Reflections On A Decade:
An Anthology Of Ideas

2010 - 2020

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Introduction

This small project was put together in order to give students and staff an opportunity to share their views about the last decade, which was certainly an interesting one. Contributors could express their views in their own way; such as through a poem, article or work of art. The idea was formulated in early 2020. Then Covid-19 hit and our world changed and so did our views and experiences. Hence we extended the deadline repeatedly as we moved in and out of various lockdowns.

The gifted students and staff have responded with ideas, insights and topics that cover a spectrum of events and developments since 2010 including spaceflight, the environment and politics.

We hope you enjoy this small contribution to reflecting on the last decade and that, as we move through the next decade, we apply them into the present to encourage a flourishing future for us all.

Paul Nemeth

Editor

Climate Change And Global Warming – A Letter

Esha Dongare – Y11

Dear all,

Our earth is rapidly deteriorating, and it is time our young generation jump into action. Our environment is dying due to these stifling blankets wrapped around the Earth, and this must be stopped! It is crucial that we reduce carbon emissions, but this is only possible if we have the highest percentage of our population cooperating. Below I will mention ideas of how to care for our precious planet.

I am aware that you probably have seen this sign in several places, but it's worth being repeated. We must save electricity! A dreadfully simple way you can do this is turn the lights off when leaving a room, or turn the TV off when not watching it etc. These small actions can easily reduce the amount of greenhouse gases emitted. This is because you need energy to produce electricity, and to produce electricity (at least for the time-being) you need to burn fossil fuels! So next time you're about to leave the lights on downstairs, don't. Turn them off and save the planet!

This is another fairly common one. Save water! It doesn't grow on trees, and it surely isn't easy to filter before entering your houses. Water screening is a process which involves a lot of energy and this energy is obviously created by the infamous fossil fuels. The higher the water demand, the more energy is needed. In terms of daily use, a single person household used an estimated 149 liters per day. The population of humans on Earth is gradually increasing which means water demand is also increasing. However, the amount of water needed per capita can be easily minimized if you turn the tap off while brushing your teeth, taking the '4-minute shower challenge' etc. This way, although the population is increasing, the water demand will not be increasing uncontrollably.

Another factor which is contributing to global warming is the harmful sulphur dioxides and nitrogen oxides released when you use cars. A way to reduce these is to simply not use the car if your destination is walking distance. If your destination exceeds walking distance, an alternative is using public transport. Although public transport will still produce waste gases, they will definitely emit less harmful gases compared to each person on that bus taking the car. So next you are about to drive your car, stop. Think for a minute.

Could you possibly use any of these alternatives?

This next point relates to the previous one. However, this requires an investment. You could reduce the sulphur dioxides and nitrogen oxides emissions further if you buy a hybrid car.

These types of cars enable you to get the performance of a car with a larger engine but with the benefits of a smaller one. This in turn reduces fuel consumption and lowers emissions.

The U.S. Energy Information Administration sets the average mileage for a hybrid at 38.7 miles per gallon, compared with 26.7 miles per gallon for a gas-only vehicle. Since hybrid cars are much more fuel efficient than conventional vehicles, they require far less gas to cover the same distance. This option may not be possible for everyone, so there's always the alternative of using public transport and is explained above.

Another solution which will definitely benefit our planet, would be using renewable energy resources. This is a great idea since it creates free, endless energy without emitting any greenhouse gases, hence would make a reliable and useful energy resource. A specific example of this type of energy resource would be solar energy. It causes no environmental damage, (apart from a small amount by making the cells), and no pollution. It is a very dependable source in sunny countries but can still be cost effective in cloudy countries like Britain.

A way you could apply this resource in your every-day lives, is by simply buying solar panels. Installing a few on your roof may sound like a large investment, but it really is worth it since you save a lot of money from your electricity bills.

A few months ago, there had been terrible news on the BBC reporting that there were around 2500 active fires in the Amazon rainforest. This rainforest is home to 10% of the world's known biodiversity. Maintaining biodiversity on Earth is very important. It makes sure ecosystems are stable because different species depend on each other for shelter and food etc. Different species can also help to maintain the right physical environment for each other. For the human species to survive, it's important that a good level of biodiversity is maintained. Another problem that arises when there are fires in a rainforest, is all of the trees burnt down in the process. Trees take in carbon dioxide which means they are reducing the percentage of carbon dioxide in the air. Also, if they are burnt, they release all the carbon dioxide contained within them. This means the fires will increasingly affect the amount of carbon dioxide in the atmosphere and contribute to global warming. Therefore, it is so dangerous to allow the fires to be swept across the rainforest. To help stop this disaster, you can help raise awareness of these problems by signing petitions, posting it online, or simply by talking about it to your friends.
Each and every single one of these points are the solutions to stop our beautiful planet from being choked to death. If all of us together make an effort to act on this, we can stop this murderous disaster.

Yours sincerely,
Esha Dongare

Gender Identity

Teni Afolabi – Y12

In our current society, the world is being filled with discussions about gender identity, from classrooms to the Houses of Parliament The gender binary is easily one of the most hotly debated political and cultural issues of our time and as society progresses, the attitudes towards the gender binary has shifted.

However, before going any further some important distinctions need to be made: the first is difference between sex and gender. Sex is a purely biological classification, and is determined by factors including chromosome makeup, reproductive organs and genitalia. Gender is a social distinction – it refers to the characteristics and roles we assign to these sexes, the roles men and women have historically played. Another distinction that needs to be clarified is the difference between gender identity and gender expression. Gender identity is the sense of one's own gender whilst gender expression refers to the behaviour, mannerisms, interests and appearance associated with gender in a particular cultural context.

Historically in western society, gender has been constructed to exist as a binary with a person either being a man or a woman and therefore obliged to adhere to the roles of their assigned gender. However in modern society, particularly amongst young people, traditional ideas of gender are being challenged and redefined as people feel more comfortable to express and identify outside the binary. Contrary to popular belief, more people aren't just 'turning' non-binary, but rather the true gender variance that has always existed is now being expressed. Representations of gender diversity in popular culture such as celebrities like Sam Smith, Miley Cyrus and Amandla Stenberg coming out through the media, and the internet have contributed to presenting gender diversity to the mainstream. In particular the internet as a safe space for non-binary individuals has become significantly important for educating themselves and others. Furthermore, online spaces provide a sense of collective identity and community, which is important to individuals who may feel ostracized in the real world. It's really easy to invalidate a person's identity if they feel alone in their experiences, but with social media and the internet in general, this sense of loneliness is replaced with a confidence in their identity that comes from the knowledge that gender isn't just being a man or woman, but rather something complex that is experienced differently by each individual.

Whilst placed under lockdown I noticed that a lot of people around me, that I knew personally and online, were questioning their gender identity. I found this interesting as it relates significantly to Judith Butler's theory on gender performativity in which gender is determined by the performative repetition of acts associated with your assigned gender (male or female) to perpetuate and maintain a gender dichotomy. Essentially, what this means is that an individual being born male or female does not determine their behaviour, but rather they learn to behave in particular ways to fit into society. These behaviours are meant to fit into what is culturally recognized as masculine or feminine; this idea of gender is what Butler argues to be an act or performance. This act is the way an individual walks, talks, dresses and behaves. Butler calls this acting "gender performativity" as what society regards as an individual's gender is just a performance to please social expectations and is not a true expression of their gender identity.

