

THE HARROVIAN

VOL. CXXXII NO.9

November 16, 2019

THE TEMPEST

The Grove & Newlands House Play
8 November, Ryan Theatre

To begin with, the director, LSA, let us in to a brief summary of her view on the play and producing it in the Director's Note: *The Tempest* is one of Shakespeare's most intriguing plays and it has been exciting to work with two Houses offering so many talents. Caliban (played by Freddie Strange, *Newlands*) tells us that 'the isle is full of noises, sounds and sweet airs, that delight and hurt not.' We hope that you will agree that the wonderful music composed by Joseph Wragg and Theo Nash, both *The Grove*, matches Caliban's beautiful words, and that you will enjoy the leitmotifs as they accompany the characters on and off the stage. *The Tempest* has a creatively rich critical history to live up to, and it has been impossible to give centre stage to all of the themes and issues the play uncovers. Our focus has been on the beauty of the natural world in contrast to man's power-hungry corruption, our central tree lighting up the magical world of the island.

The play is heavily cut, and we hope that your favourite moments have not been removed. The story starts with a tempest, conjured by Prospero (played by Ben Davies, *The Grove*), the usurped Duke of Milan. He is living with his daughter Miranda (played by Roland Eveleigh, *The Grove*), on a remote island with a magical spirit called Ariel (played by George Gallagher, *The Grove*) and their slave, Caliban. Prospero's tempest shipwrecks his enemies onto the island. The King's son, Ferdinand (played by Peter Cartwright, *The Grove*), strays from the group and meets Miranda; they fall in love and plan to marry as soon as they return to Naples. By the end of the play, Prospero has brought everyone into his magic circle where he forgives his evil brother Antonio (played by Ben Ahrens, *The Grove*) and sets out his plans to return to Milan, give up his magic, and prepare himself for old age. Ariel is finally set free to the elements, Caliban has his island back, and the drunken butlers can return to the mainland to stock up on wine. Neither comedy nor tragedy, the illlusiveness of the play is its attraction: as Prospero concludes, the project is simply 'to please.'



And please it did! As the audience flooded into the theatre on 7 November, they were met with an abstract stage setting, different to its Harrow's usual practice. Just off the centre of the stage was a large tree made out of (thanks to the hard work of the theatre crew) completely renewable and recyclable products in

order to make the Ryan Theatre more environmentally friendly. Off one of the larger branches lay fairy lights and thin arrays of nylon floating down making a sort of divider between those behind it and the audience. Unlike many House plays performed in the Ryan, there was a small band area visible to the audience so that the boys could perform their pre-arranged music while still being able to be a part of the production. A large sail was hanging from the ceiling, depicting a ship that came quickly into play in the opening scene. The lighting, although subtle, reflected LSA's aim: to establish the main theme as nature and its surroundings. So, with the stage set and the band having taken their seats and high expectations all round, the play began.



There was a bold entrance from the band with what depicted a storm sequence, and a grand entrance from Ben Davies. With his cane, he began conjuring up the tempest, which led swiftly into the ensemble rushing on stage and causing a bit of motion sickness for the audience as they swayed from side to side, trying to pull down the sail. The scenes blended into each other, with the effective use of music allowing a smooth transition for the cast into their places for their respective scenes. One entrance which stood out for the audience was that of George Gallagher. George was dressed in a tight, blue body suit with loose-hanging bits of fabric on his arms and hip, creating a fascinating visual effect when the lights caught it. His hair alone was incredible. It had been styled into a mohawk (which Custos would not have liked) and sprayed grey. He had also been painted blue, allowing his skin to blend into his costume: an excellent choice by LSA and the theatre crew. As he waltzed on to the stage, the audience was stunned by his incredible flexibility and the gymnastics he performed. Being a former GB gymnast, when he arrived at the School George was able to establish quite quickly a role in the Drama Department and bring a new dimension to the movement and visual effects the Ryan strives to include. Another enjoyable entrance was that of Freddie Strange. However, you could argue that it was in fact not an entrance, for Freddie had been on the stage the entire time, hiding under a pile of cloths. This added to the humour of his 'entrance' for, as he began to move around and yell out, all the audience could see was this messy lump trying to escape from the tree! Once up, the audience was shocked by what Freddie had become. Being a well-dressed and well-mannered boy, this was a new role for him. He stood with his legs far apart and his back arched as he frantically ran around the stage. His costume added to this chaotic ensemble. His legs were thick with moss and his face and hair were a mess of

leaves and greenery. Freddie truly grasped the concept of this character and was able to entertain the audience, especially when it came to his scene with Sebastian (played by Freddie Taylor, *Newlands*) and Trinculo (Ben Leonard, *The Grove*), where he was introduced to wine and quickly became quite addicted, praising these two drunk sailors lost on the island!

Ben Davies, in his long flowing gown, was able to establish his character through his interaction with Ferdinand (played by Peter Cartwright) and Miranda (Rowland Eveleigh), when he allowed them to get married but showed his real feelings about the situation through subtle facial expressions and gestures, creating a humorous tone for that moment. However, Ben was able to show his other elements when, nearer the end of the play, Prospero created another storm, more ferocious than the other and causing chaos and mayhem as the ensemble once more rushed about the stage while Ben walked around with George (who managed to swiftly leap forward) on his shoulders. As the play came to an end and Prospero was setting the people free, as he let Ariel leave, George felt it appropriate to do a flip off the stage! And so, with Ben giving his final soliloquy, drawing the audience in again, the play ended, and the audience erupted into applause.



Altogether, it was a terrific performance and congratulations must go to LSA for taking time out of her busy schedule of running English and other events in the School for putting on this incredible production. A special mention must go to boys in *Newlands* and *The Grove* for coming together and collaborating to put on the show. The Ryan Theatre looks forward to its next production, which is *A Christmas Carol*, directed by GLJ with Rendalls.

REMEMBRANCE DAY SERVICE

Sermon by Edward Colyer Monckton, Elmfield 2001³

It is a great honour to return to the Hill barely 15 years on.

I left The Grove in 2006 and, after graduating from UCL, I joined the Royal Military Academy Sandhurst, commissioning into the 9th/12th Royal Lancers (Prince of Wales's) who were then based in Lower Saxony. After exercises in Argentina, Namibia and Canada, I deployed to Afghanistan on Operation HERRICK 19 as a Troop Leader in A Squadron, the principal ground assault force of Task Force Helmand.

I would like to reflect on the truly unique contribution that Harrow and Harrovians have made, and continue to make, to life in the Armed Forces and what my time on the Hill gave me during my career in the Army.

I find the example and inspiration of others is all around you on the Hill. Churchill. Alexander. Gort, who were men who changed the course of history, to the more immediate on the walls of the War Memorial, men who were not so long out of Harrow. My great uncle, Thomas Colyer Fergusson,

Elmfield 1910, who was killed winning a Victoria Cross on the first day of the battle of Paschaendaele. My grandfather, *The Grove 1929*, won a Military Cross at Dunkirk. General Roly Walker, current Director of Special Forces, the post that is the professional pinnacle of the Armed Forces, was in The Grove 20 years before me. The Regimental Medical Officer when I arrived in Germany was an OH. An unusual turn of events even meant that I was standing next to an Old Harrovian during my first dismounted contact with the enemy. In October 2013, on my first patrol in central Helmand, a vehicle had thrown a track in a poppy field in a place called the Haji Tahrir Estates just before sunset. I had detached half of my troop earlier in the day to support a resupply and was left with only three vehicles, one disabled. Ed Aitken, *Moretons 1999*, who was my Squadron Second in Command, realising my vulnerability, turned back to help me recover the vehicle, allowing the rest of the squadron to make it to the leaguer location before dark.



Twenty seconds after Ed walked over and greeted me, we came under PKM fire, masked in the setting sun. Sustained sharp cracks and immediate thumps meaning they had direct line of sight and were under 200m away. Ed and I took cover in the same ditch, with Ed whooping like a six year old on Christmas morning, returning fire, enthusiastically following Churchill's maxim that there is nothing more exhilarating than being fired at with no effect. This being my first rodeo, I was less sure. "Look at us Eddie, two OHs in a ditch!" I asked him to lay down covering fire while I made it to my vehicle. I would then cover him with the GPMG in my cupola while he made it to his vehicle. He replied. "Good idea. I will go and get my camera. We must get a snap for the Harrow Record." The ineffective fire became rather more effective and we never got the photograph.

In these febrile times, there has been a lot of talk of what an education at Harrow gives an individual; what privilege it bestows and the attendant moral and material cost to society. What has not been examined is the contribution.

I believe the Army is a meritocracy. No favours are taken in the Army Officer Selection Board. No quarter is given by the Colour Sergeants at Sandhurst. One-hundred-and-ten British officers and soldiers were killed in action while I was at Sandhurst. If you were not capable of leading soldiers in combat within six months of commissioning, you would not commission. The battlefield is the least discriminatory environment of all. Yet still an Old Harrovian serving in the First World War was one and a half times more likely to be killed in action and 36 times more likely to win a Victoria Cross. Of the Harrovians who sang the Silver Arrow for the first time in 1910 and were exhorted to "show by word and by deed to be worthy seed of their sires who drew the bow", one in four was killed in the Great War. It certainly isn't ill-timed jingoism that Harrow does best to prepare boys for a life of service. In search of what did, I turn to life at Regimental duty.

The ethos of my Regiment was articulated in three parts. The first article was: All of one company. This is borrowed

from the Navy and expresses how the fate of every individual is tied up in the fate of the whole. If the ship goes down so does the ship's company. In less dramatic terms, it expresses the tribalism of House spirit on the Hill. You all play for your House and for your friends first and foremost, and not for yourself. *Stet Fortuna Domus*.

The second article is 'think to the finish'. What is the bigger picture? What type of victory do you want: a quick and bloody one that drives young men to the arms of the Taliban or a longer, harder most costly one that engenders trust? University places and league tables were never the finish line on the Hill. The type of man that came out of the other end was the goal. The investment in the individual without giving into individualism is a difficult balance to strike, and it is even harder to keep long horizons. This was something I never fully appreciated in my time here.



(Above: PJB and Edward Colyer Monckton)

The final and most challenging is 'do as you ought not as you want': do what is right and not what is easy. A Regiment, like a school, is a village and, as the song says, 'here the world is narrow'. There is an all-encompassing sense of accountability not only to the institution but to each other. You know the flaws and strengths of those on your landing better than their parents do, and maybe better than they do. It is a preparation for the unique way of life the army brings.

