THE HARROVIAN

VOL. CXXXVII NO.23 *May 3, 2025*

THE ETERNAL SCHOOLBOY

During the summer of 2021, soon after leaving Harrow, George Williams (*Moretons 2016*[3]) lost his long and arduous battle with cancer, which he had faced with irrepressible humour, determination and the devotion of his family and friends. George's passing coincided with the build up to the School's celebration of its 450th anniversary, an element of which included the aspiration to have an accessible public piece of art to show what it means to be an Harrovian: a centrepiece to sit at the heart of the School. It was thought fitting that George should be celebrated alongside the spirit of every Harrovian who has been, is, or will be educated at Harrow, encapsulated as 'The Eternal Schoolboy'.

David Williams-Ellis, one of the UK's leading sculptors and father of two Harrovians, was commissioned to design and produce The Eternal Schoolboy in 2021. The Harrow Development Trust raised the funds for this project and, on 15 April 2025, it was installed on the east side of the Hill. The formal commissioning of The Eternal Schoolboy will be performed by the current Head of School and George's brother, Freddie Williams, on Speech Day 2025, with his parents Charlie and Claire Williams in attendance.

The Eternal Schoolboy is a 6' 8" high statue of a Harrovian. It weighs nearly 300kg and is cast in bronze. He's a strapping lad; we can know him as George if we choose to. He is installed at the heart of the developing landscape taking shape outside the recently completed Biology and Chemistry Schools, with Peel House, Maths and Physics, Music and Modern Languages around him, and Chapel just above. This magnificent sculpture embodies the essence of what it means to be a Harrovian: courageous, honourable, forward thinking, kind, busy and happy. Our Values are in it, and flow from it as we look on it and think about being a teenager in the past, now, and in the future. The Eternal Schoolboy will mean different things to each of us – from adults in education, to boys in the School and Old Harrovians. Silent as sculptures are, the presence of The Eternal Schoolboy among what we all do everyday will speak deeply and resonantly to our hopes, individually and together.

HARROW SCHOOL TENNIS TOUR

Vale de Lobo, Portugal, April

A few days after the end of the Spring term, the tennis team set off for Vale do Lobo, buzzing with excitement for the promised sunny week and world-class tennis facilities that awaited them. Leading the tour were DAE, NEP, LJC and Mr Snell, who were all eager to help the players make the most of this fantastic opportunity.

After a smooth flight to Portugal, the team arrived at the Ria Park Hotel, their base for the week, where they were warmly welcomed by the Five Star Tennis Holidays team. There was just enough time to settle into their rooms and grab their rackets before heading straight out for the first tennis session. Even the opening warm-up proved challenging, giving the players an early taste of the intensity to come. Afternoon practice focused on tactical match play, with the aim of getting those who were a bit rusty hitting as many balls as possible.

One afternoon, the team swapped tennis rackets for padel bats and jumped into a hugely entertaining padel tournament. Most of the players had never tried padel before, but that didn't stop the competitive spirit from kicking in straight away. Random pairs were drawn, leading to some dodgy tactics and excessive celebrations. It was a perfect way to take a break from the serious training and have a more relaxed afternoon.

Off the court, the players had plenty of time to enjoy everything that Vale de Lobo had to offer. Beach trips quickly became a regular highlight, with group heading down to the sand after heavy training sessions. Whether it was playing beach football, swimming, or just relaxing on the sand, it was the perfect way to recharge after hours on court. One evening, the Upper Sixth were given a well-deserved night off, heading out to a local restaurant where they could enjoy a delicious meal, chat about the day's matches, and soak up the relaxed atmosphere. It was a brilliant way for the older players to finish up the tour.

The tour was a huge success, both in terms of player development and team camaraderie. With the memories of Portugal still fresh, there's no doubt that the excitement for the upcoming tennis season back at Harrow is at an all time high. Everyone is looking forward to taking what they've learned and bring that energy into the upcoming season.

ASTRONOMICAL SOCIETY

'Venus and its living twin theory', Kieran Leung, Lyon's, 27 February

In a fascinating talk, Kieran Leung, *Lyon's,* explained why Venus is often called Earth's "twin," while emphasising the many ways the two planets differ.

He opened with Venus's history, noting that ancient observers saw it as both the morning star and the evening star before realising they were viewing the same object. Moving on, he compared Venus and Earth statistically. The planets are almost the same size, yet their rotations are very different: Earth spins once every 24 hours from west to east, whereas Venus turns once every 243 Earth days – and in the opposite direction.

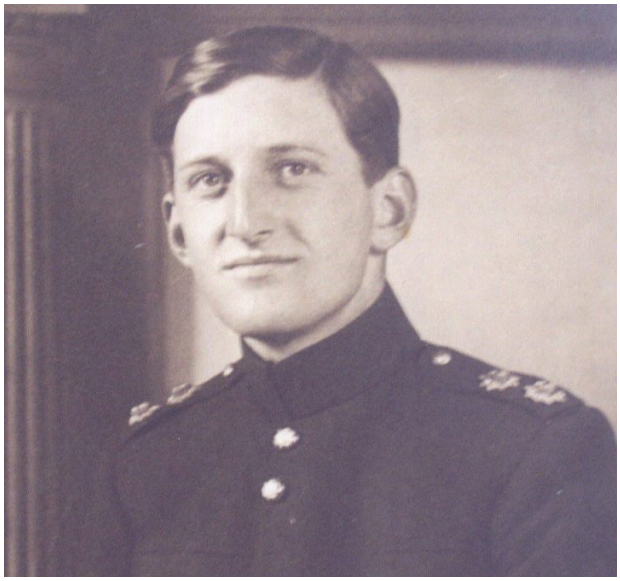
Leung presented evidence that early Venus may once have resembled Earth, with liquid water and moderate temperatures. However, spacecraft data show that a runaway greenhouse effect has transformed the planet. Though there could still be life on this planet, it would have to survive in the most extreme of conditions, with surface temperatures of over 450°C. To conclude, Leung showed us a video on the DAVINCI mission, which is a mission to send a probe to Venus to help take photos, perform chemical analyses, and find out more about its topography.

OH NEWS

Aidan Wong (*The Park 2018*[3]) and George Webster (*Druries 2016*[3]) competed for Oxford and Cambridge respectively in the 136th University Match held at Royal North Devon Golf Club on 28 and 29 March. Cambridge won 11.5-3.5 after not winning the match since 2018.

Congratulations to Nick Warner (*The Head Master's 1984*[3]), who recently travelled to Chicago and won the US National Over-50s Real Tennis Singles and Doubles tournaments.

On 21 April 1945, 80 years ago, Captain Ian Oswald Liddell VC (*The Head Master's 1933*[2]) was killed in action. He was the last Old Harrovian to be awarded the Victoria Cross, and the only one to receive it for gallantry during the Second World War. On 3 April 1945, near Lingen, Germany, 25-year-old Captain Liddell of the Coldstream Guards secured a strategically vital bridge over the River Ems. Despite it being heavily defended and rigged with explosives, he crossed alone under sustained fire, disabling multiple charges both on and beneath the bridge. His actions ensured the structure was captured intact and enabled the continued advance of Allied forces. He was killed later that month near Rotenburg an der Wümme and is buried at Becklingen War Cemetery. You can read more about Captain Liddell and his remarkable bravery in *The Harrovian* article titled 'Alone on the Bridge', published in July 1964 and available via the digital archive – theharrovian.org



CLASSICS QUIZ

Having raised a rag-tag Shell team of classicists (Max Wickham, *The Head Master's*, Michael Herratt, *Lyon's*, Mofi Salami, *Lyon's*, Arjun Agrawal, *Lyon's*, Clive Njumbe, *Druries)*, I was keen to enjoy a fun night that would test my knowledge of the ancient world. Having been warmly welcomed by the secretaries (Ethan McCullaugh, *The Park*, Filip Wiszniewski, *Druries)* – alongside some sweets – we sat down as the secretaries briefed us on the four topics: Roman History, Greek and Roman Myth, Art and Architecture, and Roman and Greek Society. The quiz focused mostly on the ancient history of Rome and Greece, but delved into all periods of time during which the civilisations existed.

As the questions began, our team quickly realised that we were in for a challenging yet entertaining evening. The rounds tested not only factual recall but also our ability to think critically about the ancient world. From identifying obscure Roman emperors to recalling the intricate myths of the Olympian gods, the questions were relatively challenging. The Art and Architecture round proved particularly tricky, with detailed questions on the Parthenon and the evolution of Roman frescoes, while the Society section sparked debate over the daily lives of citizens in Athens and Rome.

Despite some tough competition from the other teams, we held our own, managing to piece together our knowledge across the different topics. Some moments of inspired guessing led to unexpected victories, while occasional blunders provided plenty of laughs. The secretaries kept the energy high, ensuring the quiz remained engaging throughout.

As the final scores were announced, we were pleased with our performance – regardless of the result, the evening had been a brilliant celebration of classical knowledge and camaraderie. With our brains taxed and our sweet supply depleted, we left feeling both enlightened and entertained. Many thanks to the secretaries for organising such an enjoyable event, and we look forward to the next quiz!

HARROW FAMILY PHILOSOPHY ESSAY-WRITING COMPETITION

'Everything around us is real'

This year, we saw the launch of the Harrow Family Philosophy Essay-Writing Competition collaborating with John Lyon, Harrow Bangkok and Harrow Hong Kong.

The question set was 'Everything around us is real' and it was open to all year groups. The adjudicator was Roger Crisp, Professor of Moral Philosophy at Oxford University. Professor Crisp has had a distinguished career in philosophy since 1986 and is author of a number of well-received recent publications. He is a Uehiro Fellow and supports students writing Doctoral theses in Philosophy at St Anne's College, Oxford.

Thomas Pinnock, *Rendalls*, came second overall and Frederic Duan, *Bradbys*, came third. This is a significant achievement as essay submissions were welcomed from all year groups, and Pinnock and Duan competed with boys and girls much older than them.

Is Everything Around Us Real?
Thomas Pinnock, Rendalls

Since the beginning of philosophical thought, philosophers have begged the question 'Is Everything Around Us Real?' Firstly, we must conclude our own existence, if something is able to think, it must exist. I am able to think, therefore, I exist. Descartes famously phrased this as 'Cogito Ergo Sum.' However, how is it that we know everything around us is real. The contentionof this essay is to prove this by proving God's existence as a being that would not deceive us by surrounding us with falsities.

St. Anselm argued, also using natural theology, that God is 'than which nothing greater can be conceived' and that God exists in the mind. Then one can imagine that it is greater to exist both in the mind and reality than to just exist in the mind. 'Therefore, if that, then which nothing greater can be conceived, exists in the understanding alone, the very being, than which nothing greater can be conceived, is one, than which a greater can be conceived. But obviously this is impossible. Hence, there is no doubt that there exists a being, then which nothing greater can be conceived, and it exists both in the understanding and in reality.'

However, a monk named Gaunilo replied with his idea of a perfect island. He argued that he could use the same argument to conclude that a perfect island must exist, which is ridiculous, and therefore the argument is flawed.

