick turn into yet another alley, this one much narrower than the others. I don't realise it at first, but there's a small wooden door in the stone walls.

"Now," Elnora says to me, "you can't tell anyone that we were here. It'll be our little secret."

"Okay," I lie softly. If I'm asked, I'll tell.

She raps on the door, the sound disturbing the thick silence of the chill night air. The door cracks open, sending a shower of ice crystals and grit raining onto the ground. A stern woman, with charcoal grey hair shot through with streaks of light silver, stands there.

"It's you." She huffs shortly. Opening the door wider, she lets us step inside.

I'm shocked. Houses in the slums are usually shabby and run-down. But this one has leather armchairs, a polished wooden table, and a roaring fire. By the fireplace stands a man who has the same icy blue eyes as the woman. I assume they're brother and sister.

"Isobel, Mikhail." Elnora greets them, nudging me forward. "Can you fix her? Can you get rid of them?"

Them. My abilities. So that's what we're here for.

I feel angry. Normally the only people who have their abilities neutralised are dangerous and bad.

The siblings withdraw, murmuring in hushed voices. Eventually, they shake their heads.

"Can't you, or won't you?" Elnora lets her tone fall somewhere between imperious and genuine questioning, the tone she uses when she wants something.

Pulse quickening into a nervous thrumming, I glance between the three adults.

Isobel dodges the question. "I don't see why she's such a problem Elnora." Her cold blue gaze cuts sharply over my face.

"Elnora, think," Mikhail adds. "What would you even gain from this?"

"Well, I wouldn't spend the nights terrified of whatever horrible monsters she creates when she gets nightmares," Elnora snaps.

Dread filters through me. Is that what fuels her hatred? Fear? If so, then I'm not in the safest position.

Mikhail smiles. "Perhaps you could be the one who's able to control her. Wouldn't that be so much better?"

I can see she's tempted. I just hope it's enough for her to change her mind.

Elnora sighs in annoyance. "Just… just show them." She says to me.

I tread softly over to one of the more shadowy corners and plunge my hand into the gloom, drawing out a dark mass. Pulsating gently, short wisps of it curl around each other, then dissipate into the air like black smoke. I hold out my trembling hand for them to inspect the darkness.

My darkness. I twist my wrist to let it drop. Little rivulets of shadows run across the floor, merging with the original sphere. It grows, larger and larger, until it's a head or two taller than me. A ferocious, feline head bursts from it, baring serrated canines. A tail follows, then huge paws. The panther rears up and snarls, claws glinting a dull metallic grey in the firelight.

Mikhail approaches the magnificent feline cautiously, then reaches out and brushes his knuckles against its flank. His eyes widen in surprise as he meets solid resistance.

"Don't get rid of the girl," He tells Elnora. "But keep an eye on her."

My spine relaxes and I let out a breath I didn't know I was holding. I let the panther melt back into the shadows, and become nothing once again.

"Let's go." Elnora takes my hand, this time more softly.

Extract from a Short Story

By Esther Bindloss

Precisely two weeks ago, she had thrown her whole life away.
All of it.
The good bits.
Gone.
The bad bits.
Gone.
Nothing left.
But she didn't care.
Not about the good bits.
Or the bad bits.
Not about any of it.
Humming tunelessly, she stood up and left the peace of her own thoughts.

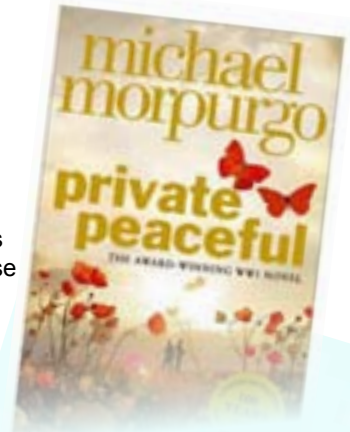
A cold, almost unearthly breeze blew across her surroundings. The world was a noisy place to be in, but never before had it seemed so quiet, so eerie. Twigs snapped as she stepped forwards. The entirety of creation lay asleep, allowing her a glimpse of the world her eyes would not let her see .Just for a second. She shook her head, I am right.

The second that moment ended, she longed for more. It was the world as she had never seen it before, it was the world how she was sure it must be. Desperately, she shut her eyes, hoping, quite hopelessly, to see what she had just see once more.
Nothing.
In vain she tried again, and another time after that and another...
Am I going mad?
No.
Something was blocking her from it, something that was afraid, something she needed to find...
SNAP.
She spun around out of instinct.
But there was nothing.
SNAP.
She really didn't like this...
SNAP. THUD.
A sharp pain spread across her head.
She fell to the ground...Two hands grabbed her roughly. Could she vaguely make out a face...
Hardly conscious, she yelled for help...
Then...
Nothing.

Letter from Molly

(A character in the novel Private Peaceful)

By Katya Kashubin



Dear Agony Aunt

I have quite a dilemma on my hands at the moment. My dear friend Charlie Peaceful has recently sent me a letter asking that we meet next week, in secret, as my parents don't approve of him. Of course I want to meet him, but what will I do if my parents do find out? What will they do?