On the 2005 Long Ducker I took a black cab to the finish line in Bill Yard, strolled out with a coffee and a newspaper to collect my medal and got back in to go to The Grove. I thought I was very clever and funny. I was not. I had failed on all three counts. I had let down the House, embarrassed the School, and had not thought beyond my own tired legs and a cheap laugh all at the expense of the endeavour of others. I look back now in horror. PJB quite rightly gave me a searing bollocking that I remember today. I had displayed the worst kind of Harrovian arrogance in total contradiction of the values that had been inculcated in me here.

The platform and the holistic education for life that we all leave the Hill with gives us an assurance and self-belief that is beyond value and, at the same time, worthless if it is not understood by the individual and applied with purpose in the service of others.

Today's Gospel of St John speaks of duty and service: of how we are as branches of the vine, are part of something far greater than ourselves, whether that be the House, a platoon or Regiment. We all find ourselves, especially those in the 6.2s, "appointed so that you might grow fruit." What Christ asks in this Gospel is for us to make a choice as to what purpose that fruit will be borne. Decide and then act upon it.

In closing, I ask that you look at the names engraved on the walls around us not with pity, perhaps with sorrow but certainly with gratitude. Furthermore, that you remember in your prayers today Lance Corporal James Lee Brynin, killed in action six years ago last month, and Sergeant Major Ian Fisher, killed in action six years ago this week.

ORIENTAL SOCIETY

The Weird and Wonderful Geography and Architecture of Eastern China

On a chilly Tuesday evening, Q Sun, *Moretons*, addressed the Oriental Society on 'The Weird and Wonderful Geography and Architecture of Eastern China'. To begin, Sun broke up eastern China's 'wonderful geography' into three categories: mountains, rivers and forests. Sun started by directing our attention towards the Yangtze River (长江), which literally translates to 'long river'. To demonstrate the sublime nature of the Yangtze, Sun provided various comparisons of scale; its length is equivalent to the distance between Beijing and Stockholm, the same as the lengths of the Thames, Danube, Rhine, Elbe and Seine combined. However, it was also made clear that China boasts plenty of other formidable rivers, for example the Black Dragon River (黑龙江). In fact, this river's importance is such that the speaker's native province, Heilongjiang, is named after it.

Before moving onto eastern China's mountains, Sun explained that he wanted to avoid "fall(ing) into geopolitical mayhem". However, for the sake of simplicity, Sun would regard Mount Everest as being part of China. The audience noted that Mount Everest is 8,848 metres above sea level. As Mount Everest does not technically belong to eastern China, it remained an honourable mention. Sun went on to explore the significance of Huaguoshan, also known as the Fruit and Flowers Mountain. It turned out that the Monkey King (Sun Wukong), the protagonist of China's legendary adventure novel *Journey to the West*, was born on this mountain. Sun noted that, for many people in China, this mountain carries an equivalent significance to what the cave/stable of Jesus' birth would carry. Although there is nothing religious about the mountain, nor is there a church close to it, the mountain does contain a cave called the Water Curtain Cave.

As the audience grew impatient to hear Sun's unravelling of eastern China's 'weird and wonderful' architecture, Sun kept his explication of eastern China's forests fairly brief. The audience was reassured by the Shunan bamboo forest's solid TripAdvisor rating of 4.5 and enjoyed the picturesque images on the slideshow.

Sun's exploration of eastern China's architecture began with the capital: Beijing. Beijing is home to some of China's particularly inventive architecture. A notable example of this is the CCTV (Chinese Central TV) building, colloquially known as the "big underpants" building. Seeming to defy gravity, this building is an impressive piece of architecture. Other notable examples of Beijing architecture included the Great Wall of China, which in fact is more than three times the length of the Yangtze River. Sun proposed that climbing the Great Wall would not be a bad alternative to doing a Double Ducker. Sun also mentioned Beijing's starfish-shaped airport, which cost \$11 billion to build and currently holds second place in the world for the largest single-building airport terminal. The final example of impressive Beijing architecture was the "Bird's Nest" Olympic stadium. It cost \$4.4 billion to build and can accommodate 90,000 people.

Shanghai, home to some of the world's tallest towers, came next. Shanghai has the world's second-fastest elevator at 20.5m/s. It also houses the world's second-tallest building at 632 metres. Other notable towers included the Oriental Pearl Tower and the Shanghai World Financial Centre, which looks like a big USB stick.

At this point, Sun had three provinces left to cover: Harbin, Shenzhen, Guangzhou. Harbin, with its proximity to Russia, is very cold; its architecture embodies its location. Harbin holds an annual ice festival, the venue for which is unsurprisingly made of ice. Harbin also has the Volga Manor (a Russian-style theme park), an opera house that looks like two octopi, and the Taiping Airport, which is modelled in the shape of a snowflake;

it earned Aerotime's title of the most futuristic airport.

Shenzhen, China's modern metropolis, contains a wide range of futuristic architecture. Its international airport takes on the shape of an airplane, and the Shenzhen Stock Exchange has a mesmerizing cubic plate that runs through the middle of the building.

Guangzhou came last but it was certainly not least. Its Hong Kong-Zhuhai-Macao bridge is the longest sea-bridge in the world, being 55km long. Like Harbin, its opera house's architecture is also original; the opera house looks like two clams joined together. The Guangzhou circle, also known as the donut skyscraper, deserved a mention as well, but Sun encouraged the audience to ponder over whether it is just "weird", or also "wonderful".

A final honourable mention went to the province of Hubei, where the Three Gorges Dam is situated. It took nine years to build and it uses the Yangtze river to generate enough power to sustain 28.6 million UK households per year. Sun noted the Three Gorges Dam's environmental and practical design; the dam reduces coal consumption by 31 million tons per year and prevents the emission of 100 million tonnes of carbon dioxide gas.

All in all, Sun's talk gave the Oriental Society an excellent opportunity to delve deeper into China's impressive geographical features while providing a detailed insight into the truly "weird and wonderful" nature of China's architecture; from donut-shaped buildings to incredible skyscrapers, China's architecture is remarkable on a global scale.

MEDICAL LECTURE COMPETITION

7 November

On Thursday afternoon, a group of aspiring medical students from Harrow travelled to Radley to support Alex Saunders and Harry Saunders, both *The Knoll*, in a medical lecture competition. The first lecture was given by a boy from Radley on the placebo effect, which the judges thought showed a good understanding of its history, the biological reason for it and the large role it can play in treating patients. The next presentation was from Wycombe Abbey on tranexamic acid. The student also gave a brief history of how it was originally used to prevent excess blood loss while giving birth, but explained how it had transitioned to being widely used in medicine from major trauma to tooth removal. Alex was up next and delivered coherently on personalised medicine. You could tell he had a clear understanding of how analysing people's genomes could lead to huge advantages in providing medicine at the correct dosage and without the risk of unknown effects, and even giving preventative medication to people who may have a genetic predisposition to a disease. He clearly stated the drawbacks of cost and patient privacy, while also demonstrating the extensive research he had conducted as he provided further information regarding where this area of medicine was heading in the future. The fourth presentation was given by a boy from Radley on Echinococcosis. He displayed a good diagram to show how the tapeworm parasite was passed from host to host, the effect it had on the host and ultimately the treatment. He also showed how the tapeworm is far more common in less-developed countries. Penultimately, Harry delivered a presentation on robotic surgery in which he discussed the advantages of using robotics, how they allow surgeons to be precise and intricate, and the disadvantages such as the cost, operating technicality and latency lag. Harry also made a good point when he emphasised the ability of a surgeon to be in a different location to the patient while still being able to operate. Finally, a girl from Wycombe Abbey presented on the topic of heart failure. She covered the causes, the effect and the steps you can take to avoid it. The judges in the end

chose the lecture on tranexamic acid as they liked her presenter's solid understanding of the complicated topic from the chemical composition of the acid to why it has the effect it does on the body, shown in her clear PowerPoint presentation; for that, she was ultimately the winner. The evening was superbly rounded off by a dinner hosted by Radley.

CROSS-CURRICULAR LECTURE

JAPB and CMC, "From Particle Physics to Cosmology", OSRG, 4 November

Imagine yourself blindfolded. You are trying to learn about an elephant: to understand how it works, to know what its properties are, and to make accurate predictions about its behaviour. After 'sensing' the elephant (in whatever way possible), you may start drawing some conclusions about the elephant. Some of us may believe that our (non-seeing) observations will lead us to conclude that elephants are evolved fighters, after sliding your finger over the sharp edges of the ivory tusks. Others may conclude elephants are sinuous, peaceful and angelic creatures – after feeling the breeze from the flapping ears.

What you have just completed is more than just a thought experiment: it illustrates the diversity upon which the pursuit of truth through science is founded on. By connecting perspectives that look at things differently – from the very big to the very small (or, as hinted at by the title of the lecture given by JAPB and CMC, "From Particle Physics to Cosmology") – scientists can better their understanding of the universe and everything in it, giving us the confidence to trust in the universality and validity of the physical laws our ancestors have discovered for us.

The diversity of the laws of physics are valuable in predicting our future and modelling our past. Consider the question: how high up can a major-league baseball player hit a ball? If you can arrive at the very same answer applying both Newton's laws of motion and the laws of conservation of energy, then you not only provide confidence in your answers (what are the chances?), but you also might understand the physical situation better (energy is being conserved, but so is momentum).

However, a diversity in our understanding of physics is not purely for small puzzles. JAPB and CMC took the audience on a broad overview of physics and within it, demonstrating to us all the staggering variety of fields, each of which has contributed to the whole picture of the universe – our elephant. Galilei Galileo spotted that, from a horizontal perspective, the moons of Jupiter revolve around the planet as if they were on a spring attached to the gas giant; the experimentation of the mathematical ideas of higher dimensions, wrapped around in our spatially 3-D universe, helped pioneer the way for String Theory and a geometric understanding of Einstein's general relativity.

For Einstein and many of us, special relativity may seem to represent paradoxes. In the perspective of a fence, a dog dashing at 99.5% the speed of light along the fence will experience length contraction – the length of the dog in the direction of travel will shrink – until the dog is merely 10% of its original size. The dog would be able to fit through the gaps by jumping sideways after reaching the right speed. However, in the perspective of the dog, it is the fence that is travelling at 99.5% the speed of light. So, in the canine's eyes, the fences have shrunk in length, thereby reducing the spacings of the gaps. What the fence sees as a dog's opportunity to pass through can be a dog's disappointment. In this case, one must reach out to another physical law, time dilation, to resolve the apparent paradox.