Anselm replied to this objection saying that it is an illogical comparison between God and, the island because God is necessarily perfect and, necessarily, by His nature, no greater thing than him can be conceived, whereas an island is accidentally perfect and that the qualities of an island cannot be defined in a similar way to the way which God's qualities are defined.

Descartes argued, similarly to Anselm, that God, a perfect being, did in fact exist because existence is a form of perfection and so, therefore, God must exist because by His very nature, even as an idea, He must exist because his perfection pertains his existence.

Thomas Aquinas, however, successfully disputed the ontological argument in his Summa Theologica when he wrote that nobody apart from God, in His omniscience, would be able to use an ontological argument because only He would be able to know all the aspects of His own nature. Hence, since Thomas Aquinas presented this argument the majority of Catholic thinkers have rejected this form of argument as an argument for God on the basis that the truth of its premises is unknown to all apart from God.

However, one may argue against St. Thomas Aquinas because, although it is impossible for one to know God's nature entirely, one can know God's nature partially which includes the perfection of God and therefore His existence. In response, however, one must ask how it is that one can even understand the mystery of God partially as he is above human comprehension, due to our fallen nature which has estranged us from Him by Original Sin and the fact this has not been revealed in revelation from God, and so this objection does not in fact have any backing as it is impossible, as St. Thomas Aquinas said, to understand the mystery of God if one is not God.

So far, we are without the knowledge of the existence of anything apart from ourselves. Thus, as to prove the existence of God in order to prove the existence of everything around us as real and actual, we must therefore use what we know of the world apart from its reality, by using what we know from its very existence. Hence, we turn to Thomas Aquinas' Five Proofs for God's existence that he wrote in the Summa Theologica (Question 2, Article 3). The first thing we must establish, as to use all the following arguments, is that despite our cluelessness over the reality of the universe, it can only be one of two things: Completely actual, or not so. What this allows us to acknowledge is that both actual object or illusion has a cause or design. Therefore, with this established we can argue that God does in fact exist due to the following reasons, of which there is multiple for assurance: the argument from efficient cause, from contingency, and from the governance of the world.

Firstly, we shall us the second way which is from the nature of the efficient cause. In the world we find that there is an

order in which there are efficient causes. It is not possible that something is the efficient cause of itself, 'for then it would be prior to itself, which is impossible.' We also know that it is not possible for efficient causes to be in order infinitely, because it is impossible for one efficient cause to occur if an infinite number of efficient causes have happened prior to it. Yet we see that there are efficient causes happening in the present, which if time were infinite would be impossible. 'Therefore, it is necessary to admit a first efficient cause, to which everyone gives the name of God.' Therefore, everything around us, whether it be illusion or not is caused by God.

Secondly, we shall use Aquinas' third way which is from contingency, or 'from possibility and necessity' as Aquinas puts it. The logic runs thus: We find things in nature that are possible to both be and not be, since they are found to be generated, and to be corrupted. But it is impossible for these things to exist infinitely. Therefore, if it is possible that everything may not be, then at one time there may have been nothing that was existing. If this were to be true, then now, still, there would still be nothing that was existing which, by the things that exist currently, is absurd. Therefore, not everything that existing it but possible, but something necessary. Every necessary thing either has it necessity cause by another necessary thing, or not. However, as previously proven regarding the second way from the argument from efficient causes, we know this to be false. Therefore, we must assume the existence of something that has necessity of itself, and not made necessary by another, which makes other necessary things necessary. We call this something God.

Lastly, we shall use Aquinas' fifth and last way which is from the 'governance of the world' or more simply from design, which is also demonstrated in a lesser form by William Paley. In the world we see that those things which lack intelligence act for an end shown by the way that they consistently act in a certain way, so as to achieve a certain end, whether that be a greater or lesser end. Thus, it is obvious that they achieve their end not by chance but by design, for whatever that lacks intelligence cannot move towards an end unless it is directed to do so in some way. Thus, Aquinas gives us the analogy that it does so in the same way that 'the arrow is shot to its mark by the archer.' Therefore, we know that God exists.

But what does God's existence provides us with an answer to our question? I intend that, with God's existence proved, we can, by His nature, prove that in His creation of the world he would not deceive us by making our surroundings an illusion.

So, what is God's nature? We can conclude that God is the supreme good by the following logic: We can see that in the world, there is goodness, and that this goodness must flow from God as, referring to Platonic thought, good is the fullness of a thing in relation to its Platonic form, which exists in the mind of God as what is in God's will for it, whereas evil is the absence of good, or the absence or a deficiency of something in relation to its Platonic form, meaning that it has strayed from God's will for it. God is the source of all things. Hence, God is the source of all good because God is the source of all things includes all good. Therefore, goodness shows us that God is the source of good, and if God is the source of all good, he must be the supreme good. Therefore, we know, because God is the supreme good, that he cannot act in a way that is not good, because by definition anything he does is good.

Knowing this we can follow this logic: God is the supreme good. Truth is good. Therefore, a lie or deception is evil because it is a perversion of what is good. Thus, God would not lie or deceive. If the world, which God has created, were an illusion or not actual God would be deceiving us. Therefore, it is impossible that God would create the world as an illusion. Therefore, the world, which is everything around us, is not an illusion.

So, what are the objections to this argument? One may argue that God is not in fact the supreme good or good at all because there are evils in the world which he created. However, this is a misunderstanding of the nature of evil. For evil is the absence of good, whether that be partially or wholly. Therefore, God did not create evil because evil is the absence of good and so therefore cannot be created by God. In addition to this, when the world was first made, it is understood that it was without evil until the Devil corrupted it with original sin for which both Man and the earth suffered as to uphold justice. Therefore, rather than evil proving God to not be good it proves that he is in fact good by showing that he unconditionally upholds justice.

One however might object that evil is not just an absence of good for it seems that pain is more than an absence. However, I would argue that this is a misunderstanding of the nature of pain. Pain is a perception of a deficiency of the body, one may phrase it as an evil affecting the body. In fact I would argue that pain is a good for it alerts the body so that it may protect itself from deficiency. Whereas, in a similar way, an excess of alcohol, which seems to be good, is actually an evil.

In conclusion, we know that the world around us exists because we exist, God exists, God exists as a being of supreme good, and thus God would not deceive us by surrounding us with falsities. With the knowledge provided to us by this essay, I hope that readers may be more trusting of the world and God, avoiding any gnostic or sceptic misconceptions that discredit God or the world. Taking this conclusion into account I hope we can more readily appreciate reality, God, and the profound nature of our existence which has been gifted to us.

Is Our World Real?
Frederic Duan, Bradbys

The questioning of whether the world is real has intrigued philosophers for centuries. They explore the nature of reality, perceptions, and the aspect of existing and existence itself. Is it that one is simply observing the world as a fish in a tank, existing independently of us, or is it that what we perceive to see as the world is merely a constructive imagination of our minds skurrying to weave the illusions? Or a programmed, simulated, controlled and exceptionally large fish tank, much like Seahaven Island in Peter Weir's Academy-nominated 1998 film The Truman Show, starring the then pre-depressed Jim Carrey (more references from this film will come later in the essay). Of course, other than such beliefs certain sceptics could go even further, questioning whether we can ever truly know if our world is real at all, for if the world was indeed programmed and planned out for us then such shocking discoveries would not be made with ease by the replenishable flames of curiosity that coexists with human nature. This essay shall be exploring these differing perspectives to examine one of philosophy and the world's most profound and perplex contemplations.

From a philosophical aspect, realism is the viewpoint which accords to things which are known or perceived an existence or nature independent of whether anyone is thinking about or perceiving them . In simpler words, it is the idea that things exist to their own nature, and whether anyone is thinking about or in physical contact with them, things in the world are real and exists independently of our thoughts or perceptions.

This perspective is intuitive and often aligns with our common sense: when we see a cat, we assume that it exists whether anyone else is looking at it. Realists argues that our sensory experiences and organs provides direct access to a world that is stable, constant, and external. This a compelling argument as people seeing the same cat from the same angle and way would both describe the cat similarly, in terms of its size, colour, purring. This consistency suggests that there is external reality shared by all observers. Moreover, science relies on verifiable observations. In our world, presuming all observer's vision and health of eyes are of immaculate conditions, no one would see and describe any different of the cat from the same angle of sight. Moreover, science and scientific experiments, which hugely relies on logic and argumentation, has by now provided humans a structured and predictive understanding of the world.

These successes of varying uses for humanity lends support to the idea of the objective reality .

The film The Truman Show explores the question of the title through its central premises, where the main character Truman Burbank lived his entire life in a manufactured reality designed for him – a massive, controlled television set where everyone but him knows the truth and revolves around his daily life as actors. This set up brings into question the true nature of reality itself. There are several aspects of the film which connects to this philosophical inquiry, one already mentioned previously to be the perceptive reality, where Truman believes his world is real because of their alignments with his senses and experiences. This reflects that we are often accepting of the reality we are presented with, on the premise that it seems consistent with the perceptions. However, it relates to the question of whether we can still know the world to be 'real' or an illusion if our experiences are controlled, like Truman in his artificial world.

This leads to the concerns of control and manipulation. In the film the director of the show (Christof) manipulated every aspect of Truman's life, controlling the events around him. This parallels the concerns about whether the world we experience is similarly controlled or programmed by unseen forces, whether they are societal, political, or even metaphysical. If so, our perception of reality may well appear to be 'real' but on another angle of viewpoint we are again fishes in a tank. Truman's world was certainly 'real' as in they were physically existing and in contact with him, but it was also unreal as the physical existence and contacts were artificially designed and programmed to behave so to suit Truman's daily lifestyle and routines . Our world may well be existing physically, but all contacts with the world could derive from a form of design of outside forces.

Scepticism refers to an attitude of doubt and questioning, especially when it comes to subjects of knowledge, beliefs or claims about the world. In philosophy, scepticism is the view that one cannot have certain knowledge or that we should question the possibility of knowing anything with absolute certainty. Sceptics often goes far to challenge the reliability of our senses, perceptions, or logical reasoning, asking question of whether we can ever truly know if something is real or truthful.

Regarding reality, one of the famous sceptics, René Descartes, proposed that our entire experience of reality could be an elaborate deception, orchestrated and planned by an all-powerful being. This is often referred to as the 'evil demon' hypothesis, where a nefarious entity manipulates our perceptions, making us believe in a world that does not necessarily exist by itself truth .

The Evil Demon scenario was meant to illustrate radical scepticism – the idea that one might be systematically deceived about everything. Descartes used this idea as part of his method of doubt, where he inquiries about the foundations of beliefs to cast doubt upon them, and by extension the entirety of one's belief system(s). The goal is tear down all of one's beliefs to build up a new set of beliefs with a much more justifiable system where the belief in question can be stablished to be undoubtable and hence trustworthily real .