So when placed under lockdown, people go with little to no social interactions for weeks, or even months. During this time, some people may stop "performing" as they no longer have an audience - society - to perform to. This can mean behaving in a way that is a truer expression of one's gender identity as there's no obligation to act in a feminine or masculine way and therefore being confronted with the ingenuity of their performance prior to the lockdown. Amongst the people I knew, this feeling came in varying degrees, with some using different pronouns to others drastically changing their appearance that expressed their gender identity more authentically.

The Irony Of Austerity

Mr. Wilson – Head of Economics and Assistant Head of Sixth Form

When the newly elected Coalition Government held a press conference for the first time in the rose garden of 10 Downing Street, the nation officially heard from their new Conservative Prime Minister and Liberal Democrat Deputy Prime Minister for the first time. Against the backdrop of such a serene image, the UK economy had been reduced to rubble during the Great Recession of 2008-09.

Though not mentioned by Cameron in the rose garden as part of their "new politics", the phrase "*age of austerity*" was mentioned for the first time (in a long time) by Cameron in a keynote speech on 26th April 2009. The phrasing had not previously been heard in the mainstream political arena since the years following World War 2. In Cameron's own word's *"the age of irresponsibility is giving way to age of austerity"*. The specifics were announced by George Osborne the Chancellor of the Exchequer (responsible for government spending and taxation) during the June 2010 budget, with the two main financial objectives for the decade ahead being: reduce the budget and reduce the national debt as a percentage of GDP. By means of reducing government spending and increasing taxation.

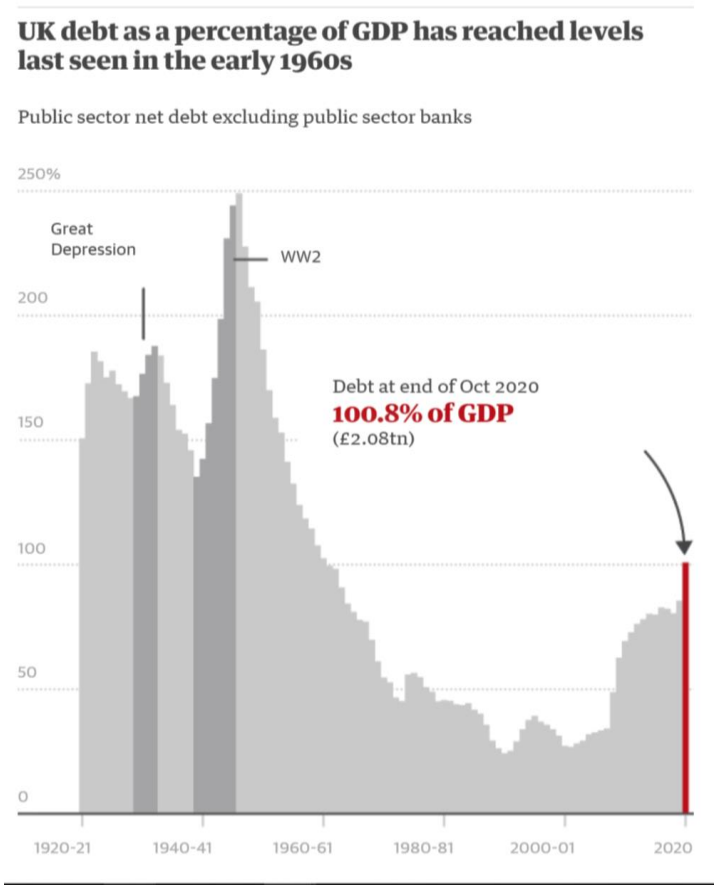
But what exactly is the **budget deficit** and the **national debt** that has plagued the 2010s? Like many topics in Economics, the best way to grasp a concept is to scale it down to something more relatable and then to scale it back up again. In simple terms, imagine your own household finances: every year your household has bills to pay (electricity, food, water, internet etc.) and each household has an income (such as the combined earnings of the people in the household). If a particular household finds that their income is not enough to cover their bills, the household would need to borrow this shortfall (such as paying on a credit card) – this is what the **budget deficit** means - the UK Government does not have enough income (from taxes) to pay their bills (NHS, education etc.) and so needs to borrow in order to plug the deficit. At its height in 2009-10, the UK budget deficit was £160,000,000,000 (£160bn).

This brings us to the **national debt.** Returning to the household analogy, if the household has used a credit card each year to cover their budget deficit, then the accumulation of these budget deficits over the years would be the **national debt.** Many politicians during the 2010s, incorrectly described the national debt and budget deficit with a typically wrong phrase being along the lines of *"we need to bring down the budget deficit in order to reduce the national debt".* Well, Mr. Politician… I'm afraid to say that such a strategy would not reduce the national debt, but instead simply led to the national debt increasing *more slowly.* It is, therefore, no wonder that the general public was often confused during 2010s, as their elected representatives were not even sure themselves.

George Osborne's aim for the UK was to eliminate the budget deficit entirely by 2016, meaning that the UK would be earning more in tax income than it was spending (this is known as a **budget surplus**). This was to be achieved through annual spending reductions and some tax increases amounting to £110bn per year. It

is important to recognise that the national debt has nothing to do with private debt (money owed by the population) but instead money owed by the UK Government. When George Osborne took control of the UK Government's national debt, the total debt owed was a colossal £1,200,000,000,000 (£1.2trn). To put that into a context which can be understood, if £1.2trn was shared between every woman, man and child living in the UK today… they would each receive £18,500. As a proportion of every single good and service produced across the entire country in one year, £1.2trn would equate to 80% of this figure (this is the national debt as a % of GDP).

But did austerity actually achieve its goals throughout the 2010s? Well, like most things in Economics, it depends on the perspective. The whole point of austerity is to reduce the national debt and in turn to reduce the interest that UK Government is paying on its debts. The interest being paid per year in 2010 was £53bn, which is equivalent to the money spent on the entire UK police force every year. Halfway through the decade in 2015, the budget deficit had been reduced by 50% compared with 2010 and had resulted in the national debt (as a percentage of GDP) falling slightly. The annual interest being paid had also fallen to £36bn. Advocates of austerity have also argued that by reducing the size of the government's involvement within the economy, this allows for the private sector (businesses owned by the general population) to replace this void left in the government via a process known as the Crowding in Effect.



The Crowding in Effect works in a number of ways. Opponents of socialism and government spending in general state that the government is inefficient and wasteful with their resources, as they lack any incentive to make profit and so keep their costs low. In addition, reduced borrowing by the Government allows for the availability of borrowing (loans) for private sector houses and businesses to increase. Therefore, the argument in favour of austerity being that the 'more efficient' private sector fills in the void left by the government and is able to use the additional availability of borrowing to create jobs and economic growth. At least, in theory.

Arguments to suggest that austerity was limited can be found in the UK Government's own admissions. It would be challenging to write about any economics topic without mentioning the 'B' word… Brexit. By 2016, George Osborne was forced to revise the UK's target for achieving a budget surplus from 2016 to 2020, but following the result of the United Kingdom's decision to leave the European Union in the membership referendum on June 16th 2015, Mr Osborne expressed that even the 2020 target was no longer realistic or achievable. As we voted to leave the European Union, we will never know if the UK would have been able to eventually achieve a budget surplus, but data from the OBR (Office for Budget Responsibility – the independent organisation responsible for analysing UK public finances) certainly suggests not.