These examples, albeit interesting, only graze the surface of the ever-expanding issues that we are struggling with. Science is not only about what we know, but what we do not yet understand. Having diverse paths to solve a particular issue will become handy – especially when you are trying to solve

the “Cosmological Constant Problem,” or as CMC exclaimed, “the MOTHER of all physics problems.”

A puzzling problem indeed. Having originated from Einstein’s field equations to model general relativity as a “mistake,” this constant (Λ) now seems to be giving physicists from all areas a pain in the neck. Λ is the vacuum energy density of our universe, caused by spontaneous creation and destruction of virtual matter/antimatter quantum particles. This process drives the expansion of the universe by providing a repulsive gravitational field. To find the value of Λ , cosmologists have peered through their telescopes, observed the rate of expansion of the universe, and calculated the upper limit of the cosmological constants. Quantum physicists, however, have tried to calculate the same constant. They did arrive at an answer – they were just out by an order of magnitude of 120. Too bad there is no mark scheme for this question. Scientists have approached the problem from a variety of angles – some more philosophical, some more radical, and others making more assumptions. This, along with other problems such as reaching a Grand Unified Theory (a unification of all four fundamental interactions), is but one of the problems in physics that, although it is a specialised puzzle, requires the best of all diverse areas of physics to tackle. Of course, there have been huge successes that we have reached through theoretical, experimental and observational discoveries (we can now neatly model a timeline of the amount of various elements in the universe since the Big Bang).

Having conducted research at vastly different scales, scientists can take pride in the accuracy to which they can predict the future, the awe-inspiring instruments governments have funded, and the common understanding we have in nature around us. Yet simultaneously, almost paradoxically, they can feel a sense of humility: acknowledging the journey we must carry on taking in order to understand the universe better. As JAPB and CMC concluded, it is in each other that we can find the strength to learn more about the world (and make it a better one).

PIGOU SOCIETY

“How Technology Giants Influence Consumer Behaviour”, Freddy Anton-Smith, The Head Master’s

On a cold iPhone-battery-draining Wednesday evening, a large crowd was present in the Old Music Schools waiting for the highly anticipated talk by Freddy Anton-Smith, *The Head Master’s*, on ‘How Technology Giants Influence Consumer Behaviour’ to commence. Freddy started off by explaining that, in traditional economics, consumers are assumed to be individuals who make totally rational decisions. All these decisions are intended to maximise the utility that they gain from the consumption of a product.



He moved on to outline the structure of the technology industry, including the presence of the few large companies, most notably Amazon, Facebook, Google, Microsoft and Apple. He pointed out that the ‘Big Tech’ companies are not technically a monopoly, considering that they manufacture different products. He then discussed the similarities between these companies, most notably their savvy marketing strategies.

The first company that was explored in depth was Facebook, perhaps the most obvious example of consumer behaviour being influenced through likes, shares and comments all being cumulated to deploy targeted advertisements to users. Other companies also use the platform to gauge the interest in their products, relying on the huge user base as a representation of potential consumers. It is also important to remember how expansive Facebook is, with companies like Instagram and WhatsApp all being under the social-media giant’s ownership.

Next, onto Amazon. The massive ecommerce website is now actually pivoting to artificial intelligence and cloud services, with over 50% of its North American revenue actually coming from Amazon Web Services (AWS). However, the success of Amazon can be attributed to its record of stellar customer service, free returns and, of course, one-day delivery. A recent survey says that 97% of those surveyed would prefer to buy from Amazon than any other ecommerce site. The company also hold over 50% market share of the ecommerce industry and this number is unlikely to fall considering the huge amount of money the company spends on marketing and customer satisfaction.

The next ‘Big Tech’ company discussed was Apple, which is currently one of the largest IT companies in the world. Apple tends not to make large acquisitions, preferring to purchase companies that are still valued within the millions-of-dollars range (the notable exception being Beats). Apple products are attractive to consumers because they have mastered the art of minimalism. This simplistic and easy-to-use approach has captured the hearts of consumers. Apple is also extremely skilled in marketing and has the rare ability to get inside the imaginations of consumers. An example is the Apple store which, unlike most other stores, allows consumers to use the products first-hand. They also hire talented sales representatives who offer tech support and sometimes even teach coding classes, clearly inspired by CMC’s coding challenges.

So, in conclusion, consumer behaviour is important for any business. The tech giants discussed by Freddy have all managed to grasp a method to influence consumer behaviour. However, Freddy questioned their ability to carry on doing so in the future, especially with the current issues arising from the Cambridge Analytica scandal. Freddy suggested that consumers are indeed becoming more powerful in making their own purchasing decisions but, as the tech giants’ influence over our lives grow, it will become more and more difficult to counteract their marketing methods, which are often tailored to the individual. Government intervention will certainly be required to ensure the security of our personal data.

JUNIOR LABORDE SOCIETY

7 November

On Thursday 7 November, the Junior Laborde Society convened to hear a lecture from Eddie Jodrell, *Elmfield*, on NASA’s \$3.5 billion idea to save the Earth from a supervolcano apocalypse.

He began by giving some background details about the famous Yellowstone supervolcano. But what is a supervolcano? The only requirement, Jodrell affirmed, is for it to have registered an eight on the volcanic explosivity scale. It is located in the American state of Wyoming (located in the north-west of the country) and is one of the world’s largest volcanoes. It contributes to half of the world’s potential geothermal energy and contains many hot springs. Although it is not located on a plate boundary, it is on a hotspot. As a result, there are many earthquakes. The Yellowstone supervolcano zone is also home to the world’s largest concentration of mammals.

He then went on to talk about Mount St Helens, as a point of reference. This volcanic eruption in 1980 was the most disruptive in recorded history, with 57 people dying. It was

heard from 700 miles away and damaged 15 miles of railway infrastructure.

The effect of a Yellowstone eruption by contrast would be severely debilitating. The height of the ash cloud would be taller than Everest. In fact, the vast majority of our planet would see the sun blocked out. Because of this, the world food supply would be severely damaged. Within 74 days, reserves of stockpiled food would run out. The American economy would lose \$3 trillion immediately, making the Great Depression look like a minor and unimportant blip.

The last eruption created a 3386-square-kilometre crater (or caldera), further exemplifying the destructive capabilities of a spontaneous eruption. That eruption put 240 cubic miles of volcanic ash, dust and rock into the air. This threat is expanded by the fact that we are due an eruption. Historic evidence suggests that Yellowstone erupts roughly every 600,000 years. The last one was exactly 630,000 years ago.

Because of this, NASA wants to cool it down. Out of the heat that the volcano currently produces, 60% is extracted through air vents. However, the other 40% of it builds up inside the volcano, causing increased pressure. This pressure is what can eventually trigger a perilous eruption. The NASA plan is to dig a 20km-deep water well and send cold water down to cool the main chamber, with the handy side effect of creating a massive geothermal power plant that would provide 20 gigawatts of energy (that is 20 billion watts). It would also cost a whopping \$3.5 billion to implement. Finally, it could take up to 16,000 years before the chamber is even cool enough to guarantee the prevention of an eruption.

Furthermore, the cooling system could cause fractures to appear that would lead to an even larger eruption than ever expected before – so the plan is not without risk.

After Eddie's excellent talk (and a substantial round of applause from his housemates), he fielded questions about the danger that the threat posed to our lives. While we are roughly due one, it is unlikely to be a significant issue in our lifetimes because the margin for error on the calculations is roughly 100,000 years. As a result, the threat isn't credible enough for us to implement a plan such as the one that has been pitched by NASA.

I would like to thank Eddie for his excellent lecture and ERC for supervising the meeting.

JUNIOR PIGOU SOCIETY

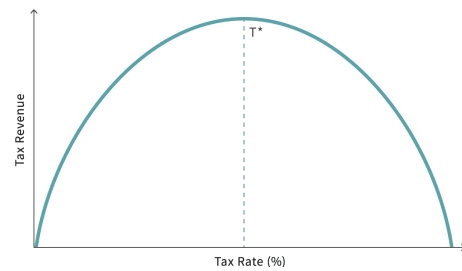
Edward Blunt, Elmfield, on taxes

Boys crowded to the Old Music Schools for an enthralling discussion on taxes, though the advertised array of sweets and chocolates on offer might have had an effect as well. The topic proved to fascinate many: the discussion persisted for over 1½ hours. After all, in the words of Benjamin Franklin, "in this world nothing can be said to be certain, except death and taxes".

The discussion commenced with the conductor of the discussion, Edward Blunt, *Elmfield*, outlining the reasons why taxes are necessary. These included funding government services, fiscal stimulus in times of recession and to change social habits (such as Pigouvian taxes).

Blunt displayed a Laffer curve (see the figure below). The Laffer curve was proposed by Arthur Laffer on a paper napkin to his friend at a lunch meeting. It depicted, through a parabola, the optimal tax rate for achieving the highest tax revenue. A high tax rate would result in workers being demotivated, leading to less income to tax. By contrast, a low tax rate would lead to low tax revenue.

The Laffer Curve



The discussion opened with Blunt posing a question on whether the participants in the discussion agreed with an inheritance tax (IHT). To the surprise of no one, all bar a couple were in favour of IHT. In the UK, inheritance tax is 40% of a person's estate (property, possessions and money) above the threshold of £325,000. Those proposing an IHT (or "death tax" as coined by those who wanted it repealed in the 1990s) defended the tax by arguing that it allows for a more equal distribution of wealth. It also provides an incentive for the next generation, who will benefit from inheriting money, to work hard. Members of the debate opposed IHT by suggesting that it isn't hard to avoid by placing assets in a trust or by investing in stocks exempt from being taxed. Furthermore, the argument developed on moral grounds, with claims concerning the immorality of IHT. To this some responded that it's "fairer to tax unearned wealth than earned income". As the topic of discussion was drawing to a close, a boy mentioned a family incident regarding the wealth tax. He said the passing away of his grandfather meant his grandmother had inherited 30% of his wealth (due to IHT being 70% in the time of a Labour government), which had made it difficult for a widow who wasn't working to assist five children. But today this wouldn't be the case: no IHT is paid on assets left to them by their spouse or civil partner.