In response to his radical doubting, Descartes arrived at his famous conclusion: 'Cogito, ergo sum' ('I think, therefor I am'). He argued that even if the evil demon is deceitful about everything, the very fact that he is thinking -doubting, questioning, or being deceived – proves that he exists as a curious, real human being. This self-awareness became the unshakable foundation upon which Descartes attempted to rebuild his knowledge of the world.

A more modern version of this argument can be found in the thought experiment known as the 'brain in the vat' scenario. Imagine if one is nothing more than a brain floating in a vat of liquid, with electrodes connected to it that simulates the exact experiences one would encounter every day. If this were the case, one would have no way of knowing that one's entirety of reality was artificially generated, as all of one's perceptions would appear just as realistic as they do now.

In his 2003 paper 'Are You Living in a Computer Simulation?', the Swedish philosopher Nick Bostrom explores the simulation hypothesis, which proposes that it is possible of humans to be living in a computer simulation, based on the likelihood that at least one of the following trilemmas must be truthful: (a) Most civilisations at our level of technological development go extinct before becoming 'posthuman'. (b) If such civilizations reach a posthuman stage, they have no interests in running ancestor simulations. Essentially, they don't simulate past lives or don't really care about simulating their ancestors. (c) we are almost 100% living in a simulation if posthuman civilisations have the technology and motivation to run ancestor simulations.

According to Bostrom, if the third scenario is correct, there could be an infinite number of simulated worlds, making it statistically likely that we are one among them.

While the idea that our world could be a simulation or illusion, there are strong reasons to believe that our reality is genuine. The consistency of our senses, the predictability of scientific laws, and the shared understanding of the world by all observers support the objective existence of reality. However, arguments of Descartes, Putnam's 'brain in a vat' and Bostrom's hypothesises reminds us to remain open to possibilities that reality might not be as straightforward as it appears. While sceptics encourages the question of our perceptions, the tangible and structural nature of the world provides a promising case of authenticity. Though one cannot completely dismiss the idea of living in a simulation, the evidence we have at hand certainly points towards a real, functioning world that allows us to live, think and experience life in meaningful and realistic ways.

SCIENTIA

SCIENTIA FOREWORD

What Makes Us Alive?

Dear Readers,

Happy Easter and welcome to Edition 6 of SCIENTIA!

Much has happened over the past few weeks: the clocks have gone forward in the UK; all over the globe, magnolias and cherries are blooming with mesmerising pink and purple hues; and scientists have discovered the optical rotatum, "a behaviour of light in which an optical vortex beam experiences a quadratic chirp in its orbital angular momentum along the optical path".

However, the traditional moral of Eastertide is not the devouring of delicious chocolate eggs and hot cross buns but the act of Jesus transcending life and death by his Resurrection. This year, the joy of Jesus' ascension is tinged by the sad passing of Pope Francis on Easter Monday, prompting widespread condolences both from global leaders and the public.

Thus, in the foreword to this edition, I would like to present a few reflections upon the science behind life. What makes us alive?

In our first Biology lesson at school, we are taught that there are certain traits which make stuff alive, summarised with the acronym "MRS C GREN". According to *The Cell: A Very Short Introduction* by Terence Allen and Graham Cowling, all life as we know it is cellular. (As they are not cellular and cannot independently reproduce, viruses are on the cusp of being alive and subject to much debate.)

At the heart of each cell is some form of genetic information (encoded in either DNA or RNA) which allows it to function and replicate. As Richard Dawkins argues in his classic work *The Selfish Gene*, all life on Earth originated around 3.7 billion years ago, when a "replicator", a molecule (probably in the form of RNA) that could reproduce itself arose from the primordial soup of chemicals found in the ocean. This argument has been around for quite a while; in the 1880s, it was the great Charles Darwin who proposed that life originated from "a warm little pond".

Later, in 1953, Harold Urey and Stanley Miller from the University of Chicago carried out their groundbreaking experiment to prove their hypothesis that the Earth's atmosphere originally contained harmful gases such as methane and ammonia, and that oxygen was only produced by photosynthesis carried out by living organisms. In a sealed round-bottomed flask, they added a carefully devised concoction of water, methane, ammonia and hydrogen to simulate the primordial soup. They also used two electrodes to create "lightning", which they thought catalysed these early chemical reactions.

A week later, the thrilled scientists discovered several naturally occurring amino acids – the building blocks of proteins and life – floating in their primordial soup. The Urey-Miller experiment finally shone a ray of light upon the murky origins of life. As Graham Patrick diligently points out in *Organic Chemistry: A Very Short Introduction*, adenine, one of the four bases that encode our DNA, can be formed by joining five units of hydrogen cyanide (HCN), which may well have been present in the early atmosphere.

In the same year, Francis Crick and James Watson published the famous double-helix structure of DNA, achieving another major milestone in understanding the biochemical mechanism of life. For the fascinating story behind their discovery, I thoroughly recommend James Watson's memoir, *The Double Helix*. Although it contains many bold opinions and biases, the book provides a genuine account of the working (and leisurely) life of a brilliant scientist.

In their 1953 paper, Watson and Crick also commented that their postulated structure "immediately suggests a possible copying mechanism for the genetic material". This semi-conservative replication theory was later confirmed by the elegant experiment of Matthew Meselson and Franklin Stahl involving "heavy" and "light" strands of DNA (labelled with different isotopes of nitrogen). When subjected to density-gradient centrifugation, the DNA formed distinctly layered patterns after each round of replication, proving that each newly synthesised DNA molecule retains one strand from its parent molecule – hence the replication process is "semi-conservative".

Over the past century, we have come a long way in uncovering the secrets of life, with advancements in microscopy, biochemistry and genetics. Regarding the unit of life, the cell, we have discovered the structures of its membrane, its nucleus, its cytoskeleton and its multitude of organelles. We have also tried to explain the mechanisms of cell differentiation, division, movement, regulation, signalling and transport. We have dedicated a huge amount of research to stem cells and stem cell therapy, which could potentially cure cancer and reduce the effects of ageing.

In 2003, the Human Genome Project was declared to be complete. Over more than a decade, scientists around the globe collaborated in identifying, mapping and sequencing the staggering 3 billion base pairs within the human genome. Finally, we could write down the code that makes us alive as Homo sapiens.

And just a couple of weeks ago, a team of astrophysicists led by Nikku Madhusudhan published evidence for the existence of DMS (dimethyl sulfide) and DMDS (dimethyl disulfide) – biosignature gases for the existence of life – on the exoplanet K2-18 b, 120 light years away from Earth.

In their research, the scientists used infrared transition spectroscopy data from the James Webb Space Telescope, obtained from analysing the light emitted by the parent star as K2-18 b transited across, thus detecting specific wavelengths of light absorbed by molecules of DMS and DMDS in K2-18 b's atmosphere.

Previously, the existence of carbon dioxide and methane has also been detected on K2-18 b, further signs of biological activity. Synthesising the available data, the researchers proposed that a "Hycean world" – with hydrogen-rich atmospheres and a planet-wide ocean that is teeming with life – is the scenario that best fits the data.

However, despite our progress, we are still far from fully understanding the secrets of life. Even if we have the perfect proportions of oxygen, carbon, hydrogen, nitrogen, calcium, phosphorus, sulphur, potassium, sodium, chlorine etc., we do not have the capability to combine them as ingeniously as nature to create a living human being. To us mere mortals, life is still an elusive "emergent property", unobtainable from its simple ingredients.

In the masterfully written *What is Life?*, Erwin Schrödinger writes that life is unique in that it can 'exchange material with its environment… feeding on 'negative entropy' to prevent it from reaching the dangerous state of maximum entropy, which is death.' Portraying life as a mysterious 'emergent property', he goes on to suggest that 'living matter is likely to involve 'other laws of physics' hitherto unknown.'

But why fret? No matter how or why, we are alive thanks to the wonders of nature. As eloquently expressed in the King James Bible, 'all are of the dust, and all turn to dust again' (Ecclesiastes 3:20). Some truly magical cosmic dust indeed! So while our atoms are arranged in the perfect alignment of life, we might as well enjoy each attosecond!

Omnia in verba,
Tony Shi, *The Grove*

BUILDING YOUR SUN

By Jerry Zhang, The Knoll

Humans have always looked up towards our beloved distant glowing ball of plasma and sanctified its magnificence: Ra, Helios, Surya, Amaterasu, even in the Bible, the entirety of the fourth day was dedicated to the creation of Sol, the giver of all life on Earth. But have you ever wondered whether you can master the power that drives our very existence? Well, look no further!

To understand the Sun's power source, we need to understand two concepts: nuclear fusion, defined as the process by which two lighter nuclei combine to form a heavier nucleus; and a plasma, the elusive fourth state of matter whereby atoms lose their electrons due to heating, thus becoming a soup of charged particles.

1. FUSE

Nuclear fusion itself is a simple concept to grasp: in the Sun's vast plasma soup, hydrogen atoms lose their electrons, becoming individual protons. At the atomic scale, we need to consider the strong nuclear force and the electrostatic force. As both protons are positively charged, the electrostatic force is repulsive. On the other hand, the strong nuclear force is an attractive force and only acts within extremely short distances (a few femtometres or 10–15 metres). For two nuclei to fuse, they must overcome the coulomb barrier – the energy required to overcome the electrostatic force – so that the strong nuclear force can bind the nuclei together.

Upon fusing, a deuterium nucleus is formed, releasing a lot of energy. Using a little-known equation $E=mc^2$ derived by a rather obscure physicist, Albert Einstein, we can calculate that with the change in mass, 1.44 MeV, or 2.30 x 10^{-13} Joules, of energy is released in this process. Considering one kilogram of hydrogen as fuel, by fusion we can produce 6.94 x 10^{13} Joules of energy, which, assuming 100% efficiency of energy capture, is enough to power the modern world for 700 years.

The chain doesn't end there, of course: deuterium combines with a proton to form Helium-3; two Helium-3 combine to form Helium-4. Helium-4 nuclei are fused to form Beryllium-8 and Carbon-12 through the triple-alpha process; stars cycle through carbon, nitrogen and oxygen through the CNO cycle; more massive stars fuse all the way up to iron.

To summarise, the sun combines protons into heavier elements to generate energy, continuously providing vitality to all of us on Earth. However, replicating fusion on Earth faces two major obstacles: the fuel and the extreme conditions.

2. FUEL

"Why doesn't the sun run out of fuel for billions of years when fusion happens almost instantaneously?"

Proton-proton fusion is not viable for artificial synthesis: firstly, the major product of proton-proton fusion is helium-2, which is extremely unstable and immediately decays back to two protons; forming deuterium has a much lower probability. However, more importantly, the sun is simply not hot enough.

As defined by Coulomb's law, $F = \frac{q_1 q_2}{4\pi\varepsilon_0 r^2}$, we can find the coulomb barrier of any two-particle system by:

$$E = \int_r^\infty \frac{q_1 q_2}{4\pi\varepsilon_0 r^2}\,dr = \frac{q_1 q_2}{4\pi\varepsilon_0 r}$$

Combining this with $E = \frac{3}{2}k_b T$ and $q_{proton} = e$, we can derive:

$$T = \frac{e^2}{6\pi\varepsilon_0 k_b r}$$

for the temperature needed for a proton to break the coulomb barrier.

