

CORPUS CHRISTI COLLEGE
EXPANDING
HORIZONS 2017



SCHOLARSHIP
REPORTS

Thanks to the generosity of a number of US alumni the College was able to establish the Expanding Horizons Scholarship Fund. The fund, open to all current undergraduates and graduates, provided scholarships for nine students to spend between four and eight weeks in the United States or a similar period of time in a non-OECD country. The scholarships provided up to a maximum of £4,500 and offered the recipients an opportunity to experience the United States or a non-OECD country with the aim of building connections to form a basis for greater understanding and shared purpose, allowing them to expand their horizons and hopefully have a transformative experience.

The scholarships had a wide remit and aimed to provide broad educational value beyond the scope of the applicant's academic course at Oxford. It was hoped that the trip would also involve significant exposure to the local people and culture of the area/country. The sorts of activities that the scholarship covered included taking an academic course not related to the applicant's current degree, working for an NGO, doing an internship in a business or laboratory, volunteering or taking part in local project.

A number of alumni offered opportunities to our young people to work or study overseas during the summer for which we are extremely grateful.

It is anticipated that we will fund at least three students to spend time in the United States and a non-OECD country during the summer of 2018 and our intention is to continue to raise funds to enable us to offer this scholarship in the years to come.

This booklet contains the reports of the inaugural Scholars which we hope will inspire both donations towards continuing the scholarship for the years to come as well as to enable current students to find out what is possible and to encourage them to apply for a scholarship which will, as the evidence shows, expand their horizons.

We are grateful to the following alumni for their generous donations to fund this scholarship:

Gerard Baker
Todd Breyfogle
Edward Britton
Robert Brown
Daniel Clodfelter
Nicholas Cornes
Stephen Croft
Andrew Davis
Karin Galil
Michael Hasselmo
Nathan Holcomb
Matthew Latimer
Satyen Mehta
Michael Poliakoff
Robin Russin
Mark Shapiro
Ralph Smith
Anna Sproul
Chantal Stern
Tim Tilton
Jonathan Towle
Nicholas Walter
Ford Weiskittel

We are grateful to the following alumni for supporting our students in offering positions within their laboratories or internships within their companies:

Beth Lawrence (Alvina Adimoelja)
Tom Adlam (Robbie Fraser)
Ben Cannon (Qi-Lin Moores)
Anna Sproul-Latimer (Hugo Shipsey)

We would also like to thank alumni who offered positions that we were unable to fill.

The recipients of the Expanding Horizons Scholarship 2017 were:

Alvina Adimoelja – first year Biomedical Sciences student

Josh Deru – second year Materials Science student

Robbie Fraser – first year PPL student

Jack Holland – fourth year Chemistry student

Byung Jin Kim – fourth year Medical student

Qi-Lin Moores – first year Law student

Abigail Newton – second year English student

Hugo Shipsey – second year Classics student

Adam Steinberg – first year Physics student

Alvina Adimoelja

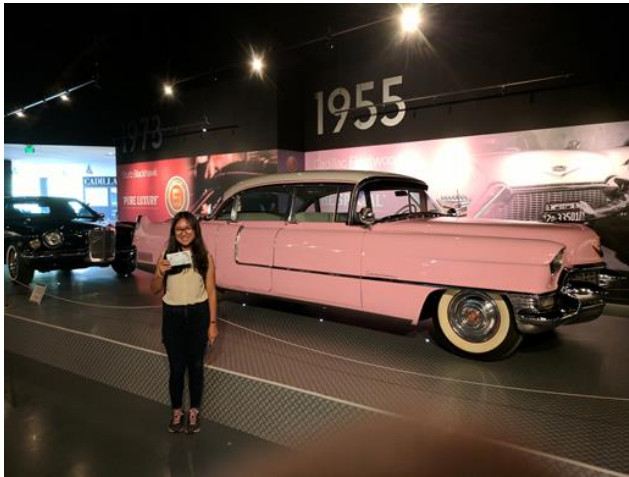
I particularly wanted to go to the South because it seemed such a strange place to me. My mother was at first baffled when I told her I would be in Tennessee doing a science internship for two months. Twenty-five hours in planes and I was tossed into another universe. Nashville is like Singapore flattened and stretched out. The buildings were stout and far apart, separated by huge carparks. Walking around the neighbourhood, I saw American flags outside unassuming-looking houses. I listened to more country music during the two months I was there than during my whole twenty-year life. Aside from the humidity and the cicadas, Nashville was nothing like Singapore.

From nine to five every weekday, I was in Vanderbilt University shadowing Beth, a postdoc from the Zanic Lab. She studied in Corpus for her undergraduate degree, and it was fun hearing old stories about Corpus while doing research on CLASP's effects on microtubule dynamics. I consider myself lucky to have had my first lab experience with such a friendly and welcoming group. On my first day, Marija, the PI, planned out my commute because I could not drive in a city where driving is essential. She was horrified when I told her I had walked on the highway to Walmart to get my (first ever) bike. There was also a weekly lab outing, in the form of hot chicken dinners, cheese and wine, and eclipse-viewing. Over the two months, I was able to get to know the lab and their family. In the car ride to cheese and wine, Marija told me how she moved from Croatia, her home country. She talked about the Croatian War of Independence, and how she felt Catholicism was all for show there. It was interesting to learn about a different world from her, and I set out to talk to as many people as possible.

Talking to locals was an easy feat because Nashville is such a friendly place. I found that 'Southern hospitality' really exists; strangers greet one another randomly, and strike up a conversation. It is different in Singapore, where people are generally more reserved. I baked Ms Carney, an African-American bus driver who drove my route every morning, some *lidah kucing* (Indonesian sugar cookies) and we gradually became friends. Ms Carney is gregarious, motherly, and loves community. She loved the solar eclipse because everyone gathered and cheered for the sun. She has a huge family, all in Nashville, and loves spending time with them. She was sad for me when I told her I only have six cousins – paltry compared to her fifty-odd. I told her I had not met five of them in years because they live overseas, and she seemed devastated. In week three, she told me a new baby niece had just been born, named Alvina (but not named after me, pitifully). She was proud of her children, two of whom attended college. I was not surprised; she kept reminding me I had to write this report, and that I had to have a thesis, introduction, and body. I felt her pride. I grew up in Indonesia where there is little social mobility, and where a bus driver would never have the means to send their children through tertiary education, so I enjoy such stories, whether in Singapore, the UK or the USA. By a couple of weeks into my stay, she was, as she put it herself, my 'mother hen'. I shared with her my plan to go to Memphis because I wanted to see more of Tennessee. She told me I had better watch out; Memphis is ranked the second most dangerous city in the USA.

I realised I needed another mother hen: one that could drive, and who was free on weekends. It took the form of Lea, Emily's mum, whom I had convinced to take me to Memphis on a road trip. Emily is a Chinese-American Stanford student who had spent two terms at Corpus, and has the most diverse music repertoire I know. Lea drove us to Memphis, away from Hurricane Harvey's rain. It was almost poetic, like Lea's life story. She grew up in a Taiwanese orphanage because her parents were dirt-poor. They were initially from China, but fled to Taiwan after the communists took over. Lea then moved to Virginia when she was thirteen, and slowly worked her way up. I learnt about Affirmative Action from her, and how through it she, a woman of an ethnic minority, was trained to

be in a high position in a computing company after having just started out. To me, this is great; I had seen many black bus drivers, deliverers, cashiers, but not PIs.



Memphis music was incredible. We saw plenty: from Beale Street, where Elvis and BB King hung out, to Sun Studios, the birthplace of Rock and Roll and where Elvis made his first recording. We also caught the Memphis Music and Heritage Festival. Memphis was atmospheric; the streets were desolate and full of old buildings, some boarded up. It was like being in a 70s film. Sally, my AirBnB host, explained that it was because of 'white flight' after desegregation, and a lot of people feeling unsafe after Martin Luther King's assassination.

The Lorraine Motel, where Martin Luther King was assassinated, had been turned into the National Civil Rights Museum. I duly visited. It put in perspective the racial history of America, like how the blacks really only became able to vote in 1965. It reminded me of a conversation in a Nashville bus, a couple of days after Charlottesville. A group of black men were talking about the incarceration rate, how the system was rigged against them, and how miserable their pay was. They said it was like they were back in 1865. One of them told me how glad he was that he did not vote because he hated both candidates. It seemed such a shame to me.

In the museum, I saw a map showing racial segregation in major American cities, including Nashville. The extent of segregation shocked me because, although common in American cities, it is not in Singapore. The Singaporean government enforces ethnic quotas in housing to integrate the races. But this, I guess, is a level of government interference most Westerners will feel uncomfortable with.

In Memphis, I also saw a confederate statue of General Nathan Bedford Forrest, founder of the KKK. Joseph, my Lyft driver, explained that the city wanted to remove it, but that the state prevented them from tearing it down. I was then reminded of my trip to Franklin, where one of the costliest battles to the Confederates was fought. After a tour of the Carnton Plantation, which had been used as a Confederate field hospital, I gathered my courage to ask David, the tour guide, what he thought about Confederate flags. I felt that I had to watch my tongue; 70% of the county we were in had voted for Trump. A woman looked at me and said exasperatedly that 'it's history'. David disagreed and said it was not history at all. He explained how the Confederate flag we think of now is not even the actual flag, and how the monuments were built during the Civil Rights movements, and they were built in places that had no historical connection to what they purported to commemorate. He said they were built to intimidate the blacks. This sentiment was repeated by Joseph. Walking in the confederate cemetery in Carnton Plantation, I did not know what to make of these soldiers' death.

I began to notice the differences based on race. Having grown up in South-East Asia, I had not met many black people in my life before. On my morning commute to Vanderbilt, I would pass by school kids, most African American, waiting for their school bus. As time went by I befriended them. Karen, one of the group, told me how she grew up in the projects, and related some of the scary things she had seen in her neighbourhood. I realised the houses in the area all looked identical: short and sharply rectangular brick houses. I could see the map I had seen in the National Civil Rights Museum in physical form.

Lea and Emily headed back to Nashville while I remained in Memphis. I spent my last day walking around the city, looking around to make sure I had not unwittingly led myself into a dangerous spot.

I managed to get to St Jude Children's Hospital, where I learnt about the good their research had brought to kids with cancer. It filled me with awe, as medical research tends to. I went to the Greyhound station on a high, eager to be back doing science with the lab. Yet, I had to spend a lonely night in the second most dangerous city in the USA; Greyhound had oversold the seats, and I had to take the next day's bus. The mishap turned out alright. I found myself a place to sleep, and returned to the station at 4 a.m. Half-asleep, I watched a feverish televangeliser persuading me to plant a \$1000 seed. He told his audience not to care about the debts, nor about owning homes, but to give regardless to get a hundred-fold return. It was not just for people who want to get rich quick: it was also targeted towards humbler aspirations. He told an unconvincing story about a father who planted a seed, whose son winded up winning a college scholarship worth a hundred-fold his donation. Tired, puzzled, and disgusted, I boarded the bus. I tried to start a conversation with the smiley man seated next to me, but he could only speak Spanish.

Back in the safe cocoon of Nashville, I saw a man outside of Vanderbilt wearing a sign on one side saying: 'Is Pope Francis the Anti-Christ', and on the other declaring evolution to be an 'impossible' hoax. As an aspiring scientist who grew up in a Catholic family, I was intrigued. I was also astounded by how openly he could do this; it would instantly be regarded as criminal activity in Singapore. The man's name was Ron. I chatted with him for a while, but was unable to understand much.

On my last weekend, I was invited by Nikki from the lab to a tailgate. She said it would be the perfect end to an internship in the USA. A tailgate is when fans gather to grill and drink before a game, usually football. I agreed. It turned out to be a big event: Vanderbilt was playing against Alabama, one of the best teams in the nation (they beat us 59-0 in the end). I could tell there must be a lot of money involved. The campus was bustling with Vanderbilt and Alabama fans, and some streets were blocked off. There were commentators before the game even started. Hundreds of students were partying in the sorority and fraternity houses. It felt like a scene from one of the many American college movies I have watched. It felt rather overwhelming.

Then, I received a call from Ron. I left the college football scene to find myself in the house of Ron's daughter, Julia. Although they were hospitable hosts, I spent the rest of the day feeling like I was in a scene from a completely different kind of American movie. Ron is a self-acknowledged religious nut. Some of his theories include: Catholics are evil, other religions were started by demons and fallen angels, the world's elites (led by the Pope) collude to reduce the world population by creating new pathogens such as HIV. Unsurprisingly, he thinks evolution is a lie. Surprisingly, he thinks it is a false concoction pushed forward by T.H. Huxley for his own sexual freedom.

I also met Barry, Julia's husband. Julia and Barry were both recent converts, but not due to Ron's persuasions. Barry spent most of his life working flat-out to earn as much money as possible so that he could retire early. His hard work paid off; his house was large and comfortable. The focus of his life changed after he converted. They told me they were in the process of restructuring their lives to live in a less materialistic, more Christian way. Barry's conversion was motivated by a vision he saw, which he thinks explains the Book of Revelation. He saw the beast and the end of the world. He thinks the 'mark of the beast' will be computer chips, and everyone would need to have them under their skin to purchase goods. For this reason (and because of a fierce suspicion of GMO products), he and Julia now grow as much of their food as possible. My visit ended with a dinner cooked by Julia: a burger made from a cow they slaughtered themselves.

Julia and Barry drove me to their church the next day. It was a self-made reformed Amish church, and most of the congregation came from Amish backgrounds. They had left the fellowship because they felt that Amish's strict adherence to practices was driving the focus away from God. They wore simple, plain clothes: women wore long dresses and veils, while some men had beards and suspenders. They had large families, their own farms, and the men worked in construction. Tim was keen to share photos of the work of his concrete business. He takes pride in his work, and said he

always made sure to do a good, honest job. He and his wife were also eager to share about the Creation Museum in Kentucky, and said I must visit it. During the church service, the churchgoers shared their thoughts on the importance of charity and of helping their fellow church members. I am not sure what I was expecting when I came, but I was surprised by the friendly welcome I received. I had a potluck lunch with them, was offered fresh milk straight from a cow, and then invited to a sleepover by Rosemary. I met Henry, who was my age, and taught almost all the grades at the community school. Like most of his peers, he graduated from his community school at fourteen, and worked afterwards. I told him about Singapore, how it has no countryside, and how the buildings are tall and metal. It was amazing how different our lives are.

I also met Johnny, a friendly, affable-looking man. He looked firmly Amish with his beard and suspenders, and was the one who talked to the church about the importance of helping one another. Ed sat next to him, with bushy eyebrows that were almost perpetually furrowed, and an intense glare. We had a confusing and (in my mind) conflicting conversation. They would talk about the importance of God in their lives and hence the sacrifices they were willing to make to live by God's words, the evils of greed and consumerism – things I find acceptable, and even admirable – and then talk suddenly about how climate change is a Chinese hoax, and how Johnny's sister had been cured of her gayness and now has a family. After receiving anti-evolution and anti-abortion DVDs from Ed, I left, thanking everyone for their hospitality and their openness in sharing their opinions.

I felt tired and confused after two days of radical Christian views. Most of all, it felt very surreal. I had never experienced anything like this in Singapore nor Indonesia. Ron's talk would simply be illegal in Singapore, especially because of his attacks on other religions. After spending some time with Ron, I could see that nothing I could say would make him change his mind. His ability to contort evidence was baffling. For example, he talked about how no one knows the full title of Darwin's book 'On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life'. According to him, the title is evidence that Darwin wrote it to justify slavery. I told him I have read the book, albeit a long time ago, and I could not remember Darwin talking about human origins. Ron insisted. I wondered about the responsibility of free speech. It seemed to me that people were free to use any 'evidence' to justify their beliefs, regardless the trustworthiness of the sources – not to mention the consequences such beliefs can have. Yet, when I saw teachers protesting against DACA around the Tennessee State Capitol, I saw the bright side of American 'freedom'.

I firmly disagree with Ron's views. At best, the absurdity of his conspiracy theories is hilariously ridiculous. For example, it is odd how he paints such a mad, powerful, sinister picture of scientists; I never saw my lecturers, my tutors and my colleagues that way. At worst, his views are hurtful, dangerous, and sinister, and it is difficult to dismiss them as harmless craziness because they can have consequences in the political climate which we live in today. At the same time, I admire the simplicity of the lives of the people in his church, their earnestness to live by what they perceive to be truth, and their sense of community.