The next question for discussion revolved around the wealth tax and whether it is justified. Again, you can imagine, a room full of Harrovians opted to argue against wealth tax. Some raised the point that the rich pay a sufficient amount to the government and that the super-rich find loop holes in systems. This claim was evidenced with another pie chart which showed that the top 1% income earners in the UK paid 27.9% of tax shares in 2018/19, while the bottom 50% of income earners paid 9.5% of tax shares. This, considering data on how much more the top 1% earn compared to the mean income of the bottom 50%, convinced those present that the rich pay enough taxes. A wealth tax, it was argued, would be able to chip at people's wealth. An example is that Warren Buffet pays himself a humble \$100,000 salary per annum; but he is worth about \$90 billion due to stocks in his company, Berkshire Hathaway. A wealth tax would solve dilemmas of untaxed wealth like this. Elizabeth Warren, an advocate of the wealth tax, argued that accumulated wealth can lead to political power by lobbying and influence through wealthy special-interest groups such as the NRA. Blunt introduced Elizabeth Warren's plan of taxing 2% of wealth above \$50 million and 3% of wealth above \$1bn. The majority of people approved this, saying that 2% and 3% of \$50 million–1 billion, respectively, would seem minimal to someone who owned that much wealth while raising a large amount of money.

Blunt raised an interesting question about whether the wealthy would be more attached to their money and material possessions and thus less willing to pay wealth tax. This was supported by the fact that in the 2000s, ten developed countries had a wealth tax. Now there are only three countries which use it: Spain, Norway and Switzerland. In the ten countries, many people had relocated as a result of the tax, most notably the affluent French families that have moved to the UK.

Following that was the question: "Should we modify tax brackets in the UK and USA?" Many boys thought that the

four tax brackets appear to be simpler than they are: they are deceitful. Behind the tax brackets are various taxes which are hidden in plain sight e.g. council tax, VAT and national insurance tax. Attendees proposed new tax brackets: one person preferred that the second tax bracket of £12,500–50,000 were to be split into two to distinguish between earners of the average salary of £27,000 and relatively lower and higher income earners.

The final question of the night was whether Harrow School should be deemed a charity. Most agreed on the basis that, if it weren't, the School fees would be taxed and annual schooling fees would be in excess of £50,000 (due to paying corporate and other taxes). Some also considered the legitimacy of Harrow's charitable status. One participant pointed out that he believed Harrow's charitable work including Long Ducker, Shaftesbury Enterprise and Matchday Grill is "savvy advertising and it creates a façade" to maintain a charitable status which appeals to parents to "come spend [their] money here" by sending their sons to School here. Many observed that Harrow should give more opportunities to sons of less-fortunate and less wealthy families to join the School. It was interesting to hear someone bring up that John Lyon intended for Harrow to be a school for the "poor boys of the parish". GBF intervened with some clutch statistics, pointing out that Harrow currently supports 86 pupils with bursaries, around 10% of all students. Moreover, Harrow has contributed £4.5 million in grants (excluding bursaries) to society.

All in all, it was a great evening. Thank you to GBF for stepping in and overseeing the discussion.

SLAVONIC & PIGOU SOCIETIES

Bill Browder "What Life Is Like as Putin's Number One Enemy", OH Room, 8 October

On Tuesday 8 October, the Slavonic Society and Pigou Society were honoured to host Bill Browder, the CEO and co-founder of Hermitage Capital Management and a political and human rights activist. In 1997, the Hermitage Fund was the best-performing fund in the world, investing primarily in Russian securities. Having taken on such large Russian investments as Gazprom, Surgutneftegaz and Sidanco, in 2005, Browder was refused entry to Russia, deported to the UK and declared a threat to Russian national security.

Before the talk began, our guest speaker was welcomed by the Slavonic Society Secretary who, after introducing the speaker to the OH Room, which was filled to the brim, emphasised that it has been the School's and both Societies' tradition to invite speakers representing different political platforms and to allow them to present their views, in the hope that listening to them and being able to question them will help the boys to build a fuller and more critical picture of the world that we live in today. On that important note, the truly fascinating talk began.

Browder, who is now a British citizen, was born in Princeton, New Jersey, and attended the University of Chicago and Stanford University, from which he graduated with an MBA in 1989. In the Browder family, studying business was by no means deemed a normal course. Earl Browder (Bill Browder's grandfather) had been a well-known trade union organiser when he was invited to Moscow to learn about communism. In 1936 and 1940, he was the presidential candidate for the US Communist Party. Browder, like many children born in the 1960s, decided that he had to find a way to somehow rebel against his family. At first, he tried growing his hair long, but that was hardly outrageous. So, he decided that, for a family of communists, the worst he could do would be to put on a suit and tie and become a capitalist.

After working at various financial institutions, Browder found his calling. To be the antithesis of his grandfather, Browder went to Moscow to become the biggest capitalist in Russia (after all, his grandfather had been one of the biggest communists in the US). The first story he told was one of simple maths with a shocking answer. In the period of privatisation that occurred at the collapse of the Soviet Union, the people, clueless about the free-market economy at that time, were asked by the government whether they would like to buy a stake in previously state-owned companies. One of Browder's first tasks in Russia was to advise the boss of a fishing company whether to purchase it. The head of the company showed him a large trawler and Browder asked how much it had been bought for. The boss replied, "20 million dollars". Browder asked how many trawlers he had. "A hundred", he explained. If the ships' value had depreciated by half, Browder realised that they owned almost \$1 billion worth of ships. He then asked how much the government was offering for 51% in the company. The government wanted \$2.5 million. Then it clicked. If this was not an isolated incident, then perhaps Browder had struck a gold mine.

Remarkably, it wasn't the only one. Companies across Russia, in particular energy companies that had the same oil production and balance sheets as their Western counterparts, were trading at a fraction of the price. Immediately, Browder began investing. Months after the foundation of Hermitage Capital, the fund's initial seed investment of \$25 million was up almost 800%. Browder was featured in newspapers and magazines across the globe, such as the Financial Times and the Economist. Unfortunately, the fun was not to last and the year 1998 arrived.

After years of massive debt consumption and poor debt management, Russia defaulted on its debt. The currency was debased and lost 75% of its value. Initially, Browder thought that the crisis may have a silver lining as oil companies (the shares of which dominated the fund's portfolio) would have cheaper operating costs as they sold in dollars and bought in roubles. However, there was no silver lining. What had happened was that oligarchs, who were often the majority shareholders in the companies, were unable to obtain any loans from Western lenders. By the end of the crisis, Hermitage had lost almost 90% of its clients' money. Browder felt ashamed and wanted to get it back. He found his opportunity in exposing the mass corruption, fraud and theft that occurred in large companies including Gazprom. The oligarchs had lost their access to Western lenders and so their incentive to be good. As Browder pursued this tactic, Putin was coming to power and, to establish himself as leader, he needed control of the oligarchs. Putin and Browder's interests temporarily overlapped, until the arrest of Russia's wealthiest man, Mikhail Khodorkovsky.

Following his arrest and subsequent conviction, oligarchs, who Mr Browder described as most likely to be sitting on their yacht in the South of France eating caviar, flocked to Moscow to see the president. In the summer of 2004, they learned the new arrangement of oligarchy under Putin. He imagined that the conversations between Putin and the oligarchs as being a simple request for 50% ownership in their businesses. However, this 50%, Mr Browder said, was not for the Russian state, nor the Presidential Administration, but for Vladimir Putin himself. Upon this transition, Browder's name-and-shame campaigns were now hurting Putin's personal financial interests. It is for this reason Mr Browder believes he was denied entry to Russia in 2006 on the basis that he was a threat to national security.

The ban came as a complete shock to Browder and Hermitage. They knew they had to get out of Russia before it was too late. The employees of Hermitage's Moscow office relocated to London as a matter of safety. Almost a year and a half later, two groups of 25 police officers raided Hermitage's Moscow office and the office of Hermitage's lawyers. Large numbers of documents relating to Hermitage were seized. It was later found that the documents seized were used to steal the entire

company and commit tax fraud on a scale never seen before. To combat the fraud, Browder needed to find the smartest lawyer he could. He found the 35-year old Sergei Magnitsky. Bill Browder and Hermitage Capital were accused of failing to pay \$230 million in tax. What Sergei Magnitsky and Bill Browder uncovered was the largest tax fraud in Russian history.

The year they sold their securities, Hermitage made around \$1 billion in profit and paid \$230 million in capital gains tax. When the officers raided the offices of Hermitage's lawyer, they stole the papers of the company that showed who owned it. Fraudulently, the information was changed and the company was put under the name of a man who had been convicted of murder. A number of conspirators were involved who applied



for a tax refund of \$230 million (the amount previously paid in tax). On Christmas Eve, the application was sent and, on Christmas Day, it was approved. The shock was that the largest tax refund in Russian history was paid out (in full) in a matter of one day. Upon this horrendous discovery, Sergei Magnitsky contacted the police and informed them of the conspiracy. His information was dismissed and ignored until November 2008, when he was arrested. Sergei spent months in brutal prisons where he lived in squalor and was tortured, both physically and psychologically. The guards repeatedly demanded that he sign a confession implicating him and Bill Browder as the real architects of the fraud. Each time they asked, he refused. After six months of inhumane treatment and torture, during which time he developed gall stones and pancreatitis (leaving him in excruciating pain), he was chained to a bed and beaten to death by eight riot guards. For his exposure of the truth, Magnitsky was murdered.

The news was devastating. A man who had worked for Bill Browder was now dead. Bill Browder knew he had to do all he could to expose what had happened. He concluded that the perpetrators could not be brought to justice. In fact, Sergei Magnitsky was posthumously found guilty of tax fraud but thanks to his extensive notes on his treatment, Browder was able to understand who did what. So, he went to the USA to pass a law banning the people involved in Sergei's murder from spending their money in the US or from travelling there. It was known that the stolen money would be kept in the West not in Russia. The bill, which later became the Magnitsky Act, (passed with 89% of votes in the House and 92% in the Senate) prevented any person who has obtained wealth through human rights violations or who has simply been involved in human rights violations from entering the US. Browder has since been to Canada, Estonia, Latvia, Lithuania and the UK. Currently, Browder is seeking to get an EU version of the bill passed and cited Hungary's friendly stance towards Russia as the primary factor for its delay.