Assuming two protons fuse at 1.2 femtometres, the required temperature soars to 10^{10}°K, much higher than the temperature of the core of the sun. Something seems to be missing. In reality, through a phenomenon called quantum tunnelling, we don't need to break the coulomb barrier.

All particles possess wave properties, meaning they possess a wave function. In a nutshell, as Heisenberg's principle states 'we cannot know both the position and speed of a particle with perfect accuracy', as a proton approaches the coulomb barrier, due to this uncertainty, there's a low but non-zero chance the particle would end up on the opposite side of the barrier. As one quantum physics enthusiast in my division states, "As the particle approaches the energy barrier, the probability density of the wave function spills over".

This probability can be calculated by the Gamow factor P_G:

$P_G(E) = e^{-\pi\alpha Z_1 Z_2 c\sqrt{\frac{2\mu}{E}}}$, or $P_G(E) = e^{-\frac{Z_1 Z_2 e^2}{2\varepsilon_0 \hbar v}}$

where Z_1 and Z_2 are the atomic numbers of the two fused elements, μ is the reduced mass, and v is the relative velocity. *(Note the two variations arise from the usage of either the fine-structure constant α or reduced Planck's constant ħ, and whether using energy or velocity as parameters.)*

These two "probability limitations" pose no problems for the sun because of its huge swells of proton fuel. To answer the question previously proposed, it is due to this probability factor that the rate of fusion has been slowed for the sun to provide energy continuously.

As we increase Z1 and Z2, the probability exponentially decreases due to a stronger coulomb barrier. However, because of the instability of proton-proton fusion's major product, Helium-2 and our lack of proton supplies, we must look at an alternative fuel sources that produce stable products and have a high chance of tunnelling: deuterium and tritium.

Deuterium-tritium fusion produces Helium-4, a neutron and 17.6 MeV of energy. The weaker coulomb barrier and high energy output make it a common choice for fusion reactors. But it is not without its own problems: despite deuterium being relatively abundant in seawater, tritium is a radioactive isotope with a half-life of 12 years. Sources include bombarding high-energy neutrons into deuterium, Lithium-6, Lithium-7 or Boron-10 in either fission or fusion reactors, but a constant supply of such fuels would be a key step for our purposes.

3. CONDITION

Now we have our fuel, we move on to our next problem. As the Gamow factor defined previously describes, particles with higher energy are more likely to tunnel and fuse. However, using the equation, to raise the probability of deuterium-tritium fusion through tunnelling to even 0.01% would require 108 million degrees Kelvin. The plasma needs to be confined, contained and accelerated for fusion to occur, while kept from touching anything as the temperature required will melt any material in existence. There are many different approaches to solving these issues, the oldest and most common being the tokamak's magnetic confinement.

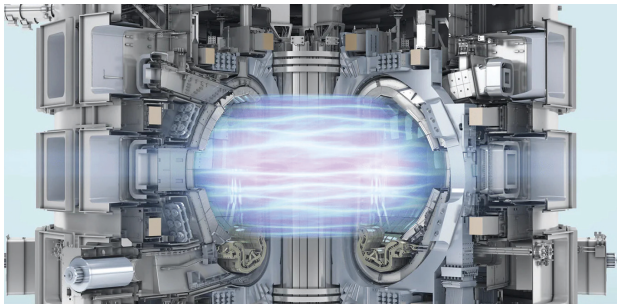


Image: Artistic representation of a tokamak reactor

Plasma is placed in a torus-shaped (fancy word for doughnut-shaped) reaction chamber. Since atoms lose their electrons in a plasma, they become charged and possess a magnetic field. With powerful enough electromagnets, the charged particles can be manipulated and suspended, kept from touching the reactor walls. The plasma is heated from Ohmic heating methods (passing a current through the plasma) or through the injection of neutral particles or EM-waves. The central superconducting solenoid and poloidal magnets help confine and stabilise the plasma. Once fusion starts, the energy released by the fusion reactions can be reused to sustain the extreme conditions. Its cousin, nuclear fission, is often feared for its radioactive waste and meltdown potential, but nuclear fusion is far safer – the reactants and products, hydrogen and helium, are perfectly safe, and if the system experiences failure, the plasma would simply cool down, preventing any runaway chain reactions.

Other approaches must also be mentioned: stellarators, using magnetic confinement just like the tokamaks, use a twisting series of magnets inside a tokamak's symmetrical design; inertial confinement fusion (ICF) uses high-energy lasers and particle beams to compress the fuel to the required temperature.

4. CLOSING

Today, several countries, such as France, China and Japan, are collaborating and pushing the limits of fusion technology. Some may see it as a way to halt climate change, others seek to generate cheap and reliable energy; researchers hail the milestones reached, politicians ponder over the leverage

it brings, but one must never forget what this technology is replicating – the inner workings of the sun, the awe-inspiring celestial entity, 150 million kilometres away, yet omnipresent, driving the blue marble we stand on. How incredible must it be if we can show this to the founding fathers of particle physics and thermonuclear technologies – Planck, Schrödinger, Einstein, Bohr, Heisenberg, Rutherford, Fermi, Oppenheimer – to see their reaction that, only a mere 100 years on from the establishment of quantised energy, wave-particle duality and quantum mechanics, we can build our very own sun.

UNBREAKABLE BONES

By Aidan Au, Moretons

A scrummy day at Harrow School begins with none other than a match against Eton College. A loose ball awaits capture, as you dive into it, only to crash into a 5-foot boy, elbow against elbow, and you hear a sickening crack echo through the air. Pain shoots up your arm. You have cracked your bone through this altercation, a collision with a boy half your size, so you can only imagine what the impact on him would be. But no, to your and your team's surprise, he walks off, safe and sound, without any injuries as you limp off. No grimace, no limp – nothing.

The boy, who, though it may sound a bit far-fetched, indeed had "nnbreakable bones" (makes you wonder how desperate some schools are), and essentially has the powers of Wolverine. While Wolverine has metal bones and claws, the boy has unbreakable bones. High-impact injuries? Light work for him. Skull and jaw? Thick and strong like armour.

Commonly known as HBM (High Bone Mass) Syndrome, a disease that affects only 30 families worldwide, the gene mutation enhances bone mass and density, making their bones nearly eight times denser than average. The most famous case, undoubtedly a family in Connecticut deemed the "unbreakable family" for obvious reasons, who all had the LRP5 mutation. Their "secret superpower" showed up when one of the family members got into a huge car crash that should have left him dead or at least injured, but instead he walked away from it unharmed. Another fell from a top-floor building and just walked off.

Originally, the LRP5 gene, which is the mutated gene, inhibits a pathway called the Wnt, which regulates bone formation and breakdown, but with the mutation, the Wnt pathway stays highly active, which reduces bone breakdown. Paradoxically, the loss of function effect of the mutation can lead to osteoporosis and fragile bones.

However, like all superheroes on television, it comes with its own curse. People with this mutation will find it extremely hard to swim because of heavier bones, reduced flexibility and joint stiffness, so water is essentially their Kryptonite. Although the mutation is favoured in contact sports, athletics and sports that require joint mobility can prove hard for many with the syndrome.

The future for those with HBMS is bright, with many of the cases being used as a developing treatment for osteoporosis, a disease where bones are threateningly weak and fragile. By studying proteins that inhibit bone formation and finding ways to stimulate them through studies of the HBM disease, it is very possible to discover biological solutions to heal bones faster after fractures, and to mimic activating mutations to mimic bone growth in osteoporosis patients. To the boy who collided with the Etonian, Bad luck. To millions of waiting and suffering patients, their future is here.

SCIENTIFIC SOCIETY

'Thermodynamics: The Science behind Energy and Heat', Timi Aiyeola, The Grove, and Joaquin Sabherwal, The Grove, 18 March

On 18 March, the Scientific Society enjoyed a well-researched and fascinating lecture given by Timi Aiyeola and Joaquin Sabherwal (both *The Grove*) on the topic of thermodynamics.

Aiyeola started the lecture explaining how the concept originated with the Ancient Greeks, with the discovery of basic elements by Heraclitus, which would be seen as basic science for us today. Galileo was also influential as he discovered heat to be a form of motion and not a substance.

Sabherwal then discussed how Joseph Black discovered the key concepts of latent heat and specific heat capacity in the 18th century. James Watt was also a big name in the field, making leaps through working on the steam engine.

Sabherwal went on to define the term thermodynamics, stating that it is a branch of physical science that investigates the transfer of energy, which governs the scientific laws regarding conservation and transfer of energy. Next, he defined what a system is by saying it is "a part of the universe observing a reaction", noting how anything else is "the surroundings". Lastly, he talked about enthalpy, the total energy of a system, and how its change is different in endothermic and exothermic reactions.

Aiyeola began speaking at this point, running through the three laws of thermodynamics. First, the law of conservation of energy, meaning energy can only be stored or transferred and not lost or gained. Second, the idea of entropy, the measure of 'disorder'. Scientists use this concept to explain statistical mechanics and relate to the idea of microstate, meaning how particles in systems are arranged and in how many ways. Third, there is no kinetic energy at the temperature of absolute zero.

Aiyeola then made very interesting comparisons with thermodynamics to other vastly different fields of research. First of all, economics was an interesting comparison; he said that, similar to energy, wealth shifts from trade and consumption. Money flows through the energy and is cycled. The idea of entropy neatly fits in as it is similar to depreciation, inflation and waste.

Sabherwal assumed control of the talk in its latter stages. He discussed different parts of thermodynamics. Firstly, quantum thermodynamics is the overlap of quantum mechanics and thermodynamics, applying to systems at the quantum scale. Also, nanoscale thermodynamics is thermodynamics at small scales where traditional principles are broken down. He broke down the differences here, as nanoscale only applies to small systems, and quantum only applies to quantum systems. In a question I asked afterwards, he explained the nanoscale is anything less than 100 nanometres, and quantum is sub-atomic. Sabherwal, in his final point, discussed biological thermodynamics, the study of energy flowing through living systems.

The talk concluded with the future of thermodynamics in important fields of research. It will help achieve sustainable energy as it minimises input, maximises output, efficiently conserves energy and utilises any wasted heat.

NATURAL HISTORY SOCIETY

'Fungal Entanglement: Decrypting the Wood Wide Web' Joey Yu, The Knoll, 26 February Inspired by the book 'Entangled Life' by Merlin Sheldrake

Joey Yu, *The Knoll*, started his talk by stating that almost all plants on Earth form a symbiotic relationship with mycorrhizal fungi. These fungi are so important that they've probably altered the course of our planet's history. Mycorrhizal fungi are a group

of soil fungi that form partnerships with plants. Around 500 million years ago, the ancestors of plants – rootless freshwater algae – moved onto dry land, a barren environment. To survive, these plants formed a bond with fungi. The fungi could forage for nutrients and water, compensating for the plants' inability to do so. In return, the plants photosynthesised and provided sugars to the fungi. This mutual exchange forms the foundation of mycorrhizal symbiosis.

