The Lancing

Geographer

COVID-19 Geographies

Sense of place in Singapore

Geography of Star Wars

Re-branding Lancing

Protecting Shoreham- By- Sea

Lancing College

EDITORIAL

Hello, and welcome to The Lancing Geographer. Our aim is to bring you original articles written by geography students at Lancing College. Our inaugural edition has been produced in lockdown as a result of the Covid-19 coronavirus, a theme picked up in a couple of our articles.

Other articles take inspiration from around the world, from 'a sense of the local in Singapore', to a study of Hove, through to the geography of Star Wars! Many of the articles started life as A Level projects. Also included are several posters created by members of the III and IV form for the Royal Geographical Society's 'Young Geographer of the Year competition' which this year had as its theme 'the world beyond my window'.

We would like to thank Dr Bustin for helping us to bring this to life.

Ryan (LVI)

Ben (V)

Amélie (LVI)

The Editorial Board.

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The Geo-Politics of Covid-19: A failure of international cooperation?

Ryan

*Lancing College Lower Sixth geographer **Ryan**, stuck in isolation in Hong Kong, offers a fierce critique of the handling of the global pandemic.*

The year 2020, a century after the end of the Spanish Flu in 1920, will be remembered for another deadly virus and a global pandemic, Covid-19. The pandemic caused unimaginable results, the worst economic recession since 2008, global restriction on travelling and more. As the cases of coronavirus began to drop, countries and the public began to question what went wrong that led to such disastrous results. China, where the first case is from, suggested that it is globalisation that led to the situation. On the other hand, the West, especially the US, suggested that China's cover up of information on the virus misled the global community, causing the loss of opportunities to stop the virus spreading. The WHO, the supranational World Health Organisation, is also criticised for its performance in the pandemic. The situation on who is right and wrong is still complicated, but I believe a series of mistakes led to the disastrous effect of a world in lockdown and economic turmoil.

In the 21st Century there have been numerous spreads of viruses, for example SARS, Ebola and the H1N1. SARS and

Ebola were only epidemics, an outbreak spread through a population in a restricted geographical area; the death toll and the affected area is far smaller than a pandemic. The last global pandemic was the swine flu H1N1 in 2009, which infected approximately 500 million people and resulted in a death toll between 150,000 to 575,000. By the middle of June 2020, there were 6,600,692 cases and 389,620 deaths from COVID-19. Covid-19 has proved to be deadlier than the H1N1 flu. H1N1 was also mainly spread in less developed countries, whereas Coivd-19 widely spread in all countries.

The first case of Covid-19 occurred in Wuhan province in China. The official declaration that a new virus had spread in China was made in late December 2019, when a few doctors in the Wuhan hospital alerted their family, the media and authority that a new kind of contagious virus was spreading in the city. These doctors are known as the 'whistle-blowers' who warned the world of a new dangerous threat. However, here is where I believe the first mistake took place. It is reported that all the 'whistle-blowers' were later arrested by the government, suspected of stirring up rumours and causing social instability. Doctors were locked up, some died later as they were infected while saving lives. The Chinese government attempted to hide the knowledge of the new virus and this led to worldwide suspicion of all the statements it has made; countries questioned the accuracy and validity of China's information.
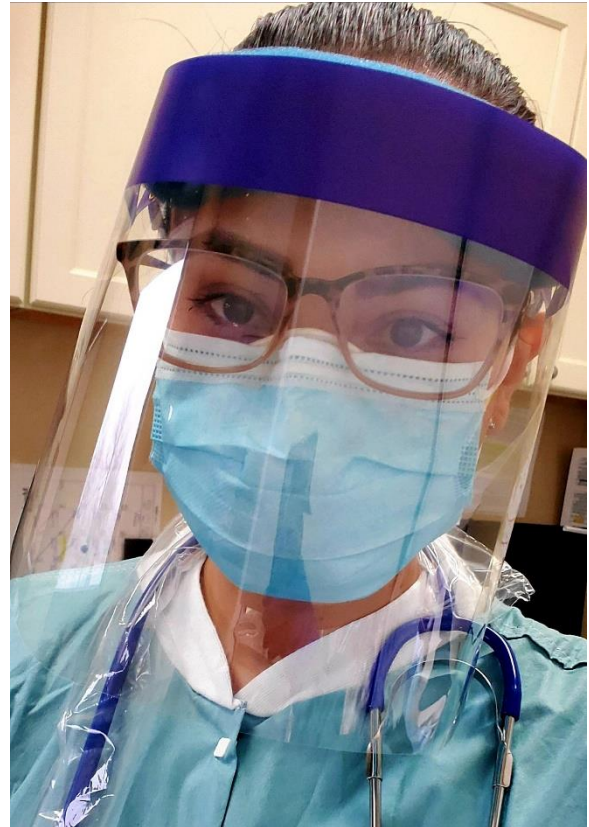
Some newspapers even suggested that the virus could have first appeared in November 2019 with a 55 years old Hubei citizen being the 'patient zero'. I believe the Chinese authority's denial and delay in taking action led to the spread of Covid-19.

China has one of the largest populations on earth, and efforts to contain the virus only started in mid-January when the authority had known about the existence of the new virus for weeks. Hubei province was locked down on 23rd January and by this time the effort to quarantine the virus was already too late as an estimated 2 million people had already fled. Covid-19 had already spread widely in the country and the infected number was extremely high. The virus was able to spread worldwide, turning the epidemic to a pandemic. The first recorded cases in Thailand, Vietnam, France, Japan, and the

UK amongst others were from travellers from Wuhan. I believe the Chinese government could have done more to preventing an internal and external spread of the virus by locking down sooner.

I also believe that The World Health Organisation could have done more to prevent the crisis. The WHO is an international organisation formed to tackle health crises and promote public health. Its job is to prevent pandemic, provide medical supply and expertise and to offer warnings and advice for countries to be better prepared for a pandemic. However, the WHO performance on tackling Covid-19 has been questioned. The WHO seemed to delay the declaration of 'pandemic' even when the outbreak had spread across all continents. Most countries based their actions on the information from the WHO and this misjudgement could have caused the loss of time and opportunities to stop the virus. There was also confusion about whether or not the wearing of facemasks in public would slow the spread of the virus. The WHO currently is cooperating with various pharmaceutical companies to develop a vaccine. In my view, this is by far the only effective action that the WHO has taken. Rather than tackling health issues, the WHO has become a player in the geopolitical battlefield of international relations.

> I believe that The World Health Organisation could have done more to prevent the crisis.

The virus reached most countries in the world; in Europe and the USA the number of deaths reached over a million. Western countries have a higher standard of living and a better medical system than the rest of the world, but their situation was a lot worse compared to some less developed countries. Here marks the third mistake that I believe led to the pandemic: the leaders of developed nations underestimating the virus. In the Italian Parliament, a lawmaker was laughed at for wearing a mask while explaining the situation of the pandemic. The UK government chose the approach of 'herd immunity', focusing on maintaining jobs and the economy as their way to tackle the virus in early March. Austria banned the wearing of masks in public unless there is doctor approval. To my mind, these policies and underestimation of the virus resulted in the spread of the virus and the failure to contain it.

I also think the public in many developed nations has to share the blame for the spread by not following government advice, especially in the US. Most US States went into lockdown, schools were suspended and people were advised to stay home. However, many members of the public

fail to learn from all these mistakes, a pandemic is highly possible again very soon. Some small countries have performed extremely well and the world should learn from them. For example, Taiwan, another geopolitical hotspot, only had 443 cases of virus and 7 deaths with a population of 23.78 million. The country shutdown the border and restricted travel at an early stage of the virus outbreak. The public also has a high sense of public health and is open to wearing masks. Most surprisingly Taiwan is not in the WHO since China opposes such action. Even without the help and information from the WHO, Taiwan was still able to survive in the pandemic and react extremely well.

I believe it is very important for the WHO to evaluate their response. Western countries should also reflect on the situation and educate the public about public health. The Chinese government should understand the importance of immediate actions and transparency of information. If no changes or reforms are carried out, I am concerned the world will just enter a vicious cycle of virus and sickness.

Ryan is a Lower Sixth geographer and is on the Lancing Geographer Editorial board.

On the next page is Fourth Former Alex's entry for the Young Geographer of the Year competition. This won the school competition.

disagree with such legislation. Anti-lockdown protests broke out in a few States and many ignored social distancing. Even with the best medical system and the most advanced technology, if the people refused to cooperate it would become difficult to prevent a pandemic. In addition, the President of the USA, Donald Trump repeatedly put the blame on China and called it the 'Chinese virus'. The priority should be legislation and executive orders on tackling the pandemic rather than political motives and actions.

Conclusion

China, the WHO and the USA have been finger pointing each other for who to blame in this pandemic. But to conclude, I believe all of them have made mistakes that led to the current situation. Cooperation is the only way for the world to move on. Instead of focusing on the past, the most urgent concern now is how to deal with it in the future. If countries

The World Beyond my Window - Storrington, West Sussex

A geographical study on the devastating impact of air pollution and the dilemma of solving it by building a By-Pass whilst balancing its impact on the environment.

A Big Pollution Problem

Storrington is a large, picturesque village and historic market centre set deep in the heart of rural West Sussex, bordering the South Downs National Park. Yet in 2018, the World Health Organization included Storrington on its list of 40 UK towns and cities, alongside London and Manchester, that have exceeded fine particle air pollution levels for Oxides and Nitrogen. This is currently well above 10 micrograms per cubic metre which is particularly worrying as half of Storrington's population comprise of children and over 65's who are far more susceptible to the effects of air pollution. Fine particle air pollution can penetrate deep into the lungs and cardiovascular system causing diseases that include lung cancer, heart disease, strokes and other respiratory infections and it kills 7 million people across the globe each year. So, why is it Storrington, a rural village where one would expect clean air, now the 4th most polluted location in the UK with 'the dirtiest air in the South East of England'. Moreover, what is causing this pollution and why is cleaning it up presenting such an awkward dilemma for decision makers in West Sussex.

Troublesome Traffic

Storrington has one main shopping street running through its centre, which is formed from the main A283 road which connects Storrington to Washington on the A24 in the East and to Pulborough in the West. The High Street which contains many historic buildings is extremely narrow in places with both commercial and residential properties positioned dangerously close to the kerbside and vehicles have hit both a shop and café in the past year. There are 2 traffic light controlled pedestrian crossings at the Western and Eastern end of the High Street and 2 permanently congested mini roundabouts at either end of the village. Storrington has a relatively small population of 4,500, yet in 2010, Automatic Traffic Counters recorded an average annual daily traffic flow of 17249 vehicles, including 524 Heavy Duty Vehicles (such as trucks). This number has since increased to 20,000 vehicles. According to West Sussex County Council, motorists use the village as a 'rat run' to avoid congestion at Arundel and on the main A27 Coast road where it narrows to a single carriage way at 2 strategic locations.
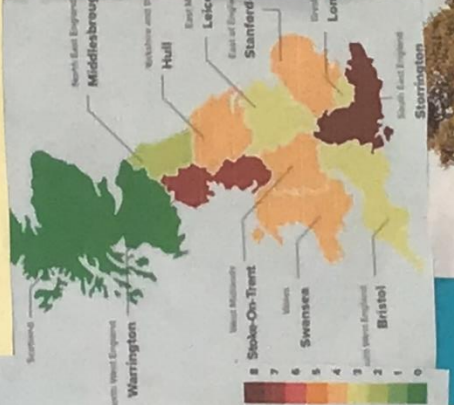
The problem is that Storrington was simply not built for the vast amounts of traffic it is currently experiencing. The excessive numbers of cars and large number heavy duty vehicles using the A283 through the village is having a negative impact on pollution, noise and safety in the village. The excessive levels of pollution resulted in Storrington being declared an Air Quality Management Area in 2010 which is rare for such a rural location. Furthermore, the resulting Action Plans and Consultations, which have included analysis of patterns of traffic movement, have resulted in some minor improvements. These included the introduction of weight restrictions for lorries' school transport and further investment in the 2 village car parks including initiative for 'cleaner' school transport. Despite these changes the recommendation was that the amount of vehicles travelling through Storrington would need to be reduced by 40% to reduce the pollution to normal levels.

WHO map (2018) showing dangerous Air by Region

Cities with Dangerous Air

The Proposed Solution - The Arundel Bypass

Currently under public consultation
Start date 2022
Estimated Cost - £100 to £250 million
Highways England have provided 6 options Cyan, Beige, Crimson, Magenta, Amber and Grey.