After the lecture, the speaker kindly took the time to answer a number of questions regarding his life and the various issues covered in his speech. In his responses to questions, Mr Browder admitted his regrets about starting his business in Moscow instead of the safe environment of the Silicon Valley. He said that the death of Sergei Magnitsky has profoundly affected him and changed him as a person. He praised figures such as Alexei

Navalny and Lyubov Sobol for having the courage to oppose the Putin administration and present serious opposition. Asked about one lesson that he would like the boys in the audience to take with them for the future, he said that they should never underestimate how much an individual can achieve in life. While thanking the speaker, drawing from her own childhood in communist Poland, KAF added that another lesson that the boys should perhaps take with them is that every political system always comes to an end, no matter how incomprehensible it may seem at the time, and it is always important to conduct yourself and make decisions that one will not feel ashamed of when you look back at your life.

All those who attended the talk would like to thank Mr Browder for his compelling and truly thought-provoking story as well as the Slavonic and Pigou Societies for hosting the talk and KAF for arranging it.

ECONOMICS BUSINESS TRIP

New York, Half Term

From visiting a UNESCO world heritage site to losing metro tickets, the trip to New York was interesting.

I will skip the part of describing our journey to New York as every trip journey has one common thing – the endless aching pain in your legs and the lack of sleep. However, once we had arrived in New York, the sight of Hotel Pennsylvania was one



of great splendour. The gold beaming lights and the lavishly organised lobby certainly lifted our spirits. Nevertheless, we couldn't wait to start sightseeing in New York the very next day.

We first kicked off to "the Top of the Rock": one of the tallest buildings in New York. It had one of the best views over the city, covering the likes of Empire State Building and Central Park. From then on, it was the battle for the best picture, as one by one we stood next to the glass walls and posed next to the Empire State Building. We went back down to the bottom of the Rock and proceeded to watch a Broadway show. *Blue Man's* reviews ranged from "an absolutely ecstatic experience" to "it had me breathless". It certainly did not have us breathless, but the combination of paint, music, green bandanas and toilet paper did entertain us for the best part of two hours. This crazy experience smoothly transitioned to Time Square – the best place for window-shopping and street food. It was a place full of colour, with advertising banners spanning across buildings. Just for reference, New York's legal drinking age is 18, but you can get your very own non-alcoholic beer, which should supposedly replicate the drinking experience (although none of us drank it).

What would be a New York trip be without visiting the Statue of Liberty? The next day, we visited this world-renowned site, as well as the Immigration Museum in Ellis Island. As well as being

a magnet for photographers, Ellis Island is also representative of the changing American culture. The Immigration Museum was particularly interesting as it showed the changing immigration patterns and how they positively impacted particular aspects of the American economy. After coming back to the hotel, we



visited the Chelsea Market. This was a great place for food, with diets ranging from Mediterranean to pescatarian, as well as a nice area to settle and relax. The most entertaining part of the day, however, was when a certain someone lost their metro card and took half an hour to search for it, finding nothing. It was a great end to another great day.

The Economics part of the New York trip started on this day, with a visit to Blackrock and United Nations. Before any visit to a world-famous financial institution, some research was mandatory in order to be familiar with it. In summary, Blackrock is the biggest investment firm in the world; it takes its customer's money and invests it in different projects around the world. It has also prioritised social impact by helping the marginalised population globally. The trading centre, however, was not what you would expect – most traders worked calmly, unlike the yelling and frantic traders of the *Wolf of Wall Street*. The United Nations is an inter-governmental organisation that aims to improve overall sustainability around the world by maintaining peace and security. We had already received a warm welcome from a fully functioning moving robot (it was actually a robot that explained the unethical use of machinery in warfare) giving us stickers. The site was extravagantly organised and presented, with huge halls for each council in the UN. The tour guide was also excellent as she informed us about UN's goals and aim for the future. We ended the day with a visit to the New York Jets Stadium (huge thanks to Mr Furber for getting the tickets), as they faced the New England Patriots in the NFL. For reference, the Jets are equivalent to Watford and the New England Patriots to Manchester City so, obviously, when you match these teams together, you would get a very interesting scoreline at full time (33-0 to the Patriots). It was very disappointing, considering the lack of enthusiasm and support from the NYJ fans. Despite this, the day was by far one of the most enriching and entertaining days in the trip.

Waffles: everyone loves them. We had the rare opportunity to visit a waffle commissary, learning about the business of street vendors and making and trying out the waffles. We learnt about the difficulty and rapidly changing structure of the street market due to the absurd regulations imposed. The best part was when we made our very own Belgian waffles. The waffle-eating experience was one of a kind, especially when you made the waffle yourself. No one can truly understand the art of making waffles until they have visited a commissary, from the manufacturing of the dough mixture to shaping it into a perfect criss-cross shape. This was followed by a tour across Wall Street. Wall Street is the hub of major American financial institutions and is now the street that holds the New York Stock Exchange. It is famous for the "bull" and "bear" markets you see in economics today. The history of Wall Street's economy is very rocky because of one individual. By gathering information about stocks from male bankers, a woman manipulated this information to encourage these bankers to invest wrongly, which

eventually led to the crash of Wall Street. Finally, we went to watch the New York Rangers ice hockey game. If you have ever watched videos of UK chants compared to US chants, you can assure yourself that the videos are correct. The chants in the US are more representative of a parade rather than a sports match – forcing people to chant and blasting kid-like music is not the best way to emulate a stadium's atmosphere. On the other hand, the food here is much better than in England (with costlier but bigger portions), which does explain one American-specific phenomenon. The match was very entertaining, with the Rangers putting up good fight but unfortunately losing to the Coyotes 3-2 at OT.

We started our final day with a visit to the National History Museum in search of interesting information but also the best economics memes with pictures of items inside the museum. There were some excellent and not so excellent ones, but well done to Tack for making the best one. We then visited Columbia University and were guided by ex-Harrovia Matthew Ilomuanya. The tour was short, but it gave us time later to explore Central Park. As you'd expect, it is a great natural site with a magnificent sea-line and greenery.

However, it was at this point when we began to leave for England, where we bid farewell to what had been a wonderful experience! Thank you, DMM and AR, for hosting this fantastic trip!

METROPOLITAN

DAME VAUGHAN AGONY AUNT

Dear Dame Vaughan,

Blessed be the fruit of Vaughan in your publication-populated palace. Your library is Tantalus' torment indeed, full of lifetimes of knowledge that can never be fully read. Truly knowing is a temptation, and so what you don't know won't tempt you. As you sit there, each week, waving that Edenic apple couched in the guise of a well-recommended book, you truly are the serpent of the Hill. You fill us with ideas, wave ever-extending book lists in our easily beguiled faces, and entice us ever further into ignorance and confusion: the more you know, the less you understand. There will come a day once more where bonfires are lit for the books we can borrow, and the Sons of Jacob shall bring ordo ab chaos. Should that time come, O Aunt of the Arts, may you please recommend a novel that paints the disaster that awaits that path, a prophetic warning in literary potency. Use your nous once more to prove you are indeed no serpent, but angel fully formed, and the knowledge you impart in book-bound brilliance no fallen apple, but manna and salvation true. Under his eye,
Ofharrow

Dear Ofharrow,

May the Lord open, and praise be for your startlingly sober epistle. Your musings on the nature of knowledge were concerning to say the least, and I'm really not sure how I should react to being called a snake-like temptress. Saying that, it's not the first time I've been blamed for biblical scandal. All I did was advise Lucifer that maybe if he was feeling a little let down and disappointed, instead of moping around and doing nothing about it, to be a little proactive and address the situation. I meant,

talk it out and have a constructive conversation. How was I supposed to know he would react that extremely? Anyway, in this time of increasingly early darkening hours, Brexit-cum-election confusion, and with Bake Off now finished, I understand why you may be feeling a bit dystopian and depressed. That's why last week there was a well-being week for a start. However, I do agree with you that books can act as powerful tools to combat ignorance and raise awareness of fearful concerns. Knowledge is indeed power. In that light, I recommend as a fearful omen of potential times to come (or present times) Margaret Atwood's critically acclaimed masterpiece *The Handmaid's Tale* – prequel to the 2019 Booker Prize-winning *The Testaments*, and source material to the roaringly successful Hulu TV series. A sinister projection of a republican world where reproductive rights are controlled by men, and women's functions are limited purely to breeding, Atwood's novel is a rich, powerful and frightening look into the mechanics and realities of a repressive patriarchal state. Complex, perceptive and witty, this novel has rightly claimed its place as one of the best novels of the past century, and a symbolic rallying cry for feminist rights globally. Let it act as a brilliant read, and a warning cry to all.

Nolite te bastardes carborundorum.

Dame Vaughan

THIS WEEK IN SCIENCE

Voyager 2 Reaches Interstellar Space

University of Iowa: the second of the two Voyager probes, which was launched on 20 August 1977, has reached interstellar space, meaning that it has officially left the solar system. This makes Voyager 2 only the second man-made object to have left the solar system, the first being Voyager 1, which left the solar system in 2012. The way in which this was confirmed was by measuring the plasma surrounding the spacecraft; Iowa researchers noted a change from the hot, low-density plasma caused by solar wind in the solar system to the cool, high-density plasma of interstellar space. For those readers who are not well-versed in the intricacies of astrophysics, solar wind is not an actual wind (there is no air in space, remember), rather, it is a constant stream of energized charged particles such as protons and electrons flowing from the sun at speeds of around 900 km/s. The temperature of this 'wind' is circa 1 million degrees Celsius, meaning that it is made of plasma, the fourth state of matter. Plasma is when a gas is so hot that its constituent atoms are split up into electrons and ions, which can move independently of each other due to the extremely high temperatures. Voyager passed into interstellar space almost 11 billion miles from the Sun, and the pair of Voyagers are set to outlast Earth itself, going in an orbit of around 5 billion years around our galaxy. Don't get your hopes too high though, the probability of them running into anything is zero.