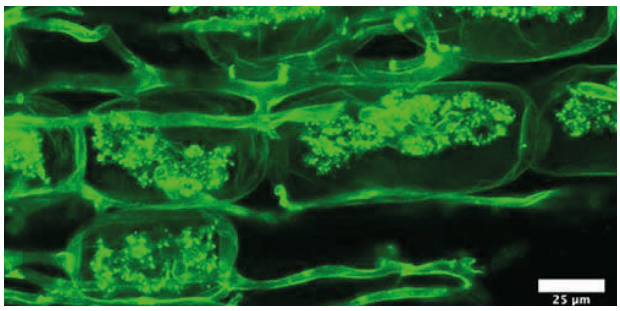


Image: Arbuscules viewed under a light microscope, stained with fluorescent dye

There are two primary types of mycorrhizal fungi: endomycorrhiza and ectomycorrhiza. Endomycorrhiza are the oldest form of this symbiosis. These fungi helped plants' ancestors adapt to life on land. Once true roots evolved, the relationship between fungi and plants had already been established for around 50 million years. Endomycorrhiza penetrate plant roots and form structures called arbuscules, which are where nutrients are exchanged. Around 70% of plants form partnerships with endomycorrhizal fungi, making it one of the most important symbiotic relationships on Earth.

In contrast, ectomycorrhizal fungi mainly support trees in boreal and temperate forests. These forests cover vast regions, such as much of Canada, Alaska, Scandinavia and Russia. Ectomycorrhizal fungi form a protective sleeve around the roots of trees, rather than entering the cells. This relationship supports about 60% of the world's forests. Ectomycorrhizal fungi also include edible species like chanterelles, truffles and porcini mushrooms.

Around 85% of plant species engage in this symbiosis. The fungi form vast mycelial networks composed of thread-like hyphae that extend for kilometres beneath the soil. These networks are incredibly dense, with the total length of mycelium in the top 10 centimetres of soil equalling half the width of our galaxy. The fungi forage for minerals like phosphates, nitrates, and potassium, which they trade with plants for carbon-based compounds like sugars, lipids, and proteins.

These fungi play a crucial role in the carbon cycle. Recent research in Sweden found that mycorrhizal fungi hold between 50% to 70% of the total carbon stored in forest soils. This highlights their potential role in mitigating rising carbon dioxide levels in the atmosphere.

But mycorrhizal networks do more than exchange nutrients. They help plants defend themselves against threats. For example, researchers found that when one tomato plant infected with aphids was connected to others via an arbuscular mycorrhizal network, the neighbouring plants activated defence genes within hours. In another study, when a budworm infected a Douglas fir tree, nearby pines connected through an ectomycorrhizal network increased their production of defensive enzymes. This shows that plants can share defensive signals through mycorrhizal networks.

Moreover, mycorrhizal networks also promote co-operation between trees. In an experiment with birch, fir and cedar trees, carbon was transferred from a birch tree to a shaded fir tree through the mycorrhizal network, showing that trees share resources. This co-operation doesn't negate competition, however. If one tree dies, the others gain access to more sunlight and resources. Yet, without the canopy, these trees also become more vulnerable to storms and erosion. Thus, supporting other trees in the network benefits everyone's survival.

Older, larger trees, often referred to as "mother trees", are particularly important. These trees have extensive root systems and large canopies, allowing them to support younger trees by sending nutrients through the mycorrhizal network. These mother trees are essential to the survival of entire forests.

Unfortunately, these fungal networks are under threat, primarily due to habitat loss. Grasslands, which store 20% of the planet's soil carbon, are disappearing because of desertification, urbanisation and agriculture. Deforestation is another major cause of habitat loss. Logging often targets the largest trees, which are often mother trees. Without these trees, younger saplings lose access to mycorrhizal networks and have a much lower chance of survival.

To conserve these vital networks, we need to adopt sustainable farming and logging practices. Instead of cutting down the oldest and largest trees, we should focus on logging smaller trees that are less dependent on the mycorrhizal networks. This way, we can help protect both fungi and forests, preserving the crucial ecosystems that support 80% of terrestrial life.

Yu concluded that mycorrhizal networks are a fascinating, complex web of life that has supported plants and ecosystems for millions of years. Understanding and protecting these networks is essential for maintaining the health of our planet's forests and addressing climate change.

METRO

MASTERING THE ART OF FRENCH COOKING VOL. 2

Welcome to the second season of Harrow's cooking extravaganza. For this edition, I shall write about recipes from Thomas Keller's influential *The French Laundry Cookbook*, which seeks to deliver Michelin three-star dishes in the comfort of one's kitchen.

Salmon Chops 'Kissed' with Truffle

This recipe turns what may be an unassuming (if delicious) starter of salmon into a showstopper in both taste and presentation. Mandolin-cut celery stalks blanched in salt water offer a light crunch to the bottom of the plate, while fillets of salmon (cut literally into chops) are lightly 'kissed' (Keller's words, not mine) in a pan of butter and truffle oil, cooked through on the outside and near-raw on the inside. The remaining juices in the pan may be emulsified with white wine to produce a light sauce. The final product, at least to me, is nothing short of extraordinary – melt-in-the-mouth and flavourful, it was remarkable for a dish that took no longer than ten minutes to prepare.

Lamb Chops

A true classic of French cuisine, the lamb chop is actually rather difficult to get just right. While a simple fry can produce a lovely flavour, Keller's mastery is revealed in his prepping of the lamb and in his decision to grill the chops after frying them lightly. The chops are first marinated in salt and pepper, before fresh thyme and rosemary is massaged into the meat. Following a quick fry in butter, they are popped into the oven for eight minutes. At the same time, a fascinating side, which may only be described as cylinders of shaved potato, is quickly grilled, creating a light, crispy counterpart to the soft lamb. This is a dish that works well with a red-wine sauce or even a rich gravy. The lamb benefits from being 'double-cooked' and still retains a tenderness and lightness of texture.

Coffee and Doughnuts

This is one of Keller's absoute classics, and while not very French in its ingredients, truly exemplifies the nation's irreverent and oft-improvised approach to dessert-making. Inspired by a late-night run to a sleazy, NYC coffee shop, this dish plays with expectation and tradition. Light, home-whipped cream tops a 'coffee' that is actually a coffee-bean-and-liquor-infused semifreddo, accompanied by home-made doughnuts that are deep-fried in oil (one tip that I have learnt during this process is to ignore the fat and sugar levels of some dishes…), which offer a delicious sweetness with their sugar-glazing. Overall, this is a very time-intensive dish (taking approximately two hours to make, and another five to freeze), but is truly rewarding.

Au revoir! I hope these vignettes have inspired you to take up a pan, and keep cooking!

THE SHARDS

Bret Easton Ellis

Bret Easton Ellis begins *The Shards* uncharacteristically: with a sweetly sincere (or perhaps not) note of appreciation to his readers, 'for (their) support over the past four decades'. Immediately following is the misanthropic dedication: 'For no one'.

The Shards exists as a peculiar piece of autofiction, with metatextuality in perplexing dimensions. Seemingly an autobiography, Ellis introduces us himself as the narrator, before shrouding his high school years in retrospective mystery. Indeed, the premise of a 60-year-old Ellis writing about his 17-year-old self, who in turn is writing Ellis' real-life debut novel, *Less Than Zero,* is a timeline which confounds tradition. Its transcendentality, literary cross-referencing and self-referencing serve to develop a pronounced aura that bleeds throughout the novel's tale of a lifelong shadow.

The Shards is all about context: set in the ultra-privileged LA of at the time of new wave, the hair is perfect, the freeways empty and Ellis is 'tooling across Mulholland in a convertible Mercedes dressed in a private-school uniform and wearing Wayfarers'. It is in this depressed paradise that sexuality and mass murder are confounded, are warped with the introduction of Robert Mallory, a Platonic form of both intense fantasy and fear. Simultaneously, the 'golden age' of quarterbacks and Homecoming queens is internally torn apart with an aesthetic vacuity, with its hidden classist and racist realities concealed in full view with a lyrically cool compulsion.

A beautiful numbness presides over *The Shards*, a Künstlerroman-style reality of distilled horror, pinpointed by recurring references to popular film and music (to listen to every song mentioned in the novel makes up for six hours of music). As such, core attributes are fragmented, attached to palpable detail and split irrevocably, much like Ellis's own character, who divides himself from the world in a series of alter egos ("the writer", "the actor", "the tangible participant"). Chain usage of drugs furthers this conflict and disunity, with Ellis frequenting Valium, Quaaludes, weed and cocaine, all while acting as a period cinephile, brilliantly echoing Quentin Tarantino's Cinema Speculation: 'Movies were a religion in that moment, they could change you, alter your perception, you could rise towards the screen and share a moment of transcendence, all the disappointments and fears would be wiped away for a few hours in that church.'

Yet, perhaps the most important part of *The Shards* lies in its sexuality. Ellis's observations of his peers are hazy from an erotic gaze, objectified in his masturbatory climaxes. Perpetually lazy by the poolside, he engages in a mindlessly sexual affair with a clueless drug addict and pursues fantasies of his closest confidantes. While still being 'technically underage', Ellis gets 'Harvey Weinsteined' by his girlfriend's film-producer father, before numbly commenting that the encounter 'hadn't bothered me in any substantial way… I simply hoped it would lead to a script-writing gig but there was the possibility it wouldn't.' Perhaps the sharpest provocation is how intelligently sensual this scene plays out to be, much like the novel's sexualisation of serial murder and Satanism, blurring the lines between bodily worship and destruction, between harrowing ecstasy and stalking fears.

The Shards succeeds because it is self-conscious: self-aware of his narcotic-led, panoramic sentences gliding across pages like a Mercedes on the Pacific freeway, Ellis presents his own mission statement, 'I wanted to write like this as well: numbness as a feeling, numbness as a moti-vation, numbness as the reason to exist, numbness as ecstasy.' A beguiling sense of retrospection haunts but never penetrates this numbness, with delicate reminders that this is indeed, a modern-day Ellis reminiscing on a crime-and-narcotic-entwined past: accordingly, he is the most dangerous and unreliable of narrators. Under this framework, the novel dissects itself, and is all the more thrilling for it.

MAGICAL MYSTERY TOUR REVIEW

By Henry Barker, The Park

Roll up, roll up for the Magical Mystery Tour, The Beatles' last EP. Join me as I explore one of the most interesting Beatles albums that I have only recently found and fallen in love with. But first I would like to share my personal experience with The Beatles.

Like most British people I had always known of The Beatles when I was younger though I had never set out to go and actually listen to them like I had done with ABBA and Queen. That was until I went to America of all places. One of my mum's best friends was an absolutely huge Beatles fan and we started to listen to them consistently the whole time I was over there, and, when I came back, I started my own Beatles journey with *Please Please Me*.

