

(#1) Life At Christ Church: *An Introduction*

I hope things are going well on the other side of the world and apologies for this lengthy (but hopefully) interesting read! Things have been very busy recently, but I have found some time on an overcast Sunday evening to write these lines which is quite a nice change from the course-readings!

Today marks the end of my second week at Oxford in Michaelmas Term ("**MT**"). To be more specific, it is the end of Week 1 following Week 0 (each term has 9 weeks in total including week 0). This week I was fortunate enough to meet up with Haydn, Charles Torlesse, and James Armitage! These were a great couple of days where I heard more about the rich history of The House (Christ Church), the origins of the Wakefield Scholarship, and tried out some of Oxford's finest coffee (courtesy of James)! Haydn made many great suggestions, one of those, that I should document weekly or bi-weekly an update on what has been happening. This would act as a sort of informal diary and would provide the knowledge for the next Wakefield Scholars, while also being a record of my time here for myself!

To begin: The flights from New Zealand to England were very standard. I flew through Auckland-LA-Heathrow. I had organised my UK Visa well in advance and already had an ESTA for the USA from our previous visit to Vancouver/California, so this made for a swift arrival! I made my way through the usual clearance processes and collected my bags. Now what... I'm in the UK! Full of excitement despite the 30-hours of sleep deprived flying, I plugged in my preloaded UK sim (given free as part of my Visa) and looked up directions to the Oxford Bus Company – a 24/7 transport service that picks up passengers from Heathrow and drops them off to Oxford. Even better, one of the stops is for St Aldates i.e., the front door of Christ Church itself: Tom Gate! This fare cost me £27 and included bag space which I paid using the cash I got out from New Zealand – alternatively a (topped up) Wise card (travel card) would be sufficient.

I hopped off the bus with my bags and walked 5 steps to Tom Gate. I was politely greeted by the Porter who was fending off the waves of tourists wanting to view the quad – interestingly, The House tours sell out often and subsidise student costs for items like food. I explained to the Porter that I am a new student and wasn't sure where I needed to go, looking for a reception of sort. The Porter gave me exclusive access inside and directed me into the Porters Lodge ("**Plodge**") connected to Tom Gate. I headed in and was further greeted by more friendly Porters and Staff who asked for my name and gave me a quick introduction to The House, including to the two cats Meadow and Alice.

I collected my lanyard and access tag and headed across the road to Saint Aldates Quad (“SAQ”) – this may be different for other students depending on which accommodation they apply for. I would recommend SAQ and this is usually a first option for many students, those that miss out tend to provide financial proof too late, whether this is delays in scholarship logistics or other administrative elements, or those that just waited too long to sort it. This is important as it is a first-in-first-served process. SAQ being across the road means it is a 2-minute walk to The House, for meals, packages (delivered to the Plodge), the College Library, fresher events (hosted mostly at Christ Church or the Meadows) and is centrally located. I left my bags in my room and had a quick ‘flat’ tour to find the shared kitchen/bathroom and to see whether anyone else had arrived.

The next crucial thing is wanting to sleep and eat, after all it is 30 hours of transit from New Zealand, the problem is the rooms only come semi-furnished. If you were tech-savvy or had a lot of trust in the delivery services you could pre-order bedding and have it delivered to the Plodge. I did not do this, partly because I wasn’t certain that my bed would be a single sized bed or a double. It is a single bed unless otherwise arranged for accessibility issues. I headed down to Westgate Mall and searched around for a Briscoes equivalent and ended up at John Lewis – Briscoes but without the sales. Picked up some essential items and headed back to SAQ with a hefty bill, this is when I began to appreciate the value of the GBP...

The next day I headed up to the Post Office and picked up my Biometric Residence Passport, I believe these will become an e-visa so there is no need to go into detail. I then went back through Tom Gate into Tom Quad and asked the Porters for directions to the Academic Office. After uploading copies of my Passport, Visa, and Biometric Residence Passport I was able to sign away in their New Students book and collect my Bodleian Card or Bod-card, my University ID. The access tag I collected from the Plodge gives building access to The House, while the Bod-card gives access to the University buildings and ensures the Porters know who I am when walking around the Quads and don’t kick me out for not paying the tour fee. The Bod-card is also your best friend for meals. It can be topped up online and used for paying the meal bills in the hall at a 33 % discount, a much better idea than using Eftpos/Debit cards. I have purchased a season meal pass for dinners and am required to reserve a dinner spot for the Informal/Formal service, where again you use the Bod-card to check-in. This works out to be around £3.67 a dinner (a great deal).