In a car ride, Marija and Thomas jokingly told me how everything is possible in the USA, both the good and bad crazy. I certainly felt so in the lab. By the end of the two months, despite having done almost zero substantial practical work my whole life, I had expressed a protein, quantified CLASP-promoted nucleation, as well as CLASP's effect on the instantaneous growth rate of microtubules. I had managed to get around with no car by riding my bike on the road for the first time. Most rewardingly, I had made friends and learnt plenty from strangers. This was the most eventful and thought-provoking summer I have ever had, and I would like to say thank you to Beth and Marija, and especially to the benefactors of this scheme.



Watching the solar eclipse

Josh Deru

Foreword

I would like to begin this report by expressing my deepest gratitude to the Expanding Horizons Scholarship Fund for sponsoring this project, and to Rachel Pearson, Steven Cowley and the EHS Selection Committee for organizing the sponsorship. It has been a truly unforgettable experience, one that I will look back upon with extremely fond memories for the rest of my life, and it would not have been at all possible if not for the generosity of the EHS scheme.

There is so much to report on from my time spent here in the United States of America, and so I have tried to condense it below into an overview of my aims and reasons for going, the project itself, my overall time in America, and what I have gained from the experience here.

Introduction

As a Materials Science student here at Corpus Christi in Oxford, I am keen to become involved in research at some level in my future career and so have been looking consistently for possible research opportunities and internships to apply for over the past few years. It is however very difficult to find such opportunities in the UK as there simply are not a lot of undergraduate positions available, especially without having significant previous experience in the field. Having unsuccessfully applied for a range of schemes across the UK for the past 3 years I decided to look outward, particularly to the US where the opportunities are more abundant.

I was fortunate enough to be accepted as one of two Oxford students to work in a Materials Research Group at the Massachusetts Institute of Technology in Boston, an extremely prestigious position which I was honoured to be selected for, however as it was an unpaid internship I would not have been able to cover the costs of flights, accommodation and living with the funding supplied by my department alone. I was thus delighted to hear of the new opportunity being presented by the EHS scheme as it would allow me to accept the position at MIT and partake in the research there.

The scheme is an International Research Opportunity Project (IROP) Exchange Program facilitated by the Materials Departments in Oxford and MIT, wherein I was able to apply directly to the professors at MIT who were working in fields and on projects that I was interested in, to work under the supervision of a Post-Doctoral Fellow as a research assistant. It lasted 8 weeks, and was an incredible opportunity for me to experience genuine frontline scientific research, to learn and be trained on a wide variety of analytical and theoretical techniques, and to contribute to the world of science with the work I was able to do and hopefully will do more of in the future. The project began on July 2nd and ended on August 26th and was a uniquely amazing experience that I am extremely grateful for.

Scientific Research

Within the field of Materials I am particularly keen to work to resolve the pressing issues of Anthropogenic Global Warming and dependence on fossil fuels (from a Materials Scientist's perspective), and so applied to work for the Grossman Group at MIT, under the fantastic supervision of Dr. Grace Han and Prof. Jeffrey Grossman.

My project was on *Thermal Energy Storage in Phase Change Materials*, which as mentioned in the title is a project seeking to create new materials that are able to store thermal energy, from both the sun and other heat sources, and later release it for purposes such as heating, cooking and ideally powering both homes and industrial complexes. The research is new and unprecedented, meaning I cannot fully describe it in detail until we have fully published it, however I am still able to provide the overview below.

The project made use of organic photoswitching molecules (molecules that changed their properties when exposed to different types of light) that were combined with phase change materials (materials that could release or store a large amount of heat energy depending on whether they were in their liquid or solid state) to make new materials that could be used for controlled energy storage, absorbing heat from nearby sources and storing it until exposed to a certain type of light which could be used to trigger a heat release. A postgraduate student before me had published a proof of concept for this idea as his thesis, and I was tasked with following this up by finding out how to optimise these materials by selecting the best materials to combine, the best methods of preparing the mixtures and the best ratios of elements necessary to store the most energy possible for as long a time as possible.

Having received my project title in the Trinity term of 2017, I had spent plenty of time researching the broader areas of the field, reading related scientific papers and attempting to refresh my knowledge of organic chemistry, as this was a large part of the theory behind the project. I then arrived in Boston and was given a few days to settle in, continue to read up on the project and meet with my supervisor Dr. Han in order to discuss more precisely the plan for the summer - Dr. Han and the rest of the group were extremely welcoming and made this process very easy, which was an encouraging start.

I received training on a range of high-spec apparatus such as an NMR (Nuclear Magnetic Resonance) probe, a DSC (Differential Scanning Calorimetry) probe, and a Microbalance capable of weighing samples up to a precision of 0.0000001g! In addition I was given an induction and tour of the fantastic MIT facilities, as well as various required lab safety and conduct tours.

Having completed these I was then able to enter the lab and begin work on my project. I had spent the past two weeks designing the experimental procedure and learning the theory behind the research, but now was faced with the rather different prospect of becoming accustomed to the lab, practising proper laboratory conduct (although I had done this to an extent in my first two years of my Oxford degree, there was still much to learn) and essentially putting the theory into practice. I learned how to prepare samples for testing, how to run the experiment in general and how to assess the data I was receiving, while also modifying the experimental procedure as I learned various practical limitations and benefits of physical experimental work rather than simple theoretical design. Most importantly I had to figure out, in conjunction with my supervisor, ways to optimise the data I was recording to achieve not only the most promising, but also the most reliable and repeatable sets of data possible, a process which took the best part of four weeks.



Photographs of the sample preparation lab for my lab group, and a sample being prepared for

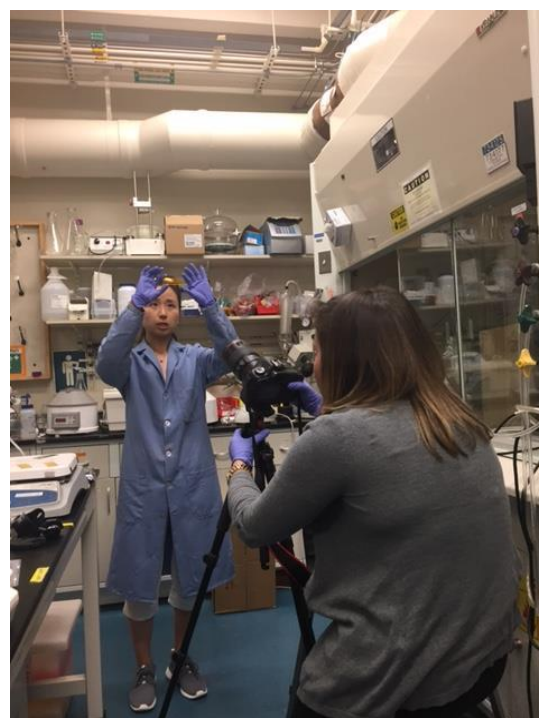
Having spent time attempting to perfect the experimental process, I could then begin screening various materials and mixtures that we had decided from our calculations and theory were the most promising combinations for our specific purpose. We tested a wide range of materials, and used the trends apparent from our results to confirm or disprove our initial theories, and also provide suggestions for other combinations to test that could be even more promising. This was hard work, usually requiring long days in the office and laboratories as well as evenings writing up and analysing data afterwards, however it was extremely rewarding and personally satisfying as the data being recorded provided a tangible marker of the progress being made. The help and support provided by my supervisor Dr. Han during this time was vital to this progress, and the requirement of regular meetings and weekly progress reports analysing and explaining the week's work (written by me, to be submitted to my supervisor and the lab group) meant that I had regular goals and targets to achieve and helped to keep me motivated when the work became difficult.

During this time I was also able to experience a range of other facets of working in a laboratory that provided some fascinating insights into genuine research lifestyles. The Grossman Group holds weekly lunch meetings/seminars in which one or two different members each week take turns presenting their work to the rest of the group, giving a chance for discussion of new ideas and developments, the opportunity to practise presentational skills, and most importantly to try to encourage collaboration and inspiration across different projects in the group. They were also good chances to meet the rest of the group (consisting of roughly 20 people) and learn about new scientific breakthroughs and ideas.

Another interesting part of my time spent in the lab was the maintenance of the lab, something I had not thought much about before actually working there. This sounds like a relatively uninspiring part of the job, however in a diverse lab such as the one I was working in this meant I could get to work with new and exciting pieces of equipment such as liquid nitrogen tanks (pictured), vacuum pumps and some of the volatile acids and solvents used for cleaning equipment. One particularly interesting aspect of this was when the group received an X-Ray Diffraction Spectrometer from another group which was broken, however potentially worth hundreds of thousands of pounds when fully functional. Dr. Han and I spent a significant amount of time working with the machine until it was eventually able to function (although sadly not quite in time for me to use it before my departure) which was a fantastic result.



(Over)Filling a liquid nitrogen tank



Filming for the MIT website

On a less serious but equally important note we were also involved in the filming of a video for MIT publication, as my supervisor had recently had a paper published on a similar topic to the one we were working on, and so the Institute was keen to film some of our results and our work in the lab to publish as part of an article reporting on new scientific breakthroughs. I was able to assist my supervisor in sample preparation and testing while this filming was going on in the lab, another unique experience that I greatly enjoyed.

Despite having finished with my lab work at the end of the 8 week period, I am thrilled to be able to write that I am still in contact with my supervisor and the lab group as we hope to turn the data we have collected and analysed into a paper for formal publication in a scientific journal, an outcome that I couldn't have imagined possible before applying for this project. The fact the project was a success not just for me personally but hopefully also for the group and a wider scientific community gives me immense pleasure and hope for future work in research.

Additional Opportunities

On top of all of the incredible educational facilities and work that the project gave me access to, it was also an unforgettable experience in many other ways. Firstly, the exchange with MIT meant I was essentially a full MIT student for my 2 months here, and was thus able to take advantage of a plethora of rare opportunities, including access to state of the art sports facilities, free or discounted entry to a range of galleries, museums and libraries, and access to opportunities such as sailing courses, whale watching tours and various shows that are either unavailable or simply unaffordable in the UK (for students, at least).

Memorable experiences include (but are definitely not limited to) an extraordinary 4th of July Fair and Fireworks Display over the Charles River, watching the Boston Red Sox win a baseball match in overtime at Fenway Park, and being on a boat within a stones throw of a host of different whales and sea creatures. On a more relaxing note the MIT accommodation is within half an hour of the beach, useful for the roasting Boston summer, and near to Boston common which regularly hosts free Shakespeare performances, jazz music, yoga classes and even salsa lessons for any keen

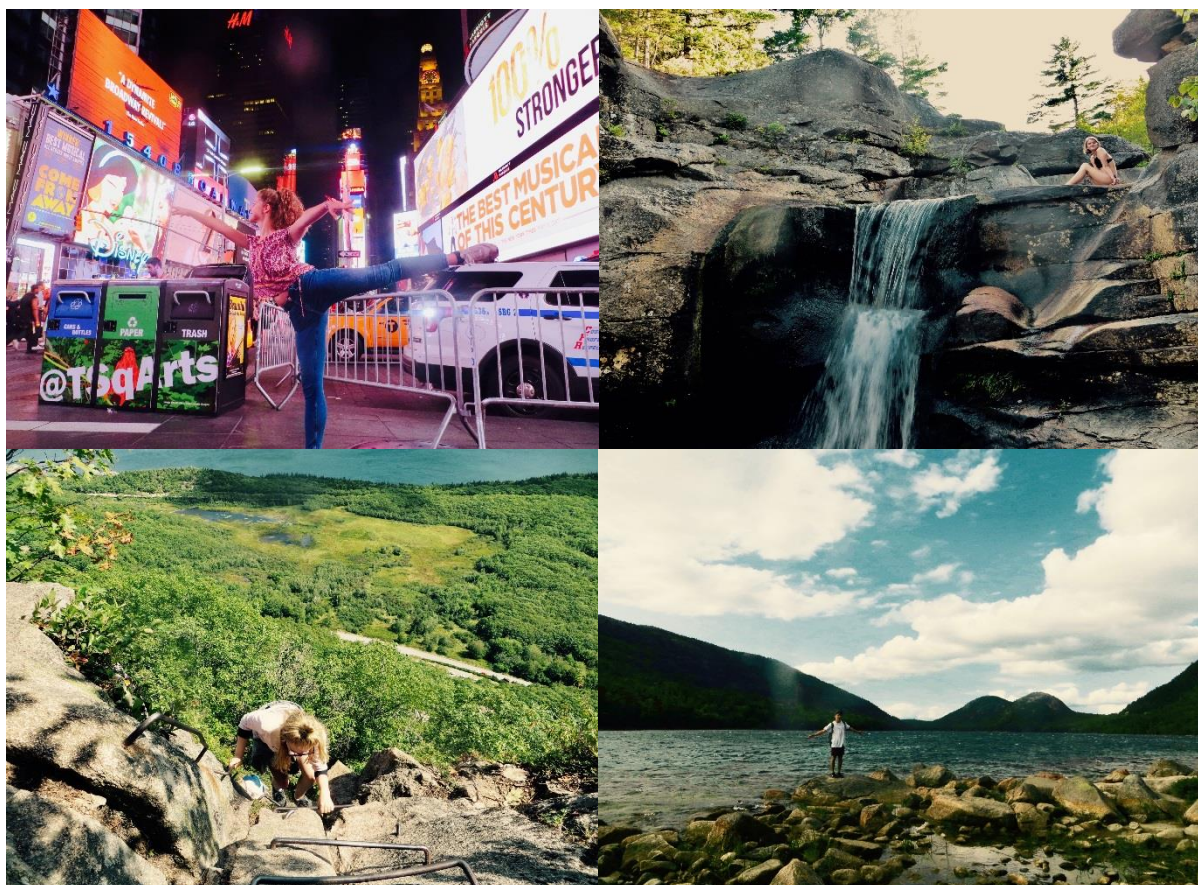
dancers. The Common was in fact host to both an alt-right “Free Speech” rally and an Anti-Fa counterrally during our time in Boston, unique spectacles worth viewing (from a safe distance) during this time of political turmoil in America. To cap all of this off we were in America during the solar eclipse – although we were not quite in the path of totality we were able to safely view the partial eclipse from the MIT campus, an exceptionally rare event.



The partial solar eclipse viewed through a UV lens, and clashing groups of protesters at a rally

We were also fortunate enough to coincide the timing of our projects with an Imperial College-MIT exchange, meaning we had a group of 20 or so like-minded students with which to explore Boston and the surrounding area. Having spent the previous year doing extra tutoring work in order to save as much money as possible, I was able to join them on their weekend trips as we used cheap MIT rental cars and buses to travel to Cape Cod, New York City and the White Forest National Park in New Hampshire. Having only spent 3 days of my life in America previously (in Seattle), this was an amazing way to take in the wonderful array of culture, scenery and attractions that the States have to offer. We were able to hike up mountains, climb through waterfalls, see the bright lights of Times Square at night and camp under the stars in the White Forest, unmatched experiences that I will cherish for many years to come.

Finally, Boston itself was a great city to spend a summer in. Home to some fantastic food, universities such as Harvard, Northeastern, Tufts and Boston University (and obviously MIT!), historical sites such as the Charles River (host of the Boston Tea Party) and the Freedom Trail, and generally a city buzzing with life, there was always something to see or do when we had free time. Being surrounded by other hard working students and professors meant that we were able as a community to focus on and enjoy our projects during the week, but also enjoy our stay in America when we had the time. It is a place that I have thoroughly enjoyed living in and hopefully one I can return to in the future if all goes well.



Some of the amazing places and views we were able to experience in New England and New York

Reflections

I can genuinely say that the title “Expanding Horizons” is a suitable name for this scholarship. I have learned an incredible amount, been able to experience more than I could have imagined, and had a summer unlike any I have lived through before. Given that I am about to head into my 3rd year of my Materials Science Degree (worth 60% of my grade) it has been a great way to both do some interesting research and work experience but also to enjoy myself and learn about life in America. I had been slightly worried about spending the summer in Boston before applying, not only because of the change of scenery, culture and the political climate here but also because I had not spent an extended time working in research before, however all of these fears were quickly quelled and I have thoroughly enjoyed my time here.