New Batteries Which can be used on National Grids

U.S. Department of Energy, Lawrence Berkeley National Laboratory: once again, it seems that the world of science has made yet another breakthrough in battery technology in yet another week. This time, the beneficiary of new battery technology will be national electrical grids. The researchers at LBNL have come up with an industrial battery that could reliably power thousands of homes for 10 to 20 years by storing electrical energy in liquid electrolyte, in the form of flow batteries. The design makes use of membranes called AquaPIMs, which can be made out of readily available materials such as zinc, iron and water. Current batteries deal with alkaline electrodes, a

cathode and an anode (for explanations on what these mean, see the last issue). However, the new membranes deal with acidic chemistries such as those found in fluorinated fuel cells (where fluorine is introduced into membrane of the fuel cells). Fluorinated membranes are very expensive, though. AquaPIMs are a cheap replacement and, when modified with a chemical called an 'amidoxime', can allow ions to travel quickly between anode and cathode. AquaPIM stands for 'Aqueous-Compatible Polymers of Intrinsic Microporosity', and retain its charge-storing integrity even at high pH, which is unusual in organic compounds. These properties make its potential uses seemingly endless and the researchers plan to apply AquaPIMs to a broader range of batteries, including metals, inorganics and other polymers. They expect the membranes to be compatible with other aqueous zinc batteries which can use oxygen, manganese oxide or other substances as the cathode. And in the end, who knows? Soon, all of our houses will be powered by one huge battery, rather like we put batteries in a TV remote. Let's hope the National Grid has an unlimited supply of these batteries, and a few AAs (just in case).

OPINION

CORRESPONDENCE

Letters to the Editor

DEAR SIRs,

Music is, of course, all about emotion...

It has many ways of rearranging our emotive state.

Approximately six weeks ago, Kim Shattuck, singer with the American punk rock band The Muffs, died aged 56.

Kim had been suffering privately, for around two years, from the increasingly debilitating ALS or Lou Gehrig's disease, apparently a variant of motorneurone disease.

Two weeks after Kim's death, the final album from The Muffs, titled *No Holiday*, was released.

If you feel so inclined, listen to track 6, 'Late And Sorry'.

Music is, of course, all about emotion...

It has many ways of rearranging our emotive state.

Yours sincerely,

NEIL PORTER

DEAR SIRs,

Sorry to call you out Jonathan Barley, *The Grove*, but... I am inclined to think that the former president was called Barack Obama not 'Barak Obama'.

Kind regards,

JUN WHA SHIN, ELMFIELD

CHANGE FOR THE SAKE OF

From the Desk of AC

This is the first in a series of short articles about recent and planned changes at Harrow. It will be a regular feature in *The Harrovian*, to help boys and staff to understand the reasons for changes in the School. Anyone in the School community is welcome at any time to put questions or to make comments in response. Email or a voluntary visit to the Old Armoury are the best ways to do that.

Next Friday, 22 November, there will be no teaching. We have instead instituted a revision day for boys and a training day for Masters. This change has been prompted by concerns expressed by boys about the pressure of Trials and about the

limited time previously available for revision. It follows the lengthening of Trials Week last year to allow more time for revision between papers. There will also be benefits for beaks: there will be more time for writing reports and there will be more opportunities for training.

At the start of the year, we introduced a new set of arrangements for Socials for the Shell, Remove and Fifth Form. All Socials are now held on the Hill, which reduces travel time and makes attendance easier for boys, especially after away fixtures in the winter. The amount of work for beaks has been reduced too. The format has been different, with a tour of the School followed by dinner in local restaurants rather than the usual dinner and disco in another school. The emphasis has been more on conversation than on congregation in groups on a dance floor. We have tried to make Socials more social, and to make participation more universal.

In next week's column, changes to the IT network, together with recent and future changes to the Behaviour Policy.

SUDOKU

Persevera per se vera

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HILL LIFE

As Extinction Rebellion announces a 'twelve days of Christmas' protest, I ask you how prevalent do we find these issues in our microcosm of the Hill? I know of several current Harrovians who played a role in the blockade of Waterloo Bridge. I wonder, are those Harrovians content with our way of life on the Hill?

Harrovians – at least when at School – leave little carbon footprint: it is but muscle and sinew that carry us up and down the Hill and not carbon-producing transport. Most Harrovians also travel to and from London on the tube – an excellent example of efficient public transport. Even our education is environmentally friendly as we predominantly consume electricity rather than trees. Moreover, any waste we do make is well recycled, the School – although not visible from the outset – has a terrific recycling system for all of the School's waste.

While this does much, there is a broader issue: green space. John Lyon built a road 'and Harrow link'd to London'. This road cut across ten miles of countryside – as the stone opposite Chapel

can testify, it was once '10 miles to London'. However, 'now London's here and round us', it is the Hill that is the greenest space with Ducker, Redding, our cricket pitches, Chapel Terrace and the farm all stand out as green Edens when you look at the Harrow borough through the lens of a satellite. The urban sprawl has eaten up the countryside and the smog of London suffocates us. If one looks across London in the morning as the sun rises, it appears red through the haze. The green and pleasant land that once surrounded the Hill is gone, but do we feel the loss of the 'palmy side of Ducker'?

I for one am a massive fan of the numerous "green city" projects. The likes of Sydney and the proposed Battersea plans are not only attractive but also eco-friendly. They make a city look both appealing and help reduce its carbon output, not to mention the potential mental-health perks to residents. We, of course, require space for rugger, soccer, footer and cricket but, as numerous building projects seek to encroach on our green space, we must consider their aesthetic, environmental and health factors versus the need for modern and exciting buildings.

GAFFE AND GOWN

Quips from Around the Hill

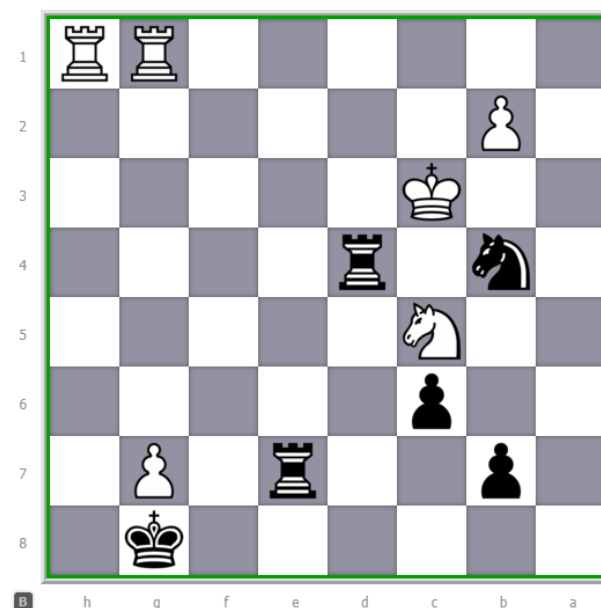
"You, boy. What is it you youth say nowadays? Is this something that is 'peak'?" "Sir, I think you mean 'peng'."

"Sir, I don't get why there's such bad wifi. We are on a Hill, so shouldn't we be closer to the satellite?"

CHESS PUZZLE

The weekly Chess Puzzle set by JPBH. Email your solutions to him (jpbh@harrowschool.org.uk) to enter the termly competition. Answers are published with next week's puzzle.

This edition's puzzle: Black to play and mate in 3 moves.



Last edition's answer: 1. Ne6+ Kf7 2. Qxg7#

Fancy playing chess? Drop in to Chess Club – Tuesdays and Thursdays 4.30-6pm in Maths Schools 5. All abilities (boy, beak or non-teaching staff) are welcome!

SPORTS

SHAFTESBURY ENTERPRISE

OSCAR Foundation Visit, 2 October

On Wednesday 2 October, Harrow gladly welcomed a group of boys from the OSCAR Foundation. The OSCAR Foundation is a charity based in Mumbai that uses football to encourage underprivileged children to go to school. OSCAR aims to empower young people in an area where youth marriages and pregnancies are regular occurrences, and where not all families appreciate the value of education.



An integral component of the OSCAR programme is the UK Football Tour, which sees a team of young footballers playing against British schools such as Harrow. The team arrived on a bright and breezy afternoon and proceeded to enjoy a refreshing swim with the School's swimming team. After a palatable dinner at the Shepherd Churchill, the party returned to Lyon's for the evening. The boys shared a thrilling match against the Lyon's Lower Sixth on the House's five-a-side pitch. Excited for their upcoming match, the OSCAR team retired to Lyon's for the night.

The following morning, the boys swiftly ate breakfast before heading up to St Mary's Church to confidently deliver a morning reflection. A number of the players spoke about the poverty afflicting their communities and explained the impact that the OSCAR Foundation has had upon their lives.

After the captivating and thoughtful reflection, the boys enjoyed lessons in Chemistry and Physics, and a tour of the School. A particular highlight was the amusement caused by the virtual reality session they took part in. This was followed by lunch, where excitement grew for the imminent football match.

At 2.30pm, the exhilarating match kicked off, with Harrow facing the OSCAR team on Park Lake. Harrow appeared dominant for the first 15 minutes, with Archie Rogers, *Elmfild*, and Gerry O'Brien, *The Head Master's*, both scoring fine goals. At this point, however, the away side began growing into the game and performed a great number of strategic passes in an almost Barcelona-like manner, securing them a goal. The intensity of the match captured the crowd, who began chanting from the side lines. This atmosphere pushed the OSCAR XI to equalise the score, pushing past the Harrow defence and leaving their striker to a one-on-one with the Harrow goalkeeper.

The tired legs of the home team were desperate to hear the half-time whistle, but were instead greeted by a third goal from the OSCAR team before the relieving sound finally arrived. In a similar manner to the first half, Harrow applied all the pressure after the game resumed, but were unable to secure another goal. With just ten minutes left to go, and down 3-2, ADJT moved players forward in an attempt to take a more direct approach. After a number of attempts at scoring a goal, and a resilient

performance by the OSCAR goalkeeper, Harrow finally broke through the OSCAR defence and scored the equalising goal, again to the credit of Archie Rogers.

Approaching its final moments, the game appeared destined to end in a draw, but the visiting team managed to find one last opening, right through the middle of the Harrow defence, resulting in an injury time victory for the OSCAR team, who took the game 4-3.

The elated winners then had dinner, before heading off to The Park to enjoy a well-deserved gaming night with members of the Sixth Form. They returned to Lyon's for the night, and departed the following morning after breakfast, cheerful as a result of their pleasant stay and their electrifying football match.

In conclusion, we would like to extend our thanks to TMD and Shaftesbury Enterprise for managing the OSCAR stay, and to the OSCAR Foundation for their work with Harrow and their thrilling football match.

If you would like to read more about the endeavours of the OSCAR Foundation, please visit <https://oscar-foundation.org>.

FOOTBALL

Development A XI v Corinthian Casuals, Won 7-1

Scorers: Ben Harrison (2), Jasper Gray, Fin Scott, Will Holyoake, Josh Davis, Ademide Odunsi

The Corinthian Casuals are an amateur adult side steeped in history and tradition, credited with taking football around the world. They continue to tour to promote their style and values and, although the weather conditions were poor, the game was played in excellent spirit with great sportsmanship on show from both sides.