George Osborne's successor, Phillip Hammond, did initially retain the aim of achieving a budget surplus, but admitted this would be beyond 2020. During Hammond's first Autumn Statement in 2016, austerity was not even mentioned and many commentators speculated that the *age of austerity* was over. However, during 2017 Hammond proposed reductions of between 6% and 20% (depending upon the department) and the Conservative Party doubled-down in the run up to the 2017 General Election, with Secretary of State for Defence Michael Fallon commenting, **"we all understand that austerity is never over until we've cleared the deficit."**

This news was met with dismay by those impacted most by the effects of austerity. Despite being initially "**ringfenced"**, and so not subjected to cuts, education has still suffered throughout the 2010s. As any Secretary of State for Education will tell you during the past decade "education is receiving more funding than ever before", but this is misleading and only deals with the funding for education in nominal terms. When the impact of austerity is assessed in ***real terms***, taking into account inflation (rising costs of running a school) and funding per student, education has experienced a real term cut equivalent to 8% (2010-2020). In fact, it was during 2017 that schools were contacted by the Department for Education and, whilst recognising the impact of tight finances, were instructed to "do more, with less".

Teachers, nurses, doctors and many other public sector workers were directly impacted by public sector pay freezes between 2011 and 2013, which was expected to reduce government spending by £3.3bn by 2015. Given that inflation (rising prices) averaged 3.1% during this time period, public sector workers received a *pay cut in real terms* across the period. The real irony of austerity measures though, is that by implementing austerity (cuts to government spending and increasing tax), you actually reduce demand and spending within the economy as a whole. If we consider that 16.7% of the workforce are employed by the government in 2020 (down from nearly 20% in 2010), cutting their pay in real terms actually ***reduces government tax income***. Think about it… nurses, teachers and doctors are now paying *less* in income tax and will subsequently spending less (reducing VAT to the government), eat in fewer restaurants (reducing profits – corporation tax falls) and generally reducing the demand within the economy as a whole. Now consider that the government *also* decided to cancel spending on infrastructure projects, such as scaling back CrossRail. This means that those companies and workers who *would have been* employed by the government to do the work will have their incomes reduced… pay less income tax… spend less at other businesses…. reducing corporation tax revenue… and could lead to job losses elsewhere. This negative multiplier has far reaching consequences up and down the country.

What is intriguing is the response by most other developed nations with high national debts, such as the United States. The UK's *time of austerity* and their approach was in the minority, with other nations instead choosing to focus upon reducing **national debt as a percentage of GDP** by focusing upon increased economic growth/GDP. The United States (who had an eye watering national debt of $27trn in 2020) focus upon *increasing spending and lower tax,* with the logic being that if economic growth increases by **more than** the subsequent increase in the national debt, the national debt as a percentage of GDP would actually fall over time.

As we move into the next decade, the UK's response to the COVID-19 pandemic has seen the national debt in 2020 explode to £2.08trn and our national debt is now larger than the value of all of the goods and services that we produce in the UK every year (debt-to-GDP ratio of 100.8%). Though £2.08trn is the highest ever in nominal terms, this is not the highest ever as a percentage of GDP. The national debt accumulated following the Great Depression of 1929 was 180% and World War Two was 250%. It remains to be seen how the UK Government will respond, history tells us though that significant levels of national debt is followed by a period of austerity. The current Chancellor Rishi Sunak has been resistant to commit to whether or not austerity will follow, but if the planned pay freeze for public sector workers (excluding NHS staff) in 2021 is anything to go by… *times of austerity* could be upon us during the next decade as well.

A Reflection On The Forbury Attack

Farah Almabruk, Kendrick Alumni (2020)

In June of 2020, an attacker murdered three people in Forbury gardens. Upon hearing about this, I searched through a plethora of articles, trying to understand what had happened. As I was skimming through, searching for information surrounding motives, who was killed, the context of the attack etc, I read something quite surreal (or at least it was at the time), 'A 26 year old Libyan man'. I remember laughing nervously and telling my mum as we shared a look of imminent anxiety. I don't know why I reacted like this, I was probably preemptively preparing myself for the barrage of articles and tweets pushing the oh so familiar racist, xenophobic, islamophobic rhetoric, telling myself to laugh and move on when I was met with them. I did not laugh and move on. I obsessed over every tweet and every logical fallacy built by the swarm of ignorant aged white nationalists, building well constructed arguments in my head for the tweets I knew I would never post. I knew that if I posted them I would look like an empathiser, which I of course was not - how could I be when my own school teacher had been murdered? If I stayed silent however, ignorance would prevail. Yet ultimately, who would listen to me when saying that refugees aren't the problem when the UK spent over £2 billion on NATO bombing within a matter of months in order to claim a stake over Libyan oil in 2011? Who would care if I said that distribution of arms facilitated by western intervention enabled the growth of terrorism in North Africa and the Middle East amidst the post-arab spring power vaccum? Who would so much as to bat an eyelid if I effectively begged and pleaded people not to blame Islam or Libya or refugees? No one. It does not matter that my arguments are well researched and constructed. It does not matter if I'm intelligent or eloquent or well spoken or that I may look or act different to the disgustingly hyperbolised woman of colour stereotype the white man has created, to these people I am likely nothing more than a backwards 'sand idler' (although I've never quite received such a kind slur before, they're usually much more loaded and mostly factually incorrect).

My point is, I don't think trying to dispel racist stereotypes, at least in the manner that people typically attempt to do so nowadays, helps a great deal. If, upon hearing my neighbour say 'Go back to your country on the boat you came on', my brother had said 'Actually we came on a lufthansa flight so my parents could complete their PhDs', I doubt he'd have apologised and reevaluated. Instead, we'd have realised the 'job stealing immigrant' stereotype. As well as being redundant in changing the views of the most aggressively regressive members of society, attempting to dispel stereotypes in this way also alienates those whom 'fit into' the stereotype. For example, in saying 'not all MENA immigrants are refugees!' or 'Not all MENA immigrants are uneducated!' one appeases the white man against the interests of their own people. In trying to differentiate yourself from the default immigrant, you are further suggesting the need to eradicate the 'default immigrant'. There is nothing wrong with being a refugee, a refugee is not a leech. If they were, the UK would not have created quite so many through its alleged 'war on terror' in the early 21st century as well as in its vast intervention in the Middle East in 2011-. Similarly, there is nothing wrong with being uneducated - the west is built on borrowed knowledge, acquired by people who left their own land to seek knowledge in South-East Asia, the Middle East, Africa etc. So why shame someone who is effectively coming to reap the benefits of the seeds sown by their ancestors? The same of course goes for stereotypes of black people, South Asians, East Asians, Eastern Europeans etc. Whilst all stereotypes are undoubtedly harmful, no one can deny that the 'lazy immigrant' rhetoric for example is disgusting, it is important not to try to counter them by means of proposing an exception. 'Oh but my friend's mum is asian and she's a doctor'.

Black excellence, asian exellence, arab exellence, aboriginal excellence, latin excellence etc should all be celebrated, but not for the purpose of making a point.

Ultimately, the 'lazy immigrant' is not a lazy immigrant, they are a product of systemic racism. For example, refugees in the UK are not allowed to keep substantial savings nor can they claim social welfare or obtain employment for the period in which they await the granting of their asylum status, which, by the way, can be years for some candidates. Thus, if one sees a refugee seemingly staying idle with nothing to do, the answer is not to say 'but I am not like them'. It's not up to them whether they work or not and of course the reason why one may not be like them is due to nothing more than luck. This process of ensuring refugees remain dependent on the state throughout the waiting period of their asylum application fosters hostility towards them. This is exacerbated by the fact that, by the time one may be granted the right to seek employment, they will have been out of work for so long their skills are no longer appealing. Imagine, a Syrian lawyer, for example, who has been out of work since 2011 due to the war, and has been travelling from country to country, through the Middle East, to East Africa, to North Africa, to Southern Europe, to finally reach the UK some years later and only be granted asylum a further year later. Would their talents not be made entirely redundant? Ultimately, such people admirably let go of their pride and work low skill jobs, only to be ridiculed for not having anything to offer, something you and I would not be strong enough to do.