To list but a few of the ways in which my horizons have been ‘expanded’:

Educationally, I have had amazing first-hand experience in working in one of the finest labs in the world, I have had training and experience on a host of scientific machines and probes, I have been able to meet some exceedingly intelligent students, professors and graduates working in my field (and been invited back in future after my degree ends), and could possibly be named on a published scientific paper within the next year! My worries about working in research have been diminished, and my desire to continue working in exciting scientific fields has only increased.

Outside of this I have been able to see some of the more (and also less) famous views and landmarks of the United States, made some great new friends and connections, and generally been immersed in American culture for a wonderful two months. It has shown me that life and work outside of the UK is a genuine possibility and one that I think I would really enjoy if the opportunity arose. Above

all, I have had the most amazing summer and genuinely cannot express how grateful I am to this program.

Conclusion

To conclude, I would like to encourage anyone thinking of applying to a similar program and to the Expanding Horizons Scholarship to definitely do so. The process is smooth and well run, and the outcome is worth it a thousand times over. The opportunity to study abroad, to experience new places, people and cultures, and to spend the summer doing what you genuinely enjoy and would like to pursue in the future is not one to be missed.

Finally I would like to again express my deepest thanks to the supporters of this program. I worked on the 2016 Corpus Christi Telethon Campaign last summer raising funds for Scholarships and Schemes such as this one (although not knowing I would be applying for one of them this summer) and know that there are others to apply for or fund, however I believe that the generosity of the EHS and the opportunity it has given me to learn about myself, a possible career in science, and America itself has been unparalleled. The opportunity to have studied both at Oxford and MIT during my time as an undergraduate is one that I am honoured and grateful to have had, and one that would not have been possible without this scheme.

Robbie Fraser

In my application for the Expanding Horizons Scholarship I wrote that it presented an “opportunity to explore ideas, disciplines, perspectives and issues which range far beyond the parameters of my university course.” There were many possibilities and incentives, but this remained my main motivation behind travelling to Uganda and pursuing work in the area of impact investing, working with Tom Adlam, a Corpus alumnus. Although there were elements which linked to my university degree (Psychology, Philosophy, Linguistics) regarding the human narratives behind investee stories, the trip offered a chance to explore topics I hadn’t examined before in a culture I had limited exposure to. I went for 7 weeks, staying in the capital, Kampala, and much of the process was learning by doing. There was so much it would have been great to write about about and recall, including developments in thinking, that it was difficult to condense into a summary. A lot of impressionable experiences, some of which I outline anecdotally below, made for a memorable trip, helping me gain more substantial insight into issues I am interested in and broaden my perspective.

“I’m 55, that puts me in the 99th percentile.”

My arrival to Uganda, and my stay in general, was greatly enhanced by my connection with Tom, including initially arranging my pick up from the airport and staying with him for the first few days. To set the scene: Tom’s house was located near the Makindye district in the south east of Kampala, the city itself located slightly further south within Uganda, on the shores of Lake Victoria.



Street preacher in a traffic jam, Kampala

Driving through Kampala is a notable experience which takes some getting used to. The road infrastructure is one of the first things you notice, and is a principal point of difference. Sporadic areas of tarmac and road signs tend to be clustered near the centre of the city, along with larger buildings and more structured neighbourhoods. Otherwise most roads are compact earth, littered with potholes; the potholes are a common complaint amongst all those who use the road, and are a typical reference point to criticise government inefficiency. Main roads tends to be lined on either side by concrete covered drains,

otherwise there is little to delineate their edge; popular roads melt into their surroundings as people constantly weave on and off, or shops crowd the sides, less popular roads stumble over bumpy terrain and either seem to be competing with nature as they breakthrough the side of hills or urbanisation as they are rammed between housing. Traffic lights are scarce, and so too are road rules, so a mixture of aggression and resourcefulness (with added layers of stress) seem to be the general operating principle employed to get from A to B.

One of the first things I learnt, explicitly, upon arrival was Uganda’s drastically different demographic composition.

It was my second night in Kampala and just as dusk is settling Tom has invited me to a quiz night he is running at his tennis club. The questions range from the geographic (‘Can you name all 3 African countries beginning with L?’) to the theatrical (Clint Eastwood movie quotes are a favourite), and all seem to be well received. The evening is relaxed and provides a chance to talk properly about the

purpose for my trip, and start building a preliminary sense of Uganda through the eyes of those who live and work here, but weren't necessarily born here.

It seems Uganda has undergone an explosion in population in the last 50 years or so. At the time of independence, in 1962, the population was about 6 million, now it is nearly 40 million, and as a result is incredibly youth heavy: almost 50% are aged 14 or under. 70% are under 25 (in the USA the comparable figure is 31%). Uganda is dominated by young people. At 55, Tom estimates he is in the 99th percentile of the population, and he is not far off: 55 and over constitute less than 5% the total population. It is a striking fact, and reconfigures some of my experience so far and going forward, as I notice that I rarely see older people. This was definitely in part due to the nature of my experience (rarely going into homes etc), but also due to the staggering demographic makeup of the population.

Forays into Ugandan history and society can go nowhere, or at least nowhere far, without resting on colonialism. Impressed on me that night, although from a particular standpoint, was the living nature of the colonial legacy, often implicit, infused into Ugandan society. This was another theme that was to resonate through my trip.

AAC

Tom's career has primarily revolved around NGO work in East Africa since he left Oxford, and then transitioned into impact investing. He helped setup and run a fund, African Agricultural Capital (AAC) that would invest in SME agribusinesses in East Africa which couldn't attract mainstream grants or funding. The focus was on trying to take technological advancements in agricultural, especially in seed varieties, to commercial scale so that their agricultural potential could actually be realised in the hands of smallholder farmers and SMEs. East Africa seemed to be primed for such investment. Large proportions of GDP still come from agriculture, and the majority of the populations live rurally. Leveraging investment in agriculture nearer the supplier end of the value chain could have multiple benefits, including: improved food security, dissemination of new agricultural technologies, SME growth and increased employment, and improved wages for smallholder farmers narrowing the distance between them and commercial crop markets. Ideally, if this could attract further investment (potentially from non-impact oriented funds) then the effects could be amplified and sustained. The concept was a pioneering one at the time, and many other agriculture centred funds have emerged in its wake. At the heart of the fund was the idea at the heart of all impact investing: changing the definition of investment success, so that it incorporates a balance between financial returns and returns made along social, environmental and developmental lines.

This early fund, AAC, was nearly completely divested and was winding up when I arrived. My task was to try and provide a summary analysis of its performance, from a financial and a social impact perspective. How did individual investments do? Did the fund overall meet some of its preliminary aims, and what lessons were learnt along the way?

On a day to day basis I worked in the AgDevCo office, the company Tom currently works for, who are also specialising in impact investing in East African agriculture. The office was spacious and modern, in fact one of the nicest buildings I visited in Kampala, and like most private properties it is guarded 24hrs a day (Uganda's private security industry is immense). There were five people working in the office at the time: Kim (the first Ugandan to go to Harvard), Rebecca (who set the office up), Ivan (who told me that Uganda's middle class are really commonly referred to as the working class, because their distinction is that they have a stable form of work and income), Tom and Saalongo (the office secretary, his name translates as father of twins).

It was with Saalongo I was properly introduced to my status as a 'mzungu' (white man). On my first day of work we walked down the hill which the office sits on, in the mid-morning heat it is difficult to go anywhere without starting to sweat. The road is mainly tarmac, and distinctively impressive

buildings or discrete houses sit back from the roadside. At the bottom of the hill is a chaotic junction, cars pour into one another, and located on the other side is a market. Our job is to pick up some snacks for the office. Surveying the options in the market, I am clueless as to what we are looking for. Crate after crate of fruit and vegetables stack up against each other, spilling onto tarpaulin mats on the floor. There is no discernible route through the market, and we quickly end up in the livestock section, chickens either flutter in cages or are being killed, fish gutted and meat strung. Shouting and the beating sound of knives landing on chopping boards provides background noise. Along the front side are little hardware and technology shops, common all over Kampala, selling phone credit (the telecommunications industry is also immense), drinks and other things. A consistent thread to all these selling points is 'mzungu!', along with staring eyes and sometimes smiles. Saalongo informs me that this is the term used to describe white people. Literally it translates to 'wanderer', or 'someone who spins around on the spot', a character trait early white colonisers perhaps projected. Saalongo settles for bananas, samosas and rolex ('rolled eggs': egg omelette rolled in a chapati, a staple of Ugandan street food). I leave with a few snacks, and a growing awareness of what race might represent for me here.

Seven hills of Kampala



Mutatu car park, Kampala

After a week or so I moved from Tom's house into a guest house, which hosted travellers, researchers and students, and provided a welcoming place to come back to throughout my stay. Travelling around Kampala involves taking either boda boda (moped taxis) or mutatu (shuttle vans). Boda boda are ubiquitous, one of the city's main employers which popped up organically to serve a growing demand for fast transport, and give the roads their sense of perpetual flow as mopeds weave in and out of cars. My first few weekends I ventured in to see some of the city's sights clustered near the centre of town,

and explore different sides to the city. The roads themselves take a bit of adjusting to, but riding in a mutatu adds another dimension to the experience. Incredibly cheap (about 25p), they cram people in and are constantly picking people up and dropping them off, the door to the van sliding open and closed as frequently as the driver beeps his horn. As you approach the city centre, the cars condense up, and any semblance of road etiquette seems to be lost: the mutatu are like particles in a liquid, constantly switching lanes and squeezing around one another. In the end they just jam up, they cannot go any further and that is your cue to get out.

I visited Owino market, the biggest in Kampala, several times. There is such fantastic competition for space and attention, it almost just pressurises you to keep moving. Sellers set up stalls one after another, sometimes almost like replicas of each other, as you phase from one commercial area to another: clothes, food, hardware. The pathways through the market are narrow, made narrower by people standing in the middle selling the things they can carry and others charging through with supplies on their back. One area of the market is covered by a make-shift roof, and underneath all you can initially sense through the gloom is the eerie 'tat-tat' sound of machinery operating. There are people working on sewing machines everywhere and are themselves woven into the gaps between piles of clothes or boxes of material, apparently working in tandem with those selling the goods. It was under here that I bought a pair of temporary sports boots in order to train with the local rugby club, and received a high compliment when the captain of the team, Conrad, who accompanied me said he was impressed by my bargaining skills.



View from National Mosque tower, Kampala

Situated on Kampala hill (literally, the hill of the impala) nearby is the National Mosque. Started by Idi Amin, it was completed by Colonel Gadaffi in 2006, and is a magnificent building. A spacious complex with several buildings, the mosque itself consists of a simple, large square floor, with all patterns pointing to Mecca, and a raised balcony. Its adjoining tower is one of the highest points in the city and offered a totally different perspective on the urban environment below. Main roads can be seen like veins, dissecting what were once the seven principal hills of Kampala, and all leading to the hill we are currently standing on. It is hard to describe a city in any detail

from that elevated height. You absorb a different perspective, picking out some overarching features. Patchworks of low-lying buildings, markets and construction spread out around you, as more modern, taller buildings lie somewhere else out of sight. Predominantly darker colours are the hue of the city, with little contrast punctuating them. Smoke, there always seems to be several pillars of smoke coming from somewhere in the city. Tropicality: from higher up you get more of a sense of the natural environment in which Kampala is embedded, as it lies in swathes over the surrounding hills and keeps the tropical rainforest at bay. Uganda has a thoroughly religious make-up, mainly Christian with the next largest proportion being Muslim. On top of some of the visible nearby hills are other religious buildings, and just out of sight is a Bah'ai temple, the only one in Africa and one of nine in the world. I wonder out loud if there might be an atheist building erected on one of the hills, and it's only a partially well-received.

Your love for people can completely disappear.

In my mind from the beginning was the ambition to visit some of AgDevCo's investees, to witness first hand some of East Africa's agriculture. I am just over a month in, past the halfway point of my trip, and this week offers the opportunity to do just that. Tom has to visit Rwanda to investigate a pipeline coffee plantation, and has decided to drive, saying I can accompany him. Walking into the office on the day of the road trip (my birthday as it turns out) and the atmosphere seems a little tense. The co-worker with the keys to the company car hasn't arrived yet, and there is little word from the company driver. Combine this with several stalls as we negotiate Kampala's cramped roads and it is not a seamless departure.

By mid-morning, however, we are driving through the outskirts of the city and I notice a sensation rarely felt so far on Ugandan roads: moving fast. As we navigate the final parts of traffic and road works, the road flattens, widens and unfolds in front of us. Compact dirt with potholes is replaced by smooth tarmac. Tom is in the back, and Vincent (the driver) and I are in the front. Kampala's urban perimeter is stretched out narrowly along the axis of its roads, which are still diffusely populated by shops, sellers and small communities. We stop briefly to pick up fried chicken and goat's liver in the airless heat of the midday, many sellers gesturing over one another keen to pass on their wares, then drive on. Passed the equator, passed scenery blurrily transitioning from green to red-brown as we move from arable territory to rangeland territory, passed ankole cattle with their distinctive large horns. I'm exhausted so sleep most of the way, watching the landscape change out the window.

There are interesting episodes of conversation in the car. The current state of affairs in Ugandan politics is discussed. Vincent, born and raised in Uganda, feels Kampala is stagnant: "It is running on the spot". Development comes in sporadic bursts and isn't sustained, which for him makes the city feel a bit "rubbish". He compares Kigali, Rwanda's capital, favourably to it, suggesting their rate of development, especially in infrastructure, has been maintained. Uganda's politics in the last 30 years has been dominated by Yoweri Museveni and his government, who helped topple successive exchanges of power between Idi Amin and Milton Obote in the 1980s, bringing relative stability and growth. Recent elections are at least ostensibly contested, and I ask Vincent whether politicians campaign on certain policies or manifestos. Formally they do, he explains, but most voting takes place on personalities not policies. "The main policy is to keep power," Tom inputs. Constitutional amendments back in 2005 to extend presidential term limits and recent suggestions to remove an upper limit on the age of a serving president (either this or changing his date of birth, which, given Museveni is vague on, might be a possibility) are certainly evidence of this. Given what is at stake, for Museveni and many others around him, it seems to make sense. Money and political power still very much move with the president, and a change of president could see a power vacuum filled by someone who shifts the concentric circles of affiliation, resulting in a loss for many of those currently in government.

In general, at least in Kampala, politics seems prominent in the public conscience. Political affairs are in the newspapers on a daily basis - whilst I am there a particularly major scandal is breaking regarding the collapse of a large Ugandan bank as a result of irresponsible management, and all involved, including some politicians, are being publicly scrutinised and criticised. However, it seems to be an engagement primarily on the level of personal scandal, rather than political outlook. None of the young people I interacted with (a limited sample) saw politics as a potential career, and, like elsewhere, many express a feeling of distance from those in political power. Demands and directions for development for many people differ from the government, who are viewed as lofty, untrustworthy and personally motivated.

We roll into Kigali in the early evening, and catch glimpses of a city packed tightly on top of hills and amongst valleys. The border crossing feels scrappy - vehicles, people, containers situated together unnaturally - but presents only minor wrinkles. Kigali is similar, but different in interesting ways. The roads are, as Vince indicated, much better: smooth, clean and well organised. The city does feel more structured (for instance, all boda boda drivers have to be registered, wear helmets and offer fixed rates) but as a result loses some of Kampala's chaotic vibrancy.

Most of the time is spent making phone calls and working on the report for the fund. The final day Tom departs to the coffee plantation and I stay to explore Kigali. I spend most of the day at the Rwanda Genocide Memorial. Great effort and space has been given to the memorial, near the centre of the city, as part of the process of understanding, healing and moving on. It fills in all the horrific and troubling details of an event I knew very little about. Particularly impressionable are the role played by colonisers in distinguishing and discriminating between Tutsi and Hutu, the large scale level of intense pre-meditation by Hutu governments and the lack of external intervention. Over 3 months, between 800,000 - 1,000,000 Tutsi and moderate Hutus were killed; the violent and bloody nature of the genocide, with neighbours and friends turning on each other, was almost as shocking as the figures. The memorial emphasised the almost total severing of trust between people and in the government ("Your love for people can completely disappear"), and the challenge faced of rebuilding a country and reconciling a population.