Most of the other little things a student will feel their way through, like finding Tesco’s/Sainsburys and coffee stores, or even exploring the College grounds by willingly swiping the access tag on every door to see if it will unlock. What may be important to note

in the wrapping up of this email is the Freshers week. There are a lot of events on. Time is a very limited resource at Oxford so it should be rationed wisely. You do not need to attend all the events, particularly the ones that are not of interest. But I would recommend attending as many of the social events as possible as it was a great way for me to meet new people and see different parts of The House. It is also useful to know that Freshers week is Week 0 and University **also** starts in Week 0. There will be a crossover of timetables, but the essential events should be planned by the University and College to ensure attendance at required events, such as induction events, while the pottery classes and gardens tours are much less likely to be incorporated into the University timetabling. If there is free time, get started on the course early. It is important to get out and explore the city, but this will happen naturally as one attends different events and joins different clubs, so there is not a need to rush exploration as the reading lists do not get smaller... I would also recommend to the next scholar that they find some non-course related reading. I find this is a great way to practice reading while unwinding.

The first week can be a lot so communicating and asking questions with Porters, staff and university staff, as well as with college/university/club friends will make things much less stressful. This is somewhat a long way of saying I am loving it here! I am currently exploring how to find opportunities to stay longer and complete an DPhil if everything goes well. Funding often tends to be the major limitation as there is no shortage of ideas here, so finding how to access it is key. As Haydn suggested, I will continue to stay in touch with these updates to document the process. If there are any questions or interest in anything in particular, please let me know and I can write further! That's all I'll write for now as I better get back to reading *A Very Short Introduction: Quantum Theory* and *Marx* as a break from water-related readings!

p.s., I might try to set up a Water Club or at least brainstorm the idea to create one, so we will need more students to come to Oxford studying Water!

(#2) Life At Christ Church: *Diving into Dorset*

A great way to head this is that Oxford is a busy place. There is an expectation by the lecturers that you will work throughout the holidays, whether this be your graded elective essay or to catch up on the number of readings you will not have time to complete during the term. Some classes we are given an entire textbook and expected to read or filter through as weekly reading – which is optimistic considering there are 6 separate classes (each with readings). In other words, there will almost certainly be a backlog of readings but it's important not to stress about this because the *holidays* are designed for a student to catchup – it is better viewed as a break from teaching rather than a holiday.

In the four weeks of the course we have already had the opportunity to visit Dorset, driving past the Stonehenge and Windsor Castle on the journey home, and Maidenhead to view the Jubilee River flood protection scheme. The course-organised Dorset trip was a great experience. It occurred **before** the lectures begun and was a great opportunity for us to meet the class in an informal setting whilst learning about UK water challenges. I have volunteered to be one of two class representatives and have been privileged to hear a lot of the class thoughts on this trip – which all share a common theme. The WSPM cohort has become a small family! Much of this I credit to both the people and the field trip. During the trip we were all crammed into a bus and forced to talk with each other, many of us made an effort to mix and mingle with as many of the classmates as we could, and this has been really beneficial for the course – some of my college friends are somewhat envious of how social and connected our class is! This has had a snowball effect and helped with learning, class discussions, group work, and even social events outside of course.

Another mention of The House is the ballot system for dinners. Every few weeks there is likely to be a *Guest Night* dinner which a student must ballot for, if they wish to go. If you unsuccessfully ballot then there is a higher chance you will be successful in later ballots. This may be a strategic element I am yet to fully understand, but some dinner ballots are *better* than others. Again, the Guest Night dinner occurs often, but there are also ballots for college exchanges, black-tie and white-tie dinners, events (Diwali, Halloween, Christmas), and others I am yet to see. While each of these have a representative price tag attached, the entries remain capped. My potential theory is that unless you wish to go to the Guest Night dinner (or try your luck with every ballot), save your ballot success rate for the more significant events. This again has considerations, the black-tie dinner is a very social-college event, while the Christmas dinner is designed for you to invite your supervisor. There are trade-offs, but that is part of the Oxford Life.

I have also picked up Touch Rugby as I wanted a way to connect with fellow Oceania populations – homesickness (not that I have it yet), I have heard can be difficult to overcome. Touch is one of those sports that can be full-on or social. Unfortunately, I am far too competitive to treat it as a social sport, even though that is why I signed up. As a result Touch has taken up 8 hours of my week and will likely only increase as I was recently picked for one of the two BUCS teams to represent Oxford University. They have not said the teams are ranked by ability, but I am in the team with the best players. We have our first round of the regional tournament this Saturday. If all goes well I will end this academic year with both a half-blue for sports contributions and my academic qualification!