I was instantly hooked on their early work, especially the albums *Please Please Me* and *Help!*. I continued to listen to other albums, but I don't think I was ready for most of their later stuff when I first listened to it. Then a couple of months ago I found *The Magical Mystery Tour* in a most unexpected place… the *Minecraft Movie* trailer. After I found out where it was from, I was instantly hooked on the titular track. Then over half-term on the way back on the train I started to listen to the whole EP and instantly I was transported.

After the upbeat sound and vibe, I thought the rest of the EP would follow suit, but the next four songs were much more melancholy in tone that really contrasts the first track. But having said that the last 30 seconds of the first song are an instrumental setup for this part of the EP and it blends perfectly into 'The Fool On the Hill', which starts the dominate use of flute-like sounds in many of the songs. This specific instrument adds a

lot of depth to the songs, often resonating with the piano. This leads into the bold fully instrumental track 'Flying'. It is always around here as well in 'Blue Jay Way' that (when on a proper listen) that I actually get quite emotional…

And that is where this review lay dormant for five months as I tried to find the words to describe why it made me feel this way. And after having not listened to it a couple of months I finally realised what it was. It was the deep sense of melancholy and nostalgia that perpetuated throughout the opening tracks that made feel a certain way. To me, the different and varied instruments create a sense of longing that at first entices a listener but as time goes on pulls you deeper into the world. And the slower more thoughtful approach to the songs allow from some very deep introspection.

I think this was very much all set up purposefully in the flow in the album, in which the majority of content follows a chiastic structure of "ABBA" with the "A" being loud and powerful sections and "B" the more introspective and slower sections. I believe the first "A" starts and ends in 'Magical Mystery Tour' as the song gently blends into 'The Fool on the Hill' which then starts the first "B" until 'Blue Jay Way' ends. The second "B" then starts with the 'Your Mother Should Know', a slightly more pop-like track but still characterising the quieter and slower aspects.

This continues in one of my personal favourites, 'I Am the Walrus', where the weirdness is turned up to 11 and the instrumentation continues to provide the listener with "enough little bitties to keep it interesting", to quote McCartney. This then ends the "B" as we smash into a completely different sound in 'Hello, Goodbye', introducing the last "A" in a brilliantly catchy and happy tune that tells the story of a less than happy breakup.

This is where the chiastic structure ends and is followed by the all-time classic 'Strawberry Fields Forever', which required 55 hours in the studio to create. In it, they used avant-garde splicing and speed-control techniques to create a song that doesn't sit exactly in one key because of the use of two different takes and both had their tempo changed to match each other, changing the key that they were in. The amazing use of the mellotron also helps create a song really like no other.

With Paul not wanting to be outdone, he put 'Penny Lane' next, which also explores an area where he grew up. It once again proves the brilliance of the McCartney-Lennon writing partnership, always trying to outdo each other , with the byproduct being some very excellent music. With the less sensational but still excellent 'Baby, You're a Rich Man' next, this EP kept producing catchy tracks. Then, finally, came 'All You Need Is Love', a track that needs no introduction and should be listened to if you've never heard it before (my favourite part of the track is the trumpets coming in the background, which were highlighted in *Love Actually*, which is where I first heard this track).

Well, I hope you enjoyed a bit of a longer look at the Beatles' *Magical Mystery Tour,* and I didn't even have time to cover the fact that this was also a soundtrack for a film they made. So, I genuinely implore you to check out some of the tracks on this EP and give it a go.

OPINION

CORRESPONDENCE

Letters to the Editors

Dear Sirs,

Before its imminent removal as part of redesign, I urge everyone to look up and take in the beauty of the wisteria that frames the entrance to SCH. It's stunning display of flowers and old, twisted trunk. I will join hundreds of others in gratitude to it for the decades of protection, habitat and sustenance it has provided for wildlife and how it has watched over Harrovians, parents and visitors; providing us with shade and giving us joy. What secrets it must hold! How deeply sad to lose this historical and very special natural landmark.

Yours sincerely,
Helen Duncan, Matron

Dear Sirs,

It is correct that the access to a restored central entrance way to the Shepard Churchill is being reformed. One of the key drivers was to provide disabled access via this entrance. This will entail an exterior lift arrangement and hence remodelling the area.

At the time that these plans were being made it was noted that by the time we would be making the improvements to the SCH on the ground, the Wisteria would be approaching fifty years old which is the standard expected lifespan of this species (*Wisteria sinensis*). The decision was taken to therefore remove it before it died, rather than to have a dead plant in a rearranged space which would then need revisiting.

I like the Wisteria, as do many others, and so cuttings were taken last year from the current plant and have been grown on by the Gardens and Grounds Department, so that in the new area we can start afresh and reestablish the Wisteria in place. Genetically it will be the same individual.

We will additionally be looking at the plans overall for this space in the coming month and seeing what scope we have for amending them; I expect that it will be quite limited but it is worth checking nonetheless. In any event I do not anticipate we will be moving on the aspects of the plans which involve this entrance way area anytime soon.

Yours sincerely,
WMAL

Dear Sirs,

In the Shepherd Churchill Dining Hall, the exit from the servery splits in two, and some head for the sauces and others lunge for the exit. Unfortunately, both paths criss-cross at the entrance queue, which causes chaos and (on Tuesday) caused a boy to lose the majority of his lunch to the floor, along with his plate and his dignity. Would it at all be possible to move the "sauce station" that exists outside the exit of the servery in the SCH to the void left by the migration of The Head Master's old seating? It would provide a better "one-way" system and would provide some relief for the beak on duty, EWH, and all the boys.

Yours sensibly,
Arjun Kular, *Elmfield*

PORTA

By Piers McDowell, Elmfield

Dear Readers, in this week's 'Portrait of the Week' (brought to you by the Deedes Society), we will cover everything from economic crisis and global tensions to holy tragedies. Pope Francis died at the ripe age of 88. His funeral on Saturday 26 May drew leaders from 164 countries and over 250,000 attendees in Rome. India did not have a great week either. A militant attack in Kashmir killed 26 people. India blamed Pakistan (who were the probable perpetrators), which led to immediate suspension of agreements and restricted airspace around the two countrie, causing market volatility. In other news, there was an explosion in Iran's Shahid Rajee port, resulting in at least 40 deaths and over 1,200 injuries. Canada

had an election on Monday, which was called by sitting Prime Minister Mark Carney after his predecessor and dear friend Justin Trudeau resigned. At the moment, election day is still going on, but the Deedes Society and the betting odds both predict that Carney has the edge. We believe that this is because of his previous role as Governor of the Bank of England and his marginal success in this role, which is heavily contested by conservatives, and because Canadians want stability amid uncertainty from America. Poilievre, the conservative option, started strong but now is a serious underdog. Furthermore, the US/China trade "situation" escalated, with more US tariffs that disrupted Chinese trade, leading to a significant decline in container shipments and raising fears of recession in China. America looks like it wants a trade war and China does not look ready to back down. As tensions grow between the two superpowers, economists and politicians are left comparing the two countries. Here's what we think: America will win this trade war. America has more allies, more energy independence, a larger consumer market, and higher domestic innovation. China cannot afford to lose its largest trading partner, responsible for 2% of its GDP.

Other notable events from this week include a festival tragedy in Vancouver where a vehicle ploughed into a Lapu Lapu Day festival, killing 11 and injuring over 20.

SPORTS

TENNIS

The School v Eton, 26 April

2nd away v Eton College, Won 5-4

An excellent opening match to the tennis season. This was a very close tie as Eton's first pair won all three of their matches. However, a resilient Harrow team played well and won the tie 5-4. All three pairs had very good moments but now must work on their consistency going into the next fixture.

3rd, Away v Eton College, Lost 2-7

An outstanding performance from Filip Wiszniewski*, Druries*, and Josh Ashley*, Moretons*, however Harrow faced a very technical Eton team who ultimately won the tie 7-2. A lot to work on going into the next fixture but good experience for some for the Harrow boys who have previously played very little for the School.

Colts A, Home v Eton College, Lost 1-8

Harrow played some good tennis but struggled to gain momentum against a strong Eton outfit. Player of the day was Zino Mendicino*, West Acre*, whose powerful shots overwhelmed his opponents at times.

Colts B, Home v Eton College, Lost 1-8

Harrow had some tight sets but struggled to convert these into wins. Player of the match was Jeff Hu*, Elmfield*, who had lots of success trading shots from the baseline.

Junior Colts A, Home v Eton College, Lost 2-7

The Junior Colts A battled well, but were perhaps a little rusty as they suffered a 7-2 loss in their match against Eton. A special mention goes to A1 team Pablo Castellano Burguera*, Rendalls*, and Claudius Tyacke*, The Grove*, who fought their way back to beat the Eton A1 team in the final round.

Junior Colts B, Home v Eton College, Lost 1-8

Harrow JC Bs started off the season with energy and enthusiasm showing real promise for future matches. The pairing of Antares Au*, Moretons*, and Wilfred Kent*, Bradbys*, stood out for their 6-2 win.

Yearlings A, Away v Eton College, Won 5-4

An outstanding performance from Max Warner*, The Head Master's*, and Ignacio Ruddy*, The Knoll*, who only lost three games in the entirety of the match. However, against a strong Eton team the fixture came down to the last round. A heroic 13-11 victory in the tie break won the tie for Harrow.

Under-14B, Away v Eton College, Lost 0-9

A difficult day for the Harrow team against a very strong Eton team. This was a good experience for the Harrow team and gives the team plenty to work on in the next week.

CRICKET

The School v Taunton, 22 April

1st XI, Home v King's College, Taunton, Lost by 6 wickets, 40 Overs

The 1st XI (216 all out) lost to King's College Taunton (217/4) by 6 wickets. Isaac Humphrey*, West Acre*, made an impressive 56 in his debut innings. Kavish Mehta*, The Grove*, bowled well in the face of an impressive show of hitting from the King's opening batsman.

2nd XI, Home v The Free Foresters, Lost by 9 wickets

Harrow won the toss and elected to bat first. Unfortunately, we weren't able to capitalise on the decision, and after a few early setbacks, we were bowled out for just 74. Taking to the field, we knew we had to be sharp and disciplined to make a game of it. The team put in a determined effort, managing to pick up one wicket along the way, but in the end we were defeated by nine wickets by a very strong Premier League-calibre team featuring three Foresters. As the first

game of the season, it was never going to be easy. There were a few blunders along the way, but it's all part of the learning curve. We'll take the positives, regroup, and look to come back stronger in the next few fixtures.

Junior Colts A, Home v King's College, Taunton, Won by 4 wickets
Harrow demonstrated impressive chasing prowess today, securing a pre-season victory over Kings Taunton by successfully hunting down a target of 258. The match, played in a spirited atmosphere, provided an exciting glimpse into the capabilities of both sides ahead of the upcoming season.

King's, batting first, posted a competitive total of 258, with Harrow's bowling attack showing moments of success. Kiran Patel, *Druries*, made an immediate impact, taking a wicket in his solitary over. Aaryan Basu, *Druries*, also contributed with a wicket. Ritesh Patel, *Bradbys*, and Barnaby Winters, *Elmfield*, each chipped in with a scalp, while Luke Attfield, *Druries*, bowled economically, conceding just 22 runs in his 7 overs.