CAROLINA PANTHERS VISIT HARROW

After completing a quiz on the NFL's history and general information about the Carolina Panthers, 60 Harrow boys were lucky enough to participate in training drills with the Panthers squad. Harrow School was to serve as the Panthers' practice facility before their match on Sunday against the Tampa Bay Buccaneers at Tottenham Hotspur's new stadium in London. When the team arrived, the Carolina Panthers' head coach Ron Rivera put them through a walkthrough in a stimulatingly cool 15 degrees before the players took part in an NFL Play-60 event with us Harrow boys. "It's a great field. The facilities are terrific," Rivera said. "You think you're in a Harry Potter movie."

We participated in a series of rotational activity stations, ranging from tag football, touchdown passing, bag tackles and even Noughts and Crosses, and we thoroughly enjoyed our time getting to grips with various aspects of American football. The Panthers came down and joined the event, helping out by teaching us new skills and techniques to improve our knowledge and performance levels as well as coercing us into playing the game.

"It's been interesting. We woke up on a plane in a different country on a different day. We're enjoying it," tight-end Greg Olsen said. "It's good to share our game with them, share what it teaches. For kids growing up here, this is kind of different and unique, which is fun."

With Olsen and his team-mates having an enjoyable time with us boys, they stated that this trip to England had been a completely new experience as many of them had never been abroad before, and that it was great to see how sports can bring people together regardless of where they are from. With this experience being new for us boys as well, it felt like the event was meant to be.

After the Play-60 event concluded, we took some pictures with various Panther team members, capturing a memorable time of playing and interacting with them, sharing our thoughts with regards to American football or simply general sporting queries. The team eventually travelled back for some meetings and interviews at their London hotel and rested to adapt to the new time zone.

The following day, the Panthers travelled back to Harrow School in the morning for a proper training session. The 1st team rugby pitch had been altered to look like an American football field and some hard yards had been put in to prepare for their much-anticipated match up against the Buccaneers on Sunday. They went on to win by 11 points, 37-26. The win against the Bucks now puts them second in the National Football Conference (NFC) South Division, and on a four-game winning



streak, putting them in good stead for the rest of the season.

As this special event with the Carolina Panthers has sadly come to an end, what will the future behold for American football at Harrow? As so many of us enjoyed this unique experience, I'd like to think that this can provide us with inspiration to potentially set up something along the lines of an American football team at this School, or even a society where we can discuss the ever-frequent and exciting events of the league. Evidence of improving ties and growing interests between our two countries in American football is showing, with Efe Obada from London being a defensive end for the Carolina Panthers. As the UK's American football fan and player base is rapidly growing, I hope that our School can welcome more teams like the Carolina Panthers in the near future.

RACKETS

The School v Cheltenham College

Senior 1st Pair Won 3-0

A strong performance from Rishi Wijeratne, *The Head Master's*, and Ben Hope, *Rendalls*, who dominated the match to win 3-0.

Senior 2nd Pair Won 3-2

A good effort in the final game for a 3-2 win for Henry Wilson, *Elmfield*, and Jude Brankin-Frisby, *Newlands*. A topsy turvy match, albeit with long periods of good serving from the Harrovians.

Junior Colts 1st Pair Won 3-1

A very determined effort from Veer Patel, *The Knoll*, and Alonso Fontana, *The Grove*, who lost the first game but showed plenty of spirit and skill to win 3-1.

Yearlings 1st Pair Won 3-0

An excellent first match for Charlie Hope, *Rendalls*, and Gus Stanhope, *Moretons*, who showed real promise in a 3-0 win.

Yearlings 2nd Pair Won 3-0

A promising debut for Mostyn Fulford, *The Knoll*, and Charlie Hope, *Rendalls*, in a convincing 3-0 win.

CROSS COUNTRY

St Albans ESAA XC Cup Round 2

In cross country, the team of Shell and Remove runners ran very strongly in St Albans in the second round of the English Schools Cross-Country Cup. Particularly impressive were Tom Hobbs, Julian Abass, and Arrington Culbertson, who were first, second and third home for Harrow, respectively. The team didn't make the national round of the cup this year, but the current determination and aspiration in the Lower School bodes very well for the future of cross country at Harrow.

BADMINTON

The School v Eton, 7 November

Open – 1st, Match Drawn 4-4

Harrovians fear the wooden-floored show court and the notoriously challenging lighting of the Eton badminton courts and, on this occasion, it proved too hard for us to overcome the home advantage. With a late drop out from Jake Forster, *The Knoll*, we found ourselves with a gaping hole in Pair 1. Ever the leaders, Kingston Lee, *Elmfield*, and Lawrence Leekie, *West Acre*, formulated a plan to swap Pairs 1 and 2, so that Leekie and Yi Zheng Gan, *Elmfield*, played up, and Lee joined forces with our intrepid reserve Alex Locke, *West Acre*, in Pair 2. This audacious plan was effective, with both of our pairs comfortably beating Eton Pair 2. Locke played with immense courage, facing down intimidating shots and showing excellent teamwork with Lee, who coached him excellently throughout. Locke was undoubtedly the player of the fixture!

In the lower order it was Pair 3, William Wang and Chris Liu, both *The Head Master's*, who stood out, winning both of their games (21-15, 21-19 against Pair 3, and 21-12, 12-21 and 21-17 against Pair 4). Taaj Adetula and Marcus Tung, both *West Acre*, put up an excellent fight in their games, pushing their opponents hard, but eventually conceding two losses. Overall, it was a respectable 4-4 score and we were glad to have come away with the draw. We look forward to facing Eton again next term, and to being back on our well-lit home courts!

1st v Wellington College Won 5-3

The team produced a convincing 5-3 win against Wellington, with notable performances from Pair 1 Kingston Lee, *Elmfield*, and Lawrence Leekie, *West Acre*, who won in straight sets (21-8, 21-16 against Pair 1, and 21-9, 21-16 against Pair 2). The remainder of the team who faced Eton on Thursday 7 November were rested, and so some fresh faces took to the courts to put Wellington through their paces. Henry To, *The Grove*, and James Yuen, *Lyon's*, made a strong Pair 2, winning one game and losing the other. Iggy Abaroa and Daniel Sandell, both *Moretons*, were the most flamboyant pair, with much shouting, diving and general commotion on court. It didn't stop them winning both of their games as Pair 3. Lastly, it was a pleasure to see Junseok Choi, *Newlands*, make his debut in Pair 4 with Eugene Kim, *West Acre*. They put Wellington under a lot of pressure, keeping the score line close, though ultimately conceding both of their games (15-21, 14-21 to Pair 3, and 14-21, 19-21 to Pair 4). It was wonderful to see so many boys supporting their peers by scoring the fixture: Alex Locke, *West Acre*, Arvind Asokan, *Bradlys*, Q Sun, *Moretons*, and Kevin Zheng, *Newlands*.

SWIMMING

*Triangular v Charterhouse and Hampton,
7 November*

Seniors Won 60, Charterhouse, 44; Hampton 46

Our Senior boys swam with great resolve and were able to secure victories in all of the races, though a few were nail-bitingly close. Exceptional performances were put in by Captain, Tom Khan, *West Acre*, in the 50m freestyle, and Z-Za Bencharit, *Elmfield*, in the 100m backstroke. Overall, there were five personal best times.

Colts A Won 59, Charterhouse 50, Hampton 37

The Intermediate team were able to fend off their competitors in all but two races. Seb Moscoso, *The Knoll*, gained a substantial personal best time in the 100m medley; Henry Pearce, *Newlands*, and Cosmo Freeland, *Lyon's*, swam with great conviction and drive in their relay legs.

Yearlings A Won 60, Hampton 48 and Charterhouse 42

The Shells put in their best performance to date in the pool. Swimming far beyond expectation and also winning on an exhibition 100m breaststroke swim in the Senior race was Mark Zeng, *Elmfield*. Equally admirable was Henry Gray's, *Lyon's*, near-Shell-record in the 50m backstroke race. However, the most impressive race of the day was Nicholas Finch, *Newlands*, who thundered through the water in his 50m butterfly race, gaining a new Shell record in this category. This was Nicholas' second Shell record this week, after gaining one in the 5km Long Ducker swim on Sunday.

FIVES

The School v St Olave's Grammar School

Senior Won 3-0

A stunning display from the boys today with all three top pairs winning some tough battles. Freddy Anton Smith, *The Head Master's*, and Fred Prickett, *The Park*, carried on with their impressive form to win with a particularly dominating last set from both of them. The second pair of Phoenix Ashworth, *The Head Master's*, and Jonny Barley, *The Grove*, also recovered well having lost the second set. It was encouraging to see them work well together to get back on top. The third pair of Panav Patel, *Elmfield*, and Caleb Efemuai, *Newlands*, also proved to strong for their opponents despite Panav was not feeling on top form.

Yearlings Won

Charlie Hope, *Rendalls*, and Gus Stanhope, *Moretons*, won 3-0 with some really good cutting and returns of cuts. It was good to see them both take the ball earlier. At second pair Digby Emus, *Rendalls*, and James Felton, *The Park*, provided the match of the day with a stunning 3-2 win. It was great to see how both boys kept their cool at the end to achieve a great win!

The School v Highgate School

Senior Won 3-0

A fantastic afternoon for the boys today with all pairs improving and deserving their wins. At first pair Freddy Anton Smith, *The Head Master's*, and Fred Prickett, *The Park*, won a very close first set 15-14 and then completely dominated. A very display of skill with strong cutting and savvy rally play to win 3-0 overall (15-14, 12-1, 12-4).

At second pair Jonny Barley, *The Grove*, and Phoenix Ashworth, *The Head Master's*, improved their cutting significantly compared

to previous matches and, as such, gave the opponents little chance to get easy points, resulting in a good 3-0 win (2-7, 12-6, 12-5). Conor Cushley and Nathan Shepard, both *The Park*, also improved their set pieces to triumph in their match (12-8, 12-3, 12-5).

Junior Colts Drew 2-2

A 2-2 result in sets meant that the pairing of Casper Stone and George Ansell, both *The Park*, ended up with a draw having recovered from 2-1 down. Although both players have not played for some time it was encouraging to see them improve throughout the match with better game awareness.