When approaching this piece, I was going to make the central point to use your white privilege, middle class privilege etc to speak up for your poc friends and other loved ones, since nowhere near as many people would listen if they speak up for themselves. Ultimately however, I now feel it's important to emphasise that if you are a British National of foreign heritage, perhaps you also have a duty to protect those sharing your heritage, who may fall lower on the social scale than yourself and your family. Even then, the onus does not lie on us to just protect our own people, but poc around us who are treated worse. It is undeniable that all POC face their own struggles, but it is also clear that there are certain 'model minority' stereotypes which drive certain attitudes. It is worth using this idea, despite how regressive it is, to aid those around us. At least then, the gap between the most vulnerable members of society and the most powerful is bridged. If they tell you, and you tell a privileged friend, and the privileged friend tells someone in a position of greater privilege, and they tell a benefactor of the system etc, perhaps change can ensue. It's difficult to change an entire system, particularly one which is made for the very people who have the power to change it, whom are also the only people who can change it - but we must try. What we are working towards is likely not something we will reap the benefits of or enjoy in our lifetime, but this does not make it any less worthwhile. Bridge the gap in your own life, in your own way, between your own people.

A Reflection On The Twenty Teens 2010 To 2020 And The Rise Of Big Data

Mr. Simmonds – Deputy Head

When considering the worldwide volume of newly created and stored digital data you don't have to spend long questioning the internet or reading books and articles to come across some truly staggering statistics. All the estimates and values that I have seen may vary in detail but agree enough to give an insight into the staggering exponential[1] growth in data in the last ten years.

1. Exponential growth refers to sequences of numbers that increase by a multiplication ratio that is bigger than one over repeated time periods. For example, if the number of followers of a twitter account doubles every week then this would be exponential growth with a time interval of a week and a multiplication ratio of two. Starting with 100 followers in week one, by week twenty seven this number has exceeded the population of the planet (currently about eight billion people)

In 2010 there was a total in the region of one zettabyte[2] of stored digital data[3] in the world and a further two zettabytes was stored during 2010, a very small percentage of it was analysed and indeed a very small percentage was considered worth analysing.

2. A zettabyte is 1000^7 bytes. 1000,000,000,000,000,000,000 is such a staggeringly big number that there is no way to put it easily into context. Using distances in space this is roughly the width of the Milky Way in metres or the number of stars in the observable universe.

Remember that doubling large numbers is a big deal; for example if you have £20 and you double it you have made an extra £20 which is nice and buys a few coffees but is still only a £20 increase. If you have £200,000 and you double it you have made an extra £200,000 and you can now buy a nice place to live, even in Reading. So when we casually talk about doubling the amount of data created we are talking about creating another staggering huge amount of data each time.

Since 2010 the total data stored has roughly doubled every two years giving a total by the end of 2020 in the region of 40 zettabytes, of which a substantial amount of the new data is thought to have a use, even if the use is not yet known, and the rise in computer power and intelligent programming has allowed for a much more substantial percentage to be analysed. In 2010 roughly 90% of the world's data had been gathered in the previous two years, by 2020 roughly 50% of the total data has been collected in the previous two years.

3. In the English language there are mixed views on whether to treat the word data as a plural or singular noun. The Office for National Statistics guidance is to use the plural form and talk about 'data are' not 'data is' and this lead is often followed in scientific, mathematical and financial settings. In common usage most people are more comfortable with the singular form and say 'data is'. I want everyone to feel comfortable reading, so I have decided on the singular. If you feel strongly on this point and disagree then please forgive me and don't let this stop you from reading on.

Here is an example of how the exponential rise in data creation works out in practice, if the amount did exactly double every two years. This would give a yearly increase rate of the 1.414 (the square root of two):

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Global amount of data created in zettabytes	2	2.8	4	5.7	8	11.3	16	22.6	32	45.3	64
Total Global Data	3	5.8	9.8	15.5	24	35	51	73	105	150	215
% of total created in the last two years		83%	69%	62%	58%	56%	54%	53%	52%	51%	51%

Data analysis is big business, there are life-saving analyses that can happen, big profits to made and lost with careful or careless analysis, and planet changing possibilities and threats being discovered all the time.

For this reflection I have invented a new pastime – think of something, really anything, that comes to mind or you have just talked about or you can currently see around you. Now search the internet for this thing and add the words 'big data'. There are likely to be many hits and in many cases all sorts of associated reading, that if you have read this far without giving up, you are likely to find interesting. I tried 'ice cream'. I found a company analysing all of its data rather than sample data and successfully predicting when to start recruiting seasonal staff, just before they were needed rather than just after. The same company found out for the first time that almost all of its flavours sold better if chunks of something yummy was added; chocolate, biscuit bits, honeycomb, fruit, meringue and so on. Latest computing and easy data gathering from all of its outlets has made resource planning a powerful tool in ice cream business management.

I first got interested in Big Data in 2012 when I read a book called the 'Signal and the Noise[4]' by Nate Silver. He created a system called FiveThirtyEight that correctly predicted the winner of the presidential election in forty nine of fifty states and all thirty five US Senate races in 2008. The system heralded what can be done with careful analysis of big data sets but by his own admission he got a little lucky and made many mistakes which only later came to light. His view in 2012 was that Big Data had huge potential to produce progress – eventually, with as much scope for regression as progress in the early days of an emerging science. Since then much has happened to support this view with companies making and losing vast amounts of money based on their use of available Big Data.

4. Statistical noise is a term used to describe the background variation that occurs in all data sets. Sometimes noise can be misinterpreted as something significant and this is often the result in biased thinking or in extremely large data sets which can deceive the observer into thinking that correlation exists when there is none. For example, if an observer believes that a particular idea is more popular than the alternative and seven of the first ten people met support this view then it might be tempting to stop sampling and go away with the original view confirmed. We know, however, that even in a perfectly balanced population when you start sampling and look at the running totals, that one or other of the view-points will always be in the lead and it is not so unlikely to have at least seven people expressing the same view after ten people are questioned – about 17% chance. For large data sets the 'lead' can be substantial and misleading if not measured against the total amount of data. If you flip a fair coin a million times there is a 5% chance for either heads or tails to have occurred at least a 1000 times more than the other. If you did the experiment and this happened to you then you may be tempted to conclude that the coin was biased even though there remains a significant chance that it isn't. This situation would arise once in twenty trials on average.

The problem is this: analysing Big Data is often entirely different to conventional and well understood statistic methods. We teach, quite rightly, a sequence of statistical enquiry that goes like this: 1. Identify the question you need an answer to; 2. Work out what data is needed to answer the question and how it will be analysed; 3. Determine how to gather the data and how much you need (the whole population or a suitable sample); (sampling is an entire subject within a subject and I don't propose to go into it here) 4. Gather the data according to the plan, analysis it and see if you have indeed got anything that is statistically significant that answers the original question. For Big Data, however the sequence is turned on its head and typically goes something like this: 1. Identify that there is a wealth of data available; 2. Look for questions that the data might be able to give answers to; 3. Use some very clever programming to analyse extremely large data sets; 4. Make a proposal about what you have found. The Big Data system is wide open to error as often the statisticians have little knowledge of the conditions under which the data was collected, how well represented are all the different groups within the population and how reliable the data is. Statisticians talk about validity and reliability. Valid data fairly represents the population it is drawn from and reliable data comes up with similar results when it is collected repeatedly. Sometimes Big Data is the entire population, like a perfect census, and this makes it valid but doesn't necessarily make it reliable depending on when and how it was gathered. After the data collection process a whole new set of errors are possible when the data is analysed. A couple of further examples might help explain some of this.