I can hear the Colonel (who owns all the land around here) downstairs, talking to my mother and father, feeding them horrible lies about Charlie and how he supposedly was a thief, saying he has a bad influence on me and I shouldn't tangle with those 'sorts of people'. Now my parents have a reason for me to be cut off from the Peacefuls. They hated them from the start anyway.

I can imagine my father's eyebrows furrowed, his eyes merciless dark voids, mouth in a permanent scowl, and mother with a concerned expression, unsmiling, defiance in her eyes. Both thinking of Charlie Peaceful. The Colonel grinning a stupid, evil grin - for he knows what side my parents will take.

The letter that Charlie wrote is on my desk, tied with a silky blue ribbon. My bedroom is completely dark apart from a ray of sun shining through the curtains onto the letter. Then a cloud comes and I am submerged in darkness again. The only ray of sunshine in my life was Charlie. I will never, ever, see him again now. The thought throws a shadowy dark veil over me, suffocating me, weighing me down with a grief I have never felt before in my life. Hope is crumbling. My face is slick with tears.

I think of Charlie's fair hair, his golden locks tumbling over his eyes. His ocean eyes. His steady gaze staring into my soul, understanding my ambitions and my passions, like no else can. Always protective and loving, traits my parents have never have, and probably never will.

Now I feel anger, utter anger at the unfairness of it all. Swelling up inside me is a burning beast raging with fury, driven by hate, the hate that has been piling up and up until I finally need to take it out. I *shall* take it out. I will meet Charlie, I will disobey my parents and I will get what I want, just this once. However, at the back of my mind, where dark secrets lurk, there is something whispering words of doubt. Should I meet him? Should I sneak out? Should I risk everything for this - for him?

Please write back, I need your opinion, what you think about this mess of a situation.

Yours sincerely,
Molly

The Legend of the Golden Fish

By Edward Moore

The rush of the stream fills my ears. Sun glints off the sun-frosted grass and white birches reaching for the sky.
I crouch on a rock, my numb hands frozen to my fishing pole suspended over the lake's icy surface.
I live in the Scottish mountains. I took up fishing when I moved here as the lakes are bountiful. Tomorrow I will walk down through the mountains to a lake to catch the legendary golden fish. Its scales glimmer like a rainbow, its eyes spread light over the murkiest depths. It is said to only wake up from hibernation every fifty years.
Tomorrow morning comes and I strap my pole and spear to the back of my bag, stuff my net into the rough material and set out through the mountains.
Frost crunches under my feet. The biting cold wind whistles in my ear and birds call into the distance. I come to a sty and look over into the white fields beyond. I jump over and keep walking.
Suddenly I hear a man yell, "Stop, now!"
My numb feet tingle with anxiety.
"This is private land."
I freeze and stutter, "I'm looking for the golden fish."
He laughs. "You really believe that?"
I nod slowly.
He says: "Well then I guess you can go down to that rock, it overlooks the lake."
Bewildered, I mutter thanks and stumble off down towards the lake, tripping over and making him laugh even more.
I sit on the rock, watching the murky waters for any signs of life. A glint of gold and I'm holding my breath, but when a pike breaks the surface I exhale, breathing a pale mist into my cold hands. Then a golden tail flicks through the surface. I'm falling…. I let out a strangled yelp and the net covers my face.
The icy water is what causes me to pass out.
I awaken to the sound of an annoying beeping.
The man stands over me with a condescending smile. "So you fell in, thinking you had just seen a golden fish."
The image of his laughing face is seared into my eyes. A white, stainless room, warm familiar sheets, the roaring of blood fills my ears.

Leaving London in wartime

By Billy Tuffs

Glistening drops of pain dripped from the small girl's face as she gripped her ragged doll. Dazed and confused she stood, empty, her eyes darting around the steamy station, longing for her dead mother to hop off a train and run at her, arms welcoming. The violent 'choo choo'ing' from the train made her temples throb. Next to her, a boy clutched everything he owned in a brown package tied up with string.

More children were hurried through the station doors and onto the dark, crowded platform. A painting of loss, recklessly hurried onto a train, ready to go and never, never, come back. An older brother manoeuvred his caring arm around his weeping sisters' shoulder and whispered calm, comforting words into her ear. Words that everyone on the platform wished were true.

Another train rolled into the smoke, with a piercing screech. A four-year-old threw herself at an old man's leg, thinking, longing that it was her mother, only to get a tired face staring back at hers. In shock, embarrassment and disappointment, she ran back into the sea of homesick swaying, young children.

A whistle cut through the low buzz of chatter and crying. It was time to leave.

Many began to cry again, they didn't want to get on the dark, ominous trains. One boy darted for the door; he was harshly grabbed by an

arm and plonked onto the train like a pawn.
A sharp screech and the train's wheels started rolling.
The clack of wheels on the track increased in tempo as they sped away. Train by train, child by child, they fled.

ART CHALLENGE

Beyond the classroom