Night has fallen as I emerge back into Kigali, emotionally drained, noticing with every passing moment the visceral response I felt in the exhibition morphing into more periphery reflection, unable to continuously confront it. I stop at the Inema Arts Centre on my way back. The Centre has been successful in generating artistic interest in Rwanda, and has reached international acclaim,

selling works (as I later find out) to names such as Elon Musk and Steve Jobs. None of this apparent as I enter what seems like a confident but understated art gallery, with only a few rooms and a selection of intriguing pieces. The only other people present are the artists themselves. We chat and they show me round, before another person comes in with his family, who is (as I also later found out) a billionaire, doing some serious purchasing. They agree to take me to dinner, so we all pile into their car and drive to the local restaurant where they often eat after the gallery closes. This is when the success of the gallery becomes apparent, and their willingness and openness to engage with me makes for an incredibly interesting and enjoyable meal. They have become a regular sight for anyone visiting Kigali, and despite continued problems with perception - one foreign buyer refused to shake the artist's hand - they have done much to inspire a forthcoming generation of Rwandan artists, again weaving it into the fabric of recovery from such turbulent recent history. At the end, I am grateful, having learnt a lot, and, from their anecdotes about their clientele, feel slightly less awkward about only paying for the drinks.

Mafia the Silverback

Returning from Kigali to Kampala I experienced what was undoubtedly one of the highlights of the trip. On the border between Uganda, Rwanda and the Democratic Republic of Congo are two national parks - Bwindi and Virunga - which remain the only places in the world home to mountain gorillas. Gorilla trekking is a much recommended experience when visiting any of the countries, and it was absolutely unforgettable. An overnight stay, a drive deep into the heart of the national park and a several hour hike leaves you at an information centre halfway up a mountain which is protected gorilla territory.



Mountain gorilla, Bwindi National Park

As rain lightly fell our guides tracked the gorillas until we were less than a few metres away from them. A family of ten, consisting of four silverbacks (rare to have so many together), a disgruntled adolescent and females with young children. The vegetation is dense and the incline steep, so getting an intimate look can be tricky, but when you do the size and strength of the animal so close up is difficult to convey. Mafia, a younger silverback, sits huddled under a tree with his knees drawn tightly to his chest. The other silverbacks were more interested: strolling gracefully around looking for food before collapsing to sleep, legs splayed, a forearm over the eyes to shade against the emerging sun. Without predators, this is what they spend most of the day doing - walking, eating, sleeping. At one point, I get much closer, within a metre of a dozing silverback, who, perhaps sensing I am too close, rapidly gets to his feet and in a second is propping himself up on his arm and looking straight at me. From so docile to so threatening

in a moment; heart beating significantly faster, I back away extremely slowly.

You can only spend an hour with them, and it offers a humbling window into the beauty of the animals and the resemblances in their behaviour to our own. I return that evening to the lodge where I am staying, and go on a walk along a dirt track at the base of the mountain. Still at an elevated height, the immense valley floor, with its agricultural promise, and an accompanying lake

provide memorable views. Ridges, and more mountains, can be seen creasing out of the landscape in the distance. Closer by banana and maize are arranged in row after row, dotted with stacks of drying red bricks and small huts. Occasionally locals speed pass on bikes or boda bodas, shouting 'Mzungu! Mzungu!'. It is interesting to at least get a glimpse of what practicing agriculture, at the start of the value chain, looks like and put a more vivid image behind some of the investments these funds are making.

"I am 99.2% pleased, the 0.8% we leave for today."



Going to the theatre, Kampala

There were some great opportunities to explore Kampala's cultural scene, especially the dramatic side. I saw a couple of plays during my stay, one examining the recent history of the LGBT movement in Uganda and its continued oppression, and one exploring interracial marriage from a female Ugandan perspective, looking at what this can load onto the intersection of race and wealth. Tom and I went to the first one together, and on our way were tangled in some typical Kampala traffic. One advantage of these slower car journeys was that they provided more time to discuss things with Tom. Much of the work I was

tasked with at the office was very much a case of learning by doing, and Tom helped me gain insight into terms and a world of business and investment which had previously been quite opaque. In general, conversations ranged over topics far beyond this though and were undoubtedly a highlight of the trip in terms of engagement and learning, Tom readily made himself available to help develop some of my thoughts and views.

Talent shone through brilliantly in both plays, even when the resources to prop them up were minimal - at one point during the first play we had to light the stage with our phones for a few minutes as the power cut. Tom has been involved in a number of plays and productions during his time in Kampala, and so knew some of the people involved on the scene. I was able to get to know a few of the younger actors, who represented a different side to Uganda's youth that it was necessary to experience. We went to several shows and events together, where they stressed that they felt Uganda was unfairly judged by an international community loaded with preconceptions. It opened up a view of a 'middle class' in Kampala, revolving around the literary and drama scene, who seemed to represent a more cosmopolitan outlook. They felt that Uganda's own view of development was warped, still hooked to Western ideals, battling for a reclaimed identity and struggling with a condensed form of modernity which overhangs from imperialism. If, as has been suggested, satisfaction is the primary indicator of development, it is difficult to judge what stage of development Uganda may be in. And, crucially, to disentangle their own metrics from external ones imposed by those who still feel they can 'plan' things for and in Africa, in a way which erodes self-determination.



On the set of 'Second Chance', Entebbe

Tom and I's own development in the drama scene, however, hit a certifiable peak when we opportunistically appeared in a few episodes of the TV show 'Second Chance' which was running on national television at the time. The plot was slightly confusing, and the extent of line learning worryingly slim, especially given a dedication to only doing one take per scene, but it was a memorable experience. When I asked the director how he thought it went he said, "I am 99.2% pleased, the 0.8% we leave for today."

No description of a trip can be complete. There were so many memorable experiences, including white water rafting, playing rugby, driving lessons, nature walks, dance festivals, live music and friendships formed (including with a Ugandan masters student who I have subsequently met up with in Oxford), which I cannot write about here but which the scholarship fully helped enable, and for which I am very grateful. Looking back to my application letter, I (somewhat cringingly) wrote that, "I am currently in a process of figuring out and evaluating what matters to me, and an important part of that process is engaging with what matters to other people." This trip definitely facilitated that ambition, from multiple points of view. The amount I learnt went far beyond the time frame of the trip, and it influenced my opinions and perspectives on topics in significant ways.



Baptism in the River Nile after white water rafting, Jinja



Steve, my driving instructor, Kampala



Uganda vs South Sudan (this photo appeared in a national newspaper), Kampala



Volleyball at KK beach, Kampala

Jack Holland

My experience of Peru started in the country's capital, Lima. When we touched down in Lima I was greeted by a hazy overcast sky and an evening temperature of 15 degrees Celsius. I expected to have jet-lag, the time difference was -6 hours however, I was unprepared for the drastic change in daylight hours. Being in the Southern hemisphere, Peru was in the middle of wintertime in August, consequently this meant that the sun was setting at 5.30 pm local time, compared to about 9 pm back home. Personally, I found this harder to adjust to than the actual raw time difference. In Lima I stayed in Barranco, a district known for its art galleries and culture. It was in Barranco that I had my first experience of Peruvian cuisine, arroz chaufa. This dish is a Peruvian-Chinese fusion and my dish consisted of essentially fried rice with seafood. Throughout Lima there were many 'chifa' restaurants serving a variety of Peruvian-Chinese fusion dishes.

Whilst I was in Lima I visited the central area and the Plaza de Armas (Plaza Mayor). This area had a few grand churches, being a catholic country, the churches were in that style. I also visited 'Huaca Pucllana', an ancient pre-Incan landmark that served as the administrative centre for a society that was thriving about 1500 years ago. It was here that I learnt that the Inca tribe was the first true empire that united Peru, before this there were as many as 60 unique societies dotted around the country and that Huaca Pucllana was a relic from the Wari civilisation, thought to be a matriarchal society. The main feature of the ruin was a large square pyramid that is thought to have been built as an expression of power and possibly had some religious significance – the pyramid allowed the clergymen to reside closer to the heavens. My most memorable experience in Lima was my trip to the 'El Circuito Mágico del Agua', a park in downtown Lima that was full of enormous water fountains coloured by a rainbow of lights. The water displays were truly spectacular, something I had never expected to encounter on my trip to Peru.

After a few days in Lima I headed up to Trujillo on an overnight bus. The bus was very impressive, my seat was leather, came with a blanket and reclined back to 160 degrees. It was the best nights sleep I'd had whilst in transit! Trujillo is a relatively large city, population of 650 000, 550 km north of Lima. When I arrived in Trujillo one of the first things I noticed was an increased temperature compared to Lima, the daily temperature in Trujillo was 19 degrees Celcius, only about 3 degrees higher than in Lima but enough to afford a t shirt if the sun was out.



SKIP provided accommodation in a residential district of Trujillo, outside of El Porvenir. Every time we had a shift at SKIP, the volunteers would meet at the designated meeting point and travel together to SKIP in taxis. We were required to wear blue jackets branded with the NGO's logo in order to make us visible when in El Porvenir. It was policy that nobody ever went to SKIP alone and that nobody stayed at SKIP after dark, due to concerns over the safety of foreigners in El Porvenir.

With these precautions in place, it's safe to say I was rather nervous the first time I travelled up to SKIP. However, the fear was rapidly pushed out of sight when we arrived at the jubilant blue outpost. The SKIP centre was teeming with life, full of children buzzing around the place like bees in a hive. Volunteers seemed to be rushing about all with important things to do and in one corner sat a few Peruvian mothers knitting. It all seemed a bit overwhelming at first, how was I going to fit into this community when I could barely even ask someone's name in Spanish! The other volunteers were however, extremely welcoming. They had all been in my position once and seemed to answer all my questions before I even had chance to think of them. The volunteers were a mixture of Peruvians and foreigners, of the foreigners the majority hailed from Europe.



I was quickly integrated into volunteer life, catalysed by the fact that I not only worked with, but I also lived with the other volunteers. For the best part of my 5 week stay in Trujillo I was housed in the flat where the SKIP office was based. The SKIP office was located in a more suburban district of Trujillo, outside the central area. My bedroom was mere metres away from a professional workspace which served as the administrative hub for the NGO. In

the office I also had private Spanish tuition once a week with one of the other volunteers. These sessions helped me leaps and bounds and I was surprised at how helpful learning simple rules about sentence structure was in both interpreting speech and reading Spanish.

Every Wednesday the volunteers organised a Spanish conversation club, a relaxed forum where speaking Spanish was highly encouraged. This was usually held in a bar and the conversation flowed rather well with the help of a couple of cervaza's. Each week we would learn how to say something new about ourselves. Topics we went through included hobbies, education and place of origin. On weekends or afternoons off it was common for volunteers to visit the nearby beach town of Huanchaco. This resort town is supposedly one of the homes of surfing, at least it is the birthplace of caballito de totora, small surf craft that have been used for fishing in Peru for over 3000 years. Huanchaco has another claim to fame, as the birthplace of Ceviche. Consisting of raw fish, onions and lemon, ceviche is a popular dish throughout Peru. I ate ceviche multiple times, it was often served as a starter in the eateries in Trujillo.

I spent the first week of my teaching experience shadowing some volunteers from Leeds university. Teaching sessions consisted of three consecutive forty minute lessons given to children aged 5-7, 8-10 and 11-13. Usually the same topic was taught to all three groups, with each increase in age corresponding to an increase in complexity. It was interesting to see the changes made by the teachers to the general lesson plan in order to tailor it to each level of English. A common way to increase difficulty was to give word options on a fill in the blanks style activity to the younger children whereas the older children would not receive any such hints. The lessons that I observed were typically consisted of a warm up-exercise, 2 or three games and then some writing as a cool down. As all the teaching at SKIP was extra curricular, there was a lot less emphasis on discipline and more emphasis on fun.

With each lesson of the shadowing period I was given a bigger role. I began with easy tasks such as checking children's work or handing out sheets until I was eventually chosen to be the leader of one or more of the games in the class. After the two weeks of my introductory period the group of volunteers from Leeds left SKIP, I was left to teach alone. This was a particularly daunting prospect

as all the lessons I had observed had been run by two or more volunteers. However, the English teaching leader gave me lots of advice and calmed my nerves. I stuck to simple lesson plans, similar to the ones I had been observing. My first topic of choice was 'baby animals'. I thought it might be interesting to teach as in Spanish there was no word for say 'kitten', there was only 'gatito' which literally means 'little cat'. We were advised not to use any Spanish in our English lessons, however a few simple phrases went a very long way, especially 'silencio' (quiet) and 'sientate' (sit down).

As well as teach English I also helped out with one library session and one sports session a week. The library session served as a 'quiet' period in which children could read and do homework. During library time we would engage the children with creative activities such as origami or making planets. These afternoons prove to be great opportunities to practice my Spanish with the children. I found that the children were best for practicing Spanish with as I was a lot less nervous and the children often had some basic level of English. In fact, a great way for me to improve my Spanish was to read Spanish story books to the younger children. These books were the kind designed for beginner readers and came with many pictures, it was therefore reasonably easy to deduce what the Spanish said. The library session was quite long and the children would get very restless towards the end of the two and a half out session. To remedy this issue we would often take the kids out onto the playground and let them run amok.

On Saturday afternoons I jointly ran the sports session with one of the other volunteers. This was an hour and a half with two groups. The first group was mainly 13-15 year old boys who wanted to play football. They lead me and the other volunteers away from the SKIP centre to a pavilion 10 minutes away in El Porvenir. This was one of the rare chances that I got to see more the area directly surrounding SKIP. The pavilion was centred around a derelict swimming pool, the children played football on one of the few hard court pitches. Around the edge of the pavilion there were quite a few tents, upon closer inspection it turned out that they were residences. There were many similar tents dotted around El Porvenir, it turns out that many of them are 'temporary' accommodation for peoples whose homes were destroyed by the floods that had occurred 5 months earlier.



On the second weekend I went on a weekend excursion with the volunteers, a trip into the foothills of the Andes to a village called Agalpampa. It was very refreshing to leave dusty Trujillo behind for a weekend and get a glimpse of somewhere entirely different. Agallpampa was a small settlement with a population of only a few hundred, it was a 3 hour drive from Trujillo. The surrounding alpine landscape was very beautiful. Our guide took on a walk through the hills and we ran into some alpaca.

The guide showed us how to stroke them, they were extremely soft! We spent the evening roasting marshmallows on an open fire.



On the penultimate weekend I went on a trip to Cajamarca on an overnight bus. Cajamarca is a city in the Andes which as well as being the site of the fall of the Incan empire, it is known as the home of 'Peruvian Swiss cheese'. In Cajamara I visited a few archaeological sites. Otuzco, also known as 'the windows of the dead', is thought to have been an ancient burial sight. Its nickname is a reference to its appearance, the crypts have eroded away and now look like 'windows' on the side of a hill. It is thought that the

residents were buried with many riches, however these were lost during the Spanish colonisation of Peru. I also visited Cumbe Mayo, an ancient aqueduct that predates the roman empire. The aqueduct ran through a large formation of vertical stones, known as the 'stone monks' and had the appearance of a forest made of stone. The tour for Cumbe Mayo was delivered entirely In Spanish, however I managed to decipher about 30% of the information delivered – a testament to my new ability!

A more light-hearted attraction in Cajamarca was the 'Banos de Inca' – Incan baths. The water for these baths is drawn from local hot springs, it is thought that these hot springs are what drew people to settle in the region. The area around the hot springs was focused on family leisure, there were many food stalls and a fair ground populated by adults and children alike. This was probably the most fun area I visited in Peru as it was like a sort of 'leisure village'. In the evening I headed into town for some food and found myself ordering fried guinea pig. Guinea pig is something of a delicacy in Peru – this was the most expensive meal I ate during my trip. The guinea pig was somewhat unsatisfying, tasted rather like duck and the carcass did not carry much meat.