My last remark for this addition is Fresher Flu. Oxford is like every other university in that there is no desire to prevent the spread of fresher flu. It's baffling in all honesty. I have been sick twice in four weeks because of it! SO my top tip for the next scholar is to get on top of your vitamins. There are student deals at Holland and Barrett which may be *similar* to Chemist Warehouse? Basically, you can find cheaper vitamins and the staff are super friendly, knowledgeable, and helpful. I picked up some magnesium and fish oil and will likely head back for Vitamin C, D, and anything else that looks *healthy*. Another top tip on nutrition is smoothies. I have grown a small addiction to Tesco/Sainsbury smoothies. These are typically £2-3 / 750 mL and have added nutrients which to me seems like a no brainer for breakfast. Well alternatively, you could eat 6 apples, 1.5 bananas, 44 blackcurrants, 166 blueberries, 40 elderberries, and a dash of goji berry – but I repeat *Time is a very limited resource at Oxford so it should be rationed wisely*.

(#3) Life at Christ Church: *Water Science, Policy, and Management*

As the year approaches an end, I write a third edition to the Life at Chch series. While my previous writings have focused on the experience of living in Oxford and my time at The House, this edition will highlight the intricacies of the education system here and break down the Water Science, Policy, and Management (“**WSPM**”) course so that it can be better understood.

The purpose of this edition is to provide potential *teaching theft* – methods and approaches utilised at Oxford University that other universities or teaching facilities may want to replicate or incorporate. Plagiarism is strictly prohibited throughout academia which somewhat extends to teaching style and methods, however, advertising that the teaching approach has been adapted from the University of Oxford is a selling point in my opinion. I cannot speak for the undergraduate system in depth so my only mention on this is their [tutor system](#). This is the same approach incorporated into New Zealand universities, but instead the focus here is on expert teaching in small groups – rather than to develop and apply concepts in more depth after taught lectures in large homework-like groups. I have heard positive comments about the tutor style here and would encourage that this is incorporated where possible (resourcing is likely a challenge for larger cohorts).

As for my graduate course, I am based at the School of Geography and the Environment (“**SoGE**”) with other master’s students taking environmental courses. Each student has a college (most are different) and my classes include only those taking the MSc or MPhil in WSPM. The master’s courses are not integrated with each other, so we rarely cross paths with the students from other courses beyond the shared common room at SoGE. The same can be said about DPhil students within SoGE, except where they have been asked to present to our class reflecting on their previous studies. The main opportunity to integrate is during elective classes.

We select one elective in Michaelmas Term and another in Hilary Term based on what we are interested in. I chose *Water, Wastewater, and Sludge Treatment in the Urban Context*. The classes are limited to a maximum of 10 students and mine has 8 in total, so this is *like* the tutor system for undergraduates. As you can expect, 7 of the students are from the WSPM course and so there has not been a lot of integration with the other master’s courses. For this elective we are each required to produce a 1,500-word formative essay on a topic we choose (the elective leader must confirm) and a 4,000-word summative essay completed during the break between MT and HT. There is supposed to be some consistency in the assessment approach across the electives to ensure it remains fair, but this is experiencing some change as some of

the elective leaders modify the workload for their elective. The summative essays make up 20 % of the course grade (10 % for each elective), while the dissertation and exams both constitute 40 % of the grade (the breakdown is slightly different for the MPhil: 50 % Dissertation, 25 % Exams, 25 % Electives).