The Benefits of the Bypass: The A27 Arundel Bypass will deter drivers from using the rural and residential routes in villages like Storrington as 'rat runs'. This will directly reduce the amount of noise and air quality issues in Storrington and its surrounding villages by allowing drivers to take a direct free flowing route avoiding the small villages. This will then attract more visitors and tourists to the retailers, cafes and restaurants in Storrington and to the South Downs National Park whilst restoring the tranquillity of the village by reducing the severe traffic congestion that occurs at peak times and deters visitors. This will also encourage more residents, particularly young families, to move into the area into the sustainable housing developments in the Storrington area.

The Disadvantages of the Bypass: Many local residents believe there would be displacement of pollution and environmental damage from one area to another and that a Bypass would devastate Arundel and its surrounding villages, as well as the South Downs National Park. Furthermore, all the options proposed by Highways England are expensive 70 mph dual carriage ways which will increase traffic and cause great damage in the form of carbon emissions and damage to the environment. The outstanding countryside in and around the South Downs National Park would be destroyed resulting in the loss of ancient woodland and wetlands which are important carbon stores. Moreover, water meadows, wetlands and rare chalk streams would be destroyed, endangering species by severing habitats and pushing wildlife species towards local extinction. This would also have a negative impact on nearby villages and communities and increased traffic at Arundel would then increase traffic in Fontwell, Worthing and Chichester. There is another and includes a 40 mph single carriage way which follows the same lines as 2 of the suggested bypass routes which many supporters believe would improve traffic flow whilst minimising environmental damage.

The Final Solution as I see it from 'My Window'
The Coronavirus pandemic continues to unleash its destructive Covid 19 virus across the country, unsettling our economy as we are ordered to 'Stay at home'. Ironically it has reaped dividends for the environment; animals and plants are flourishing and pollution levels have fallen. Therefore as I sit looking out of my window I find myself asking that if we can maintain our economy in the future by encouraging more working from home then could this alone have a significantly large impact on reducing the amount of traffic on our roads thus negating the need for the building of any bypasses and in doing so preserve the environment for future generations to come?

Problem solved and £250 million saved!

Map detailing Highway England's options for proposed Arundel Bypass

Surface run-off leads to flooding
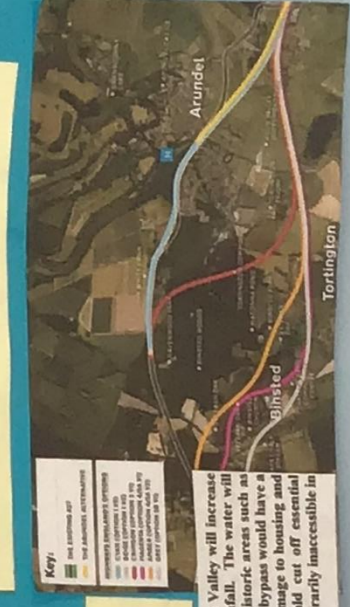
Flood Risk

Another major disadvantage is that a major road scheme across the Arun Valley will increase flood risk due to frequent high levels of surface run-off during heavy rainfall. The water will simply have nowhere to go. This will result in higher risk of flooding in historic areas such as Arundel and Amberley. These areas are already protected 'wetlands' yet a bypass would have a major effect on local wildlife, destroying areas of farmland and causing damage to housing and commercial businesses, such as local cafes and restaurants. This would cut off essential infrastructure along many road routes along roads which are already temporarily inaccessible in this area during heavy rainfall, and this is even before a bypass is built.

Storrington Air Quality Management Area Zone

Looking East: Has globalisation destroyed a 'sense of the local' in Singapore?

Rosie

*Lancing College Sixth Form student **Rosie** reports on some original research into sense of place in Singapore. This work was originally produced for her A Level geography coursework project.*

Singapore has made a major transformation from a small, Malay fishing village in to a global major economic player in the space of 50 years. This rapid globalisation with the involvement of foreign direct investment paired with gentrification of Singapore's cultural sites could lead to a loss of connection with place and heritage for the citizens of Singapore. In recent years, Singaporean's have been ranked as the world's unhappiest nation, ranking stressful and uninteresting jobs as the main reasons for this unhappiness. (Asia One, n.d.) Arguably it is this focus on a global nation implemented by the government that has created a so called 'kiasu' culture, the Singaporean belief that hard work is the only way to succeed as a young nation, without regard for citizens own happiness or the success of others. Growing up in Singapore particularly focused my interest in this topic, and after learning about

globalisation and the impacts it has a place perception in our unit on Changing Spaces, Making places, I was keen to learn more.

With a skyline dominated by global brands and citizens that often dedicate their lives to work, I wanted to understand if the presence of global brands and the governments use of globalisation as a way of achieving success for the nation had in any way effected citizens perceptions of place. In geography, 'perception of place' is the way in which people interact with a place and the connection they feel with that particular place.

Singapore is divided into 55 'planning areas', subdivided into East, Central, North East, North and Western Regions. I compared two areas of Singapore, one the most densely populated planning area on the East coast, and one the most densely populated on the west coast; Tampines and Jurong West respectively.

I was interested in researching this following my research into the work of Dr. Belinda Yuen, president of the Urban Planning Committee in Singapore, whose analysis suggests that within Singapore's rapidly changing nature, we need to "identify those parts of the urban environment most worthy of preservation while fostering a new and distinctive skyline" (Yuen, 2005). Based on her research as a city planner in Singapore, Yuen presents a theory that the changing skyline and globalised nature of Singapore

Places have a 'a global sense of the local, a global sense of place.' (Massey, 1991)

is changing images of heritage in Singapore. Ranked in 2017 as the most 'Kiasu' neighbourhood in Singapore, I felt that researching Tampines and Jurong West would be especially interesting due to the differences between them. While Tampines is a much more residential area, by contrast Jurong West is largely industrial. I felt that these two places in particular would be especially interesting when researching how industry effects place. This research aims to understand to what extent perception of place varies between the two, and to a lesser extent, what effect globalisation may have on perception of place. As previously researched by Doreen Massey in her work on a 'Global Sense of Place,' I wanted to replicate her work on the impacts on sense of place in a world increasingly dominated by movement of people, images and information. I was especially interested in her contention that places have a 'a global sense of the local, a global sense of place.' (Massey, 1991) Similarly, Massey once posed the question "What happens to the notion of place in this age of globalisation?" (Massey, 1995) This was a question I was interested in looking into, and hopefully gaining an insight in the levels to which globalisation can impact place. As part of my research I collected a range of data including questionnaires

and interviews, land use surveys, and environmental quality surveys.

Findings

My research identified tangible differences between the two areas of Singapore under investigation which I will explain under some key headings.

Public perception

The word clouds show a comparison between the public opinion on the eastern (left) and western (right) side of Singapore. The language with negative connotation is shown in red, with the size of the word highlighting how many times that word was chosen in the surveys. It is clear that the Eastern Side is generally thought of in a more positive light, with only three negative words appearing on the word cloud compared to five negative words from the Western side. In the Eastern Side, 'Clean' and 'multicultural' were the two most commonly selected words, whereas 'unfriendly' and 'isolated' were the two most common words used when describing the West. This highlights the obvious difference in opinion regarding people's perception of the two areas, with the western side clearly having a worse perception overall then the east. Interestingly, despite being given the same list of words to choose from, no one on the eastern side chose 'Isolated' whereas this was a reasonably popular choice for the west (despite the fact many people ranked it as 'accessible'), perhaps this is highlighting the lack of connection many people feel with the western areas of Singapore, it's seemingly perceived separation from the rest of Singapore making it seem isolated from the rest.

In an online survey, participants were asked to rank a series of factors (public services, cleanliness, safety, entertainment, housing quality, transport, overall happiness, modernisation and diversity) on a scale of one to five. The radar graph shows the percentage of survey participants who ranked these factors five out of five. What is immediately clear from the above graph is that according to the perception of place from survey participants, Tampines is perceived to better on the whole. Factors such as safety, housing quality, transport and happiness show an especially large difference between Tampines and Jurong W., whereas factors such as modernisation and diversity produced much more similar results. This could show that while there are certain areas where Jurong W. is slightly better in and therefore more similar to Tampines, on the whole, it is perceived as not being as nice.

Average Environment Quality Scores by Area
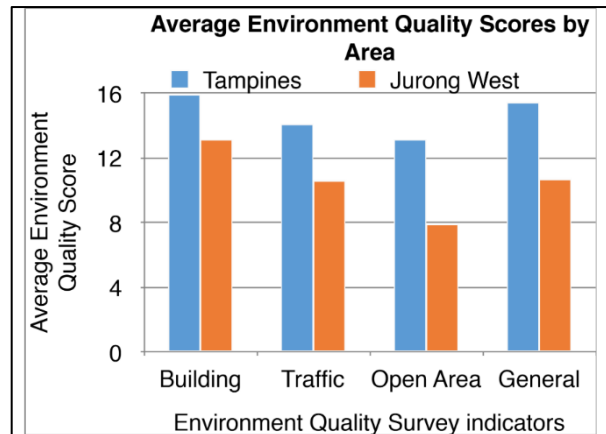
Global businesses

Tampines has a much higher percentage of global businesses compared to Jurong West. The statistics show that while Jurong W. has on average 26% global businesses, Tampines has 61%. While not a true representation of the entirety Jurong W or Tampines, of the areas I surveyed, Jurong W. had more businesses in total compared to Tampines, with a total of 73 businesses compared to 61. This shows the despite having large numbers of business, Jurong W. is mostly home to local business and therefore less impacted by globalisation. This data is important because understanding perception of place in Singapore is linked to understanding globalisation, as argued by Belinda Yuen, possibly higher rates of globalisation could lead to decreased connection with place.

It is clear that every participant at least felt there was some evidence of globalisation

Percentage of survey participants who ranked the following factors five out of five on a scale

somewhere in Singapore. Furthermore, 48% of survey participants felt that globalisation in Singapore had been 'somewhat positive,' with a further 33% stating that it was 'positive.' Only 6% of survey participants felt that the impact of Singapore had been 'somewhat negative.' Of the three people who felt globalisation was somewhat negative, all three of them cited concerns as 'losing cultural heritage,' as the main reason behind why they felt globalisation in Singapore might be a bad thing. This links back to my original hypothesis, that while increased rates of globalisation could be linked with a higher quality of life, some people feel that they are losing the cultural heritage of that place. One could therefore, argue that the increased rates of globalisation in Tampines are leading to decreased connection with sense of place.

Environmental quality

In all my data collection methods, Tampines was ranked higher than Jurong W. in every area.

The above graph shows a comparison in the average environmental quality survey by each of the main factors (buildings, traffic, open area and general). Immediately looking at the graph is it clear that in terms of this survey Tampines would be considered to have a higher quality overall, as it ranks higher on average than Jurong West in every area. The biggest difference in the data is that regarding open space, while open space is the lowest scoring for both Tampines and Jurong West (which is not surprising given

Singapore's small size and high population density), open space is also the factor with the largest range between the two areas with Tampines scoring 5.2 points higher than Jurong West. Again both Tampines and Jurong West ranked highest quality amongst the other factors for buildings, this is also the data with the smallest range between the two areas. While Tampines scores on average 15.9 points, Jurong W. scores 13.1, a difference of only 2.8 points. In general, the data matches up between the two areas in the sense that their highest, lowest and middle ranking factors all align. For both areas, building is the highest quality followed by general, traffic and then open areas. This shows that while there is not large discrepancies over Singapore as a whole, there are different levels of overall quality between Tampines and Jurong W. Linking to the graph shows that Tampines contains more global businesses than Jurong West, according to public perception Tampines is a more globalised area overall, one could conclude that there may be a link between rates of globalisation and overall quality with an area.

Conclusion

Based on evidence collected and analysed, it is clear to me that Tampines is generally regarded by the public as nicer overall than Jurong West, and many felt that the Eastern side of Singapore is more developed and well looked after, with many commenting on better housing, cleanliness, diversity, modernisation as well as other factors. Based on gaining an

understanding of variations in perceptions of place, one could conclude than even in such a small country as Singapore, there can be large differences in perception of different areas, while on the base level there are similarities in these areas mostly through similar laws and government policy, the more nuanced social understanding of these two places shows a large difference between Tampines and Jurong West, highlighting the fact that Tampines is perceived as better than Jurong West. Looking more in-depth at the reasoning behind this, studies of the physical proportions of global businesses located in the two areas as well as public opinion of globalisation in the two areas clearly demonstrates that globalisation is more prevalent in Tampines. One could therefore conclude that increased globalisation leads to an overall higher quality in a place, likely due to more governmental efforts to attract more businesses, and while this leads to nicer places many residents feel this leads to a loss of cultural heritage and decreased connection with that place.