My trip to Peru was great. It was exactly what I had hoped for – I was out of my comfort zone, speaking a foreign language whilst trying to teach my own. I hope to pick up Spanish again as I very much enjoyed learning and using a new tongue. I would like to thank Corpus Christi College for generously funding my trip.

This summer, I was lucky enough to be able to spend time in Thailand, after being awarded the generous Expanding Horizons scholarship from Corpus Christi College. It was a great opportunity to explore the local culture, as well as to see how medicine is practiced in Thailand, as a medical student. The trip was of great educational value and helped me develop personal qualities.

I am a passionate medical student with a strong belief in the importance of patient-centred medical care. This belief was reinforced after witnessing several cases on the wards, where doctors were making decisions, solely based on their clinical knowledge and experience, with little consideration of the feelings and expectations of patients. To become a clinician with a more holistic and empathetic approach to medicine, I believe that it is essential to interact with as many people as possible from different socioeconomic and cultural backgrounds. However, as a medical student in Oxford, this is difficult to achieve, as the demographics of patients tends to lack diversity. I decided that an excellent way to achieve this is to travel to other places of the world, especially developing countries, where the standards and expectations are very different, especially in medical care.

Before the trip, my hope was to experience and explore the local culture, the people and their medical system, and gain an insight on how different social factors affect healthcare and ultimately what the “right” medical practice is. Personally, I have great interest in global health and medical practices in the wider world. For this reason, I am currently running the Oxford Global Health Group. However, I have spent my entire life in developed parts of the world and have had very little experience and exposure to developing nations. To get a real hands-on experience of global health and to learn how differences in culture can affect the type of care that patients receive and patients’ expectations, I decided to spend time in Thailand this summer. Rather than being an extension of my medical studies at Oxford, the focus of the trip was on the society and the people, as opposed to the academic or the practical sides of medicine.

When I arrived at Suvarnabhumi Airport in Bangkok, I was surprised to see how clean and well organised it was. It was quite clear that tourism is one of the country’s main drives of the economy and that the government invests a lot into attracting tourists. I began my programme at Ramathibodi Hospital in Bangkok the day after I arrived, eager to find out about the local practice. One of the first challenges that I faced was the notoriously bad traffic in Bangkok. Despite the taxis being extremely cheap, costing about 5 pounds to travel from one end of the city to the other, it was near impossible to travel on the roads during rush hour to get to the hospital on time. However, there was an abundance of motorbike taxis, which simply involved holding onto the driver on the motorbike, driving right through the heavy traffic without a helmet. Although it seemed rather dangerous, I thought I would try the local way of commuting on the motorbike taxis. It was quite a surreal experience, holding onto a stranger’s back on a motorbike, rushing through the hot, humid and carcinogenic air in Bangkok. However, it did get me to the destination on time.

When I arrived at the hospital, the first thing I noticed was the white coats that doctors wore. Sadly, the NHS got rid of white coats for infection control purposes in the UK for doctors. Wearing a white coat on the ward is probably one of the things that every kid aspiring to become a doctor dreamt about in childhood. I very much enjoyed wearing one for that reason during my time in Bangkok in the hospital. I was attached to the Obstetrics and Gynaecology department. Although in the UK and other developed nations, Obstetrics and Gynaecology isn’t one of the major specialities, in Thailand, maternal mortality and morbidity during pregnancy, delivery and post-partum are still significant, mainly due to lack of patient education and medical accessibility. For this reason, Obstetrics and Gynaecology was considered one of the major specialities and a popular choice of speciality for



doctors. The medical care delivered to patients was very different from that of Oxford. Shortage of doctors meant that the junior doctors and senior medical students had much more responsibilities in the hospital. Wards were mostly managed by junior doctors who graduated from medical school about 3 years ago, which wouldn't happen in the UK. Medical students were doing most of the jobs on the ward. The consultants were rarely seen on the wards, as there was a shortage of them and a lot of them were busy with private work. Lack of free healthcare meant that there was a great difference in the range of treatments available to patients depending on their wealth. Moreover, the medical equipment used and protocols followed seemed outdated at times. The doctors appeared to be making individual decisions quite often, as opposed to following a national guideline like in the UK. One of the most shocking things that I saw was during a delivery of a baby. In the UK, it

would be normal practice to ensure patient privacy by keeping the number of medical staff in the delivery room to minimum, with only the essential members being present. However, it was shocking to see about 15 medical students and 5 nurses in one delivery room, with the door wide open during a delivery, which to me, appeared to be traumatising for the patient. Perhaps, that is what is considered as the "normal" practice in Thailand and the patients expect that. However, it is not something I would ever expect to see in the UK. Nevertheless, the doctors and other medical staff had very caring and kind approaches to patients. They were very polite and always smiling.

I also had plenty of opportunities to explore Bangkok, aside from the medical side of the city. It was an extremely vibrant city, full of people on the streets, day and night. It was obvious that Thailand is a very religious country. There were Buddhist temples virtually everywhere and they were one of the main tourist attraction sites. As an outsider, it was quite difficult to tell apart the differences in the temples, as they were all beautifully decorated in gold and looked quite similar. The locals seemed extremely dedicated to Buddhism and their daily lives were much guided by their religious beliefs. After having studied a little bit about Buddhism back in school in Religious Studies classes, it was a bit easier for me to understand the Buddhist ways. I did not hold back to impress the locals with my Sanskrit knowledge, quoting some phrases that I learnt at school. There were also other things to do apart from religious sites. Khao San Road, the infamous hub for tourists in Bangkok, was interesting. About 80% of the people on the road were obviously tourists. There were eccentric bars serving cheap drinks with very loud live music. I was offered cooked scorpions on skewers by local vendors walking around the street. However, it was the last thing I wanted to try, so I didn't. Being an extremely touristy city, there were a few nice rooftop bars with amazing views of the city. I was also very happy to be greeted by a fellow Corpuscule, a friend of mine, Fay Kitiyakara, who is from and lives in Bangkok currently. It was good to catch up and be shown around Bangkok by a friend from Corpus.

The second part of my trip in Thailand was in Chiang Mai, a city in the north of Thailand. The name of the city literally means the city of elephants. There were a lot of elephants, unsurprisingly. Although relatively developed, Chiang Mai was much quieter and peaceful than Bangkok. It still retained the remnants of the old city and had a completely different feel to Bangkok. Even the people dressed and looked slightly different. Just like Bangkok, the city was full of temples. After having experienced plenty of temples in Bangkok, I still thought I would visit more temples in Chiang Mai, as they are an important component of the country. I spent a lot of time with the local Buddhist monks, teaching them English. Thai people were generally very kind and good-hearted, but the monks were even nicer. In return for my service, I was taught how to train my mind and to meditate. This was also

something that I spent some time doing back in school, as my Religious Studies class teacher was Buddhist and involved with the Mindfulness movement in the UK. I personally strongly believe in the importance of good mental health. However, this is an area of medicine often neglected by the public with social stigma still existing about going to see a psychiatrist. It is interesting to see that Mindfulness is now something that is offered in the NHS to patients with mental health conditions. Mindfulness involves the recognition of one's own feeling and thoughts, which is quite similar to



what cognitive behavioural therapy consists of in medicine. I hope to spend more time in the future finding out about meditation and Mindfulness, and its use in psychiatric medicine, as this is a field that I am passionate about.

I met some great people during my trip. Some of them were medical students like myself. They were from all over the world, including Romania, Germany, Japan and Australia. It was very interesting to talk about medical education in our own different countries. I particularly enjoyed a

chat with a local businessman in Chiang Mai about the new Thai government. It was apparent that the locals were rather unhappy about the new government, which is believed to be quite oppressive. The man explained that since the new government came into power, shops and bars are now forced to close at a much earlier time, which is detrimental for the economy, as tourism is one of the main sources of income for the nation. This meant that the poor locals were forced to find alternative incomes, some of which are illegal.

I found it particularly interesting to see what the royal family meant for the country. One thing that was more abundant in the country than Buddhist temples were pictures of the king. They were scattered around the country, decorated with gold and flowers, almost leading me to believe that he is considered a deity to the people. I went to a cinema one day and was surprised to see everyone in the cinema standing up at the start of the movie to a video of the king. It was apparent that the roles played by the royal family significantly differ from in the UK. I was also told on multiple occasions that it is forbidden and illegal for anyone to speak negatively about the royal family in Thailand, especially the king. It made me question whether the respect that the people seemed to show towards the royal family was true in nature or out of fear or brainwashing. However, it is said that the last King did a lot to improve the lives of the people, for example by building hospitals.

Thai cuisine is something that I must mention. Before travelling to Thailand, I have never been the greatest fan of Thai food. However, this belief completely changed after I tasted the true local flavours. Ranging from rice dishes to noodles and desserts, Thai cuisine consisted of great variety and was delicious!



My trip to Thailand was an unforgettable experience that truly expanded my horizons. It was an excellent opportunity to learn about the local culture, food and people, as well as the way their healthcare functions. Still being a developing country, there were occasions when the locals tried to rip off the tourists. However, most of the locals were very nice and kind. Most of them also spoke a little bit of English, which was helpful, although I tried my best to communicate with them with my limited Thai language. If the opportunity arises in the future, I would love to return to Thailand.

What has been gained from the experience?

There is no one word I can use to describe my experience in the United States this summer. One thought remained constant, and will remain with me for some time: I am very lucky to have had this opportunity. I have spent 4 weeks interning at the HECC (Higher Education Coordinating Commission), an organisation that works towards developing and implementing education policy for the state of Oregon. This organisation is split into two branches – one being a 14-member volunteer commission, and the other being a state agency. This interplay between the commission and state agency is worthy of note. The volunteer commission is responsible for the development of policies and programmes, whereas the state agency work to equip the commission with the tools required to make informed decisions about their recommendations, and delve into the feasibility of these recommendations. Both branches are dedicated to coordinating the network of “colleges, universities, workforce development initiatives, and pre-college outreach programmes”, in order to nurture student success, but the volunteer commission takes front stage in many ways by advising the Oregon Legislature, Governor, and Chief Education Office on policy and funding. I worked with the state agency branch of the HECC.

I have gained an understanding of how states operate in conjunction with the federal government. The HECC is guided by state policy, which is in turn guided by federal policy. Federal policy applies to all states, whereas the reach of state policy is confined to the enacting state. This is another interplay which is particularly interesting, as the distinction between state and federal government appears to me to be far more notable – both geographically, and in the amount of freedom given to states – than that of county councils within England. The federal government views its role as a gap-filler, making up just 8% of total education funding in the US, with education viewed primarily as a State responsibility¹. This is different to the approach taken in Britain, as the devolved governments in Wales, Scotland and Northern Ireland control their education policy entirely, although funding is sourced from British taxpayers, and controlled by the English government. Similarly in the US, states have considerable powers to set their own goals and create programmes to implement projects to attain these goals. For example, the federal government does not provide student aid for undocumented students. Yet Oregon has chosen to work around this by allowing undocumented students to apply for student aid through a different route, funded by the state². This is perhaps in keeping with the state's more liberal, progressive, and inclusive nature, as opposed to the more conservative character of the federal government³.

Unsurprisingly, Oregon's education policy is more specific than that of the federal government – although the current Chief of Education, Betsy DeVos, has not been immune from criticism as a result of her lack of focus beyond her “school choices” campaign several months into office⁴. Oregon has an overarching goal labelled as “40-40-20”. This entails 40% of students obtaining an Associates degree (a 2-year long degree seen as a stepping stone to a Bachelor's, or a qualification in its own right), 40% a Bachelors degree (4-year long degree), and 20% of students being “career ready” after graduating high school⁵. A particular focus of Oregon's education policy is on the idea of “completion”. It is believed that the focus has been on pushing students through college, with

1 <https://www2.ed.gov/about/overview/fed/role.html>

2 <https://oregonstudentaid.gov/finaid-undocumented.aspx>

3 http://www.oregonlive.com/politics/index.ssf/2015/11/kate_brown_oregon_will_continu.html

4 <https://www.nytimes.com/2016/11/25/opinion/betsy-devos-and-the-wrong-way-to-fix-schools.html>

5 <http://education.oregon.gov/#what-we-do>

college entry being used as an indicator of success, without looking at how many of these students go on to complete their stage of education. Presently, the state looks to completion rates as an indicator of success, as these closer relate to student success in terms of earnings⁶. In the US, median annual earnings of a college-degree holder are \$17,500 (~£13,600) greater than for high school graduate⁷. Similarly in the UK, it was estimated that a university graduate will earn on average around £10,000 (~\$7,800) more annually than a non-graduate⁸. As such, a particular goal of Oregon is to keep students in the level of education that they are at, or higher. Indeed, financial capability is closely linked with retention rates – a colleague of mine at the HECC had themselves been forced to abandon their ambitions of obtaining a Bachelor's degree after the prospect of continued attendance at a community college had become too costly. This, as such, is why the state also pursues “accessible and affordable” education⁹.

Through my time with the HECC, I have gained an understanding of the education system in the US. Upon my arrival, I did not know what college credits were, and this appears to be one of the most vital differences between the English higher education system and that of the US. We lack a qualification which pertains into the university years – the closest qualification is perhaps a “foundation year”, which can be taken as an intermediary between post-secondary qualifications (e.g. A levels, BTEC, IB) and university, making it easier to get into university through the completion of an additional qualification. Yet the foundation year is completely different to college credits in that even in the case of a foundation year it is necessary to pick a particular subject in which to specialise, such that you can transfer to a university course. In this sense, the US higher education system offers flexibility across a broader range of ages in terms of subject specialisation. This perhaps leads to creating students with a broader set of skills as opposed to students that are highly knowledgeable in a certain field as in England. The latter is perhaps more vocation based, giving students a greater sense of direction in their career paths while also narrowing their options from an earlier age. The US system appears to be better for those who value education for the sake of education, whereas the English system appears to be geared towards education as a stepping stone towards a career.

Further, college credits, in particular dual credits, or any form of “accelerated learning” are extremely helpful to those students who wish to gain a head start in their university education. The HECC is in the process of trying to expand the reach of “accelerated learning”, as students that undertake such programmes are more likely to graduate high school, and enter and graduate college¹⁰. This is because qualifications such as dual credits allow the student to gain credits towards not only their high school education, but also towards their university education, meaning that students will be more likely to graduate. As such, a distinct element of the American system which is not seen in the English system is that of students' ability to work towards their college qualification while still in high school. Students can also attend a community college, which can be seen as the English equivalent of a local college – a student may be an adult attending a course in order to obtain a stand-alone qualification in a foreign language for fun, for example, or they may attend in order to obtain qualifications in order to enter into university.

Students may attend community colleges, and then transfer into 4-year institutions (universities), using the credits earned during their time at community college. This system is particularly helpful to those who require greater flexibility than those who attend a 4-year institution straight from high school, and give high school graduates in work a chance to re-enter into education. For example,

6 <http://education.oregon.gov/#what-we-do>

7 <http://www.pewsocialtrends.org/2014/02/11/the-rising-cost-of-not-going-to-college/>

8 <http://www.bbc.com/news/uk-politics-40965479>

9 <http://education.oregon.gov/#what-we-do>

10 Joni L. Swanson, Dual Enrollment Course Participation and Effects Upon Student Persistence in College, 2008

those who wish to work while obtaining qualifications, or who need to tend to a child may benefit from this flexibility. The financial implications of attending a community college are also significantly lower. However, this system is not without its shortfalls. BA attainment of those who attend community colleges before entering a 4-year institution is far lower – those who attend a community college have a BA graduation rate that is nearly 17% lower than their 4-year college counterparts¹¹. Originally it was thought that this was due to a “cooling out” function, in which students lowered their educational expectations during their time at a community college, the effects of this being amplified by a focus on vocational programmes¹².

However, it is now thought that this disparity is caused by “transfer credit loss”¹³. This is the idea that some credits obtained at community colleges may not be recognised by 4-year institutions, thus wasting students' time and money in studying, and reducing the effectiveness of their time at community college in giving them a head start on their university education. Another contributing factor to the accumulation of excess credits in community college is pointed to in a report by the HECC¹⁴, in which students reported that they were misinformed about their pathways to college, either due to a lack of resources or outdated information. A project by the HECC which attempts to alleviate this “transfer credit loss” issue and aid the completion rate of students is the creation of “blocks” of credits that will be broadly transferable. This will enable students to opt to complete these “blocks” in the knowledge that these credits will be widely recognised¹⁵. In addition, in order to reduce the amount of time and money wasted studying for “excess credits”, the HECC seeks to improve students' access to information through the recommending the creation of a “statewide student information platform”¹⁶.