Imagine a company that decides to analyse all of the internal emails that are sent and received at a certain time. This does happen and I enjoyed reading about some of the successes and failures that have ensued. One reason to analyse email content is to assess the internal mood following a new announcement or decision that the company has been made. If the internal emails have word patterns and content that are more positive and happy than usual then this might suggest that the change is going down well, on the contrary a shift towards more negative than usual content would indicate the opposite and the company may need to respond accordingly. Often employees don't openly challenge decisions that they are uncomfortable with but the email analysis reveals the underlying tensions. In this example the population that is of interest is 'all internal emails sent at a particular time' and the data gathered is all the emails so a census has been gathered rather than a sample. The data seems to me be valid and could easily be tested for reliability by repeating the collection several times. Accurate analysis, however, is very dependent on the algorithm that is used and on programmers that are able to identify the most important trigger words and phrases to look for. Some of these algorithms have an element of feedback and self-learning which can make them much more powerful but more powerful doesn't necessarily mean more accurate. This is where small mistakes in the original algorithm can expand to big mistakes as the algorithm grows. Have an internet search as there are many, variously well documented, examples of this type of email analysis.

Another example, and one that sticks in my mind is the practice that some fund managers have had of using computer analysis of satellite images of car parks to count cars in order to spot trends in retail activity. This can give an indication in the change in fortunes of a large retailer before profits and quarterly reports are announced giving the fund manager a potential edge. This use of data comes with a few issues, satellite imagery is expensive and therefore arguably not in the public domain and using non-publically disclosed information to inform trade deals could therefore resemble a form of insider trading. Recently is seems that satellite images are becoming more affordable and more investors are aware of the advantages that are possible. This leads to the question: what other Big Data can be can be used to give that all important edge? For example analysis of mobile devices with location settings turned on can give another clue to retail activity; it might be possible to buy and track consumer transactions. Together data from satellite images with analysis of spending patterns and footfall data could provide a better, yet more costly, portrait of consumer behaviour. I can almost hear you complaining at this point and the flood of questions you will have about this type of analysis, and I agree, there are all sorts of pitfalls in this analysis. Yet again I encourage you to have a search on car parks and Big Data to read more.

The use of Big Data is here to stay and is making an impact on all our lives. I suspect we do not know or understand much of how all this data, including our personal data, is analysed and used. Some is good and when it is good it is very good, for example getting directions with live traffic gathered from moving mobile devices makes journey planning extraordinary accurate, knowing more quickly and accurately the effectiveness of new health treatments can bring new medicines more swiftly to the market, weather patterns can predict the next tornado. Within the next decade Big data algorithms could be monitoring our health twenty four hours a day and detect the very beginnings of illness long before we would otherwise have been aware that anything was wrong; and early diagnosis often leads to better outcomes. Some impact of Big Data is not so good when spurious correlations[5] brought on by huge data sets hide the statistical noise and leads to erroneous conclusions. A small bias in thinking on the part of a programmer that becomes coded into the machine learning algorithm that is analysing data can quickly amplify to a major bias and resulting errors leading from a massive data set. Also we are already being watched in ways we may not like with any and all online, app and phone data being potentially stored analysed and used to then manipulate and control us in subtle and ever more pervasive ways.

5. Examples of spurious correlation are, I'm afraid, only too common. Mathematicians know that when we analyse data we report on the findings and not the causes. We can say what is likely to happen next but not why. The 'why' will almost always need careful scientific research but all too often this step is ignored and the findings of the data are explained by the observer's own ideas and preconceptions. A typical example being the studies that find correlation between something like dark chocolate and healthy hearts, with an assumption made that dark chocolate is good for the heart, when there are many other explanations of the correlation such as people who eat dark chocolate may be the type of people who generally eat more healthily or differently from average diets and hence have better heart health. The phrase that I hope you have heard before and you should hold onto is 'correlation does not imply causation'. If I found positive correlation between 'living close to the centre of London' and 'wealth' it does not mean that living in the centre of London makes you wealthier or being wealthier makes you live in the centre of London; it just may be that to live in the centre of London it helps to be wealthy.

In 2010 Big Data was barely a recognised idea, by 2020 the world had created something like two hundred times more digital data than in 2010 and increasingly has the computer power and know-how to do extraordinary things with it. We are still learning how to do this safely and well, but Big Data is not going away and arguably what is done with this data will shape all our lives for the next decade and all the decades after that.

Know Exactly What's Wrong,

Anya Bensouiah, Y7

I know exactly what's wrong,
In the world I live in today.
It's the constant fear along,
With the disease slowly on it's way.

I know exactly what's incorrect,
It's adults being told to act,
By kids striking for a future except,
No one has thought to react.

I know exactly what's mistaken,
It's the people begging for water.
When there's nothing to turn to; no haven,
My heart could sink no lower,

I know exactly what's untrue,
It's that boys are better than girls.
We are all equal, as genders two,
But not all know that and it raises concerns.

I know exactly what's right,
It's the people speaking out,
They know what's right and even might,
Make a difference one day; even though the some
Have their doubts

Sing, It's What Makes You Human –

(a poem of songs 2010-2020)

Isabelle Sandy – School Business Manager

When someone like you is rolling in the deep,

Grenades blasting all around you,

Call my name, I'll be there.

Like you, I was somebody that I used to know.

With blurred lines

I needed someone to wake me up,

To start thinking out loud.

And for all of me to be finally happy,

I said sorry and stripped away the blame.

So with a tender hello,

Learn to love yourself and don't you worry child.

Stretch out your hand for that one dance and

Look upon the shape of you, it's what makes you beautiful.

Sing, it's what makes you human.

Whether it is god's plan,

With that one kiss, you saved someone you loved.

The world will never forget you,

Since that's the power of love.

A Reflection On The Decade

Gauri Narendran, 11LW

This decade has been a memorable one, there's no arguing with that. Perhaps most memorable of all are the scientific advancements we've seen, particularly in physics. These last few years have been host to many incredible thinkers and theories, however, seeing as I'm constrained by a word limit, I've narrowed it down to just three.

We'll start in November of 2013, when a Nobel prize was awarded to François Englert and Peter Higgs for one of the most significant breakthroughs in quantum physics since the start of the 21st century. What was it? The discovery of the Higgs Boson. See, in quantum physics, everything is made up of fundamental particles – particles that cannot be broken down any further. These fundamental particles are arranged in a standard model, which consists of the elementary forces and their respective particles. These are the building blocks of the universe. However, one thing had been bothering physicists for some time – where exactly did these particles get their mass? Every particle in the standard model gains its properties by interacting with its respective field, however, there was no explanation for why particles such as quarks had mass, and others, such as photons, did not. For a long time, the existence of the Higgs Field was merely a theory with minimal evidence to back it up. But a group of physicists at the Large Hadron Collider sought to change that. The only way to determine if a field really exists is to find the particle that is a manifestation of the field. Previously, we didn't have the technology or power to detect these particles, but by the beginning of this decade, particle accelerators had taken a huge leap up in power and sophistication. And so the intensified search for the Higgs Boson began in 2010 at the LHC. Results took a painfully long time to pour in, and had to be cross–checked and analysed, but in 2012, the conclusion was announced: All the evidence added up. In 2013, CERN confirmed that the tests were valid and said they believed that the newly discovered boson was indeed the coveted Higgs. After a 40 year long search, the Higgs Boson was finally added to our standard model.