I would conclude that while Tampines on the whole has a better perception of place, the rapidly increasing rates of globalisation in Singapore are leading to citizens loss of connection with Tampines, something that is happening at a faster rate in Tampines than it is in Jurong West. Massey asked "What happens to the notion of place in this age of globalisation?", and I feel I better understand the link between place and globalisation, in this case specifically I understand that globalisation can lead to better quality of place but decreased personal connection with that place. Basing my work on Doreen Massey highlights how one can apply geographic theory in one area to gain an understanding of another area. Due to the fact my work is the only one of its kind in the world, my work fills an academic gap and helps contribute to the growing understanding on the complex links between globalisation and sense of place.

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Rosie is an Upper Sixth Geographer who intends to study Geography at University.

Third Form Sophie's entry for the Young Geographer of the Year competition.
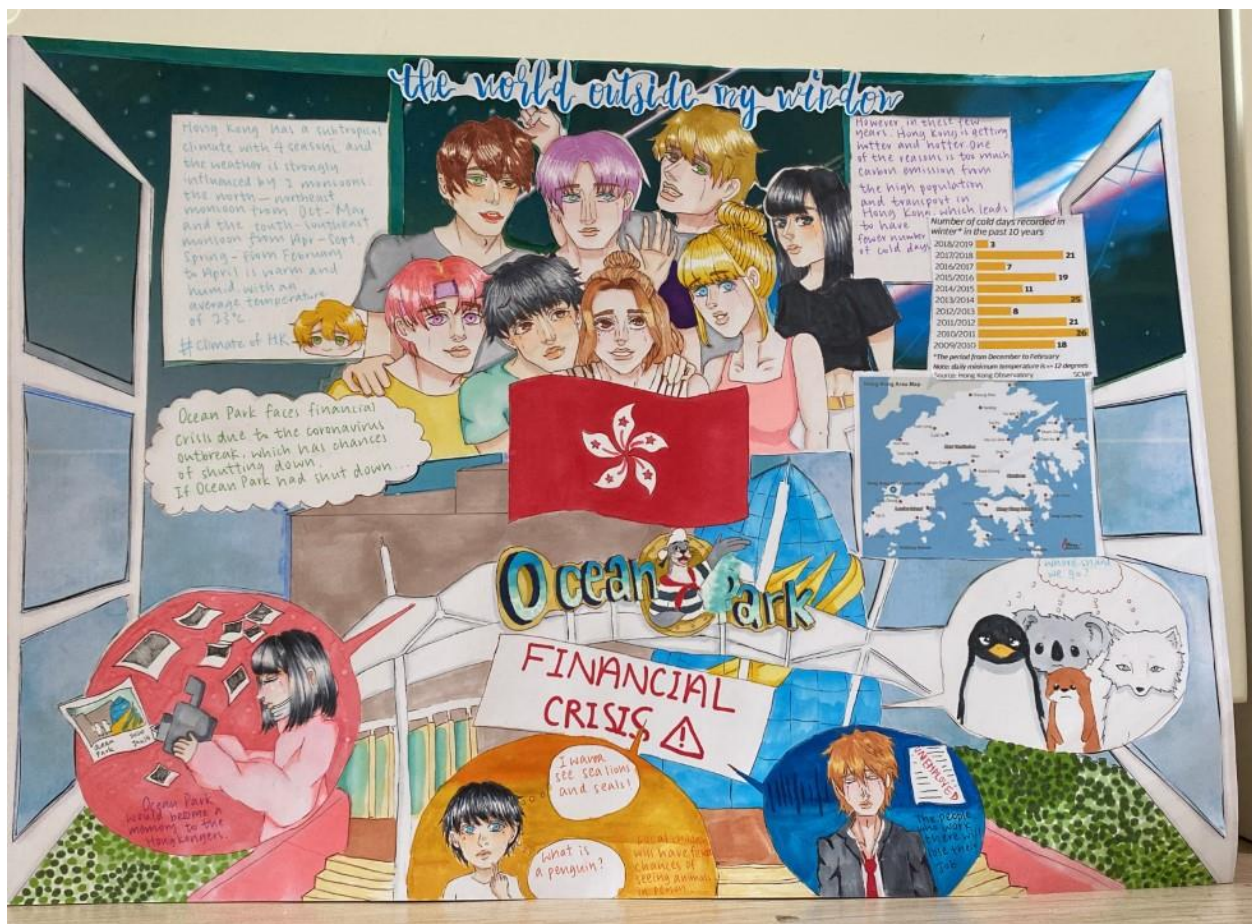
When the Guns fall silent: Post military geographies and the rebranding of Bordon

Emily

Emily *investigates if the former military town of Bordon in Hampshire has managed to shake off its old image and embrace its status as an Eco-town. This work is based on her A Level coursework project.*

Rebranding is the way in which a place is re-developed and marketed so that it gains a new identity. It can then attract new investors and visitors.

Bordon lies in the North-East corner of East Hampshire and has a population of 16,035. The town was set up as an army camp back in 1903. For decades it was home to units of the Royal Electrical and Mechanical Engineers and operated as a training camp, before the military moved these operations to other parts of the UK.

In 2009 the governing Labour administration nationally announced Bordon as one of its tentative Eco-towns. This would see the town develop into a carbon-neutral town with sustainable housing and business facilities. The proposal initially planned to build 5000 new homes, along with supporting infrastructure, which would require extensive use of Greenfield land and reallocation of ex-military land following discontinuance of local military bases.

Geographers Essex and Yarwood (2017) have researched post military places, and found that military geographies can have a profound impact on a place and affect the ways which it operates. Military facilities can influence local economies,

The military city	The post-military city
Significant infrastructural developments linked to geopolitical conflicts and technologies	The closure or contraction of military bases in response to geopolitical change
Military installations take precedent and impact on urban morphology	Military installations are sold and redeveloped for civilian use
The Armed Forces account for a high proportion of jobs and economic activities	Other economic activities, usually linked to the service sector, are more prominent
The growth of civilian communities to support military activities and bases	The decline of communities linked to military bases
Social geographies of the city are influenced by service personnel and their families	Veterans' issues become more prominent
The Armed Forces are woven into the imagination of the city as a 'garrison town'	Military heritage is used in place marketing

Source: Essex and Yarwood (2017).

shape social relations and impact landscapes.

Where military bases have closed or declined, there has been significant social change. Other bases have been re-developed for civilian use, often as part of local regeneration strategies that are designed to diversify the economy away from a reliance on Armed forces. One area of redevelopment has involved new forms of employment to provide social and welfare support for veterans as the numbers of service personnel decline.

The table shows the aspects of change in influences in the military and post- military city. These aspects can also be applied to a military town such as Bordon, in the fact that the rebranding of Bordon

has involved military installations being sold and redeveloped for civilian use.

As part of my research into Bordon I conducted a series of questionnaires to people who have lived through the rebranding to ascertain the extent to which the redevelopment has been successful.

Attitudes towards rebranding

Almost a quarter of those I surveyed had only lived in the town for less than 2 years and 47% of people under 5 years. This suggests that since the rebranding which began in 2009, there has been an inflow of new residents into the town. This relates to other questions in my questionnaire to whether or not people believe the rebranding is attracting new investors and residents, of which 60% said yes.

A large proportion (40%) of people interviewed believed that the rebranding hasn't had an impact on the levels of new investment. This could perhaps be explained by the divide between the new and old residents as they are quite separated and therefore see a completely different view of the rebranding. This can

PEOPLES FAVOURITE ASPECT OF THE ECO TOWN

new relief road 19%
water and energy effeciency 44%
new street designs 14%
public square and town park 23%
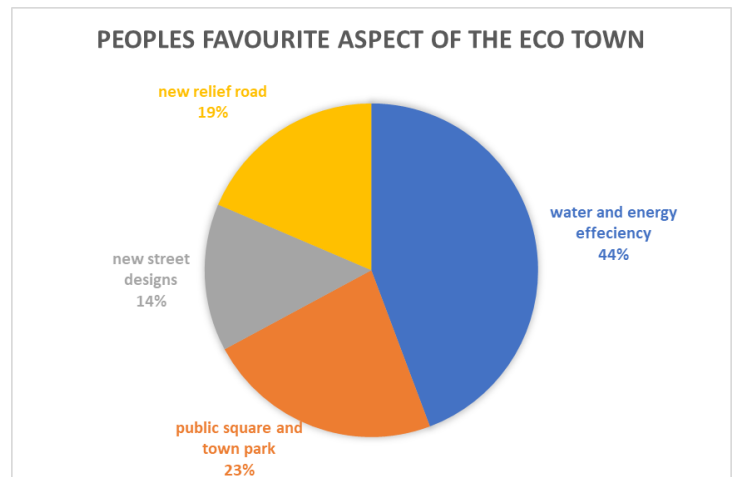
also be seen in my photos as visually the old and new residents have a different view on the town.

Yet the new residents argue that the rebranding has been a success.

The main reason why people have chosen to live in Bordon is because of the affordable housing available. In the building plans for the redevelopment,

they had planned that 35% of the new housing built would be affordable housing. Almost 30% of people had chosen to live in Bordon because of work as their reason why they moved to Bordon. Therefore, it could be argued that the rebranding is yet to make a large impact.

Despite the changes, Bordon still has an image problem. The overall desirability of Bordon is low. This could perhaps be because of the stigma the town has as being an army camp and this image has still not been changed since the rebranding. Bordon residents rated the attractiveness of the town higher, both before and after the rebranding than the people I questioned in Farnham. Therefore, this shows a difference in perspective.

New investment

One of the main issues in Bordon was the lack of employment and business opportunities. Therefore, they have tried to introduce more businesses catered for highly skilled working e.g. Innovation and technology

Launched as BASE Bordon Innovation Centre, and run by the UK's leading Innovation Centre operator, Oxford Innovation, the Centre provides a variety of flexible working and support options for ambitious, early-stage businesses. Therefore,

encouraging the growth of businesses in the town. This photo shows one of the new businesses- the development was planned to provide up to 5500 jobs.

This is an example of a business occupying the old army facilities. In Essex and Yarwood's research they state that in post-military towns- military installations are sold and redeveloped for civilian use.

Environmental change

I also investigated the extent to which the rebranding improved the environment. From figure 2 you can see that the overall favourite aspect of the new eco-town, with 44% of people ranking it their top favourite aspect, is the high water and energy efficiency in the new housing. This data seems to agree with an environmental quality survey I did, as the new area I surveyed which had the water and energy efficiency within it, had a

much higher overall rating than that of the older area of Bordon I surveyed.

Transport facilities

A successful town must have successful transport facilities to meet the needs of the residents. Transport has been highlighted as an issue of rebranding so perhaps this is hindering the success of the rebranding. Bordon still has no train station making larger settlements such as London, Farnham and Petersfield only accessible by car. As the rebranding involved turning the town into an 'eco-town', the high levels of car use contradict this and has a negative impact on the environment. If sufficient public transport was provided not only would it make the

town look more attractive but it would also have a positive impact upon the environment.

Uneven development?

There is a clear difference between the old and new areas of Bordon. The 'old' area of Bordon has a much lower overall rating of environmental quality than the new area. The Forest Centre was the previous centre of Bordon this area is now very run down and dirty. The newer areas, such as St Lucia Park, a new housing area. The rebranding has had an overall positive impact on the environment of Bordon. It also shows that perhaps the rebranded areas of Bordon are more visually pleasing which is more likely to attract people to

the town, increasing the chance of the rebranding being a success. Perhaps the improvements made to the environment as well as the visual differences in infrastructure, which are both factors I looked at in my environmental quality, have resulted in this increase in attractiveness.

Conclusion

From my data I believe that the rebranding of Bordon has been relatively successful. The town is attracting new investors and visitors which is a key element to determine the success of rebranding. The photos show the large positive impact the rebranding has had visually on the town, which I believe is an important aspect to whether a town is successful as this links back to whether it attracts people and businesses to that place. However, my own research has shown you can see that there are many improvements that still could be made, for example public transport which could contribute to the rebranding being even more successful. In addition, I believe that the full impact of the rebranding of Bordon is yet to happen, but people are starting to become aware of it. This because the redevelopment has only recently been completed.