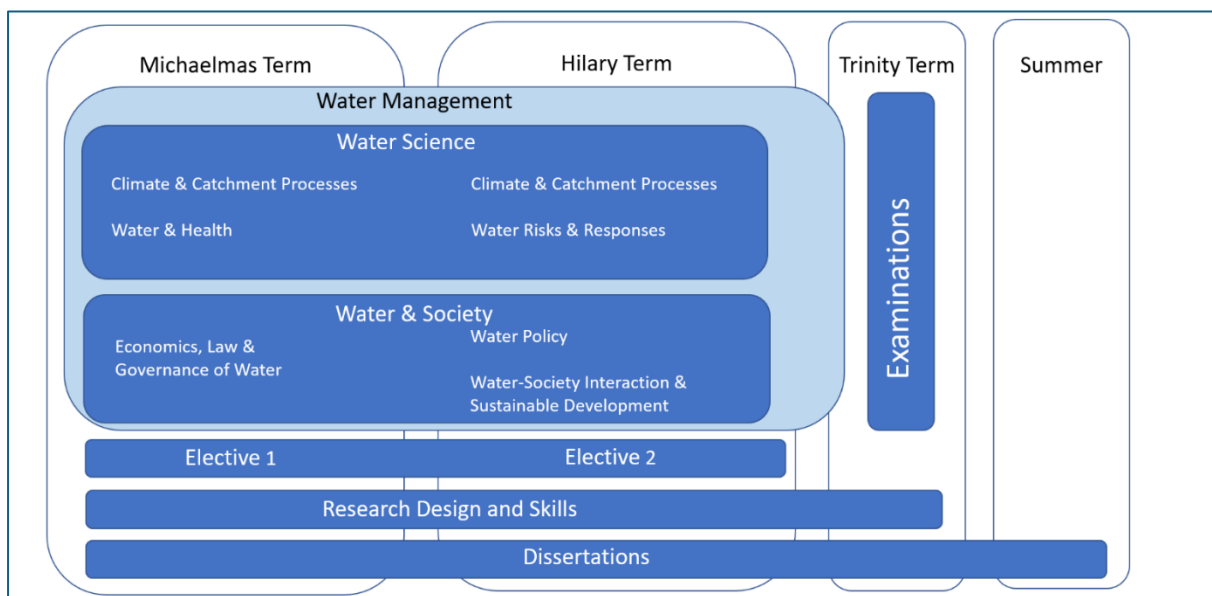
The WSPM course breakdown can be seen below. The main components are the 1) Dissertation, 2) Research Design and Skills, 3) Water Management, and 4) Electives (discussed above). The 1) Dissertation runs through the year where we are expected to develop an idea and find a supervisor over the terms (primarily HT). The bulk of the work is completed during the Summer break, including the research and write-up. Although a student (and I likely will) could start as early as they find a dissertation topic by beginning to draft a literature review and other core elements or by teasing out ideas in their elective essays. Reading some of the dissertations, the markers are impressed by the structure and framing of the research rather than what is actually produced – that I find to be a little interesting.

The 2) RDS module is taught over the year similar to the Dissertation period. This is because it teaches the skills for the Dissertation, i.e., how to use Nvivo, write academically, select a research philosophy and framework. There is not much more to add for RDS, the classes are a little bland but remain important.

That leaves the bulk of the course as 3) Water Management. This is further broken into Water Science and Water and Society. Water Science consists of the scientific elements of WSPM where we have been exploring atmospheric systems in Climate and Catchment Processes and will focus on surface hydrology/processes in HT. Water and Health is focused on pathogens and infections and preventative measures like WASH (Water, Sanitation, and Hygiene). Water and Society has been focused on economics, governance, and law where we have looked at water as an economic good and as a socio-legal object, exploring topics like The Life Framework of Values (Living from, in, with, and as water) and different economic lens to frame how decision makers may think. A lot more has been covered but it is difficult to summarise briefly. Importantly, the exams will consist of three written essays for a) Water Management, b) Water Science, and c) Water and Society. Three 1,500-word essays for each topic (a-c) is expected and the exams will take place over a week on the Monday, Wednesday, and Friday. The final grade for the course will be a combination of the elective essays, exams, and dissertation grade.

As a final note which may be of interest is AI tools. There is a heavy emphasis on the use of AI tools like ChatGPT to aid learning, so much so that lecturers encourage students to use AI

tools to support their learning and warn students will fall behind (in course and academia) if they do not get involved. The ability to use AI to support learning will significantly reduce the amount of content that is required to be filtered through and improve the quality of work that is produced, such as academic writing. Although it has been cautioned that AI cannot yet replace critical thinking, and prompts are important for its use – you should not expect AI to summarise a paper but instead use it to pull out key themes or to help question a paper to identify themes and arguments made by the author. Further, AI can be used to access papers in different languages and opens an otherwise inaccessible database – particularly for papers authored for local use. I guess the point is we should continue to work with AI and learn how to use it for our benefit...