Harrow's response was anchored by a magnificent unbeaten century from Basu. Coming in at number four, Basu displayed exceptional composure and attacking intent under pressure. His masterful knock of 107-not-out off just 75 deliveries, which included eleven boundaries and three towering sixes, guided Harrow to victory. He expertly paced his innings, building partnerships and accelerating when required.

The chase was set up by solid contributions from the top order. Ritesh Patel (38 off 50 balls) and Attfield (30 off 37 balls) provided a strong platform, negotiating the early overs and setting the stage for Basu's heroics. George Bamford, *The Head Master's*, also chipped in with a useful 22. While there were a few moments of tension with wickets falling, Ronan Smith's, *Newlands*, brisk 23 off 23 balls provided crucial momentum in the middle overs. Winters remained unbeaten at the end, partnering with Basu to see Harrow over the line.

The School v Various, 24 April

1st XI, Home v London Schools, Lost by 81 runs, Friendly
The 1st XI (208/8) lost to London Schools (289/3) by 81 runs. Kavish Mehta's, *The Grove*, 8 overs for 29 was an exceptional return against a strong London Schools batting line up. In reply, Harrow lost early wickets, but Rish Rawal, *Rendalls*, led a spirited comeback, although 289 ultimately proved too high a score to chase.

2nd XI, Away v John Lyon School Boys Under-18A, Lost by 6 wickets
Harrow School 2nd XI 123-7 (25 overs) (Ben Hufford Hall, *Moretons*, 29*); John Lyon 1st XI 127-4 (22.5 overs) (Ethan Harrington-Myers, *Bradbys*, 2-16).

The 2nd XI made their annual pilgrimage to John Lyon's Sudbury Fields to find the surface there much the same as it had been in previous encounters. Nevertheless, Captain Teddy Barnett, *Rendalls*, won the toss and elected to bat in brightening conditions. Unfortunately, the top and middle order compromised their wickets by being overly aggressive and failing to read the game accurately. Harrow found themselves in serious trouble at 48-4 off 10. Although Barnett provided an anchor, staying at the crease for 13 overs to score 22 off 50 balls, it was inevitable that one of his aerial strokes would find a fielder eventually. Mungo Lawson, *Elmfield*, seemed to read the game better than most, but he was unfortunate to be given out LBW on 14. It fell to Harrington-Myers and Hufford Hall to steady the innings with an impressive 48-run eighth wicket partnership. They ran between the wickets with intent and Hufford Hall started to find the boundary in the final overs, meaning they ended on 17 not out and 29 not out respectively. Their vital partnership allowed Harrow to set the home side a target of 123. However, realistically this was never a high enough total to defend, even on a ground on which the boundary always proves hard to reach. Although Barnett gave the team hope with an early wicket, there were no further dismissals until the seventeenth over, by which time John Lyon were maintaining the five-an-over required rate to make the score 94/2. Tom Campbell-Johnston, *Druries*, bowled his usual spell of dot balls, and Harrington-Myers' leg-spin posed the John Lyon top order some challenges, but Harrow's 25 extras (including 20 wides) helped the home side to victory. The 2nd XI will need to bat and bowl with better discipline in future.

It has been a tough start to the season in terms of results, but the team's energy and intent in the field in this match, even when they were defending a small target, is indicative of their ambition to be successful.

Colts A, Home v London Schools, Won by 1 run
The Colts A won a thriller on the final ball by one run, holding off a fierce London School's chase: Neel Gupta's, *Elmfield*, 63 off 63 balls was the highlight of the day.

Yearlings A, Home v London Schools, Won by 5 wickets, London Schools 151-6, Harrow 152-5
The Yearlings A made a strong start to their season with a victory against a solid London Schools side. After bowling well in the first 10 overs, Harrow came under some pressure from some aggressive batting. After weathering the storm, thanks to two direct hits from Charlie Gall, *Druries*, Harrow managed to restrict the opposition to 151 off 30 overs.

Despite the loss of a couple of early wickets, an excellent partnership between Rayaan Alibhai, *Elmfield*, (60) and Hector Gray, *Druries*, (41) put the team in a strong position to win the match. In the end it was Gall and Foa Fasanya, *Druries*, who guided the team home to win by 5 wickets.

The School v Winchester, 26 April

1st XI, Away v Winchester College, Lost by 8 wickets
The 1st XI (86 all out) lost to Winchester (87/2) by 8 wickets. After losing early wickets, Ved Patel, *Lyon's*, made a courageous 45, but sadly Harrow weren't able to make early breakthroughs and Winchester completed a convincing victory.

2nd XI, Home v Winchester College, Won by 36 runs
Harrow School 2nd XI 167-6 (30 overs) (Mungo Lawson, *Elmfield*, 48); Winchester College 2nd XI 131-9 (30 overs) (Harrington-Myers, *Bradbys*. 3-22).

There was great excitement amongst the Wykehamists when the Harrovians won the toss and elected to bat, and spectators sensed that they fancied themselves as a bowling side. Although Harrow lost an early wicket, Ben Hufford Hall, *Moretons,* and Lawson put paid to this idea with a 50-run second-wicket partnership. This was Hufford Hall's second innings of note this week, and his measured temperament in the middle means he is cementing his position at the top of the order. He played a very fine cover drive that was the best shot of the day, as well as hitting a 6 over mid-wicket to score his 38 off 43 balls. He was unfortunate to be run out by a direct hit just after the drinks break. Lawson batted for another eight overs after Hufford Hall's dismissal, in spite of being dropped three times in his innings. These mistakes proved costly for Winchester, as he made his way to 48 off 64 balls (including 6 fours), but just as he was starting to accelerate, he picked out square leg. Once again, Harrington-Myers steered Harrow through the final overs, scoring at a run a ball and ending on 37 not out. He has demonstrated an impressive ability to read the game so far this season and looks composed at the crease. Rendallians Harry Owens (10 off 10 balls) and Monty Morgan (13 off 13

balls) both chipped in at the end of the innings with Morgan hitting an enormous straight six before being dismissed on the final ball, meaning the home team ended on 167 for 6 after 30 overs.

This was one of the strongest Harrow 2nd XI bowling attacks in recent memory, reinforced by some boys coming down from the XI. Neharen Inpan, *Bradbys*, opened with a maiden, and Henry Porter, *Moretons*, claimed a wicket in the second over, Freddie Bourne-Arton, *Elmfield*, taking the catch. Although the tall opener started to go on the offensive scoring 37 off just 27 balls, he skied one of Porter's bowling to Aaron Patel, *The Knoll*, at midwicket, and Inpan dismissed the Winchester number three in the final over of his spell. He did much to set the tone for the innings and finished with figures of 6-2-21-1. The other Harrow bowlers showed greater discipline than they had done against John Lyon earlier in the week: Harry Beresford-Peirse, *Elmfield*, looked threatening and tucked up the Winchester middle order; Harrington-Myers proved the most difficult to play and ended his six-over spell with three wickets; the always-economical Tom Campbell-Johnston, *Druries*, dismissed the final two Wykehamists with any batting competence. Although Harrow were not able to take the final wicket, the visitors fell well short of the target ending on 131-9 off their 30 overs. There are areas on which this team still needs to work: for example, running harder between the wickets would have allowed them to set Winchester a target rate of at least six an over. Nevertheless, there was much that was positive about the team's performance on Saturday (including better batting and bowling partnerships and a much-reduced extras tally), and they can go into the mid-week fixture against Hampton with confidence.

3rd XI, Away v Winchester College, Lost by 4 wickets
Harrow brushed off the cobwebs quickly and set a good target thanks to an excellent middle order pairing of Will Codrington, *Rendalls*, and Peter Ballingal, *Moretons*. Harrow continued this momentum with a terrifically disciplined bowling attack that saw Winchester struggle to put any runs on the board. Frustratingly however, the game slipped from their grasp as they struggled to dismiss the middle order after the first two quick wickets from Michael Samuelson, *The Head Master's*.

4th XI, Home v Winchester College, Won by 47 runs
The 4th XI batted well in the first innings, with Samuel Howes, *The Grove*, and Bertie Bradley, *Druries*, securing 30 off 22 and 29 off 26, respectively. Maxim Mulqueen, *Bradbys*, and Christopher Squire, *Bradbys*, took three wickets each which, coupled with Ollie Moran's, *Newlands*, safe pair of hands, led to Winchester being all out on the last ball of the second innings.

Colts A, Home v Winchester College, Won by 5 wickets
Louis Nicholson, *The Park*, took the reins as captain, backed by dependable veterans Neel Gupta, *Elmfield*, Harry Beresford-Peirse, *Elmfield*, James Hyatt, *Elmfield*, and Arjan Lai, *West Acre*. Fresh muscle came in the form of Ned Steel, *Druries*, Atharv Chauhan, *West Acre*, Freddie Danos, *Bradbys*, and Alfred Lawson-Brown, *The Park*, – each capable of serious cricket and occasional chaos. Rupert MacDonald, *The Park*, and Alexander Long, *The Park*, rounded out the eleven, both making their Colts A debuts after impressing in the early season 'training sessions'.

Winchester won the toss and batted first. Harrow struck immediately. Lawson-Brown steaming in like a boy late for 2a, trapping the opener Plumb, plumb LBW. 1-1 and the game had begun in earnest. Steel bowled with monk-like discipline but couldn't tempt a nick, while Lawson-Brown kept pounding in, receiving a polite warning for using the pitch as a catwalk in his follow-through. Beresford-Peirse found the corridor of uncertainty where good deliveries live and batsmen go to die and Chauhan's left-arm seam mixed danger with a touch of chaos.

Nicholson rotated his bowlers but success wasn't coming. It wasn't until Gupta's arrival in the 15th over that Harrow broke through: a flighted teaser, a poor shot, and Nicholson's safe hands saw Winchester slip to 65-2. Two balls later, another gift, another wicket, and at 65-3, the tide turned. Nicholson then got one through the gate to make it 75-4 at drinks. Harrow on top.

And then… a collective nap. The fielding intensity dropped: Danos bowled well but was betrayed by a field more philosophical than practical, as catching opportunities drifted into the wrong spot. Winchester's opener got comfy, ticking along to 60-odd and eyeing an opening day hundred. At 135-4, Harrow were stuck in the mud and needed a change.

Enter Nicholson, wheeling out Lawson-Brown and Chauhan for another burst. Chauhan promptly took a superb caught-and-bowled, and moments later, the greedy opener ran out his partner in a mix-up. With Winchester eyeing 150, Lawson-Brown, whose finishing spell had been excellent, decided he fancied a few more deliveries so bowled a few no balls. He finally finished with a bang, with Gupta pouching a skied slash to close their innings on 157-7. Game very much on.

After tea, Gupta and Beresford-Peirse resumed their blossoming bromance at the top, fresh off a 100+ stand on Thursday. Gupta, clearly offended by his pedestrian strike rate of 100.0 on Thursday, came out all guns blazing. He danced down the wicket like Mr Ramprakash on *Strictly*, pulling, driving, and clipping his way to 42 off 24. Then, just as he looked set to bat until Sunday, he gave it away with a gentle lob to cover.