The next breakthrough begins long ago – very long ago, in fact. We'll go back to 1915, when Einstein first put forward his theory of general relativity. It's a fascinating read, but I'll sum it up here: He believed that space and time were not separate, but actually interwoven into one, and that the gravitational pull between different objects was because of the way they warped spacetime. Imagine a cannonball getting dropped onto a sheet of Spandex– it would warp the fabric around it, creating a sort of ditch in the middle. Now, what would happen if you decided to throw a few tennis balls onto the fabric with it? Rather than settle on top, they would roll into the ditch created by the cannonball. Now just replace the cannonball with a large planet, the tennis balls with small planets, and imagine that the Spandex is the very fabric of space and time. This was essentially how we believed that gravity worked, but to prove it, we would have to detect the ripples in spacetime caused by the large masses. These 'ripples' would pass us in the form of gravitational waves – the only problem was detecting them. You've heard the phrase 'finding a needle in a haystack'. Well, this task was more like finding hay in a haystack – the piece of hay we want is a very specific gravitational wave, and the haystack is the entire electromagnetic spectrum – which by the way, happens to be constantly bombarding us with waves from every corner of the universe. The equipment needed was two tunnels, nearly 2 miles in length, with all the air within suctioned out of them. Otherwise known as the LIGO

Observatory. It seems a ridiculous amount of effort to detect waves that may or may not exist, but in 2015, the existence of gravitational waves was confirmed. Physicists now had a completely different way of looking at and observing the universe. So far they've been able to detect black hole mergers and neutron stars using this technology – who knows what else we'll discover in the future?

The final thing I want to talk about is so recent that you'll probably remember it quite well. I'm referring to the first time that we managed to get a photo of a black hole. Well, the photo of the light that we can see from it, at any rate. A long time ago, in a galaxy 53.49 million light years away, some light from the event horizon of the supermassive black hole at the center of Messier 87 began its journey towards Earth. It required an immense effort from scientists in observatories all around the world to detect, coordinating their telescopes and collecting as much data as possible in order to build up an image of the blackhole. It was fuzzy, and blurry, and probably meant nothing at all to the average viewer, but it signified just how far we'd come from the first telescope made in 1608. The journey for the blackhole didn't end there, however, even if the media attention did. Observation of the light continued, and records showed that the light changed over time – evidence that the photons were indeed behaving as we'd expected. It's provided even more evidence for Einstein's theory of relativity, and it's also opened up a mirage of new opportunities. In the near future we can hope to see photos of black hole flares, polarized light, and higher resolution photos of the event horizon.

By now, you may be thinking that this all seems great, but why does this matter? After all, the nuances of black holes and subatomic particles don't really make a difference to your daily life. What's the point? Well, perhaps there isn't one.

You see, Heisenberg's uncertainty principle states that it is impossible to know both the velocity and exact mass of a particle at any one time. Because we cannot directly observe a particle without altering it in some way, we may never know where it truly is. We can only ever make an educated guess and choose the location that the particle has the highest chance of being in at any one time. These are the same particles that we, and everything else in the universe, are made of. When you think about it, we're all really just little clouds of probability, wandering about in a universe that could simply cease to exist at any given moment.

The logical conclusion you may draw from this is that our existence is quite hopeless. After all, what's the point in *anything* if all we know could vanish in a sudden case of vacuum decay, or get incinerated by a solar flare? But this balance of probability is always there – we just don't think about it because we're usually too distracted by the hustle and bustle of everyday life. Being a human is exhausting. We go to bed every night with absolutely no guarantee that we'll wake up the next morning. One day, when the final star has finished burning, all the things that we know will be gone, and the universe will be cold, dark, and dead, and no one and nothing will be around to remember our existence.

Nihilistic, I know. But I have a point, I promise. What I'm trying to say is that we don't really know why we're here, and nobody will be around to care once we're gone, so we may as well enjoy our existence while it lasts. The universe in a billion years won't care about test scores or money or coming last place or accidentally showing up to a birthday party two hours late. Our worries won't stick around in any tangible form. What might possibly remain is the dissipating energy and the vibrations from the sound of laughing till your sides hurt, or from the glowing warmth from a campfire that you sat around, telling ghost stories.

Perhaps our existence isn't anything special, or even unique. Perhaps we have no purpose. But the beauty in not having a destiny was that we got to choose our own. And we chose to learn, to debate, to wonder *why*. In the past decade, we've made scientific breakthroughs that Einstein himself could only have dreamed of. *So what* if we're wrong? We've been proved wrong a thousand times before. We've seen what we thought were fundamental laws of nature get turned on their head and thrown out of the window. Humanity will simply wipe the board clean, and start from scratch. We'll come up with new theories for why things are the way they are, and we'll keep looking for answers. Or, in the words of Einstein, "Curiosity has its own reason for existing."

The Decade In Space Exploration

Jade Westfoot, Y12

This decade has perhaps been the most pivotal since the 1960s/70s, in terms of space exploration, both crewed and uncrewed! We maintained our continuous presence in space, with 41 missions to the International Space Station, ranging in length between 64 days and a year! Britain celebrated the launch of our first astronaut to visit the ISS- Tim Peake- in 2016 (though not the first ever british astronaut, that crown goes to Helen Sharman, who visited the Mir station in 1991). But the majority of the decade was defined by uncrewed spacecraft visiting the planets, moons and asteroids of the solar system…

Mars was the star of the show, capturing people's imaginations as scientists showed that its similarities to earth can offer an insight into our blue planet's past and potential future. The Curiosity rover joined the older Opportunity in 2012, and after the tragic loss of communication to 'Oppy', Curiosity is left as the sole functional rover there, at least until next year when it will be joined by Perseverance and Tianwen, which launched earlier this year.

The 2010s also saw some cool missions to the *outer* solar system, with Juno arriving to check in on Jupiter in 2016 and Cassini continuing its orbit around Saturn, transmitting valuable data and performing close flybys of its varied moons- including a dive through Enceladus' huge geysers, giving away the secrets of its inner ocean- up until its dramatic descent into the clouds below.

Beyond the gas giants, 2015 marked the arrival of New Horizons at Pluto after an 11 year journey, becoming the first ever mission to the dwarf planet! Since then it has also visited other objects in the Kuiper belt, such as 2 asteroids that orbit each other so closely that their surfaces have merged!

Despite being the first to visit these distant worlds, New Horizons isn't the furthest extent to which humanity has stretched. In 2012, Voyager 1 became the first spacecraft to leave the solar system, followed more recently by Voyager 2 in 2018. Both are still active and teaching us about the universe beyond the reaches of the sun's solar wind, even with a data lag of nearly a day!

The decade ended on a high note, with 2020 seeing in many 'firsts' in space exploration: the first significant (more than 1g) return of samples from an asteroid by the Hayabusa 2 mission; the first US mission to touchdown on an asteroid; and the first class of lunar astronauts to include women was announced. Even after the year we've had, the 2020s are certainly looking bright, at least in terms of space!

The Decade In Spaceflight

Jade Westfoot, Y12

Rocket technology has come a long way since the start of the decade, with the rise of commercial spaceflight and integration of public and private agencies.

It began with the end of an era. The space shuttle program was NASA's longest running mission series, with its first launch way back in 1981. The program was instrumental in countless breakthroughs, launching both Hubble and the International Space Station. But after 135 missions, 5 shuttles and 2 disasters, the shuttle was retired, with its final launch on July 8th 2011 in front of a crowd of nearly 1 million!