(#4) Life at Christ Church: *Nearing the End*

Here remains another late edition to the Life at Chch series (I will be writing retrospectively for several more of these today)! In my defence this week has been very busy as we approach the end of the term, and the lecturers try to cram in as many lectures and request as many student-led presentations as they can! I can also note that *Essence – Raimund Prum Riesling* is a great choice of wine at an exceptional price (that includes my student discount)! I recently discovered this at a £12 wine tasting. The weather has turned wet and the winds cold. But luckily for me I came prepared with a suitcase full of t-shirts and shorts, and spare socks... In all seriousness, the college stash order has arrived so I have been living in my ChCh puffer that I had 'CR' stitched onto, for memorabilia. I also purchased a nice cap but as you may have picked up – there's currently no sun so this is just for bad hair-days. Actually this is a great learning point for a future student unaware of what the weather can hold: the weather much like New Zealand can and *will* change between each season in one day. If it is winter, just take a jacket or umbrella even if the sun is out and shining – you will need it I promise.

We recently had another great field trip, this time to visit the UK Centre for Ecology and Hydrology ("**CEH**") and to Hydraulics Research Wallingford. The UK CEH was a great trip and exposed us to some cool science! I had a great time taking lots of notes and honestly just geeking out over what they were doing. As a brief side-story, I have been exploring ideas for my dissertation and I am looking to research cyanobacteria and cyanotoxins. This means I have been doing a fair amount of reading into the topic and have found some really interesting conclusions – for example, you can utilise cyanobacteria in wastewater treatment which have a cooperative relationship with algae and improve the efficiency of treatment (slightly simplifying this). The intensity of light (blue vs red) can also have a strong influence on the production of toxins! And it's possible that the macroinvertebrates, the little bugs living in the water which tell a story about how healthy a stream is, might be helping to transport cyanobacteria to different streams because they can't digest it properly when it grows too large! Back to UK CEH, they have their own facility to conduct algal research – the GroDome. I will certainly get in touch with them as it may be a great facility to research cyanobacteria within and the connections will be great to have. We also heard from the Environment Agency and from another UKCEH researcher looking into storm/flood monitoring with the use of drones and river flow speeds acquired from satellites. Pretty tech savvy stuff!

Speaking of tech savvy, Hydraulics Research Wallingford are also doing some awesome science. They have a large warehouse built to model real-world scenarios. What I really mean is they can construct a small-scale port or water-based infrastructure project within the warehouse and by using a wave generator they can measure the impacts and potential erosion

or structural issues. They also have two large simulators. The first is a tugboat simulator where they again can simulate a port and modify the conditions based on planned port upgrades or changes, or by weather conditions. Experienced ship captains are invited in to test out these changes and to provide empirical evidence on whether the upgrades would be good or bad. The second simulator I unfortunately didn't see, but it was a larger and fancier cargo simulator which utilised lasers instead of screens. Although, the tugboat top speed was much faster so I don't think I missed out on that much..

As I mentioned earlier, the weather has been pretty miserable. I do enjoy the rain, but unfortunately it is not rain on a tin roof and is rain on Connor as he walks 20minutes to class without an umbrella (although 8 weeks in I finally purchased one). To the next scholar – make sure you get an umbrella, a good one. I would also recommend getting a bicycle as this will make transport a lot quicker and will allow you to visit the sites at a greater distance (this includes Aldi which is very cheap but a far *walk*). Speaking of far distances, we are now in week 7 and have one week left. Unlike New Zealand, it is very affordable to travel and to travel very far. I am currently in the process of deciding where to visit for the Christmas holidays as we get a 6week break, a well-deserved trip to France sounds very enticing.

(#5) Life at Christ Church: *Flood Management*

Another week goes by and the weather gets no better. Rain, floods, chilling temperatures, and a stark reminder of why we need good water management. I thought I would shortcut my way through the ChCh meadows and cross over the bridge headed to Cowley. I walked, sceptical, through the meadow and couldn't help but question its access. Will the meadow not be flooded? Will the River Cherwell not be breaching its banks? It is dark and there are no lights, but I progressed through the meadow and noticed the farm animals closely sat beside the fences, avoiding the now obviously flooded meadow. I eventually made it to the River Cherwell, which was double its usual size and any sight of the walkway was gone, including the inundated access points to the bridge. Several days later we receive an email advising us that the bridge is inaccessible. This is a warning which should be made much much sooner, if not enforced. The reason for the high river flows is not due to the local rainfall (alone) but the regions rain falling upstream and slowly making its way down the catchment – a delayed hazard. I don't want to think what might happen if someone is caught off guard while the river level progressively increases or is oblivious to the potential risk while glued to their phone, but I would encourage a proactive approach to managing flood hazards like this one. This includes a better warning, barricades, and a signposting of the risk, particularly for such a popular area.