RUGBY UNION

National cup matches v Various

*Colts A v Hampton School – SOCS County Cup – Cup
Knockout Quarter-Final Won 55-7*

*Junior Colts A v Saint Cecilia's Church of England
School – National Cup – Round 3 Won 50-0*

We faced a side that didn't really want to be there. They were really gritty in their efforts and never gave up. Charlie Cross, *Newlands*, put in an exceptional tackle on their rapid winger

*Yearlings A v Gunnersbury Catholic School SOCS
County Cup – Cup Knockout Semi-final Won 54-0*

Tries: Charlie Griffin, *The Head Master's*, x 4; Kepu Tuipulotu, *Druries*; Sebastian Brindley, *The Park*; Fuad Abualsaud, *Elmfield*; Harry Jang, *The Park*

Cons: Phillip Edstrom, *Bradlys*, x 6; Brindley x 1

The Yearlings A continue to play some very exciting rugby and were deserved winners, running in eight tries on a very narrow pitch. The final will be played at Allianz Park, the home of Saracens, in two weeks' time.

The School v Wellington College

1st XV Lost 14-28

A positive response from the XV. They battled well in atrocious conditions to maintain parity with a strong Wellington side. Wellington's bulk upfront caused Harrow a number of issues as they barrelled over for three first-half pick-and-go tries. Harrow responded with a forwards try of their own as Herbert Zumbika, *Lyon's*, powered over from close-range. In the second half, Harrow dominated territory and possession but could not capitalise; Henry Arundell, *The Knoll*, scored a superb solo try but inaccuracies once again prevented Harrow from drawing the gap closer, with the boys going down 28-14. Nic Neal, *Moretons*, the captain, was tremendous once again with a ferocious display of physicality throughout.

2nd XV Lost 3-28

3rd XV Won 28-15

The 3rd XV claimed an emphatic victory over Wellington, winning by 28 points to 17. Sixteen points for Phillip Benigni, *Newlands*, and a tactical kicking display that would make a South African blush were enough to see the 3rds home.

4th XV Drew 10-10

Tries: Kim, *Lyon's*, Morgan, *Lyon's*,

This was a match in which both sides had chances to win but neither deserved to lose. After a disappointing 19-0 defeat to Tonbridge last week, the 4th XV can be extremely proud of their performance. The scrum was strong, spirit was high and the defence outstanding, with only one clear missed tackle in the entire match. If our players had remembered to bring a kicking tee (or if the opposition had allowed us to borrow theirs) we might have won. The team started the match strongly; a clever blindside move called by scrum-half Cooper Swan, *The Grove*, led to Edward Kim, *Lyon's*, scoring in the corner: 5-0 after only five minutes. Wellington got the ball down the other end of the field and Harrow defended for their lives. The opposition picked and went for phase after phase but were met with ferocious, organised (and occasionally offside) defence. Harrow were penalised five times in a row and a try or a yellow card (or both) seemed inevitable. The Lions showed outstanding commitment to get to their feet as soon as possible after each tackle to join the defensive wall. Eventually, a knock on was forced and, through a rejuvenated scrum, the ball was kicked clear and to safety.

At the end of the half the pattern repeated itself, but eventually one Harrow tackle was missed and a strong-running Wellingtonian was allowed through to score. 5-5 at half-time.

At half-time both sides must have been encouraged to kick more often and territory became even more important. Harrow had a period of possession on the Wellington try line, who conceded a penalty in front of the posts. The Lions turned down the opportunity for three points and instead went for the try through a rumble from Harry Cleeve, *Lyon's*, but he was tackled low and high at the same time (legally) and the ball slipped forward. The team tired a little from then on and couldn't secure such clean line-out ball. Wellington got more possession and attacked a little wider. This stretched the Harrow defence and a try was conceded to the left of the posts. Surprisingly, the conversion was adjudged to have missed, but Wellington can have no complaints because it is their own fault they had such small posts! The team quickly recovered the ball following some good box kicking by Swan, *The Grove*, and Zack Morgan, *Lyon's*, flopped onto it to score, again just to the left of the posts. As nobody had brought a kicking tee, and Wellington wouldn't lend theirs, Swan had to drop kick. Choosing to do so from what seemed a long way back, he missed. The score was 10-10 with five minutes left.

Still Wellington weren't finished, and they gained a penalty on the 22m line, a little further left of their previous failed conversion. Luckily for Harrow, it was missed again and 10-10 was the final score in a match that neither side really deserved to lose.

This was a fantastic response to a disappointing result against Tonbridge last week. There were strong performances all round, but in particular from Johnny Hagg-Davies, *Rendalls*, at full-back, Joe Smith, *Bradlys*, in the less familiar position of fly-half, Kim and Aurelien Jossierand, *Newlands*, both of whom were strong positionally on the wing, and Alex Barnham, *Moretons*, takes a mention on behalf of the excellent forward pack who showed immense levels of commitment throughout.

Colts A Lost 0-15

Colts B Won 13-12

Colts C Lost 5-26, Try: Freddie Gregory, *Moretons*.

Junior Colts A Won 26-14

The first score of the day came from a number of pick and gos, Matthew Gaffney, *Bradlys*, made the final carry. Tiarnan O'Brien, *Bradlys*, and Gaffney were outstanding at scrum time: 'the Bradlys bores'. Arnaud Du Roy, *Elmfield*, continued his superb form with outstanding carries and excellent defence. He tipped to Barimah Adomokah, *Newlands*, who scored the

fourth try from close range.

Kit Keey, *Druries*, used his forward pack game nicely and marshalled the game well. He also scored an interception try.

Dani Neal, *Moretons*, was once again superb and carried aggressively and continuously. He also shut down an 8 pickup, with a man-and-ball tackle ensuring Wellington didn't make their way back into the game. Harrow are developing defensively as a side and managed to defend 7-8 phases on their line before conceding their first score. This was a vast improvement. Ollie Miall, *Newlands*, managed to cast aside memories of running around pre-game, trying to find kit after his bag went missing, to play a great game with powerful tackling and direct carries. He was joint man of the match with Charlie Cross, *Newlands*, who returned every kick with interest: 'the Newlands Nightmares'

Wellington had the last word with an interception try.

Junior Colts B Won 24-5

Junior Colts C Drew 19-19

Junior Colts D Won 58-5

Yearlings A Won 38-3

Tries: Charlie Griffin, *The Head Masters's*, x 3; Kepu Tuipulotu, *Druries*, x3

Conversions: Phillip Edstrom, *Bradlys*, x 4

The Yearling As got themselves into the right mindset before the match, despite the cold and rainy conditions. Geared up and ready to go, Mr Furber making a last minute substitute in as referee, the boys worked hard from the first whistle.

An early try from Kepu Tuipulotu, *Druries*, was swiftly followed by a penalty kick from Wellington to get some points on the board.

Excellent ball skills with final passes to Charlie Griffin, *The Head Master's*, deciding to make the run for the line himself, fending off any defender who came close. He scored another try six minutes later to bring the score to 17-3 at half-time.

The team went out strong into the second half, scoring their first try two minutes in, another for Kepu Tuipulotu, followed by both himself and Charlie Griffin scoring another each under the posts. Excellent conversions from Filip Edstrom, *Bradlys*, in harsh conditions.

Half way through the second half, Wellington had to drop down to 14 men due to injuries and, being true Harrovians showing Honour and Humility, we also dropped down to match their number of men. This didn't falter the team's spirits and they finished the game on a high with a pleasing result.

Noticeable performances also from Theo Stockmeier, *Druries*, and Seb Brindley, *The Park*.

Yearlings B Won 17-14

Yearlings C Lost 7-21

Yearlings D Won 33-12

GOLF

*ISGA School v Aldenham, The School won 2-1,
7 November*

After a few weeks without a game, the young golf team were keen as mustard to get back onto the course for some competitive golf. The atmosphere was oddly quiet without the social talisman, Leo Wright, *Elmfield*, providing his reliably interesting conversation topics. Instead, the team docked into some motivational tunes, courtesy of Johnny Connell, *Rendalls*, and the power of Ronan Keating.

The team were hosted at the lovely Porter's Park by a strong Aldenham team. Pre-match commentary was really talking this encounter up to be an absolute corker. Captain, Max Shirvell, *The Head Master's*, led off with a smoking hot 3 wood, going off the back of the green on the driveable par 4. He would go on to make bogey to halve the opener. He did lose his stride

early on however and found himself 2 down through 4 after a couple of uncharacteristic lapses in concentration. The going got tough and Shirvell soon found himself 4 down after his opponent made birdie on the 9th. But, as Max knows, life is a rollercoaster, you've just got to ride it. And with that, he found a new gear, winning the 10th in style and finding some form to get back to 2 down with 5 to play. Sadly the rollercoaster went into reverse and Shirvell was most definitely not lovin' each day. He managed to win the 14th and was in great position to win the 15th with a 10-foot birdie putt to his opponent's 15 foot par putt but sadly it was not meant to be. The greens were moister than an otter's pocket and whilst his opponent managed to make what seemed like every putt, Shirvell just couldn't find the bottom of the cup and found himself 1 down with 3 to play. After a poor tee shot on 16, he was 2 down with only 2 to play. On 17, he hit two great shots but yet again was not able to convert and again, his opponent canned another 8-footer to win the match.



A great man once said “the best players can play badly and still win” (JRP, 2019). Toby Shirvell, *The Head Master's*, clearly took this on board and, despite, in his own words, never really getting out of second gear, secured a much-needed point in the fixture. It was one of those days where the strike was off but he still seemed to be scoring well. He started strongly, securing a lead being 2 up after 2 holes and then proceeded to birdie the fourth to go 3 up. His opponent was not willing to let go of the match so soon and birdied the next two holes to bring it back to just 1 in it. Shirvell then dug deep to win 2 holes in quick succession and managed to polish off the match with a birdie and a par, winning 5&4.

The third match was the decider and Connell was “well up for it”. He was looking forward to emulating the captain by driving the green on the first but alas he shanked it miles left when even JRP managed a par. Connell clearly switched on and knew it was going to be a close-run match, finding form and producing some consistent golf, playing the last seven holes of the front 9 in even par. His opponent was not finding much rhythm and Connell was 4 up at the turn. He may have been guilty of letting himself get slightly complacent and should really have wrapped up the match earlier on but, nonetheless, he recorded a 4&2 win sealing a fine victory for the Harrow boys. Next up, the final of the Regionals and, who knows, perhaps a trip to St Andrews is on the horizon (dependant on permission from JMA of course!)

Ways to contact *The Harrovian*

Articles, opinions and letters are always appreciated.

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