There is a clear difference in perceptions of the town. People who live in the town perceive Bordon in a much more positive light than those viewing the town from the outside. This adds to whether the rebranding has been a success as it shows again perceptions of Bordon being an army-town have yet to be changed by the rebranding.

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Emily is an Upper Sixth geographer who intends to study geography at University.

'On Sea' or not 'On Sea'? Does Lancing need a rebrand?

Sam

Sam reports on the proposed plans to rebrand Lancing to 'Lancing On Sea', and assesses the public response to further development of housing and retail at Monks Farm. This research was originally Sam's A Level geography project.

Lancing is a large village and civil parish in the Adur district of West Sussex, England, on the western edge of the Adur Valley. It occupies part of the narrow central section of the Sussex coastal plain between smaller Sompting to the west, larger Shoreham-by-Sea to the east and the parish of Coombes to the north. Lancing is one of the largest villages in the country with over 20,000 inhabitants which definitely has

> 'Lancing' has a reputation as a typical run-down coastal resort.

potential to develop into another town in the South-East of England.

I first heard about the idea on the radio of Lancing changing its identity to Lancing-on-Sea and then saw an article in the Guardian online called "Get in the sea: why a Sussex town plans an aspirational name change". Published on Tuesday 14th May 2019, the article outlines the benefits and drawbacks of the name change. The article suggests the plan is linked to snobbery, that 'Lancing' has a reputation of a typical run-down coastal resort, whereas 'Lancing- on-Sea' has a more aspirational sound.

The centre of Lancing does have all the hallmarks of a town in decline, with vacant units and charity shops. In the Portas Review,

Mary Portas expressed her view on the decline of many UK High Streets. She set out her vision for the future to breathe economic and community life back into our town centres. Her recommendations on how to deliver that vision included getting town centres to run more like businesses, by getting the basics right to allow businesses to flourish. Her vision has inspired the Monks Farm development because it would most likely result in more development in the surrounding areas such as Lancing's High Street which is very un-developed and needs desperate rebranding through positive investment. The name change would give Lancing a fresh look which could also encourage more people to move to the area and with that more investment in the area would most likely follow.

As part of the new Monks Farm Development a new IKEA is being proposed. By the end of 2019, the planning proposal had been passed but there is still no date on when construction will start and when the store will be opening. Perception of Place is a geographical idea, whereby people's personal characteristics influence how they see the world. Lancing rebranding means that the village is hoping to change its perception to outsiders, which would potentially encourage more visitors and residents. With the Monks Farm

development, Lancing will hopefully be able to rebrand itself without causing too much damage to the surrounding area so that it is beneficial to Lancing's local economy and people.

To collect data, I got a total of 193 responses to an online survey posted on a local Facebook group. I conducted an Environmental quality survey in Lancing itself and took a series of photos.

Residential perceptions of Lancing

My data enabled me to understand the resident's ideas about Lancing and these word clouds visualise their responses. On a scale of 1 (poor) to 5 (great) the respondents rated Lancing an average score of 3.9. The word clouds show the respondents best and worst aspects of the village. The more one word was mentioned the larger it appears in the cloud. The best includes the proximity to the South Downs and the Sea, with the worst

REBRANDING BEST

being the High Street, Shops, and the busy A27 road.

In response to whether or not Lancing should be rebranded to Lancing-on-Sea, the respondents overwhelmingly said yes, although a few offered that is was ridiculous. The most popular place to focus the redevelopment was on the High Street, with others identifying a focus on businesses and shops.

Whilst the residents seem to be in favour of rebranding, the Monks Farm redevelopment was less popular amongst those surveyed. The best and worst aspects of the redevelopment is shown in the word cloud. Whilst people seem in favour of the benefit of housing and jobs, they are concerned about traffic and flooding.

Conclusion

My research has told me that most of the people who answered my survey had been living in Lancing for a long time and they were mostly middle-aged. However, the people of Lancing's perception of Lancing is that it hasn't improved over time very well. The majority of people believed that Lancing changing its name to Lancing-on-Sea was a

good idea because it would give Lancing a fresh look and it would sound more appealing to visitors from elsewhere. However, some people did still disagree because Lancing doesn't seem to be developed enough to have the name change. The housing development and the construction of the IKEA would make Lancing seem more attractive and well-developed from an outsider's perspective. But, the housing development would most likely harm the people of Lancing's perception of place if it is done poorly. I believe rebranding Lancing would be beneficial to Lancing's local economy and people if it is done in the correct way. The correct way would be through positive investment which would hopefully rejuvenate the main parts of Lancing such as Lancing High Street, in central Lancing. Positive investment would be down to the local businesses and how they choose to brand themselves and spend their profits. Positive investment should create more jobs in the local area and improve the perception of place. This would set up a positive multiplier effect and help the local area in the way Mary Portas described in her review. This would then make rebranding beneficial to Lancing's local economy and for the people of Lancing.

REBRANDING WORST

23

My research has extended my understanding of perception of place and rebranding because it has given me a greater interest in the ins and outs of how Lancing has changed over the years, and also given me a greater understanding of the perception of place of Lancing from an outsiders' point of view. I look forward to seeing how Lancing develops over the future.

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CLIMATE +

Lancing College hosted the 2020 **Climate+ Deserts** Virtual Conference. Dr Jo Nield begun by describing her field work at Great Sand Dunes National Park, USA and her team's efforts to investigate sediment transport in sand dunes, using advanced computer simulation algorithms to focus on surface moisture and vegetation factors. Professor David Nash then spoke about droughts in South Africa and his use of historical data to formulate graphs on the severity of these droughts and to reconstruct past climate variability. He explained how the succession of less severe droughts over periods of two years can have a more detrimental effect than one very harsh year of drought, due to the soil erosion and economic impact on the South African people. Dr Andreas Baas next explained his work, looking into the mobilisation of sand dunes using models of landscape development to explain the inhibitive role vegetation can play in the movement of sand dunes and the formation of parabolic dunes. These cutting-edge lectures provoked much discussion from the audience and the guest speakers answered many questions about the impact of climate change on drought, how grey lichen can prevent sand transportation and whether tourism can be destructive to sand dunes.

Christina, L6

Turning the Tide: Protecting Shoreham By Sea
Freddie

Freddie discusses the successes of the efforts to protect Shoreham By Sea from the effects of the sea. His own research on which this article is based is his A Level coursework project.

Shoreham by Sea is a small town located fronting the south coast to the west of Brighton and Hove and to the east of Worthing. The town is bordered to the north by the South Downs, to the west by the Adur Valley and to the south by the River Adur and Shoreham Beach on the English Channel. The town is in the middle of a ribbon of urban development running along this section of the south coast, and covers an area of 2,430 acres. The population from the 2011 census was 20,547.

Shoreham's Natural significance

Shoreham beach is a swash aligned shingle spit that has become established over millenia as a result of longshore drift. From the Lancing section of the coast to the west, beach material has been washed eastward and then been deposited to extend the beach to the east in the form of a spit. This has resulted in the the mouth of the River Adur, which runs south to discharge into the English Channel, being gradually diverted towards the east over time as the spit has extended. Works were carried out as long ago as the early 1800s to stabilise the harbour mouth in order to prevent access to the harbour being restricted.

Shoreham beach is a 65-acre local nature reserve. The beach has vegetated shingle,

which is a rare habitat, with flora including yellow horned poppy, sea kale, and curled dock. Behind the shingle beach there is 'Widewater Lagoon' which is a man-made salt marsh and a nature reserve. Shoreham Beach is used for recreational purposes and contains numerous beach huts and features as a local tourist spot favoured for sea side water sport activities such as kite surfing. Just in land from the beach there is an enclosed waterway where water levels rise following high tides and heavy rainfall with the brackish lagoon providing a unique environment for plant life and a wide variety of birds including Herons, Swans and other rare wild fowl.

Shoreham beach is an important high tide roosting area for wading birds that feed on the mud flats within the reserve. The beach also offers good breeding habitat for species such as the ringed plover and little tern, but few nest sites have been identified in the last decade, possibly due to the high levels of disturbance from dogs and people in early spring and summer.

The beach to the east of Shoreham Harbour is decreasing in sedimentary budget (meaning that sedimentary outputs were significantly higher than the inputs), as a result of the harbour wall acting as a major groyne largely stopping the movement of sediment along the coast. This stretch of coast is privately owned and the owning firms take measures to protect it. As a consequence

> The local authority has recently invested £45 million in more than seven kilometres of new river and sea defences…

of Shoreham beach being very prone to erosion, beach replenishment takes place on a twice-yearly basis. Shoreham beach was reducing in size and was eventually going to disappear as a result of erosion. This meant that coastal management and intervention was essential to ensure the longevity of the beach.

Protecting Shoreham

The local authority has recently invested £45 Million in more than seven kilometres of new river and sea defences helping keep the community and businesses of Shoreham safe from flooding from storms and rising sea levels.

The new Adur Tidal Walls scheme has been designed to better protect over 2,300 homes and 169 commercial properties, as well as important local infrastructure such as the road network, railway line and Shoreham Airport. It spans 7,200 metres along the banks of the river Adur with 1.8km of new defences on the east bank between Coronation Green and the A27 road bridge, and 5.4km on the west bank between the river mouth and the A27 road bridge. The majority of the cost of the project has been funded by a £37.4 million contribution from the government, alongside contributions from Coast to Capital LEP, West Sussex County Council and a number of private developers through Adur District Council.

An earlier scheme in 2003 was developed in line with the recommendations of the Coastal Defence Strategy for this coastline. It provided an improved flood defence standard to the residential and commercial properties in the areas to the east of Worthing, Lancing and west Shoreham. The scheme included the provision of 33 rock groynes. Flooding can occur in this area either through overtopping, for instance, the sea washing over the top of the defence, or breaching, where the defence collapses allowing the sea to flood the land behind. The shingle beach provides the defence with the groynes helping to keep the shingle in place, as it slows the process of longshore drift. As the beach gains sediment, it provides an excellent means of defence. A shingle beach is unrivalled by any other coastal defence in its ability to absorb wave energy. This scheme will also provide a stable beach, which will not only provide a better amenity beach for beach hut users, sailing enthusiasts and families, but also provide a habitat for specialised plants. Furthering stability in the location will enable business opportunities and economic prosperity for the future.

The 2003 scheme involved importing about 160,000 tonnes of granite and rock


Groyne 3- beach profile
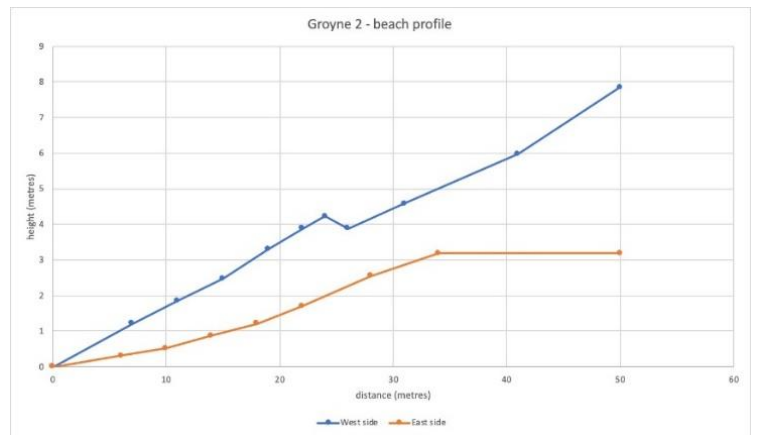
from Norway and France to replace the 33 original timber groynes which were no longer effective as they had become decayed and worn. The £18million scheme implemented by the Environment Agency was intended to lead to significantly better protection for more than 1,300 properties, the A259 and Shoreham Airport.

My research

My study was to appraise the effectiveness of the coastal management strategies along Shoreham beach. I specifically looked at the coast from the location of the Lancing Sailing Club towards Shoreham Harbour. I investigated the effectiveness of the strategies since the implementation of the 2003 scheme. Amongst a range of data collection techniques including pebble analysis, I measured beach profiles each side of a number of groynes to assess the level of sediment build up. The beach profiles presented here show this for two of the groynes, with the blue profile to the west side of the groyne, and the orange to the east.