Back to more *positive* water insights, this week has been very interesting! I organised an extra elective for our Water/Wastewater treatment elective to learn more about leakage. Leakage is quite an interesting concept so I'll try break it down a little further. It forms part of our *Non-revenue Water*. Leakage includes the 'Real Losses', or the water (in general terms) that is lost from pipe damage/aging infrastructure. It is water that causes a loss in revenue (e.g., operating and maintenance costs) and can significantly burden a system (increased system pressure). If 50 % of the water is lost before it reaches consumers, then the system needs to be exposed to higher stresses to ensure consumer demands are met. The water will be pumped at an increased pressure to allow consumers a greater volume of water but at the same time the volume of water lost to leakage and the damage to infrastructure will be greater (a greater force on the physical pipe). On this point, we can reduce leakage by fixing pipes and to allow more water to reach consumers (assumes leakage is high and easy to fix), or we can encourage consumers to reduce their water use to lower the demand and thus the pressure on the system.

Another point I want to mention which I find interesting is 'Apparent Losses'. I think this is a significant problem in New Zealand and it is comprised of 1) Unauthorised Consumption and 2) Metering Inaccuracies. The metering inaccuracies are self-explanatory, but I think there needs to be a greater push to encourage household metering (both rural and urban). The unauthorised consumption may require more nuanced thinking. It includes users who illegally

tap into distribution networks and take water without paying, a problem for the electricity sector too. In a sense, I believe users taking water from aquifers and rivers could be considered unauthorised consumers and exacerbating the 'Apparent Losses', even if they comply with regional plans – all water takes should be metered. These unrecorded takes can significantly reduce water stocks once enough people are engaging in abstraction, where the downstream users may suffer from worse quality due to the quantity being reduced (i.e., concentration of nutrients, streams drying). I guess what I mean is the revenue loss is not on public infrastructure (as private abstraction is funded privately) but in the loss of water as a public good (through changes to quantity and quality). There is a need for good quality data to make recommendations and to form suitable policies. Tackling *Non-revenue Water* is a great place to start for valuing water. I have also attached a diagram below which points out these distinctions and may be useful to reproduce. Let me know if you want any more information on this.

As a final signoff, this week has been super busy! I completed my first formative essay this week on the use of cyanobacteria for wastewater treatment, exploring its potential to treat a variety of pollutants and as a biofuel to turn wastewater into a resource. It was a great experience and I have really enjoyed being able to read and read and read! My next essay will take a slightly different course, focusing on the long-term impacts of antimicrobial resistance in wastewater treatment. This diary entry was slightly more focused on learnings and content but I think that's the benefit of it being a diary in that there is no specific structure! Although, my next entry will reflect on the first term!

NON REVENUE WATER				
System Input Volume	<u>Authorised Consumption</u>	<u>Billed Authorised Consumption</u> m ³ /year	<u>Billed Metered Consumption</u> (including water exported)	Revenue Water m ³ /year
	m ³ /year	<u>Unbilled Authorised Consumption</u> m ³ /year	<u>Billed Unmetered Consumption</u>	
m ³ /year	<u>Water Losses</u>	<u>Apparent Losses</u>	<u>Unbilled Metered Consumption</u>	Non Revenue Water m ³ /year
		m ³ /year	<u>Unbilled Unmetered Consumption</u>	
		<u>Real Losses</u>	<u>Unauthorised Consumption</u>	
		(Leakage)	<u>Metering Inaccuracies</u>	
m ³ /year	m ³ /year	Leakage on transmission and/or Distribution Mains	Leakage and Overflow at Utility's Storage Tanks	
		Leakage on Service Connections to Customer Meter		

(#6) Life at Christ Church: *And – That's a wrap!*

Here marks the end of Michaelmas Term – the first eight weeks (nine weeks if you include week 0)! Everyone said this year would be over before you know it and this has never felt truer. It's shocking that Christmas is two weeks away because I feel like it was only yesterday that I was sleep deprived and making my way down St Aldates off the tube from Heathrow! I don't even know where to buy Christmas presents from!? This will be my first *White Christmas*, although I think snowfall in Oxford is unlikely so my travel plans may need to include a slightly colder and snow-covered destination! Maybe a hot chocolate too. I thought this diary entry would be a great chance to wrap up with some of my highlights from the term and a photo showcasing my big-building-lifting-ability!