This left NASA reliant on the Russian Soyuz rocket, which became the monopoly in human space travel, so prices rose from below $30m per seat before the end of the shuttle program to ~$50 million immediately after, and then *rocketed* year on year to a huge $90m (including training and flight operations) this year. NASA was in need of an alternative solution, and they found it with the commercial crew program, in which they financed the development of both Boeing Starliner and SpaceX's Crew Dragon capsule, with the latter simply being an upgraded, crew rated version of the DragonX capsule that had been supplying ISS since 2012, so it makes sense that the company behind the first commercial resupply mission also be part of the first commercial crewed mission!

Although Starliner is yet to be crew rated after a failed orbital flight test, the decade ended in stark contrast to its beginning, with the start of a new era of *commercial* human spaceflight, though the launch of Crew Dragon was watched not by a million crowding around Kennedy Space Centre, but more than 10 million watching online. Its success was a huge deal: NASA will be spending half as much on reaching low earth orbit, and the political benefits of having crewed rockets launching from US soil once again can't be ignored. It shows that cooperating with private industry is possible- beneficial, even, and will help us with the main mission of the next decade… returning to the moon! By the end of the 2020's we will hopefully have not just continuous presence in low earth orbit, but astronauts living on the moon… and who knows- maybe even Mars!

A Line And Contradiction Per Year, 2010...

Ella O'Donovan, 7T

Politics

May, the conservatives rule,

hold on. The Lib Dems help too,

Osama bin Laden - air raid, he died.

So did Mark Duggan, 29.

The Olympics (we hosted) we won silver and gold.

The Paralympics too I'm told.

Same sex marridge is legal,

what about our UKIP ideas, our freedom.

In the UK Queen Elizabeth wins,

for the time since her reign begins.

David Cameron quits - Brexit is a problem for him,

then Theresa May, became our second female PM.

Manchester concert bomb, sad, London & Westminster bridge attack,

grenfell tower fire after that.

Three novichok deaths in March and July, One was an ex Russian spy,

England's in the Football cup Semi-final, I'm tongue tied.

Brexit dominates, now some public are wondering how,

school strike for climate! Greta, take a bow.

Global crisis, started in China,

spreads through coughs and sneezes like wildfire.

This stuff all affects the children too,

what about elderly - they still want to vote, explore.

A Reflection On The World Online

Ella O'Donovan & Elise Shaffer, Y7

Technology

Technology has influenced our world greatly throughout the years. Although, there has been a long-running debate about whether it is for the better or worse. Innovation of tech has grown so rapidly in such a short space of time that no-one has really given the morals any thought. This is why we have decided to argue for and against/ pros and cons of different aspects of it.

We'll start with the amazing way technology has adapted to see us through this crisis. We can see each other like we are there or your whole class could talk once more, have an online classroom where you can post work and thoughts. Are these telecommunications for the long term or even short term good?

For

The extraordinary way that we can now communicate face to face virtually has only been widely used more recently. It allows us to keep up friendships that are vital for our mental health, maintain an excellent education and check up on elderly or at risk family members. Without this innovation, lockdown would be a lot more difficult. This method of communication also enables high profile businesses and small ones alike to keep running without risking their employees lives, which is essential for the UK's economy. Now, as some of the lockdown restrictions are being eased it helps the transition back to normal life be more subtle and slick. Moreover, if people want to carry on working from home because this brilliant technology gives them the option it will be better for the environment as they won't have to travel reducing carbon emissions by a significant proportion.

Against

In the spur of the moment, nobody has had a second thought about our new highs in tech. Relying on a computer and our growing carbon emissions or just getting through. What's to say people will revert to meet-ups. It's almost as easy to play a virtual game of pictionary with Zoom's handy 'Whiteboard' function. You don't need to even hold a camera with Portal's clip-on connecting box that tracks your movement. What will happen to all the green spaces we used to meet in for a picnic? New flats? A factory? What about the emissions from more virtual meet-up devices being produced and disposed of when the next update/model is available?

Social Media

Is it a blessing or a curse?

For

Allowing people to share good messages, a kind thought or a funny one with the whole world in just a few seconds. For example the thoughtful quote 'Although we are all sailing the same storm, we are not in the same boat', looking out for those with lower access or agreeing to those with convenience. An antiracial video gone viral '#You Clap For Me Now' or a fun message 'Because I Can: Say HI!' reaching out playfully.

Whatever it is, within a few seconds, a mood, news article or message can change the whole world's judgement.

Against

Social Media has become an important part of many of our lives but are people a little too obsessed by it? Social Media gives bullies a chance to discriminate, persecute and hate people just because of their posts. They can hide behind a fake name and never be reprimanded for their cruel treatment of others. Social Media companies aren't doing enough to protect people on their platforms. It is also an excellent way of spreading fake news quickly whether it is deliberately misleading or just accidental it can lead to bad consequences for example loss of lives because of incorrect Covid figures. People strive to make themselves look as good as possible on platforms like Twitter, Facebook and Instagram which can lead to vainess or insecurities about your own looks or wealth. Citizens can become so absorbed with Social Media that they don't spend time with family or have proper contact with friends. Criminals can also trick children or adults into giving away personal details or private pictures which can never be truly erased and in the worst case scenario even fool them into meeting a stranger.

Online Market

With the online market in full swing will our economy change for the better. No contact, big range, delivery and set prices. A merit to us or our fault.

For

Online shopping allows us to buy essentials and other items we want/ need in a moment's notice. Saving us the inconvenience of traipsing to the shop when you might not have enough time or the facilities to get there. In this Lockdown, being able to get online groceries (for example) is vital especially for the elderly or at risk as supermarkets have one of the greatest transmission rates. Getting online resources delivered decreases Covid rates generally and is safer for customers and employees which is good in our fight against this disease. It also provides jobs in many different areas such as delivery driving, admin, advertising, sales and retailing, management and IT. It provides a platform that lots of businesses can use which boasts our economy and inspires innovation, creativity and encourages people into the world of business. Websites like Etsy (where you make your own products and can sell them on the website) give young people the chance to try entrepreneuring and earn some money for their hard work.

Against

How can we see the smirk on the seller's face when they charge us extra on our new raincoat? How do we know if we are actually getting a discount on our treat from the shop if we haven't walked past in the aisle and seen the price before? Would using the latest tools like camelcamelcamel to spot sneaky raises or drops be worthwhile if I could buy my new chair cheaper at '.au' or '.fr'? For example, a Sennheiser HD 25 Basic Edition (headphones) is at it's lowest price for £94.49 with a height of £299.99. On German Amazon, it is €99 or £88.22* with free shipping. The counterfeit products are plenty. They slip easily through the net when there are so many products. Their great range conveniences them too. With all this assortment at the click of a button, humans will most likely choose short term ease. But with all downhills, there is an uphill. The mountain we have yet to climb being the closure of high street shops, no trying something on and eventual job losses - a serious blow to our economy.

*True on 3rd June but revise the comparison rate of euros and pound.

Web browsers

We rely on it for information, communication and creation. It occupies our concentration and sometimes gives us cause for frustration. But overall is it good or bad? It needs some contemplation.

For

Since the year 2010 when google received 998,369,900,000 search queries they have only got bigger (and better). So far in 2020 there have been 4,872,701,014 questions. The average search response time is 2 seconds and the average precision of the results is 70%. But what major things have actually got better? Well...mobile phone networks have more speed and access to streams than ever before, driverless cars have revolutionised our world and aims, virtual reality has improved and become more common, synthetic organs are readily available and space travel has excelled (China became the first nation to travel to the dark side of the moon in January 2019). The way these things affect us directly may seem insignificant but they lead to other discoveries and satisfy our thirst for knowledge.