These profiles drawn have expressed how on the West of every rock groyne

Groyne 2 - beach profile
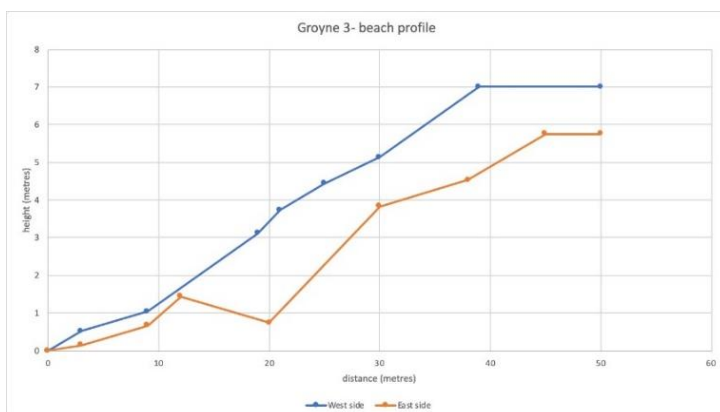
surveyed there is a significant height difference of sediment when compared with the East side. The West side is built up significantly more than the East and this shows that the groynes are effective at slowing longshore drift and trapping sediment resulting in a larger beach. However, although the groynes do trap sediment, it does not retain the beach to the extent which is required. Therefore, meaning that on a twice-yearly basis the beach has to undergo beach replenishment. This is carried out by Mathews contractors. This is where the right arm of the Shoreham Harbour stops the movement of sediment along the beach and traps a vast amount of sediment. The sediment then has to be redistributed in-between all the rock groynes as over the course of the year it has been decreasing and collecting at the right arm of the Shoreham Harbour. So, although, the data collected shows that the groynes are effective as they're executing their purpose, they are not entirely effective as other coastal management strategies are still required in order to keep the beach intact. The data I have collected is deceiving as it shows that they are in fact effective. If the groynes were fully effective, then there would be no need for the beach replenishment which has to occur every year to maintain the sediment budget.

Conclusion: A defensive success?

The current coastal management strategies are sufficient in meeting the demands posed by the ever-present threat of rising seas and the potential of a large storm event. Although the rock groynes do work to a degree, without the continually oversight, management and other coastal strategies in line with these, they are not effective at providing an entirely safe beach without continuous intervention. For instance, without the twice-yearly shingle replenishment the beach is in jeopardy. As a result of the conclusion I have come to, I believe that the need for a new scheme designed to find a long-term solution is essential. However, it can be argued that the 2003 scheme has been largely effective. Specialised plants and vegetation have grown at the top of the beach just in front of the promenade. This vegetation is not able to grow in the harsh sea conditions signifying that the sea does not reach the top of the beach anymore as the species of vegetation are not able to survive and thrive in the hostile conditions posed by high tide and storm conditions. Furthermore, this also suggests that the land at the top of the beach has become stable and secure as a result of grassland growing roots and holding the beach in place.

While present on the beach I noticed many new architecturally interesting buildings were being built Eastwards towards the harbour. When I was close to the Lancing Sailing Club which is a slightly more susceptible part of the coast as the beach is shallower here than elsewhere along the designated stretch, I saw two recent developments. These properties are high value and show that the residents along this stretch clearly have faith in the management strategies.

To conclude, the scheme is effective to an extent. However, it requires lots of maintenance and ongoing beach replenishment. Potential improvements to be made would be extremely costly and not the most attractive. Improvements such as a sea wall or a continuous revetment would be defences which are good and provide a great level of protection. However, these options are vastly expensive. This may also have an impact on the natural appeal of the beach aesthetically and may as a result impact the tourist industry within Shoreham. Furthermore, when the 2003 scheme was implemented it was expected to last 90 years. However, due to the current rate of

erosion the scheme is only expected to last 45 years. This suggests that there will have to be further measures taken to ensure the longevity of this beach. This could lead to a number of potential strategies used in the future such as revetments, a sea wall, gabions or upholding and rebuilding of the rock groynes.

Freddie is an Upper Sixth geographer.

Third Form Iyana's entry for the Young Geographer of the Year competition.
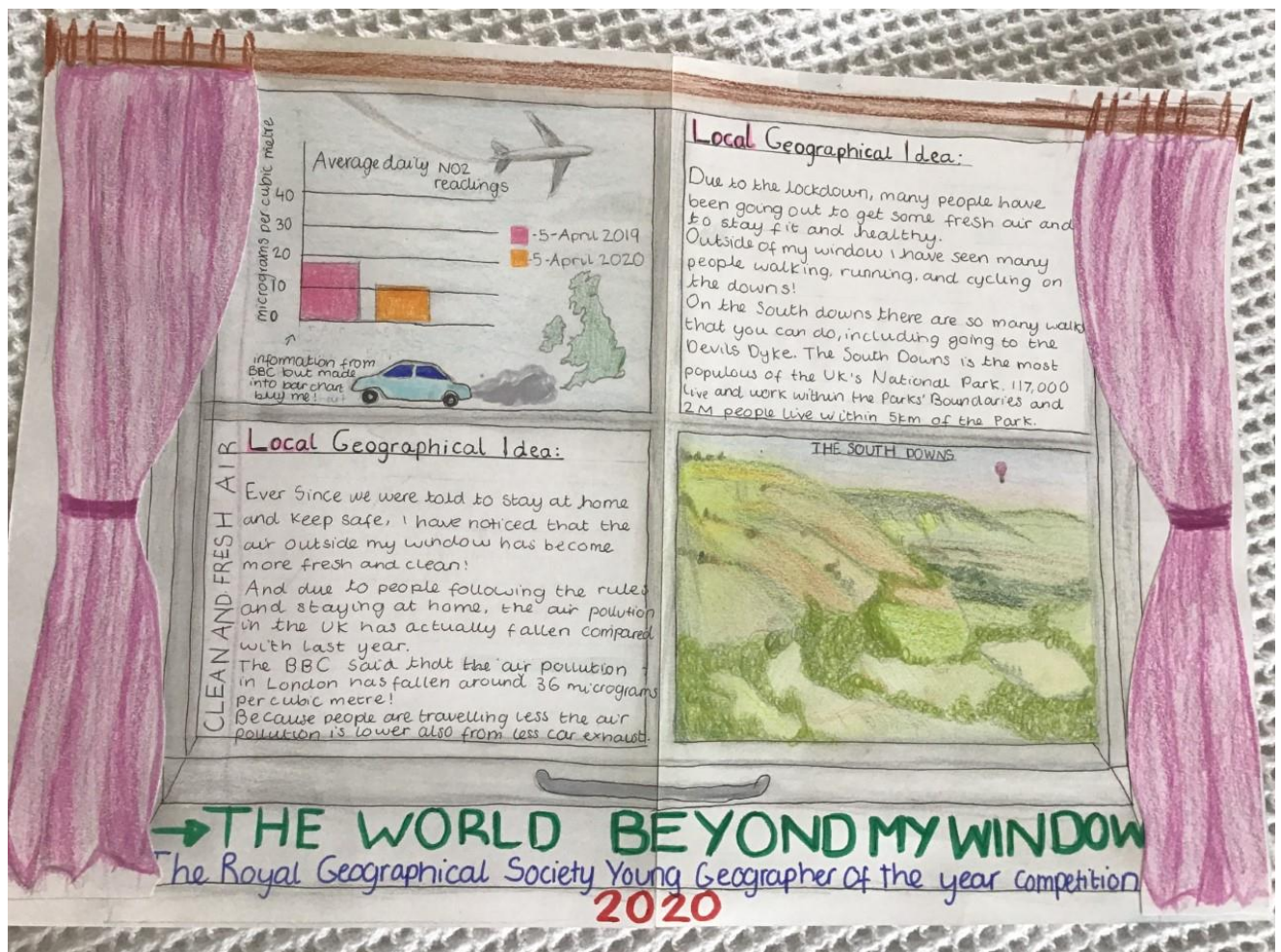
Fantasy worlds: The geography of Star Wars   *Ben*

***Ben** explores the geography of the landscapes found in Star Wars.*

As anyone who has ever watched Star Wars, or any similar science-fiction will know, there seems to be a plentitude of single-biome planets. For instance, Tatooine is the desert planet with 2 suns where Luke Skywalker grew up; E ndor is theJungle planet; Kamino is an ocean world and Hoth an Ice planet. It seems so simple within the Star Wars universe; one planet has one biome, and that's that. I am interested in why the Earth is so varied in its biomes. There's rainforest, desert, ocean, grassland, tundra, taiga and so many more, yet all planets in the Star Wars universe seem to be singularly individual in their biome.

Before delving into the reasons behind why Star Wars planets have only a single biome, it is worth examining why the

Earth is so varied with its landscapes, and what a biome actually is. The textbook definition of a biome is a 'biological climatic zone'. In essence, this means that a biome is an area which has a similar climate, as well as similar flora and fauna (animals and plants). The two primary factors which affect a biome are temperature and rainfall, as they generally (along with some other factors such as soil and humidity) regulate which flora and fauna can survive there.

The global climate

The first reason the Earth has many different biomes is latitude - it gets colder the further north or south from the equator you are. The Earth is widely accepted to be roughly spherical in shape, and orbiting around the Sun. This means that the surface of the Earth, while seemingly flat from on its surface, does not all receive the same amount of
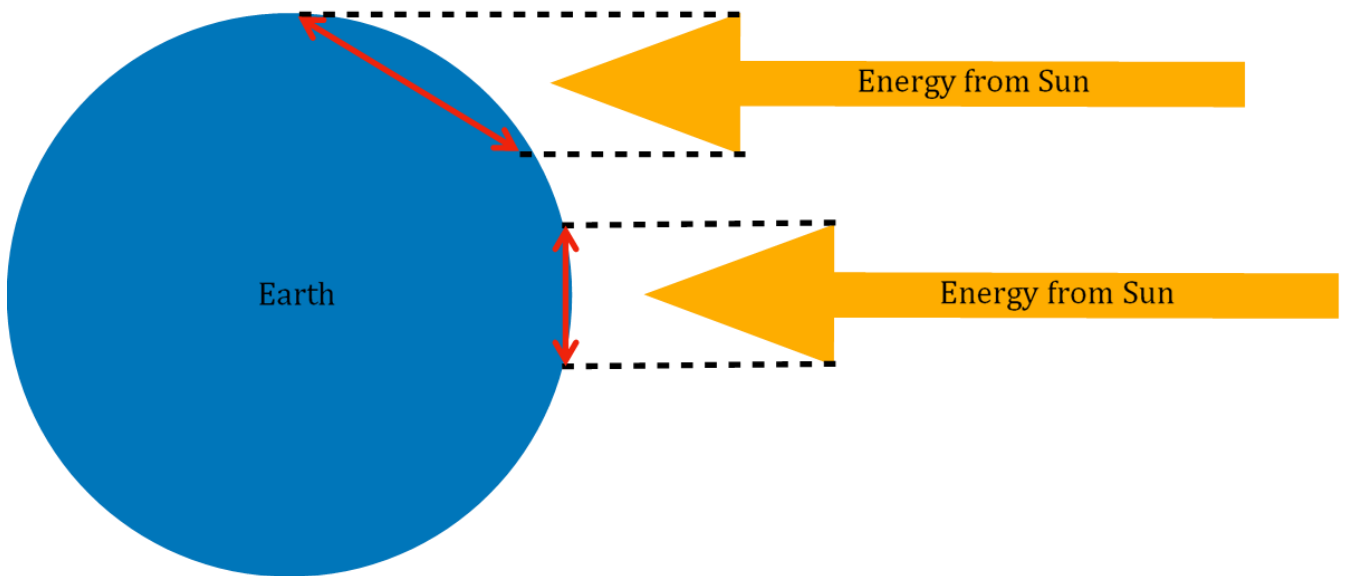
sunlight. The part of the Earth facing the Sun head-on (the equator) receives the most concentrated sunlight, whereas the Poles receive sunlight spread over a far larger area, as the diagram shows.

As demonstrated by the red arrows, the Sun's rays are spread out over a far larger area in the North than at the equator, due to the curvature of the Earth. This then means that the heating effect of this energy is far more pronounced at the equator, causing the temperatures there to be hotter than at more extreme latitudes. In fact, the equator receives around five times as much energy as the polar regions.