Nicholson followed shortly after for an uncharacteristic duck, and then Beresford-Peirse, caught behind after a tentative nibble. From 65-0 to 68-3 in the blink of an eye – cue panic on the sideline.

Hyatt and MacDonald began the rebuild. Hyatt timed the bad ball beautifully; MacDonald applied the classic 'stay in and see what happens' method. Unfortunately, Hyatt misjudged one and Long joined the party with Harrow now wobbling at 93-5. Drinks brought clarity and a simple message: don't panic, play smart, and go out and win, rather than stay alive!

Enter Lawson-Brown, the perfect candidate for a gung-ho mentality. Batting like a man possessed, he smacked the ball to all parts, only to discover the long boundary was, well, very long, and he had to run a dreaded 3. MacDonald, initially twitchy, grew into his role, a cover drive here, a solid heave there. The game swung again in Harrow's favour during the 24th over as Lawson-Brown launched 12 off a spinner, including a few sight-screen missiles.

The Parkite pair stayed cool and composed, bringing Harrow home with five wickets and five overs to spare – a clinical, occasionally chaotic, and altogether thrilling win.

This was a solid team performance. Everyone chipped in. Long and Lai were dynamos in the field, and the bowling was a well-shaken cocktail of fire, flight and finesse. Still, areas to sharpen: fielding alertness, rotating the strike, and managing momentum. But make no mistake…the Colts A are 2 from 2, and the boys head into next week's clash with Wellington brimming with belief.

Colts B, Away v Winchester College, Won by 5 wickets, Harrow win by 5 wickets
An excellent performance for the start of the season and a very close game. Some work to do on bringing the extras down but a very calm batting performance needing 7 off the last over and finishing with a four on the third from last ball.

Junior Colts A, Away v Winchester College, Won by 8 wickets

The Junior Colts produced a confident and accurate bowling display to blow Winchester College away for 58 runs. The wickets were shared among the Harrow bowlers and it was pleasing to see the bowling attack execute their stock ball so consistently having won the toss and elected to bowl first. The Harrow top four batters maturely chased the Winchester total down with plenty of overs to spare to win the game by 8 wickets.

Junior Colts B, Away v Winchester College

Winchester chose to bat. A good start. An even better start as Leo Zhang, *The Grove*, opened the bowling. He is a steady seamer of the classic school. A wicket on his second ball and figures of 2-29 (6), with two wides only, made for a very creditable opener to his season. At the other end, Chuyang Peng, *Druries*, offered something more along the lines of a rude limerick: a dazzlingly memorable opening, with his first ball being nicked behind to keeper Henry Murray, *The Head Master's*, and then tight but compressed figures of 1-12 (3), a flare-up in his back keeping him out of the attack. If he can be kept healthy, he will be most useful this season. Perhaps BTM can arrange for him to sleep in an ice bath.

Ollie Finch, *Newlands*, loud and ebullient in the field throughout, couldn't quite bring the Winchester opener to heel in his two overs, although he did take the wicket of their fifth. Captain Kiran Patel then brought himself on; the less said here, and the more said later, the better. Suffice to say, unfortunate front-foot faults fell frequently frough-out. 1-47 (4). Agastya Asnani, *West Acre*, showed great promise in his three overs, and 1-16 was a good result. Their opener carried his bat with 76, and Winchester were bowled out with 176 runs in 28.4 overs. Munching on great fistfuls of rocket and cos lettuce, like a messy green apple, the JCBs watched Winchester's complex fielding drills, as Kiran Patel, *Duries,* and Elyas Naderi, *Moretons*, prepared themselves to open. Coach Mo exhorted patience and steadiness. The weather had changed from a bright, warm day, to cool clouds, and it seemed possible that it might rain.

It was a big score to chase, and probably 40 higher than it ought to have been. The openers started brightly, steady and careful, and the 50-partnership came up in nine overs. Perhaps that allowed a touch of incaution, for Naderi was run out soon after. Poem type: Menippean satire, papyrus fragment. Peters came in, and was similarly run out on 5, with the score now standing at 73-2. Edward Hedgecock, *Moretons*, fell soon after, clean bowled, medieval lyric, and we were at 78-3, needing a ton more and with no clear sense of where these runs would come from. On came our second overseas signing, Dante Odlum, *The Park*. Denied a chance to bowl, this all-rounder (blank verse?) was keen to stamp his mark on the game, and he was looking good, with some quick singles and nicely taken fours, before the third run-out cost him his wicket. In the same over, Patel's excellent innings reached the 50 mark, and he was increasingly taking control of the game. On came Murray (anapaestic roundel), who steadied the ship well as Patel drove us calmly on to the target. Murray was bowled for 7 with the win in sight, and Dara Odujinrin, *Newlands*, unfortunately did not get to face a ball (performance poetry) as a final boundary from Patel brought the game to a close in the 28th over, with Harrow winning with six wickets to spare, and Patel carrying his bat with a very fine score of 80 from 94 balls. A team effort with a heroic individual, chasing a difficult goal, beset by difficulties. Sounds like an epic.

Junior Colts C, Away v Winchester College, Won by 4 runs,

JCC (145/5) beat Winchester (141/6) by 4 runs. Felix Harrison, *Rendalls*, 51 off 36 balls. Oliver Anderson, *Rendalls*, 4 for 7 from 4 overs. Harrow lost the toss and Winchester chose to field first. Loic Du Roy De Blicquy, *Elmfield*, and Oliver Benbow, *The Park*, started the batting strongly. Du Roy De Blicquy went on to score 21 runs. Harrison came in at next and scored a very impressive 51 runs. Strong batting led the team to a total score of 145 runs.

Anderson bowled superbly, securing four wickets, two clean bowled and two which were catches by Ethan Jones, *Druries*, and James Ho, *Elmfield*. Huw Griffith, *Druries*, also secured a wicket. The Harrow bowling and fielding became more defensive after the first five wickets had been taken. A strong Winchester batsman also reached a half century. Although the victory should have been more emphatic and Harrow should have probably bowled Winchester out, the side maintained good composure in the final few overs.

Yearlings A, Home v Winchester College, Lost by 4 runs, Winchester 196-6, Harrow 192 all out

After a fast start from Winchester leaving them 80-1 off the first 10 overs, Harrow fought hard to find a way back into the game. Some excellent bowling from Meet Patel, *Bradbys*, and Yuvraj Sadhra, *The Knoll*, helped to stem the flow of runs before Meet Patel made the much needed break through. Charlie Snow, *Rendalls*, then began to cause problems for the Winchester batsman, picking up 4 wickets from his 7 overs. With Dino Jayawardana creating pressure at the other end, Harrow managed to restrict Winchester to 196 off of their 35 overs.

Harrow once again lost a couple of early wickets, but the run chase was still on track thanks to 48 from Meet Patel and some erratic bowling from Winchester. Unfortunately, Harrow got bogged down in the middle overs. A lack of scoring led to the required run rate climbing, and inevitably to wickets falling. Hector Gray, *Druries*, tried his best to put the side back on track with a quick fire 43, but the final two batsmen were left with a difficult task of scoring 32 runs off the final 5 overs. Despite the valiant efforts of Charlie Gall and Michael Herratt, *Lyon's*, Harrow fell an agonising four runs short, with the final wicket falling on the penultimate ball.

Yearlings B, Home v Winchester College, Lost by 2 wickets

This was a close fought battle between two evenly matches sides. It could have gone either way and Harrow applied pressure throughout. Some quick and helpful runs were scored by Alex Thompson, *Moretons*, early on in innings and then some excellent bowling from Alfie Liang, *Elmfield*, Freddie Martin-Jenkins, *The Park*, and Leopold Marre, *The Grove*, kept Winchester at Bay for the majority of the game.

Yearlings C, Home v Winchester College, Lost by 9 wickets

The Yearling C's kicked off the season by winning the toss and batting first. Openers Ben Sparrow, *Newlands*, and Peter Temple, *Newlands*, set a solid foundation, taking us to 50/0 after 8 overs. We finished on 127 from our 20 overs. Despite early pressure in the field, dropped chances and extras helped Winchester chase down the target in the 18th over. A promising start with the bat and positives to take into the next game.

Yearlings D, Home v Winchester College, Won by 8 wickets

An impressive first outing saw the Ds limit Winchester to 80 in 22 overs, with wickets tumbling throughout the innings from 6 different bowlers, before confidently chasing in 14 overs. The match was firmly won in the field with a true team effort. Special mentions to Raff Deasy, *The Head Master's*, for committed fielding at midwicket and Henry Keigwin, *The Knoll*, for stepping in as wicketkeeper.

Yearlings E, Home v Brighton College Boys Under-14D, Won by 6 wickets

ATHLETICS

The School v Eton College, Grey Court School, Brighton College, Hampton School, Highgate School, St Edward's School, and Whitgift School, Home, 26 April

On Saturday 26 April, we welcomed Eton College, Grey Court School, Brighton College, Hampton School, Highgate School, St Edward's School and Whitgift School for a fantastic afternoon of athletics, marking an exciting start to the season. The competition was exhilarating, with every boy giving their all and delivering an array of outstanding performances. It was an excellent start, filled with inspiring displays of athleticism. Looking ahead to the Guy Butler Shield next week, we know we must raise our level even further. Congratulations to all the athletes, not only for their impressive achievements but also for the sportsmanship they showed throughout the event.

3rd Grey Court School – 448 points
2nd Eton College – 563 points
1st Harrow – 622 points

Impressively Harrow won all three age groups – Under-15, Under-17 and Under-20.

Congratulations to the following boys on winning their events: Arthur Chui, *The Knoll*, Ohireme Unuigbe, *Moretons*, Sam Jiang, *Bradbys*, Timeyin Backhouse, *Druries*, Hugo Bucher, *Druries*, Hendrik Willett, *Druries*, Hugh Middle, *The Head Master's*, Tito Odunaike, *Elmfield*, Murray Runacres, *Lyon's*, Nathan Kasonga, *The Park*, AJ Anenih, *Rendalls*, Henry Barker, *The Park*, Henry Dargan, *Druries*, Dylan Gibbs, *Druries*, Jeffrey Arthur, *The Knoll*, Edward Latham, *Bradbys*, Lase Akindele, *Newlands*, Ayobami Akindele, *West Acre*, and Tom Dargan, *Druries*.

There were several impressive performance during the afternoon but, in particular, Tito Odunaike, *Elmfield*, recording 11.2s in the Under-17 100m, Hendrik Willett, *Druries*, 22.96s in the Under-17 200m and Edward Latham, *Bradbys*, who cleared a height of 1.90m in the Under-20 high jump. Two School records were broken – Henry Barker, *The Park*, setting a new School record in the Under-20 800m in a time of 1 min 56.40s, previous record 2016, and Hugo Bucher, *Druries*, setting a new School record in the Under-15 javelin, recording a phenomenal distance of 58.45m, the previous record 1986.