Aside from a whirlwind introduction into some of the advantages and pitfalls of American education, or at least, Oregonian education, it was also of interest to me to see the nature of the workings of a state agency in comparison to that of a self-interested company. Four things were of note during my stay. Firstly, perhaps unsurprisingly in its role as a state agency, the HECC exists for the public – and thus must listen and respond to the public. Indeed, the HECC prides itself on being a good listener, as I was oft reminded by my colleagues. This, as such, meant that a lot of the HECC's time is spent in contact with various bodies such as “workgroups”, the volunteer commission, and, surprisingly to me, the students themselves. I was lucky enough to be able to attend a “Commission Retreat”, during which the volunteer commission and the state agency branches of the HECC met to discuss the Strategic Plan which the volunteer commission had produced. Part of this meeting was spent in an insightful activity, during which participants were sat at four tables. Both branches of the HECC were interspersed with members of the public, in particular, “stakeholders” with a particular interest in the work of the HECC. This included local businesses, the “community” (including ethnic minorities), students, and “faculty” (university representatives).

I was able to hear some rather haunting student testimonies. The issues that the students spoke of were already understood by the Commission, but the intimacy of the conversations around the table served as the best reminder of why the HECC strives to do its work. The students spoke of the hardship they faced, despite being in receipt of federal and state student aid, and not yet being in the process of repayment of their student debt. They raised the point that this type of hardship can be detrimental to students, as their energy is funnelled away from their studies and towards

11 Monaghan&Attewell, *The Community College Route to the Bachelor's Degree* (2014)

12 Burton R. Clark , "The "Cooling-Out" Function in Higher Education," *American Journal of Sociology* 65, no. 6 (May, 1960): 569-576.

13 Monaghan&Attewell, *The Community College Route to the Bachelor's Degree* (2014)

14 HB2525 Final Report June 2016

15 HB2525 Final Report June 2016

16 Credit for Prior Learning HB4059 Report to the Oregon Legislature December 2015

worrying about how they would afford to eat, or where they would sleep, for example. The care, genuine understanding and commitment to listening displayed by all HECC members was cheering to see.

Secondly, it was heartening to attend a “Diversity and Inclusion” meeting hosted by the agency. The objective of these meetings is to bring awareness to staff members about different issues that people face as a result of their characteristics, particularly in Oregon. The session I attended focussed on Asian Pacific Islanders and the difficulties they face in American society. This, and mentions of Native Americans during the discussions, was in itself particularly interesting to me – in England, the social context of our discussions on race and equality is rather different without this background of native people. The sensitivity and genuine desire to learn displayed during the meeting was pleasing to see. Sometimes it is easy to become disillusioned with government bodies particularly when figure-headed by the US's controversial leader. This meeting served as a reminder of the integrity of some of the people that work for the state.

Thirdly, I was taken by the relaxed atmosphere of the office environment while interning at “the State” (as Oregonians appear to call working at the civil service). Employees were encouraged to leave for home by 6 o'clock as the lights turned off automatically, although most employees left for home at around 16:30, after arriving at the office at around 8:30. This type of work life balance appeared actively encouraged – upon my first day at the HECC, I was advised to “Work hard for 8 hours then go home, leaving the stress of work here.” I had expected to struggle coping with a lengthened version of my secondary school schedule, but found that it was in fact rather satisfying to be able to work for an allocated period of time, and enjoy my free time to myself in the evenings and at the weekend. Further, employees tried to remain active by taking walks around the state park every few hours. I felt that this more laid back atmosphere was more conducive to work, as one was not required to sit restlessly for 10 hours, energy waning.

Fourthly, it was pleasing to observe the genuine nature with which employees at the HECC worked. It seemed to me that they truly cared about the cause for which they were working, oft making me slightly ashamed in my comparatively superficial motivation to “work for the greater good” with their tales of having struggled through the education system, or having seen their children struggle. During meetings, members of both branches of the Commission were emotive, drawing upon past experience to add to discussions; my cubicle neighbour was a member of his local school's governors board alongside his work; my supervisor was an Assistant Dean at a local university alongside her work; a majority of staff had children at local schools and universities, or were Oregonians born and bred and thus had been through the system themselves. This I believe is what motivates the HECC staff and volunteers to work as hard as they do.

Of course, no visit to a new country would be complete without speculation as to some of its oddities. A few observations come to mind. Firstly, marijuana is legal in Oregon. The roadside marijuana shop with its blatant advertising of weed, and the stands selling bongos at local Saturday markets were a complete shock to me, with weed having been seen as something covert and rebellious for me at home. Yet here, it was very much accepted into mainstream culture! My own housemate had a pot of marijuana on his bathroom windowsill for medicinal purposes for his injured knee. My bemusement continued when I met the Governor of Oregon at a meeting on “Career and Technical Education”, a programme which the HECC coordinates. This programme links high schools and community colleges to the labour market, culminating in the achievement of a qualification, similar to an apprenticeship in England. The Governor referred to the “marijuana industry”, suggesting that the HECC could look into providing students with opportunities in that area, given the success of apprenticeships in the booming marijuana industry in Colorado.

Secondly, another source of shock upon my arrival in America was the toilets. Not only were the water levels so high it almost seemed unsanitary, the stall doors never failed to expose ones entire

lower leg, as well as a flash of colour on the sides of the cubicle. Why the stall doors fail to perform the job of a door – provide privacy - is beyond my understanding. The one fellow Briton in my office had lived in the US for 20 years, and could not agree with me more. However, I have been informed that American toilet paper is far better than English toilet paper.

Thirdly, it struck me that the small part of Oregon that I saw was far more diverse than my area of rural England. This was rather pleasant – too often at home I feel somewhat on the outskirts of what is considered “normal”, with introductions being slightly stilted and awkward as soon as I say my name, and odd questions such as “So, which Chinese do your parents own?”. Yet in the area of the US which I visited, diversity appears to be celebrated. My name did not cause any issues, and I never had a need to explain myself. In fact, I found the roles were somewhat reversed – I myself double checking my pronunciation of a new friends' name was correct, something that occurred rarely, if ever, at home. Perhaps what is really happening in Oregon is that people have an increased awareness and understanding of issues that different groups of people might face. Diversity in a population does not necessarily mean that difference is accepted. The general attitude that people have towards “being different” is far more important.

Fourthly – people on the West coast are supposedly far friendlier than those on the East coast. This appeared to me to be true, although I only visited Oregon and Washington on the West coast, and briefly New York on the East coast on the way home. It is considered strange to smile and nod at a stranger in Oxford and London, and in some parts of my hometown, yet in Salem, Oregon, nodding, smiling, and chirping a variant of “Good morning!” became almost expected, to the extent that one could feel a little insulted if a stranger passed by without looking up from their phone and acknowledging your existence. In New York, both in the city and in Ithaca, unwritten social etiquette paralleled that of Oxford and London. To smile or even make eye contact with a stranger would be to suggest that a sale would be made, or a favour to be asked.

All in all, I can state with all honesty that this experience has indeed “expanded my horizons”. Coming to the US has brought home to me that the entire world is in fact open to me. While in the past I would have focussed my job hunting and future prospects on England, I now see that with a little more effort, I could apply to opportunities anywhere in the world. In some sense, this experience has allowed me to “think outside the box”, given that 6 months ago I had not believed that I had any prospect of going abroad at all this summer – not even through a 8 hour drive to Scotland, let alone a 14 hour flight to the West coast of the US! I find myself inspired to renew my search for opportunities post-graduation with a more open mind, in the knowledge that what may appear impossible could very well be possible given some time and energy.



This summer marked the first time I have travelled to abroad with no familiar faces waiting for me at the other end. I am a homely sort of person who enjoys having a sense of belonging. This meant that the prospect of undertaking this experience was extremely daunting to me – like beginning university all over again, except without the company of other nervous youths in the same situation. Yet I also enjoy challenges, discovering new things, and had, as such, intended to study abroad, but the costs of doing so had been prohibitive. This summer allowed me to finally revel in the adventure of being a student abroad, while giving me an opportunity to learn more about something not covered in my course. This was a venture which I would never have spared a second thought to, had it not been for the Expanding Horizons Scholarship. Spending time in the US was simply not

financially feasible, and without any American contacts, what was I to do there, particularly given my interest in the public sector? For their efforts in reaching out to the alumni network and finding opportunities and funding for students like me, I am very grateful to Corpus Christi College as well as the benefactors of this scheme. I would also like to thank Ben Cannon and his team at the HECC.

Abigail Newton

This summer I spent five weeks in Massachusetts, working as an intern for the Emily Dickinson Museum in Amherst, the town where the poet grew up and lived in for most of her life. During my visit I gained a much deeper appreciation for Dickinson's skill as a poet, as well as an awareness of the context in which she lived and wrote, both on a local and literary level. Whilst in America I was able to spend some time exploring Boston and the towns around Amherst, visiting some notable sites of cultural and historical significance. My visit therefore enriched not just my academic pursuits, but also my development as a more confident, curious, smarter person.



The Homestead

The Museum is actually two buildings: one is the house where Dickinson lived for most of her life with her parents and siblings, known as the Homestead, and the other is the Evergreens, the house Emily's father Edward Dickinson built for his son Austin when he married his wife Susan. The houses are only a stone's throw away from each other, joined by a path "wide enough for two in love," or so thought Emily – groups of a dozen or so tour-goers have no problems flitting from house to house today. For a poet who so much of the time seems preoccupied

with death, her house is surprisingly bright: painted a sunny yellow, with pine green shutters on its windows, it perches itself above the street in a way that is dignified, but not imposing. The Homestead was originally built by Samuel Dickinson in 1813, Emily Dickinson's grandfather, in the fashionable Federal Style befitting of one of the most well-respected and influential families in Amherst. Their ancestor Nathaniel Dickinson had been a pioneer of the area around Western Massachusetts, and Samuel himself was largely responsible for the foundation of Amherst College, a liberal arts college which still thrives today and indeed is linked closely with the museum. Edward Dickinson with his wife and son moved into the Homestead in 1830, and in December of the same year, there Emily was born. Financial troubles led the family to move to a different house on West Street (now North Pleasant Street, the main road which runs through the centre of the town) which overlooked Western Cemetery. This was likely where Emily's fascination with morbidity began, as from the age of ten she saw funeral processions from her bedroom window, heard the tolling bells and watched the mourners pass by. A few years later however, Edward rebought the Homestead, and the family moved back. Except for a stint at Mary Lyon's Mount Holyoke Female Seminary which lasted under a year, this was where Emily stayed for the rest of her life. Despite this, and despite the popular myth that Emily was always a withdrawn, solitary, unsociable woman, a genius imprisoned in her own home, she was not misanthrope, and she was not a caricature of the Woman in White witnessing the world from her window. Reclusive, and perhaps shy she may have been, this does not mean she never lived a full life, a life deeply connected to those of the people she loved, and at one with the world she inhabited. The work the Museum does in part is to abolish this myth, and repaint Emily as the funny, talented, compassionate human being she was, and not the strange, fearful, haughty myth that made her famous.

Tours of the Museum take guests around the rooms of the Homestead and Evergreens, the former redecorated to recreate the furnishings which the Dickinsons would have seen and used in their

time, the latter a time capsule of the mid-Victorian era, the original wallpaper, furniture, and floorboards exactly as when Austin and Susan brought them into the house. My project was to compile information for each object in the rooms of the museum, and create object guides for each of these rooms containing the information I'd found. The aim was to create a resource for tour guides, who, when asked a question concerning one of the objects in the rooms, they would be able to answer with the relevant information concerning how the museum had acquired the item, when and where it was made, and crucially, if it was original to the Dickinson family. Much of the information I needed had already been recorded in the Museum's previous records of objects, though much of it was out of date due to the refurbishments to different rooms in the house, and some objects lacked records altogether. For this project, I had to become a historian, as well as an English student and lover of poetry. I was able to take advantage of my position in the museum to join a number of guided tours, meaning that I was able to spend much of my time working closely with the objects on display, surrounded by guides and museum staff who had spent hours accumulating knowledge about the museum and its artefacts. Investigating the chairs, I learned about Lambert Hitchcock, and his part in the mass-production of the famous Hitchcock chairs. From the lamps, I learned more about the whaling industry, and transition from expensive sperm whale oil to the more widely available kerosene. From the portrait of the three Dickinson children, I learned about itinerant portrait artists, who would stay in the house of the family they were painting, sketching the torsos of their subjects before they arrived and painting in the head afterwards once they had a reference present. From everything, I learned that every object has a rich material and cultural history, one which reflects and creates the time in which it exists. I came to Amherst expecting to come away with a better understanding of Emily Dickinson the poet, but what I picked up too was an understanding of her context, of the town she lived in, and how the people she lived around were just as important to the creation of her art as the spark in her brain that led her first to put pen to paper.

Emily's material context is also just as important to understanding her poetry as it is to understanding her personality. With lawyers for a father and brother, stationery was never in short supply in the Dickinson household. Indeed, much has been written on the original manuscripts on which Emily wrote her poems, and for good reason – upon her death, Lavinia, her sister, discovered hundreds of poems in bundled up pieces of paper stuffed into the bottom drawer of her dresser. While her family had known of her poetic gift, Susan even reading them aloud to friends during their visits to the Evergreens, the true prodigiousness of her oeuvre was not discovered until this moment. The material fact of her poems, the sheer papery bulk of her genius is what catapulted her into fame. Emily was also known for using the paper itself to work in tandem with the words written on it: one of the most famous examples of this is 'The way Hope builds his House', which is written on a sheet of paper that is five-sided, with three straight sides and a point at the top like a roof. But there are also some examples where their paper construction is less obviously connected to the meaning of the words – or at least, an explanation for their appearance comes less easily. On the programme for an 1873 organ concert performed by Howard Pankhurst, she wrote: "Of our deepest delights there is a solemn shyness/The appetite for silence is seldom an acquired taste[.]" Thoughts of silence and sound around a concert seem logical, though the conceit of taste and food seems less intuitive. It is not even known if Emily even attended this concert, or if she perhaps took the programme from a friend or family member. Did she write this at the concert? At home? Years afterwards? The material object itself is a piece of evidence which perusal opens up a plethora of possibilities and unanswerable questions, everyday bits and bobs now tapestries of a life, like all lives, eventually lost to time.

Throughout my visit, I started to become more and more interested with the following question: what do you gain from visiting a writer's house? When questioning my motivation for wishing to visit and work at the Emily Dickinson Museum, I began to realise my own participation in the culture of

literary tourism, and the duty that lovers of literature often feel to connect with the writers themselves. Tour guides in the museum told me of visitors often breaking into tears, or having other such visible emotional reactions upon entering Emily's bedroom. And having spent so much time in there, I agree that there is a kind of mysticism that lives in the second-floor south-west room of the Emily Dickinson Homestead. I'm not a believer in ghosts, but if there was one room in the world which I would say is haunted, it would be that room. The question is whether the same effect exists for those who do not already know that this is Emily Dickinson's bedroom, the room in which she wrote the majority of her poems and died in at the age of 55. Spaces, so often when related to famous literary or other well-known figures, become endowed with a sense of their own significance. The air conditioning vent whirs and gurgles like a death rattle, or, maybe, just like an air-vent. Take away Emily, take away the Dickinsons, take away the museum and the people and the town, and the room is just a room, existing for no particular reason except to be.



Evidence of Emily Dickinson's life and presence in the town of Amherst is not limited to the museum; a short walk away from the Homestead brings you to the Western Cemetery, the resting place of Emily Dickinson, her parents, and her siblings. The graves are cordoned off from the rest of the site by a wrought iron fence, though the stones themselves come so close to the edge that it is easy to reach through the bars and touch them. People, evidently, do, given that the top of the stone is covered in coins, pebbles, and trinkets, and grouped around the base is a pile of leaves, flowers, and ballpoint pens. You feel a strong sense of community in the evidence lovers of her poetry had left there. It is not just the beauty of Emily's work which is celebrated here, but the power of her memory to connect people by the values they believe in. Love. Women's education. Fearlessness in the pursuit of truth. There is a group of people in the world

who believe in these things, and the legacy of Emily's poetry tells you that they exist.