This disparity in the energy absorbed from the Sun leads to another factor affecting biome distribution - rainfall. While there are other factors which affect rainfall, such as the proximity of mountains (causing a rain shadow), general rainfall patterns can be explained by the global atmospheric circulation model, which shows that rain falls in bands across the Earth.

Rainfall is generally the same at similar latitudes, such as at the equator where there is over 3100mm of rain a year. Air at the equator is heated due to the higher intensity of the Sun's rays, causing it to rise. As the air rises, it cools, and the water vapour in the air condenses into water droplets, which eventually become too heavy to remain in the cloud, and fall as rain. The air is deflected to the north and south of the equator as it hits the top of the atmosphere. Here it cools in the high atmosphere. When the air falls, it is very unlikely to produce precipitation, as the air is getting warmer as it falls. This leads to the formation of deserts to the north and south of the equator, as demonstrated by the Sahara Desert and the Arabian desert to the north of the equator, and the Kalahari, Namib, Atacama and Australian deserts to the south.

Biomes are dependent on climate, for instance, a tropical rainforest is hot and wet, whereas tundra is cold and dry. These two biomes can be likened to two distinct landscapes in Star Wars, Yavin 4 the jungle planet, and Hoth, an ice planet.

Hoth

In Hoth, the temperature ranges from around -60ºc in the winter to around -10ºc in the summer. This matches up with polar climates on Earth, the only stipulation being that the temperature must not rise above -10ºc. Much like the Earth, Hoth gets colder towards the poles. One way in which Hoth could be so cold is simply that it is a great distance further from its star than the Earth is from the Sun, or that the star in the Hoth system does not give out as much energy as the Sun. This would explain colder temperatures, as the planet is receiving less energy in total from its star. This is reinforced by the fact that Hoth is the 6th planet in the Hoth system, implying it is a fair distance from its star. Another factor which could explain the climate of the Hoth system would be a thin atmosphere devoid of any greenhouse gases such as carbon dioxide or methane. Although this would make it difficult for humans to survive on the surface, it would certainly allow the temperatures to be lower than they would otherwise be.

Yavin 4

This planet is actually the fourth moon of Yavin Prime, the third planet in the Yavin system. Yavin Prime was a gas giant with a diameter of nearly 200,000km, over 15 times larger than Earth, and almost double the size of Saturn. Yavin 4 is a jungle-covered moon, with a hot, tropical climate akin to that found around the Earth's equator. To achieve this, it would need to have a relatively thick atmosphere to support temperatures of around 30ºc. Yavin's climate is distinctly identical all across the planet; hot and wet. For this to occur, rainfall would have to fall equally across the entire planet, or there would have to be significant river channels flowing from the equator to the north and south of the planet to ensure that the forests receive

enough water to survive and flourish. For non-equatorial rainfall, there would have to be a completely different atmospheric system, which perhaps would only have a single atmospheric cell to the north or south of the equator. This would mean that there would be a distinct lack of rainfall at the poles, but a fair amount of rain everywhere else. This theory seems feasible if we replace Yavin with the location of Africa on Earth; the Sahara Desert in the north of Africa would be one pole, and the deserts on the south- west would be the other.

One final factor to consider is Yavin 4's orbital mechanics. Yavin 4 is a moon of Yavin Prime and orbits the main planet around 500,000km away. The closest analogy to this in our solar system is Io which orbits Jupiter at around the same distance. Both Io and Yavin 4 have a similar orbital cycle of around 40- 50 hours. However, Io is only around 3,600km in diameter, whereas Yavin 4 is much larger at 10,000km across. This would affect the rate of sunlight received by the planet.

Conclusion

The landscapes in the Star Wars films are a fantasy, but they have a basis in real world geography. They seem to follow the laws of physics and contain similar climatological and biological characteristics to those found on Earth.

Ben is a Fifth Form geographer who will be studying geography A Level next year. He is on the Lancing Geographer Editorial Board.

Third Form Tiffany's Young geographer of the year competition entry.

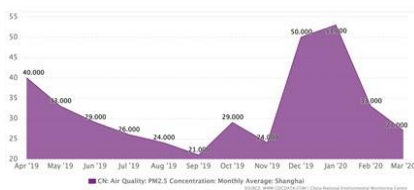# The World Beyond My Window
-By Tiffany

Pollution

Shanghai's annual PM2.5 average was 60.7 ug/m3 in 2013. Which was far off the healthy China air quality standards. For healthy air, the PM2.5 average should be within 35 ug/m3. These PM 2.5 air pollutants are very dangerous if you breathe it in a lot because they can get into your lungs and bloodstreams and cause lung cancer. They can be produced by cars, trucks, construction equipment's, heating oil or coal.

Most of the air pollution in Shanghai is composed of 50% of vehicles and factories. 10.5% of dust from constructions. Shanghai has tried to decrease the amount of pollution by requiring 30% of all government vehicles to be fueled by renewable energy. They've also banned fireworks within the Shanghai outer ring road to decrease the amount of smoke going into the atmosphere during the Chinese New Year's. I think that the best effective solution to air pollutants caused by fossil fuels is to use renewable energy such as solar and wind power.

The graph below shows that more people are heating up their homes in December and January and possibly also travelling to spend the New Year with their family and friends. Which had increased the PM 2.5 concentration causing an increase in breathing issues. You can also see a decrease of pollution from February to March, possibly because more people are trying to stay at home due to Covid – 19.

CN: Air Quality: PM2.5 Concentration: Monthly Average: Shanghai

Water Quality

We can access clean water in Shanghai but not everywhere, for example we can't get clean water to drink from the tap. One of the reasons for that is because of the bad pollution in Shanghai.

The pollution of drinking water causes lots of illness all over the world, even in Shanghai. For example in March 2013 there were dead pigs body floating in the Huangpu river, which made lots of people question about the water quality in Shanghai. More than 20 people were forced to rely on firetrucks to be brought to the hospital to have safe drinking water. Even today nearly 14% of the wastewater gets put into the Huangpu river, which also serves as Shanghai's water source. In 2016 the Nature Conservancy stated that more than 73% of the water we use daily were affected by medium-high level pollution. But the tap water system in Shanghai has seen some improvement over the past few years.

There are also cancer villages in China which are industrial towns like Shanghai where the rates of cancer are high. This is because many of the rivers in China are also contaminated with cadmium and zinc, which could cause cancer.

Population Growth

China is also the home to about 1.3 billion people and Shanghai is one of the biggest cities in China with the population of 24.28 million people. This is a concern to environmental advocates because China's middles class people are starting to develop western-style consumer patterns. Which means that more families are driving to markets to buy beef. This means that more cows are producing methane and is contributing to the greenhouse gas effect.

These sorts of purchases are also increasing the health risks in Shanghai. A city that used to have a healthy diet and was at low risk of cancer are now consuming twice as much of meat as Americans, which is one-quarter of the world's supply. This could be solved if more people in Shanghai/China realize what they are doing and how they are destroying their own planet by consuming meat.
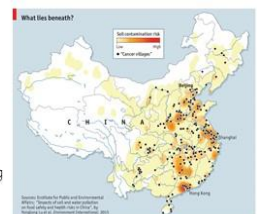
Hove Actually? Is Hove really better than Brighton?

Ben

Ben investigates whether Hove really is better than Brighton, and draws from his A Level research project.

I moved to Hove four years ago and quickly became accustomed to my parents making the 'Hove actually' jape. This is a joke where people ask you where you live and you say 'Brighton' and follow that up with 'well… Hove actually'. I ever since have been confused as to whether there really is a real difference between Brighton and Hove and so I decided to make my

> People ask you where you live and you say 'Brighton' and follow that up with 'well… Hove actually'.

A Level geography research project about the possible difference between these two locations. My project has strong ties to what I learnt in class in the 'making places changing spaces' course as part of our A Level. Here I learnt about places having different place specific identities and the various factors that cause these perceptions to arise in people, such as their age, background, socio economic status and ethnicity. Brighton and Hove have very different place identities and yet are

linked and are deemed to be one settlement.

There seems to be a lack of investigations into the environmental differences between Brighton and Hove. Rawding (2019) discusses how geographers should be moving away from simple land use modelling of cities and uses Brighton to show new ways of studying cities including ideas like sound scaping and investigating sense of place. A research article from Aletta and Kang (2015) shows how to do sound scaping to map noise pollution; in this study they focussed on one specific area in Brighton and Hove called Valley Gardens.
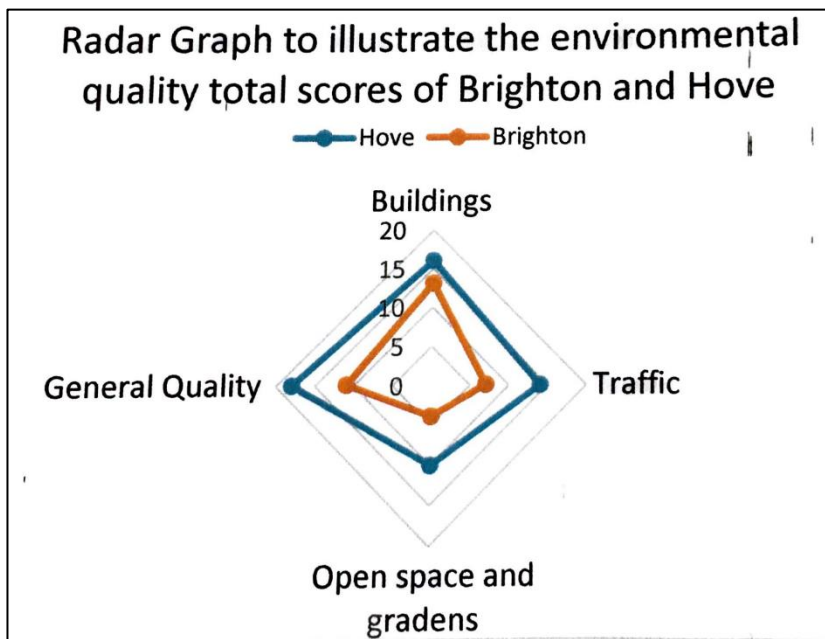
I did my research by going to what I deem the Central Business Districts (CBDs) of Brighton and Hove on a weekend to collected data. I interviewed people with questionnaires, did a traffic count and a noise pollution test. I completed an environmental quality survey. I was aware

Bar chart of the overall environmental quality of the CBD's of both Brighton and Hove Last question of the questionnaire.
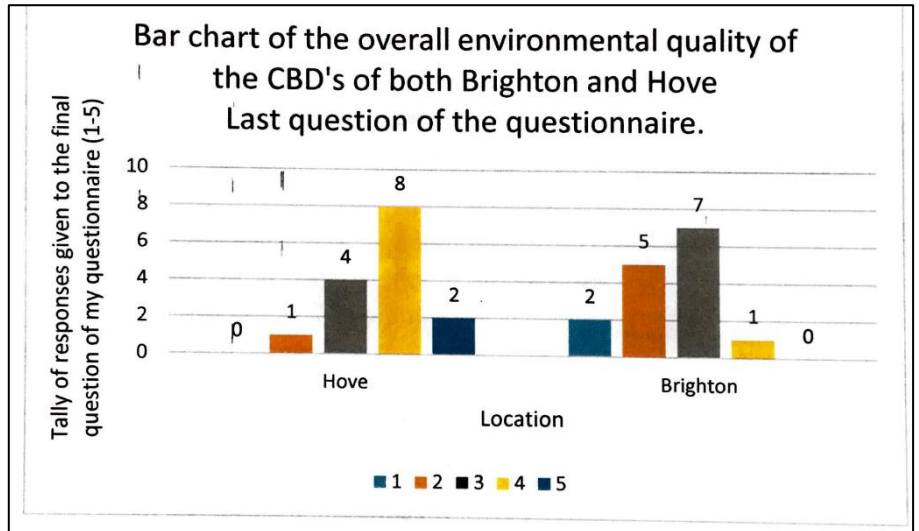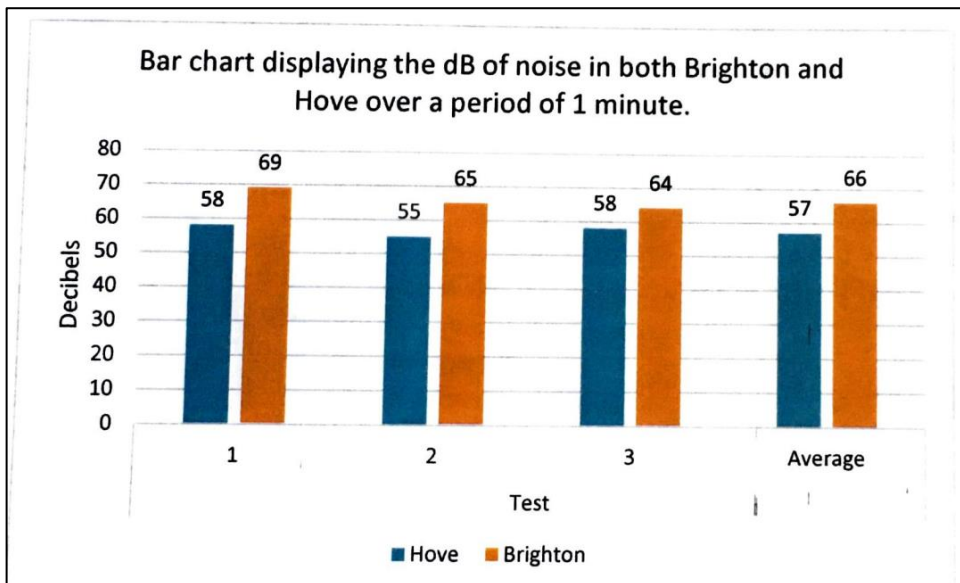
that my own socio-economic bias will have affected how I filled in the environmental quality survey (EQS) and so to counteract this I asked every 3rd person I saw to fill in a questionnaire so I collect some data that is not subject to my personal bias.