The holidays are in full swing now and I just got back from London. Me and a friend headed in for a day trip and braved the weather. It was great! We got to see a bunch of the popular tourist attractions, which included lifting Big Ben of course! We even spent a few hours making our way around The Tower of London to learn some of its rich history before making our way to a waterfront restaurant for a much-needed meal and coffee! There is so much more to see and do, but after clocking 30,000 steps and fearing the train cancellations we headed back to Oxford. This time by the tube, because our worries were reasonable, and Storm Darragh cancelled all the trains! I have been enjoying a couple days off to unwind after a busy term and have just about finished reading *A Very Short Introduction: Water*. Surprised? Me neither. It makes up part of my latest collection of books to read. An MSc student at ChCh is eligible to apply for a book grant up to £145 for course related books! I spent mine on 11 different books covering various rivers, pathogens, and most importantly, water!

As I have said before, the holidays aren't holidays, but a break from teaching. So make the most of a couple days, unwind, drink some coffee, get ready to cook (the hall closes..), and go to the gym. But remember that you have work to do! I will start writing up my assignments due next term and preparing the literature for my dissertation if time allows – the proactive effort means I will take some time off to leave the UK for Christmas! This leads into one of my highlights. I have thoroughly enjoyed being immersed in content and learning about so many different aspects related to water. There are so many resources available and it's impossible to get through them all, but it's worth making a valiant effort for! The study at Oxford is more than a hobby, it's a full-time commitment. At least that's how I have been treating it. Even in my free time I end up in conversations about water, whether it's with my classmates, readings, videos, or rambling to an unfortunate disinterested but polite person at dinner! There's so much to learn and the more you read the less you seem to know. Sounds like quantum mechanics!

Another highlight is just being in Oxford. It is such a cool city and here alone there is so much to explore. I have been expanding my journeys to make my way outside of the city centre. This has seen me in Jericho and Cowley, both have a very different atmosphere to the city centre. I also want to try out more restaurants and eateries, as I spend most of my time dining at The House as part of the season meal pass. The architecture varies so much and I still find myself admiring the historic nature of it all, even just walking through Tom Quad! But more than the buildings, the people. The people here are great and I have already made friends with people that will become lifelong connections! They each bring with them such unique backgrounds and have so many stories to share. It is actually a little bit sad to think that once this year is over we might all scatter back home. It's a good reminder to make the most of the time you have here, not just for the study, but for the people and for your friends that you make. As Andre Le Dressay said – life is nothing but a collection of people and memories. This needs no explanation.

I think the last thing I want to end on is: **have fun!** While Oxford is a busy time, and place, make the most of it! Dedicate time to study and sport, make friends, drink coffee, go to pubs, walk around meadows, visit markets, try new foods and drinks, explore colleges and libraries, explore corner stores, visit landmarks, travel, watch British television (maybe even with a cup of tea), people watch, catch a train or the tube, look at nature, go wild swimming (check the water quality first – please), do it all! Life here is more than just working hard. That's important. Make time for yourself because you need to. Even the *best of the best* make time.

In case you do not hear from me until the new year, Meri Kirihimete! Have a great Christmas and a happy new year!



(#7) Life at Christ Church: *Holiday Edition!*

Merry Christmas and Happy New Year! Michaelmas Term has come to an end and it's time for the holidays! It's a chance to get out of Oxford and explore the wider surrounds. I took the opportunity to fly the surprisingly short distance to Paris! It was a Thursday night. We had the grand idea at our last formal dinner of the year to - go to Paris? We booked the flights, the bus, the accommodation, and packed a bag ready to leave the following morning. Yes, we booked an entire trip to Paris 12 hours in advance. This is not something that I would *recommend*, but it is something that's possible in Europe. So, while I should stress you look forward to the holidays and plan your travels early, if you get too busy with studies there is still the chance to get away last minute – and you should! We spent a total of four days in Paris, and it was a great experience! We maximised Duolingo on the plane and saw all the go-to attractions. I even went up the Eiffel tower, twice! If I can pass on any tips for a trip to Paris, I would say make sure you book tickets to attractions in advance to avoid large queues. Oh, and buy espressos, as many as you can – they're great!