Against

We, humans, have grown increasingly more reliant on the internet, trusting it blindly and despairing if it crashes but is it as good and honest as we're led to believe…

Have you ever wondered why google is so rich? I mean what do we GIVE them….nothing. But, that doesn't mean they're not taking anything. The internet is constantly stealing the data of 4.57 billion people (April 2020) storing it for their own means which is mainly selling it on to advertisers so they can try and make you buy things by popping up ads about what you're interested in. That is really creepy if you think about it. For example, you are searching for birthday present ideas for 12 year olds, a few hours later you are doing your history homework and go on to a random world war 2 website. An advert pops up: Birthday balloons for 12 year olds. Do you really think google should own the rights to all your private information? Being addicted to the internet is also bad for your mental health and physical health as it means people don't exercise or talk to real life people as much.

Conclusion

There are some amazing discoveries that have really sparked development but also negative messages and deceitful money-making-schemes.The advancements we have made have been seriously aided by technology so we have decided the internet is for the better however it comes with some serious flaws/improvements-to-be-made.

After The Millennium Is Over

Mrs. Haldane – Maths Teacher

Mistakes, a right of passage, youthful blunder.
Not now, everybody knows, everybody judges, not just your village, town, city.
A twitter storm occurs,
280 characters lay down judgement and you are trialed and sentenced to ridicule
In the stocks, squinting as a tomato hits your cheek

No error of judgement, everything written in stone
Recorded, taped, seen by the world
Docile shells of their former selves the generation X's toe the line of popular thought.
Apologies abound for being young, reckless, mean, inconsiderate, racist, ageist, homophobic, genderphobic, xenophobic.
Everything must be equal, no more tribes, we must be peaceful, the whole world has a conscious.
This is the new mantra.

Comedy is banned, comedy is bland
Earnest righteousness prevents us from laughing at others.....at ourselves
How to vent, How to have an opinion, more than that.... the "right" opinion.
Take a risk, be a leader..... just as long as you agree with everybody.
Original thought has been strangled by the masses.

White privilege, Black pride, women's rights, we are all so focused on difference that equality seems like an unreachable dream.
I know the adversity faced by all the generations before me.
War, genocide, famine, loss, racism.
I'm thankful for education, equality, social benefits and healthcare.
I don't want to protest, loot, blame.
I want to rally, change, contribute.
Where is the motivation to rise when value is judged by your number of likes?

Sociology And Social Distancing

Mr. Nemeth – Head of RS, Philosophy and Sociology

Hands. Face. Space.

We are in a new era of social interactions. We have had significant limitations placed upon us. We have been prevented from seeing family, friends and loved ones; from going to work; from leaving our house or from travelling outside our local area.

Tensions have arisen, mental health issues have increased.

We have been and are still required to 'socially distance'.

Social Distancing

The most obvious principle of social distancing means that we need to create space around our physical bodies. 'Space' features in the Government campaign to reduce the spread of Covid-19. The image itself conveys the message that we need to be physically apart. While that is an important activity, in order to reduce the spread of this highly contagious virus, it has other effects both psychological and sociological. We might ask why it was called 'social distancing' at all, rather than 'physical distancing', as it was called in Ireland. The 'social' in 'social distancing' has strong undertones that could evoke an emotional response.

'Social distance' is not a new phenomenon. It was a term coined by the sociologist Mannheim in the 1930s. Mannheim suggested that social distancing involved both physical distance and 'internal or mental distance'. It is this mental distancing which has wider ramifications. Mannheim thought that the creation of social distancing symbolically represented an inner anxiety and fear. After all, we want to keep a 'safe space' (his term) between any perceived threat and ourselves. This isn't the 'safe space' we understand so well in educational circles these days. Our understanding of 'safe space' is more like a sanctuary: a place where one can reduce stress and receive care and comfort. In Mannheim's understanding, 'safe space' meant a space, which could be physical or mental, formed between groups because of a perceived danger or difference between those groups.

Social distancing and psychological disconnection

Under our current conditions, we want to keep a 'safe space' between ourselves and anyone who may have the virus. Over the last year the rules have pointed towards different kinds of distancing:

- Distancing from family; friends; your neighbour; the local community; the rest of the nation; internationally.

Each of these, and more, had its own psychological impact and people felt disconnected from each other.

Obviously it is healthier for us to seek connection rather than disconnection. Disconnection within or from society is something we associate with cults or authoritarian regimes who seek to divide people rather than unite them. Anyone who has read 1984 or lived under a totalitarian regime or has, indeed, lived through a pandemic can sympathise with the negative mental impacts of social disconnection.

When we think about the social distancing that began in early 2020 under the conditions of the pandemic, we can easily see how the necessary enforcement of social distancing has created in some a fear response: fear toward those who may have the virus, or that we may have it and spread it to family and friends. Under these circumstances we can rationalise the fear. The fear is directed towards a common enemy; Covid-19.

This fear response involves a form of 'mental distancing', of wariness towards others and is something that happens and has happened, for a variety of reasons, for probably tens of thousands of years.

Mental distancing and alienation

Mannheim (mentioned above) was writing in the 1930s and was preoccupied by the threat of totalitarian regimes in Europe. His focus on 'social distancing' and 'safe spaces' was one that emerged from his observations relating to the dynamics between different social groups, especially under authoritarian regimes. However, we might wonder whether such social or psychological disconnects continue to emerge in different ways within our society under the guise of various forms of prejudicial thinking. Our perceptions and assumptions regarding specified social groups or identities can itself bring about a form of disconnect, or social distancing.

Just as the current 'social distancing' creates a physical and, by association, a psychological alienation between persons, so our beliefs about different types of people creates an alienation between us and the specified group. Our views of different religious practices, gender identities, sexual preferences and ethnic or national identities can create the same kind of social distancing and anxiety seen during this pandemic.

Mental distancing and its impact over the last ten years

This mental distancing, this alienation, has been felt by different groups across society over the last ten years.

The 2011 riots are noted by sociology professors as being an outward retaliation of a portion of society rich in poverty but poor in opportunity. The official, and first, State response was that they were merely criminal acts. But this response could be a form of mental distancing between one social class and another.

In the year 2017-18 there was a 40% rise in religious hate crimes across England and Wales. The primary victims were Muslims and Jews. The spike in such crimes towards Muslims occurred after the EU referendum and after the 2017 attacks in London. Such alienating beliefs and attitudes towards these groups manifests at the highest level of our government, across different political parties.

In 2019, a lesbian couple, Melania and Chris, were assaulted, robbed and beaten on a London bus after it was discovered they were lesbians. The alienation of homosexuals by a portion of society, despite laws increasing their freedoms (like marriage), seems to be on the rise rather than decline. Hate crimes based on sexual orientation have increased significantly from 4,345 in 2011/12 to 14,491 in 2018/19.

We should reflect, then, and wonder why this mental distancing, this alienation of different groups continues to thrive in our society. In the context of Covid-19 it is easy to see the cause of distancing: a scientifically verifiable virus. But what about these wider issues?

Maybe what needs to be reflected upon is whether it is our own pre-conceived beliefs about certain groups in society, and the judgements that arise from them, that is the virus causing both mental distancing and subsequently the alienation of these groups. Maybe, as we emerge from lockdown and week by week our Covid-19 social distancing restrictions ease, we could explore within ourselves whether we could make a change with regard to these issues of social alienation and simultaneously ease our own mental restrictions for the benefit of wider society: to find ways of connecting rather than disconnecting.