As exciting and rewarding as the project could be, its interdisciplinary nature meant that it required skills and experience I simply didn't have, and it was frustrating to be held back so often from finding all the details I wanted for not knowing where to find the information I needed. I was reliant often on asking tour guides and senior museum staff if they happened to know anything about a particular object, and while their help was invaluable and their patience kind, I sometimes felt out of place not knowing some of the practices of museum work which seemed so basic to them. I could look at a clock and, if I were fortunate, find a reference in one of Emily's letters or poems to it, linking her presence with its place in the house. What I could not do was to tell what kind of wood it was made of by sight, to know if it was original to the Dickinsons without a reference, to ascertain anything but a maker or year made from an engraving on its side. Finding each new piece of information was like cutting the head off the Hydra, and having three more heads sprout in its place. Every time I thought I was done, there was more to find, each object opening up a gulf of ignorance which grew wider and more precarious with every day. What I came to realise from this was that the expectations I had set for myself at the outset of the project had been far too high – while my ambition to learn was important and necessary, I was inevitably going to struggle because it was an entirely new skill

which I had never practiced before. Over the course of the project I realised that whatever I was able to produce for the museum would be valuable both for them and for myself, and that my learning wasn't just bound to the information I was able to gain from books. For example, being in a town famous for its poets, I was immersed in an environment rich in artistic expression, and therefore was able to attend multiple poetry readings, open mic events, and film screenings. In fact, the last week of my visit coincided with the museum's annual poetry festival, in which events are held around the town to celebrate Dickinson's poetry and the work of contemporary poets from the local area. The most notable event of this week was the annual Marathon Poetry Reading, an event at which every single one of Dickinson's 1789 poems are read one after another, beginning at six in the morning and continuing late into the night. This year was the thirteenth year that the festival had taken place, and while there, I met teachers, artists, and poetry-lovers of all kinds who came to Amherst every year to participate. It was encouraging to be able to participate in this culture of creative expression, and as a result my skills as a writer both in analytical and poetical spheres have deepened. Emily's poetry has become to me not only an object of admiration, but a springboard into the discovery of my own poetic voice.



View from Bare Mountain - Holyoke Range

Between travelling to Amherst and returning home, I was able to spend several days visiting the state capital Boston. On my first day in the city, I found a monument dedicated to the fallen soldiers of the American Civil War. The Sailors and Soldiers Monument, as I discovered it was called, towers above the surrounding trees of Boston Common. Its neoclassical design puts a Brit in mind of Nelson's column in Trafalgar Square, though it isn't nearly as large, and honours not a single commander but the spirit of the values with which the war was supposedly fought. On its side, it proclaims a pride in the nation having, "destroyed slavery" and "kept the nation whole." But in the wake of the protests and murder of the activist Heather Heyer in Charlottesville, and the emergence from the shadows of a particularly ugly kind of right-wing extremism, I wondered if monuments like these served only to smooth over the violence of the past without addressing the problems of the present. The debate around Civil War statues

was especially fervent during my visit, seemingly every week another Confederate leader pulled down from his stony platform. Amongst the many divisions in American society today, one of the most poignant seems to be a difference in the way in which people treat history: one side is willing to overlook the power of the dead to affect the present, and the other is not. Whichever side its residents fall on, the city of Boston is certainly steeped in its own history. American history as it has been written by colonial settlers is relatively new, and Massachusetts, as the site of occupation by some of the first of these settlers, makes the most of what it has. In many ways, Boston is filled with things to see and do. When visiting new places, I often feel a pressure to make the most of the opportunities presented to me, worried that I won't be able to experience everything I could do in such a short space of time. I believe therefore that the most important thing you can do for yourself in these situations is to stop and sit and breathe. Feel the arm breeze on your hair and skin, listen to the far-away traffic and cheers of children home from school. Celebrate that you are here in this place, and feel yourself within it, a part of it. Enjoy being a stranger in someone else's photographs.

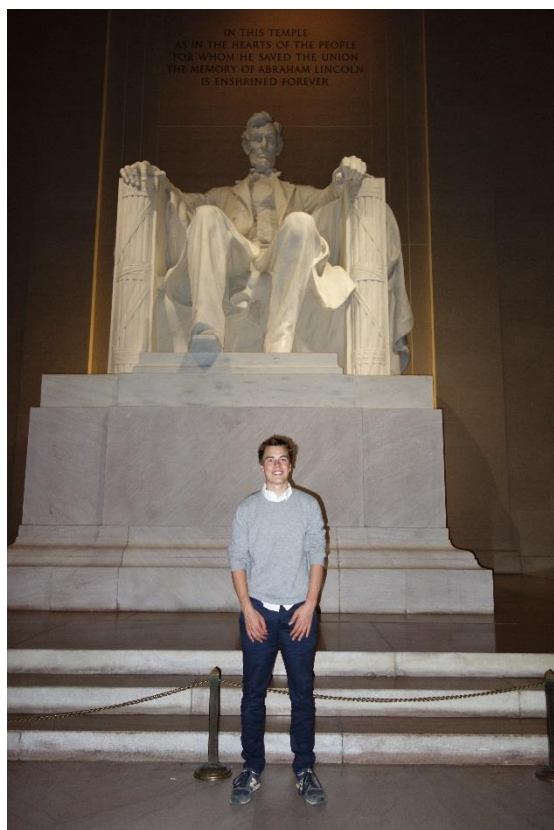
I know that I am in a position of immense privilege in my ability to write of my stay in Amherst. I am certain that there are people in the world who love Emily more than I do, who find more solace and inspiration and intellectual invigoration in her work than I will be able to, and yet they will never reach the town where she lived and wrote, let alone the space in her room where she wrote. All I can do is provide my reflections of the time spent there, to be honest, and turn myself into my own personal science experiment, and observe my reactions when the variables are shifted. Overall, I found America paradoxical. In the nice, white, college town of Amherst, it sometimes feels as though everything has been enchanted, and a layer of glamour has been laid over everything you cast your eyes upon, transforming the world into an idyll where people are happy, and optimistic about the future, despite the underlying issues you know are present. And yet, the five weeks I spent under this glamour have been some of the most fulfilling and happy weeks of my life. I met friends whom I will keep as long as I live, and am bolstered by the knowledge of the existence of so many people in the world who love the same things I do. I now want to pursue the study of material culture in relation to literature even further, as well as the effect of literary tourism on the reception and construction of literature both in the present and historically. And of course, I want to keep travelling, to see as much of the world as I can with the opportunities presented to me, but always to remember the importance of living in the moment, wherever in the world I may be.

Hugo Shipsey

As I hurriedly tried to orientate myself in a business in which I had no experience and in writing book proposals I could only base on those I had read and rejected from the general public I received a very useful piece of advice from the senior partner. He told me that the opening passage of any piece of writing was critical to its success. Every book needs an engrossing anecdote to pique the reader's, and hence the customer's interest, to persuade them to buy it. And so, I sat and read through 10,000 words recounting the history of Hong Kong and some of its less famous descendants looking for some passage that ticked all of these boxes. After reading it all through with this statement in the forefront of my mind it was not a piece of advice I was likely to forget in a hurry and so I hope this introduction has suitably fulfilled its role!



The work I was doing was an internship at the Ross Yoon Literary Agency in central Washington DC. In this capacity, I spent the whole of September living in the Adams Morgan area of central DC trying to get to grips with the work of a company and an industry that I had not even realised existed prior



to my application! The work of a literary agent essentially consists of selling manuscripts, be they the skeleton of a book idea or a fully edited and proofed script, to publishers. As such, the focus of the work was twofold, examining potential future titles and polishing up clients' works that had already been taken on. As an introduction to the work, I began on the first of those tasks with the 'slush pile' that was the general public's submissions. As the agency had not had an intern over the summer vacation, it was much to my surprise when I logged onto this email and found over two hundred and fifty unread book proposals submitted on themes ranging as far and wide as a doctor's work with the Burmese Rohingya or a Bulgarian film script about a chess master. The agency specialised exclusively (other than when the work appeared exceptional) in adult non-fiction books and so some of these requests were easier to respond to than others but I was still always concerned that I would be the literary agent whom the future Bill Brysons of this world would be referencing when they recount the first ten years of

their literary careers in the wilderness in which they were rejected at every turn! My trip had started off slightly less than auspiciously. My flights to Washington were booked via Dublin and so I sat in the Dublin departures lounge whiling away the time until I could enter the US pre-clearance facility. When I eventually got to the immigration desk I was running through the many ways in which I could make it clear that even though I was not getting paid for my work I was not being exploited by the

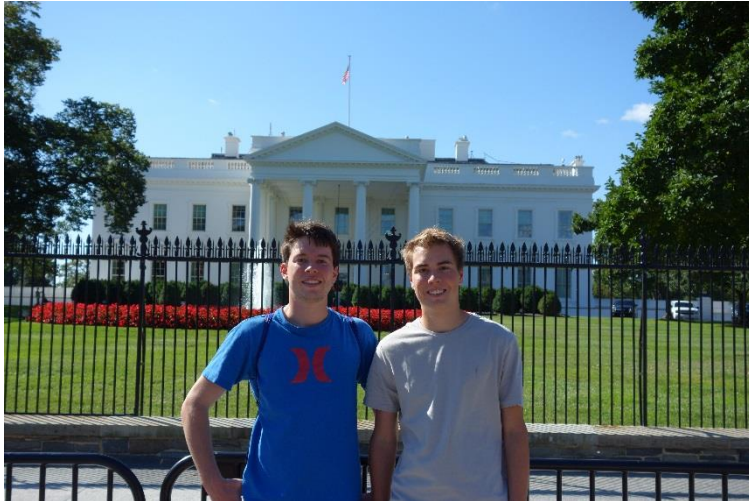
firm or taking jobs away from any Americans that might be in the hunt for a literary internship. However, once I got to the desk I fell at the first hurdle and struggled to respond to the custom's officials perfectly reasonable question of what in fact I was going to be doing in the US. Eventually, after mumbling my way through this I then was unable to provide a permanent address for my stay as I had no internet connection at the airport and had not written it down beforehand. The official eventually let me through and I thought that was that until I heard my voice being spoken over the tannoy system and the ominous summons back to the US immigration security. Luckily this was only a random security check and the lady escorting me kindly reassured me that this was all routine as otherwise I would have gone into the cells behind and not reappeared again but suffice to say this was not the relaxing outward journey for which I had hoped!

After I had managed to find my way to my AirBnB in the Adams Morgan area of DC, I eventually discovered that I had been sent the code for the door and let myself in. Luckily, my house hunting (predicated on an attempt to ensure the shortest commute at the best price) had worked out incredibly well. The owner of the house had given me the master bedroom and I was sharing the house with other international students or others in the US on work related trips including a Peruvian oncologist and a Mexican graduate student working at a research institute. It was fantastic to have a group of people that were equally unfamiliar in the city with whom to visit the area and see the sites and I had serendipitously managed to pick the most up and coming area of DC as my fellow workers kept reminding me. On my first full weekend in the city I decided to walk up into the heart of Adams Morgan to get a feel for it and walked right into an enormous street fair with live jazz (from the fantastically named Madam's Organ bar), street food from more cuisines than I had ever seen before and a little political campaigning on the side as well as a huge variety of miscellaneous stands. After boldly electing to buy a slice of jumbo pizza in order to really assimilate with local American culture (something I aimed for on the whole trip as I even took donuts into work on my final morning!) rather than some Nepalese or Ethiopian. I finished off my all-American experience with a trip to watch the NFL on one of around ten enormous flat-screen TVs utterly content with the whole atmosphere.

I returned to work the next day to face the best submission of my entire internship. The author began listing off his credentials with the promising tricolon of ex KGB, CIA and FBI spy and then proceeded to explain that he was writing under a pseudonym for his own safety. The only issue with this was that his pseudonym was not the name in the email address and so it took little sleuthing on my part to establish his own identity (a rookie error indeed). I took great pleasure in responding to his email by addressing him according to his email's name. Sadly, the book proposal got no better from then on in. As part of the guidance available to first-time authors on the agency's website, there was the advice to provide chapter summaries for the entire work as well as detailed writing samples. The chapter summaries for this book included three entitled consecutively 'Kill Obama', 'Kill Clinton' and 'Kill Trump'. Sadly, I felt I had no choice but to encourage him to seek other publishing houses. Nevertheless, upon reading my generic rejection he immediately replied with a new proposal, one which converted his work into an autobiographical film script. Once again, I had to reject his idea with great regret. Many of the other submissions were much more routine. I had to vet the proposals whilst considering whether the author had the requisite national media presence or a large enough following on their own social media, their proven expertise in their field and whether the story was good enough (or exceptional enough to make up for limitations in the other two). To that end, many submissions fell into the category of very interesting and engaging but not unique enough to compel a customer to spend roughly \$30 to read it given the author's low profile. As such, of the roughly three hundred and fifty proposals that I read, I only sent around 5% to be reviewed more closely and only a couple were considered as prospective clients.

The second aspect of my work, as detailed above, was the editing and polishing of manuscripts for their auctioning to the major publishing houses. The struggle to join the disparate threads of the

narrative into a unified and captivating plot was incredibly rewarding once I had hit upon an idea and although I did feel slightly unqualified to critique a world-leading expert's scientific tome on my undergraduate vacation, it was thoroughly enjoyable all the same. I worked on projects including looking at Afghanistan war veterans' experiences, the history of Hong Kong, the evolution of Silicon Valley and the comic biography of a fashion correspondent and saw the projects evolving from incoherent ideas right up until the final sale of the work to the publishers. It was here that I felt there was the most scope for creative thought and so it was the most enjoyable aspect of my work as well as the time when I felt as if I were doing the work that a professional literary agent would full time.



Outside of my work, I tried to make the most of my time both in Washington and the US by visiting all the sites I could. Donald Trump and Mike Pence's motorcades would speed past my office every morning but sadly I was unable to get past the gates of the White House when I visited due to Trump's new regulations. The spectacular museums along the Mall were a particular highlight, especially the National Air and

Space Museum and its annex which held everything that couldn't fit in the main museum such as a space shuttle or the Enola Gay. Moreover, the National Museum of African American History and Culture I found a uniquely moving and informative experience especially considering my own relative ignorance of the civil rights movement and the period before my visit. The sheer variety of museums available meant that I was never at a loss as to where to visit and I added to this by visiting both the Met and Trump Tower when I visited New York on one weekend. Wanting to take full advantage of my time in New York, I set out very early in the morning to find a diner from which I could plan my day over pancakes, maple syrup and bacon. With that ticked off of my list I decided to start at the top of Manhattan and gradually work my way down with visits to the Met, the Guggenheim, Trump Tower, Madison Square Gardens, Times Square and so on as I went. Manhattan appeared very small on the map and as I was starting around 87th street I decided eighty-seven blocks was easily manageable in a day. Sadly, not only had I ignored the fact that the most southerly point was not 1st street but also, I had somehow missed that it was Oktoberfest in New York that day and so my gentle stroll through Central Park involved multiple detours in order to avoid the cordoned off sections. Moreover, once I had got to the meatpacking district and Chelsea I walked across the entire Highline (which was fantastic) before eventually returning to the flat I was staying in in Brooklyn. My phone recorded the distance walked in the day as over 40km and whilst that may well be down to the fact that it was used to measuring my daily average in terms of hundreds of metres, the walk still left me very much in need of the next day's full American.

The next weekend I again left DC and took the train up to Baltimore. I had agreed to meet a friend of my dad's, Haakon, there to go watch the final game of the Baltimore Orioles' baseball season. In the middle of the fifth innings, as the Orioles left the field, their star man, Manny 'Baby-Faced Assassin' Machado, hurled the scuffed baseball into the second tier of the stands above my head. With just too little elevation, the ball clipped the railings and fell back into the bottom tier in which I was sat and after ricocheting off of two or three empty seats somehow found its way into Haakon's glove, a very welcome late birthday present for his son sat with us! Sadly, the lovely photo that we took of the occasion was spoilt by a sly photo-bomber behind us that wasn't quite in keeping with the rest of the photo. I continued my gourmet tour of the US with a trip to the stadium's hot dog vendor for an Orioles' classic and a portion of fries that would have been shared out between three or four people at the Corpus Buttery.