The first bar chart shows the results from the final question on my questionnaire in which I asked 'on a scale of 1 (poor) to 5 (excellent) how would you rate the overall environmental quality of our surroundings?'

The radar graph illustrates the different factors I investigated as part of the environmental quality survey, presented for both Hove (blue) and Brighton (orange). The number of homes that are deprived is larger according to the 2011 census data in Brighton than in Hove by 5730 to 5377 respectively. The more deprived homes in Brighton might be a reason for the large difference in

Radar Graph to illustrate the environmental quality total scores of Brighton and Hove

Bar chart displaying the dB of noise in both Brighton and Hove over a period of 1 minute.

environmental quality that can be seen from my data. The bar chart shows the noise levels in both places; I did three tests then took an average.

Conclusion

In conclusion the data that I have collected shows that Hove has on almost every measure a higher environmental quality than Brighton. This is shown in the questionnaire data, the Environmental Quality Assessment data, the noise pollution survey and in some measures the Traffic count data. The traffic count data shows that there were 13 more cars in Hove, however the number of buses and taxis in Brighton is higher being 12 and 7 respectively. I would say that the number of cars in Hove being higher than in Brighton is not surprising as it is a residential area and thus people are driving to their homes and to the shops, whereas the CBD of Brighton where I collected my data is a shopping hub for the surrounding area and thus it is not surprising that there is a large number of buses as the play a key role in public transport. However, the theory that underpins the traffic count is that the more cars there are passing through a certain area the lower the environmental quality. This theory can be subject to some debate as it is unclear how much more of an effect buses have on the environment relative to cars. The theory that underpins my noise pollution survey is that the lower the decibel reading the higher the environmental quality as a quiet environment is often one that is very peaceful and calm, one that is loud tends to be due to manmade noise which can be quite stressful and as we can see Brighton on average is 9dB louder then Hove.

References:

Aletta K and Kang J (2015) Soundscape approach integrating noise mapping techniques: a case study of Brighton, *Noise Mapping*, 2 (1), pp1-12.

Rawding C (2019) Raising Issues: Putting Burgess in the bin. *Teaching Geography*, 44 (3), pp94-96.

Ben is an Upper Sixth geographer who intends to study Environmental Science at University.

Into the deluge: Experiencing the Kerala Floods   *Abby*

*Lower Sixth form geographer **Abby** recounts her experiences of being mixed up in flooding in Kerela, India in 2018 and how her subsequent studies of geography have helped her make sense of her ordeal.*

The Experience

During August 2018 my family and I had a trip planned to the Indian states of Kerala and Tamil Nadu. We left the UK with a minor thought about the persistent rain in India and looked forward to our trip. What we did not expect to experience was the worst flooding in Kerala since 1924.

Our journey was planned to take in key highlights of the 2 states and we were, in the main, lucky with our route. The weather was a constant topic and with every stop we made sure we had updates on the current effects to the local area and the expected impacts to come.

We spent our final days on a large houseboat where we toured the back waters, only to come across the devastating conditions of the local's homes and livelihoods. We saw from our own comfortable boat the locals attempting to salvage houses from the water that had dominated and destroyed their homes. Large groups of men crowded together attempting to rebuild the riverbanks. We saw men digging up puddle clay from the riverbed. In England puddle clay is often used for lining canals due to its sticky and oily properties that make it waterproof. By hand, men were mixing puddle clay and reeds to strengthen and stabilize new banks as the

pressure and rise in water level had demolished the previous barrier.

Upon arriving back to the hotel, we heard the news that the Cochin airport had been shut as the water had cascaded onto the runway and was one metre in height preventing planes from being able to fly. At the time we did not know that the airport would remain shut for over two weeks which reflects the seriousness of the situation.

This had a major impact as Cochin airport is India's fourth busiest in terms of international traffic. This caused a problem for us as we were meant to fly home the following day. The only solution to leaving India was to reschedule our flights and drive 150 miles South to Thiruvananthapuram airport. Due to the flood water impacting roads what was meant to be a 4-hour journey instead took 6 hours, but we arrived safely. Here, we were fortunate enough to be able to fly home and leave the chaos behind. Strong feeling of thanks was present on the way home as we were able to 'escape' the disaster with little to

no impact on our lives. The locals of Kochi did not have this privilege and the impacts of the flooding were life altering. After arriving home, we followed the impact of the rains and realized the extent of the disaster, the fact it made headline news in the UK was testament to this. As a geography student, I was keen to research more about the flooding I had witnessed firsthand.

The Geography

Kerala is very mountainous with deep valleys and gorges. Due to is location near the equator it is a very lush landscape with a mixture of rainforest and cultivated land for tea and spices. The topography means that it is a very fertile state, but this comes with an annual monsoon season. Due to the low pressure the rainfall in August 2018 was over two and a half times more than average. Within the first 48 hours the state received 310mm of rain. The Central Water Commission could not have anticipated the

amount of rainfall as there were no flood forecasting sites in Kerala. This resulted in the dams filling to their maximum which forced the local authorities to open 35 out of the 54 dams for the first time in state history. This sudden release of water alongside the persistent rainfall aggravated the damage. The exceptional amount of rain and the management of the dams led to over 1 million people being displaced. Moreover, the sheer volume of water saturated the land leading to numerous landslides. Another contributing factor is the increase in urbanisation. While this might seem like a good thing for development, one downfall is the former land use of wetland and lakes acted as natural safeguards against flooding. However, now we see that infrastructure, humans and businesses are directly contributing to the problem and the danger. Agricultural land was also destroyed, crops were submerged by river water which meant huge economic losses were incurred by farmers in the area. As a result, food prices increased making it difficult for the poor to secure even one meal per day.

With 1 million people made homeless by the flood, over 3,200 relief camps were opened at various locations to provide accommodation. NGO's provided aid to the locals of Kerala. For example, the Red Cross provided three large water purification tanks which have the capacity to supply 700 litres of clean drinking water per hour. Also, Oxfam also helped by providing safe drinking water and toilets as well as helping remove debris in order to prevent the outbreak of disease. Oxfam also focused on personal hygiene of women and girls by distributing 'dignity kits.' Oxfam continued to help by building temporary shelters, giving out food and hygiene supplies. Other countries also offered

support such as UAE who offered $100 million. However, India, chose not to take support as they wanted to be seen as a strong and dominant advanced country but in reality, the country has a long way to go before gaining this title, specifically in rural areas that are especially undeveloped.

Conclusion

The experience of being caught up in a humanitarian crisis enabled me to see firsthand the awesome power of nature. As a geography student I have been able to make sense of the disaster, and it has helped me understand the complex task of responding to and managing flooding of this scale.

Abby is a Lower Sixth Geographer.

The Lancing Geographer Interviews: Lockdown geographies.

Amélie

*Lower Sixth form geographer **Amélie** interviews three leading figures from the world of geography to help shed light on the geography of the Covid-19 coronavirus and global lockdown.*

The coronavirus pandemic has turned all of our lives upside down. Globally, more than 423,000 people have lost their lives with more than 40,000 of those being in the UK, but all of us have been affected. Whilst you will have inevitably heard about it in the news and on social media, we thought it would be interesting to find out more from the perspective of a geographer, so we approached some of the country's leading geographers to give us their views on the pandemic.

Do you think the study of geography can help to make sense of the coronavirus pandemic?

Alan Parkinson:

I think Geography is the subject that is best able to make sense of the pandemic. At its heart is the connected nature of the world. Where you are matters, and the free flow of people by air for months after the outbreak meant the virus 'hitched a ride' and did what viruses do. For those in densely crowded cities, the risk is far greater than for those in rural areas - population density has become a real problem rather than a vague notion of "people per square kilometre". Some countries

like New Zealand have used their geography to advantage and locked down early and prepared appropriately and my friend - a nurse in a hospital - says he has no Covid-19 patients at all and enjoys a coffee after work in a cafe. Other island nations - our own for example - did not do that and the consequences have been terrible. Geographers also understand that cities need to be redesigned, and our economy will see shifts in employment.

David Lambert:

Yes. The study of epidemics - the spread of disease - has for a long time been an interest of geographers - for example, the great British geographer from Cambridge and Bristol Peter Haggett. But it has also been studied geographically by doctors etc, because of course the spatial spread of anything is quintessentially a geographical phenomenon. You will doubtless know about Dr Snow's classic study of a cholera outbreak in nineteenth century London. This is why testing and tracing is so key to controlling this disease: we have to know who has it, where they are and where they have been and who they have interacted with. It is a mystery to me why the government has been so slow to get on top of this part of 'the science' (but you didn't ask me about the politics of it all so I will say nothing more!)

The fact that this disease has become a *global pandemic* is a result of how quickly and 'secretly' this virus can spread (secretly, because c40% of infected people are asymptomatic - they don't know they have it and nobody else does - until they are tested). It was hilarious when Trump put up travel restriction to and from the USA in March 'too keep the nasty China virus out' (or words to that effect) - because the horse had bolted: the virus was already inside the USA …. The same reason for the current controversy over the UK quarantine rules that have been introduced.

What we have to do is test huge numbers of people frequently and trace their geographical interaction and isolate the spread. Far more effective than thinking we can 'keep it out'.

> The study of epidemics - the spread of disease - has for a long time been an interest of geographers.

Simon Oakes:

Yes, in countless ways. It's quite difficult to single out a particular point to make here - there are so many things we could talk about! Geography provides us with

Alan Parkinson is Head of Geography at King's Ely (Junior) School, and works as an author & freelance geography consultant. He is also Junior Vice President of the Geographical Association.

vocabulary and taxonomies to help us analyse the local and global changes that are underway, yes. It'll be interesting to systematically think about ways in which different global flows have been affected by the pandemic - one thing that springs to mind is the near-cessation of physical trade and migration flows at the same time as there is an explosion in social networking and the use of shrinking world technologies, and thus global information flows. We can also think about how local places are being transformed by the experience. One common theme you hear many commentators talking about is the way 'the fast-forward button has been pressed' in relation to the social adoption of emerging technologies. Institutional obduracy and objections to the greater adoption of homeworking

and on-line study have, at a stroke, been dismissed. People are using online shopping and delivery like never before. Meanwhile, many small businesses including restaurants and pubs will go into receivership and never open again. Put all this together and we're left with huge uncertainty for high streets, city centres, university towns.

It's also possible we may see a new wave of counter urbanisation to rival that of the 1960s and 1970s. If the 1990s and early 2000s are remembered as decades of re-urbanisation in the UK/EU/US, it's likely that the 2020s will become a decade of urban decline and rural regeneration - more people, particularly families with children, will decide to quit the city in favour of larger houses with gardens in the green belt or more remote areas (provided broadband is good).

One final interesting result of it all (for me) is how Black Lives Matter protest movements have fermented under lockdown. Young people are more physically isolated than they have been before - while at the same time being swept along by information flows and online social movements.

The world has pulled together to tackle the pandemic, yet there has not been the same response to dealing with climate

change. Do you have any thoughts as to why this might be?