Other than that, I spent the rest of my time at Oxford. It becomes a very normal-feeling city when all the students have left. It's a nice kind of quiet. It makes for a great chance to explore too! You can walk around and just enjoy the streets which would usually be shoulder to shoulder with people. I didn't expect so many people to visit Oxford, but I can certainly see why! I would also recommend getting out and visiting the greenspaces. I spent (spend) a lot of time walking around the Christ Church meadow. I enjoy the routine of a morning walk and it's a great way to start the day, even if it is covered in a layer of ice and -5 degrees. I would suggest breaking the ice puddles though, it's oddly satisfying. This may be a little bit niche but take the time to think about the water. The River Cherwell flows along the meadow and links up with the River Thames. Particularly if you walk the meadow often, think about how the river changes throughout the day, the week, the month even! What colours do you notice, is the water clear, does it breach the riverbanks, is anyone interacting with river? How does the vegetation change and what impact does it have on the river – what might this do during a flood or a low flow? Is the river healthy? How did that yellow football end up on from beside the entrance to the top of the tree on the other side of the meadow in only three days? These are some of the questions I think about as I make my way around the meadow loop, but I challenge anyone to do the same, whether it is for the River Cherwell or a closer river.

Jumping back to academics. The teaching break was the chance for our class to complete our first graded assignment. We had to write an elective essay, for my wastewater elective I chose to focus on antimicrobial resistance. I probably shouldn't go into the details on my essay, but AMR is a very interesting global challenge that we face. The essay took up most of my break

and I spent a lot of time in the local café working on this, as the libraries close for the break and reopen during term time. I also had to read through *Where the Water Goes: Life and Death Along the Colorado River* by David Owen for an ungraded book review. Academic practice in other words. I found this quite an interesting read and think it highlights particularly nicely the complex relationships we have developed with rivers. A good example is the misconception we have with water use and even re-use. Sometimes our perception of *Where the Water Goes* is inaccurate. The book discussed how optimising our use of water for irrigation can impact the ecosystems and wetlands that exist due to the inefficient use – so by eliminating these inefficiencies, we also eliminate the supply of water flows for important habitats. Food for thought.

There is not too much else to share for this holiday edition. I hope everything is going well in Aotearoa New Zealand – or wherever anyone else is who might be reading this!

(#8) Life at Christ Church: *Are We Expecting Too Much Water?*

I feel like I only just stopped writing these for the term, but we're back already – Hilary Term! Unlike last term, things have started immediately... We have been straight into readings, lectures, discussions, seminars, and assignments. It certainly feels like the Oxford-training wheels have come off. Although I wouldn't say I'm complaining – this is why people want to study at Oxford! It really pushes you to work hard! And we get to go to Spain for a class field trip later this term – so I really shouldn't complain about that...

This term while still being about Water Science, Policy, and Management has swapped out a few classes. We are continuing with Climate and Catchment Processes but taking a closer look at surface hydrology. We previously learnt about the processes which lead to the formation of precipitation and now we are diving into *what happens when it rains!* I think that would make for a good flash card title. We are also continuing with our Research Design and Skills module in preparation for our dissertations. This remains focused on academic skills and is a good refresher for some dust covered undergraduate lectures.

We have started Water Society Interactions and Water Policy. I would describe these two as being similar in nature but different in teaching. Both have a very strong focus on the socio-political interactions with water. Water Policy feels more framework, theoretical, and historical, while Water Society Interactions feels more case-study focused or on the ground. We have also begun Water Risks and Responses. This leads on from Water and Health but focuses more on the risk and decision analysis. I must say I am looking forward to this the most! I find it interesting to explore the tolerated risk of different water related issues. For example, how much pollution would you tolerate into a river? Natural amounts? Enough to make it wadable or unsafe for swimming? Does it depend on what the water is used for? What about water re-use, would you use polluted water for gardens or toilets – does it depend on what is in the water? Even stepping back, how much water (quantity) can you tolerate? Enough to flush the toilet, have a shower, and wash the dishes, or enough to flow whenever and for however long you decide throughout an entire year?

I recently found out there is a pub in London named after John Snow! Surprisingly, I have yet to visit. Now for those who do not know of John Snow, he is not the *John Snow* from Game of Thrones (which I have also not seen), but rather a founder of modern epidemiology and early germ theory. Snow is credited with discovering that cholera is transmitted through polluted (with sewage) water. He drew the reported cases of cholera to identify the source of the outbreak as being from a public water pump – hence the pub located nearby the

decommissioned pump is named after him! Nowadays we would do a similar thing but by conducting water sampling and mapping it all out through a program like ArcGIS. Quite an impressive feat for the 1850s. I can also add to what hopefully hasn't been forgotten already – my readings of *A Very Short Introduction*. This time I have started one on *Rivers*. I will update in a later edition with some cool facts about rivers! Many of my college friends have started reading various books from the series too. I don't usually claim to be a trend-setter, but I think I've started something...