Throughout my work in Washington I learnt a great deal not only about the literary industry but also about office work more generally. The first few days were a hectic struggle to write memos, address emails correctly and forward my critical memos to my supervisor and not the authors of the submissions themselves. Moreover, the very act of synthesising such a vast quantity of information and attempting to judge its literary merit was something with which I struggled at first as I questioned my own ability to judge a narrative non-fiction work. However, by the end of the four weeks I was encouraged to realise that I was far more confident in expressing my own views on the works and less ambivalent in my assessments. In addition, this was the first occasion on which I have lived and worked not only in a different city, but also in a different country from my family and everyone that I know. It was a daunting prospect before I left, knowing that I was a 12-hour trip away from them all but once I landed it was an environment in which I thrived. The diverse contexts I was exposed to, living in a flat with people from four continents, working with a multi-national workforce, and living in a very multi-cultural neighbourhood was a really refreshing change from living in the countryside of the South West of England. Furthermore, it was, in a way that university, and perhaps specifically an Oxford university experience is not, an especially self-reliant month and I think it was in that respect that I learnt the most.

I thoroughly enjoyed my entire trip to the US and I was very sad to leave once it came to the end of September but nevertheless, I managed to fit in one final visit to an American diner on my final weekend to stock up for my 24-hour return journey home. However, the American leg of my journey was much the more comfortable of the two as I was able not only to charge my phone at the lounge, but also to watch live NFL on one of the many enormous screens dotted around the airport. I am still in contact with the company with which I was working and I am looking forward to reading some of the books upon which I was working once they are sold and published. I would like to finish by thanking all of those that so generously made my trip to the US possible. It was a fantastic experience and one that I would never have undertaken without the Expanding Horizon's scholarship so once again, thank you very much.

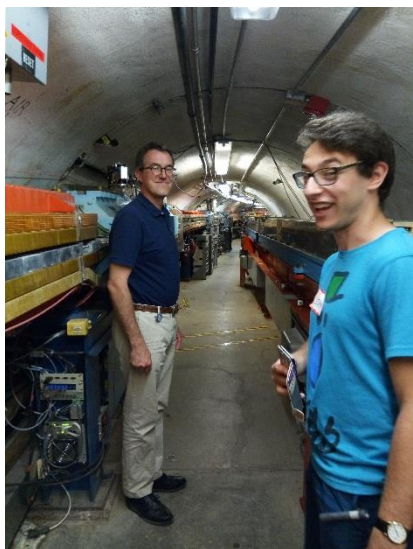
Adam Steinberg

Six months ago, I had a simple summer plan: do my vacation work, get a job at a local shop, maybe go on holiday for a few days... Nothing especially exciting, and certainly no real remit for personal growth. Then, seemingly out of nowhere, the most amazing opportunity arose. Unbeknownst to me, this opportunity – a chance to spend two months in America, on the Expanding Horizons Scholarship – would let me meet amazing people, see landmarks both natural and artificial, and experience a culture so similar, yet so different to my own. It has been a lifechanging experience, and I've gained a whole new perspective on the relationship between our two countries.

Sitting on the runway at Heathrow on the morning of June 25th, I had no idea what to expect. I had never been to America before, nor did I know anyone on the programme. As we accelerated along the runway and soared across the Atlantic, it was with mild trepidation that I looked to the two months ahead. There was an unassuming itinerary: seven weeks at Cornell University, followed by two weeks with a friend and her family, which was to include seeing 'The Great American Eclipse'. At Cornell, I was to do a project in the accelerator physics department, mentored by Professor Steve Peggs, a Corpus Christi alumnus. When I was not working, I looked forward to exploring the town of Ithaca, which was within walking distance of the campus.

Beyond these details, there were few confirmed plans. Landing first at JFK International, then getting a connecting flight to Syracuse Airport, I was in transit most of the day. At last, at 11pm Eastern Time, I finally got off the plane and met my other supervisor, Dr Karl Smolenski. He is an engineer at Cornell, and was my main point of contact while there. For the night of my arrival, it was far too late for me to move into the university accommodation, so Karl kindly offered me a couch to sleep on. This was the first of many acts of kindness I received while in America, setting the tone for much of my time there. Arriving at Cornell the next morning, I was immediately struck by the beauty of the campus and its surroundings. From grassy green slopes to roads lined with trees, from the magnificent clocktower to water cascading down the Cascadilla Gorge, everywhere I looked was another picturesque vista. At last, it was all real: I had a dorm room, a desk in an office, and finally, a project.

What was this seven-week long project? Most people have some knowledge of particle accelerators – due in no small part to recent discoveries at the Large Hadron Collider – but this sometimes gives the impression that it's all about smashing particles together. As I learned this summer, there is so much more happening in accelerator physics, with new technologies being planned and produced all the time. The most high-profile accelerators may well be colliders, but I discovered that exciting research is being done on other designs. I worked with the group commissioning a new machine, the Cornell-BNL ERL Test Accelerator (CBETA).



This accelerator, which will begin operation in 2019, is special for many reasons. It will be an energy recovery linac, an accelerator that reuses the same straight section multiple times. This is first to accelerate particles, then decelerate them, retrieving the energy that was used to increase their speed in the first place. To do this, it will use permanent magnets, rather than 'conventional' electromagnets, which formed the basis of my project. But I believe that the most exciting part is the collaborative nature of the endeavour: thought up by scientists at Brookhaven National Labs, but brought to life by their colleagues at Cornell. Part of this collaboration involved designing some very sophisticated magnetic field optics, which has only recently been resurrected after initial trials in the

sixties. This quickly goes beyond the scope of my project, but I think it highlights just how vital teamwork is in creating CBETA.

Permanent magnets have not been used so extensively in an accelerator before, which seems odd. After all, they're as common as electromagnets in everyday life, just stuck onto your fridge rather than turning the fan in the back. Furthermore, the benefit of using permanent magnets is obvious: imagine having to power the magnets stuck to the front door of the fridge! Of course, not requiring electricity isn't all that important on a small scale, but when the power consumption is measured in megawatts, suddenly things start getting very expensive. The accelerator building at Cornell uses about 15% of the whole university's power, so switching to magnets that won't need any seems like a clear way to save money.

Except there's a catch. In an accelerator, there must be a constant magnetic field strength, otherwise there's no way to control the particle beam. Unfortunately for us, if the temperature of a magnet changes, so does the strength of its field. If we were using electromagnets, we could just change the current through it, and the variation in temperature in the average kitchen doesn't really affect a fridge magnet. The equipment in CBETA is a little bit more sensitive: a temperature change of 0.5°C (0.9°F) would immediately cause issues. My initial project brief was just that: what can we do about it?

There are two ways considered for stabilising the temperature, either attaching heater pads to each magnet, or running coolant pipes through them as part of a larger system. My first week or so was spent testing out heating methods, but this was quickly discarded in favour of using water pipes, which had a more uniform heating effect on the magnets. After this, it became a question of efficiency, trying to maximise the number of magnets we can keep at a constant temperature using a single pipe, before the control becomes ineffective. If we already had the 216 magnets, this would be trivial: just hook up the water pipes, and perform some physical measurements.

As always, it's not that easy, as only a handful of the magnets are already built. I had to resort to what any physicist would in such a situation, creating a simulation when reality failed me. This initially simple work quickly ballooned into a several week-long endeavour, leading to me learning C++ and R along the way. My results were far from perfect, and my program was not without its flaws, but in the end all the effort paid off. Even from this first order approximation, I showed that using water pipes will be viable for small numbers of magnets. I came to this conclusion after investigating the variation in magnet temperatures over the course of a day, then increasing the number of magnets on a coolant line and seeing when the variation reached unacceptable levels. First I did this for a constant input water temperature, then for one which varies in response to magnet temperatures. For a full breakdown of my research, including graphs and full analyses, my technical write-up can be sent upon request.

In essence, that was my 9-5 job for a significant part of the summer. I learned an incredible amount, encompassing much of what I've explained so far. However, there was much more to my time at Cornell than work! I shared my office with two other American summer students: Rachel Bass and Nate MacFadden, students at Grinnell and Reed Colleges respectively. They had both been there three weeks longer than me, and would become my guides to the United States over the coming months. Among other things, they introduced me to Wegmans (apparently the best-loved supermarket in the world), the wonders of 7-Eleven (so well hidden that I couldn't find any) and some of the delicious food available in Ithaca.



With Rachel and Nate at Niagara Falls

Indeed, the food was a big part of my time at Cornell, in no small part due to the array of restaurants nearby. The place we went to most frequently must have been Collegetown Bagels, well known to all Cornell students and native Ithacans for their coffee, cakes, and of course, bagels. There was also the Carriage House, where I learned that while the grass might be greener on the other side, the brunch is always best back home. Something I had not expected was that they keep cows on campus, but this had the fortunate side effect of homemade ice cream. If you ever find yourself at the Dairy Bar on campus, I'd recommend the 'Big Red Bear Tracks' – but whatever you get will be delicious.

Of course, there were social activities other than eating. Earlier I mentioned the Cascadilla Gorge Trail, going right from the university into town. Hiking through there was my first introduction to the waterfalls of Ithaca perhaps topped only by Taughannock State Park. We were in the park while we waited for a concert, which was part of a series of music events in Ithaca. That week, it was a local band called Sim Redmond. Now, I'm not much of a music fan, but this didn't really matter, because I didn't go alone. This was a group outing with several of the other summer students, as well as some of the researchers from our department. It was something I'd never experienced, eating picnic foods, watching the band, laughing with friends... So simple, but surely one of the most memorable evenings of the summer.



Cornell Summer Science students

I should add, this outing was not organised by me, nor one of the other summer students. No, this came out of the brilliant mind of my mentor at Cornell, Karl Smolenski. There were many things I learned from Karl, most of them scientific or technical, but what I valued most was probably also the most mundane: how to ride a bike. This may not seem related to the Scholarship, but I believe it exemplified why I was in America. Not just to sit in an office and write computer code, but to experience the culture, to get to know the country, and to understand its people. If there was one thing Karl and his family taught me, it was that kindness and patience are as much a part of the American dream as freedom and corn fields. An abundance of both those virtues was required to teach this nineteen-year-old physics student to cycle, and I am incredibly grateful.

My stay in America included one of the most important days in the calendar, unique to that country. It's not often that one can experience a whole new holiday, so you can imagine my joy on the 4th of July when I didn't have to go into the office! There were some events put on which students were invited to, but the evening fireworks stand out as something truly spectacular. A few of us walked down to the park where they were being launched, and by the time the final students joined us, half of Ithaca must have come with them. I can understand why. Twenty solid minutes of rockets flying up into the sky, exploding into countless brilliant colours, then fading into darkness. Of course, there was a brilliant finale of red, white, and blue, bringing forth thoughts not only of the country I was in, but also of home. I now realise that we share not only the colours of our flags, but something more binds us: a shared language, a shared heritage, and to some extent, a shared culture. We might set off our fireworks at different times of the year, or eat slightly different things, but when it comes down to it, I believe we're more similar than we think.

One evening in particular exemplifies 'The American Experience' more than any other. It was my final night at Cornell, so Karl's family went with me and Steve (my Corpuscle mentor) to a roadside diner not far from Ithaca, 'Bob's Barbecue'. To most American citizens, it was probably nothing special: ribs, chicken, brisket, and plenty of sides. Combine this with their open cinderblock firepit, plenty to eat, and of course, fields and fields of corn surrounding it, and I defy you to find a more stereotypical American eatery. Perhaps most importantly, it was good food, with great people. Summarily followed by a short drive to an ice cream place, nobody expected what we found: a gallery of locally-built trucks proudly on display, alongside some impressive looking cars and an admittedly less impressive sounding band. Even on this night, the most 'stereotypically American' of them all, I felt welcome and wanted, perhaps indicating the camaraderie of the nation.

When I finished my work at Cornell, it was a sad time. Leaving more than just a campus, more than just friends, and more than a few good lunch spots. But it was not yet time for me to leave the States. Less than two weeks after leaving the university, there was to be a spectacular event that I just had to see. Visible from coast to coast, 'The Great American Eclipse' was a once in a lifetime opportunity. Fortunately, I knew the Lando family, who had been planning for the event for months, if not years. My adventures with them would never have happened were I not in America this summer, and I was able to explore so much more of the country.

There are few things I regret from my time at Cornell, but I was definitely sad that I didn't see much more than Ithaca. Before I had been living like a student, so I relished the opportunity to be a proper tourist! At last, I was able to visit New York City, to see Times Square, to marvel at the Empire State Building, and to relax in the Met. It was certainly odd to see all these places which I'd before only viewed from the far side of a screen. Walking through Central Park, I heard a guide saying that it was designed after the many parks of London, which is why there are no straight paths. Another quick reminder of home, right in the heart of America, helped me realise how we borrow ideas from our counterparts across the ocean.

It was decided to travel from East to West Coast to see the eclipse, to maximise the chance of good weather. Nine of us – me, the Landos, and their friends – travelled to Portland, Oregon, where we spent three nights. Naturally, some of this time was spent sightseeing, which was a great opportunity to see, a whole new side of America. A cycling tour of the city took us to Powell's Books, the world's largest independent bookstore, which had been recommended by both Oregon natives and visitors. Our final stop on this tour was a classic arcade, full of machines old and new. I'm not sure how many arcades still exist in the UK, and it was nice to see people young and old together in this place. There was also a chance to visit the science museum, where we watched a presentation on the upcoming eclipse. Not long after, we went to see the real thing.



Waking up early in the morning, we drove to Madras, where tens of thousands of people had set up overnight to view the spectacle. We got there around 7am, and after finding a good spot, we waited. At 9:06am, the moon started to move in front of the sun. Invisible to the naked eye, we could just see the lunar disc through specialised glasses. That day slowly dimmed, until 10:19am, when the

moon slid over the entire solar surface, and totality began. Suddenly, it went from a dim day to twilight, and we could look at the sun without eye protection. Except the sun wasn't there. In its place, a bright halo of light, often visible in photographs. However, there's something I've never seen captured in a picture: three ghostly wisps, each roughly triangular, extending from the solar surface out into space. Before I knew it, the eclipse was over. Two minutes and two seconds later, and sun was almost as bright as usual. But in my mind, I'll always be staring up at the darkened sky, on the day the sun disappeared.

We flew back to the East Coast later that day, and soon after I left the Landos and caught a train on the Long Island Railroad. There, I briefly stayed with Professor Steve Peggs, who hosted me in the short time before I left the States. While staying with him, I got to spend a day visiting Brookhaven National Lab, the other side of the CBETA collaboration. It was good to meet some of the scientists and engineers who I'd only heard on the phone until now, and they gave me a chance to present my work. During my presentation, they helped me to fix a problem in my code I had been stuck with for weeks. This was both frustrating and relieving, but it reaffirmed the value of teamwork one more time. I was also able to do a video interview with some scientists, as part of an ongoing side project.

This side project had been going on throughout the summer, and is still unfinished. You see, I had a secondary goal for my time in America, which was to become a better science educator, and to learn how to produce and present information. In the process, I interviewed some other summer students alongside accomplished scientists, and started producing videos to document my summer. I was shown the ropes by Rick Ryan, who works for Cornell, and took time to teach me the basics of using a camera, performing an interview, and making clear content. Some of the edited videos I created are available online, to document my work, and can be produced upon request. Learning all this was a total bonus, but it's something else that could never have happened were it not for this Scholarship.

Two months after I flew into America, it was already time to go home. Before I got there, I expected them to go slowly, and yet as I boarded the plane, it seemed like no time at all. Still, I knew this couldn't be the case, so much had happened to me in such a short time. The Expanding Horizons Scholarship is intended to 'involve significant exposure to the local people and culture of the area/country', and I didn't really understand the significance of this until after it happened. I'm not entirely sure that I do even now, but I've certainly gained some perspective. There's no way to understand how people think until really getting to know them, their society, their values. If I learned one thing from Karl, Rick, Rachel, Nate, and so many others, it's that stereotypes are rarely true, and we are more alike than different.