Alan Parkinson:

The pandemic is an immediate threat to individuals. We know that if we go out and behave in particular ways our risk increases. We can do something about it by staying at home. We can't do the same with climate change - if I switch out all my light bulbs and

Prof. David Lambert is Emeritus Professor of Geography Education at UCL Institute of Education. He has held a variety of professional roles including Chief Executive of the Geographical Association. He has published many papers and books on geography education.

buy an electric car, it won't stop climate change - my personal choices won't protect me personally in the same way. Climate change is also viewed by people as something that is going

to happen 'in the future' although all the timelines are shortening fast. I remember when I was at school that we might see certain changes "by 2100" but now they are happening by 2050 or earlier. There is also an argument that we are too late with climate change - the processes have been set in motion and the feedback loops are happening - there was a big oil spill in the news recently in Russia. The storage tank apparently leaked because of melting permafrost. Finally, to go back to the question, I'm not sure the world **is** pulling together.

David Lambert:

I am not sure the world has pulled together. The USA still, and for a while yet, is the nation 'the world' must look to for leadership. It has now unfunded the WHO which is a disgraceful act as it undermines the capacity of 'the world' to pull together. I believe that there is enormous collective will amongst nations to tackle climate change - with of course controversies raging about who is picking up the bill and how this will be done. There is almost total agreement amongst scientists. But again, the leadership of the USA has been extremely poor. Trump especially - with his America First policy. The world's leading nations have retreated into dangerous irrational nativist politics (UK included) and the amazing response to the

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pandemic so far has been despite of this. I say so far, because of course the story is not over. But when it is 'we' then have to turn, quickly, to climate change because that problem dwarfs the current challenge of the pandemic. But WHERE is the leadership? Perhaps, perhaps, our national and international leaders are less relevant than I think. After all, change is occurring - again despite Trump, Bolsonaro, Xi, Modi, Johnson etc for example, the UK has just completed three straight months of no coal fired electricity…

Simon Oakes:

Covid-19 is a clear and imminent threat whereas climate change remains a more uncertain and medium to long term threat. The generation most under threat from Covid-19 are the over-70s and you can see why the government moved very quickly to bring about something previously unthinkable i.e. an economic lock down at a cost of hundreds of billions of pounds to prevent 0.5 million deaths this calendar year. In comparison, it's a lot harder to convince an electorate you need to release the same amount of funds for climate change adaptation and mitigation designed to protect people decades from now.

Do you think the pandemic will have any positive impacts for the world?

Dr Simon Oakes is a geography teacher, senior examiner and author. He has written many geography textbooks used in schools throughout the country on a wide range of topics including globalisation. He presents regularly for the Royal Geographical Society.

Alan Parkinson:

It's difficult to see that happening currently as it seems to have brought out the selfish side of people, whether that is people littering the countryside on their first weekend of freedom, or certain Politicians behaving as if their country is the most important and deserves special treatment. However, events can galvanise the world - protests show that an event in one part of the world can spread widely. I think it will be important to re-establish movement of people and connections again. I think we might also see a renewed interest

in our food and the choices we make of what to eat, and perhaps we will buy less (although the retail industry is going to struggle hugely as a result). Some individuals and companies will benefit - Amazon will continue to grow and home delivery will remain strong. Scientific research will hopefully be valued more, and the search for vaccines will carry through into research into other medical conditions. Geographers study all of these topics, whether it be borders, conflict, medicine, globalisation, urbanisation etc. of course as the world is our object of study. We will also be teaching about this for decades to come.

David Lambert:

Mao Tse Tung was once asked about the impact of the French Revolution (150 years previously). He said, 'it's too early to tell'. This is the ultimate non-answer. But it is my answer to your question. There will be impacts, and some will doubtless be positive. For example, commuting as we have known it may be finished as huge numbers of people are asked to work at home at least for some of the week. This may be positive in some ways (lowering the carbon budget) but the positives may be outweighed by unintended negatives - to do with mental health for example, or collapse of

'Commuting as we have known it may be finished'.

property values in the big cities. Who knows? But one thing is for sure and that is we need extremely good political leadership which can imagine 'better' futures. The next election - at which you will be voting - will be a very important one in the UK.

Simon Oakes:

Many people rightly see this as a golden opportunity to make sure we don't return to business as usual. In a classic Boserupian 'necessity's the mother of invention' moment, we're seeing a step change in the way virtual learning, health and working are all taking place - all of which may mean long-term systemic changes in the use of space with reduced commuting and office space, all of which may have positive environmental effects linked with low energy use and carbon footprint reduction. On the other hand, we've seen a contraction in economic growth which has never been witnessed before in the UK: a 25% contraction in GDP during lockdown. There's a desperate need to get people spending money and consuming again. For the state, the day to day difficulties involved with dealing with the pandemic involves supporting the millions who will be

losing their jobs when furloughing ends; this could make progressive long-term planning hard to apply as part of a nasty reality check. Throw volatile populist politics into the mix and sober, stable, sustainable decision-making may prove elusive. I hope not though. A lot is now riding on the political will-to-change of Millennials and Generation Z who already have a growing governance role around the world both inside and outside of elected bodies. I hope that their experience of lockdown will be instrumental in shaping the radical political changes we desperately need to survive and prosper in 21st Century.

As you can see, it is evident that viewing a global disaster through the prism of a geographer's eyes provides an interesting and thought-provoking perspective and shows how important the study of geography is in understanding the world today. It is also a helpful insight into how we can learn from the pandemic to help reduce the devastating impact of a similar event in the future.

Amélie is a Lower Sixth geographer, and on the Lancing Geographer Editorial Board.

Thanks to Prof. Lambert, Dr Oakes and Mr Parkinson for taking part in the interviews.

Third Form Alex's entry for the Young Geographer of the Year competition.

THE WORLD BEYOND MY WINDOW

By Alex

Since I live by the beach, the issue of global warming is particularly relevant to me. According to NASA, if all glaciers and ice sheets melted, then sea levels would rise by 60m; completely eliminating coastal cities around the world along with the town I grew up in. In order to prevent this eventual scenario, we must lower our carbon emissions as low as possible, and find other ways to make jobs, fuel our economy, and keep our country running. Coincidentally, the new Rampion Offshore Wind Farm is also just outside my window. The £1.3b project produces enough electricity to power 350,000 homes according to the project's official website, and this is one of the ways in which we can modernise our economy moving forward.

Also, longshore drift is another geological feature occurring just outside my window. Waves travelling in the direction of the prevailing wind in the area deposit rocks and pebbles on a beach – this is known as swash. Then, the waves take material back from the beach in a process called backwash and move it along the shoreline. Eventually, at the end of a beach, the material deposited forms spits, although this can be prevented by building groins that prevent swash.

Furthermore, outside my window is a family-run café that is one of thousands of small businesses across the UK forced to adapt amidst the outbreak of COVID-19. The business has begun serving food and drink on a takeaway-only basis, and this is how other small businesses alike will be forced to operate during the uncertain economic future we face. Normally, the skies above my house would be filled with planes, but now, with the aviation sector losing at least $113b according to Forbes and CNN on 5th March – estimates may have gone even further up since then – merely a fraction of the planes that regularly fill our skies are sat on hangars and runways. All in all, the economic devastation of COVID-19 will change our world, arguably, more than the disease itself, and we are set for the greatest economic recession since the Wall Street Crash of October 1929.

Additionally, I live in a microclimate in the shadow of the South Downs. This means that, whilst not on the day the photo was taken, the area I live in receives disproportionate amounts of relief rainfall as opposed to the rest of the country. This is because the Downs compresses clouds and forces the precipitation out of them into the rain shadow south of the Downs. According to en.climate-data.org, my local area experiences 27.7 inches of rain annually contrasted to the German city of Leipzig which only receives 20.4 inches of rain per year at a similar latitude.

In conclusion, from global warming to longshore drift to economics, the geography outside our windows is more than what it appears.

Top: The view from my window
Above: Predictions on where sea levels will be in 80 years quoted by the Argus – my house will be fully submerged
Below: Flightradar24 data showing the large reduction in flights over the UK during lockdown
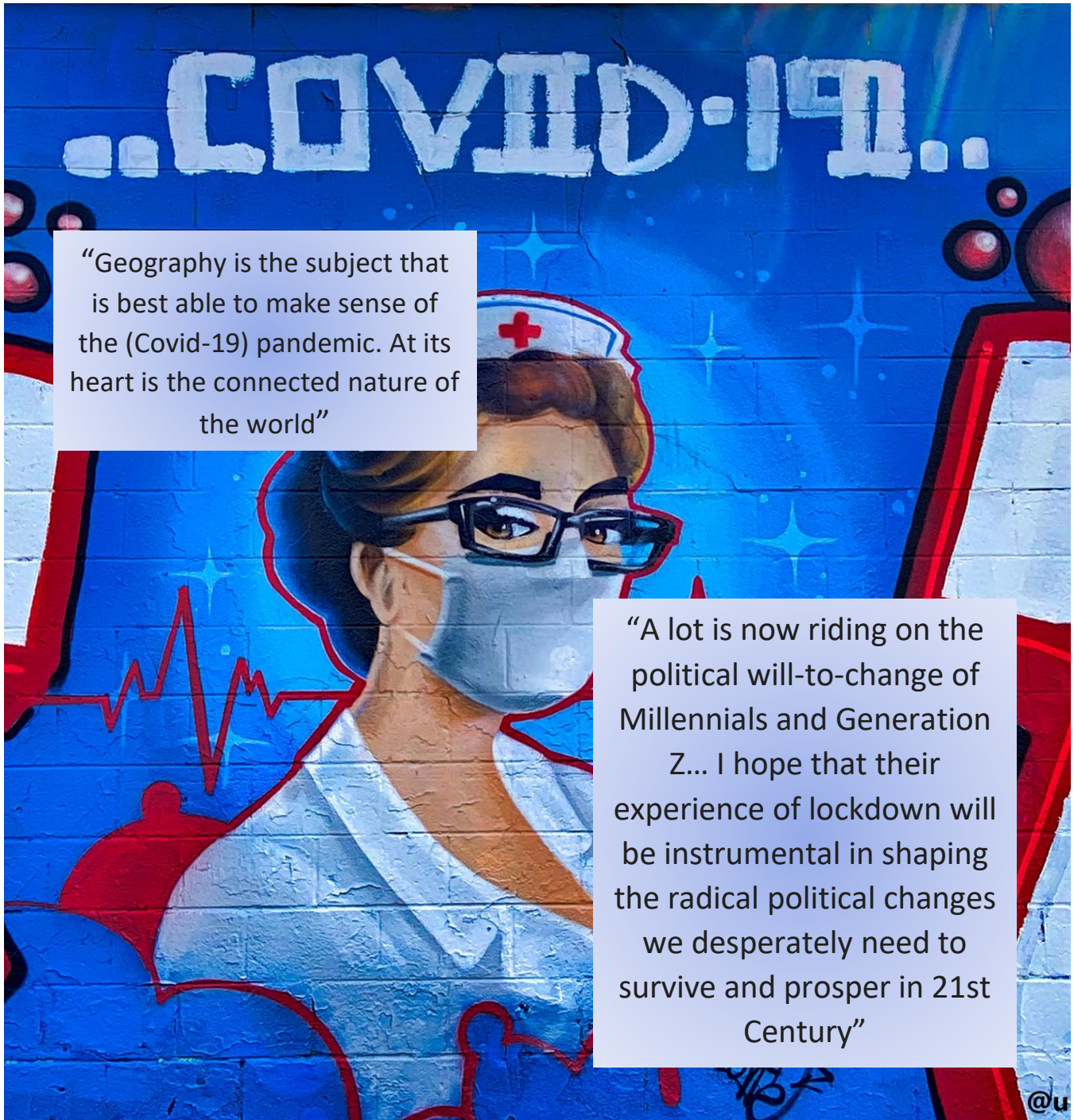
"Geography is the subject that is best able to make sense of the (Covid-19) pandemic. At its heart is the connected nature of the world"

"A lot is now riding on the political will-to-change of Millennials and Generation Z... I hope that their experience of lockdown will be instrumental in shaping the radical political changes we desperately need to survive and prosper in 21st Century"

The Lancing Geographer has been produced by students of geography at Lancing College. This edition was produced remotely in summer term 2020 as the school was closed during the COVID 19 global pandemic.

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