



## Editorial

**Professor Emma Wilson, Vice-Master, Professor of French Literature and the Visual Arts, College Tutor and Director of Studies in Modern and Medieval Languages**

My strongest memory of March 2020 is of being on the phone with students. One working on Latin-American materials had arrived in Argentina just a week previously. From quarantine, he made arrangements to take a flight to Brazil, and on from there to the UK. He had the shortest chance to explore Buenos Aires. Then there were conversations with our international students who had travelled long distances home to Poland, Romania, Singapore, Canada, New Zealand. The College nurse, and tutorial team, gave them invaluable advice about staying safe in transit. The students' maturity in facing all this, despite worry about their families, and then, once home, their readiness to get back to revision for Tripos, have been awe-inspiring.

A handful of undergraduates have stayed in Cambridge. One has kept a very beautiful illuminated plague diary, sharing its watercolour images by mobile. Others have enjoyed socially distanced conversations with the porters, the chance to use New Court as a running circuit, and time for elaborate cooking. These are lonely days for all of us, something I've felt even as someone who tends to self-isolate by temperament. I'm hoping so much that the one-to-one and small group teaching we do here, and the conversations that ensue, can give students some extra feeling of live connection.



I've stayed in Cambridge with my partner Ioana, still closely following what has been happening in France and Italy where we have ties. I've been watching cellist Sonia Wieder-Atherton perform each day from her flat in Paris. In the *New Yorker*, Maggie Nelson's account of the justness of Natalia Ginzburg's writing for these times particularly struck home. I've been wondering whether the European literature I teach is offering students resources as they live this era. It seems apt that they have already thought about humanity in Camus' *The Plague*, and about Marguerite Duras' ideas on destruction, on a new world order after trauma, in her wartime journals.

Among the many losses now, a particular sadness has come with the COVID-related death of H el ene Ch atelain, a documentary filmmaker, in Paris on 11 April 2020. Her face appears in Chris Marker's short film *La Jet ee* (1962), variously streaming currently, about an underground existence in Paris after WW3. The time traveller hero cherishes an image of a woman's face, a memory that is 'a tender moment to prop up the madness to come'.

I have come to associate Corpus, the Old House, with momentous events and with the passing of time, the solar eclipse in 1999 which I watched from the New Court, the funeral of Oliver Rackham, and the joyous christening of the Master's new son, Augustus, so recently. The pandemic, its grip and tragedy, and also its moments of reprieve and consolation, now feels part of this history and narrative.

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## **News from the College**

**Dr Andrew Sanger, University Lecturer in International Law, College Tutor and Director of Studies in Law**

The supervision system is at the heart of teaching and learning at Cambridge. The best supervisions are creative, dynamic and enjoyable (for the supervisor – if not always for the student!). In these extraordinary times, when we are scattered around the world and largely confined to homes, how can we capture this personalised, face-to-face experience digitally?

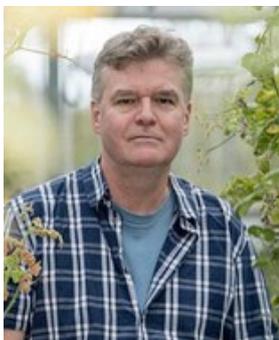
Screen supervisions are certainly different and can sometimes be difficult. For some, they are too distant and impersonal (simulating life is no substitute for the real thing); but for others, they are an awkward intrusion of study life into a private space. For me, I miss the easy give-and-take that comes with a small group comfortable with discussing ideas with one another: the quick laugh, the interjected joke, the subtle signal, and the moments of relief when a point has landed or a comment has been clearly received.

This warm rhythm of human interaction can easily suffer from technological limitations, resulting in delayed and staccato conversions. Screen conversations can sometimes be draining, not everyone has access to the same technology and differential circumstances mean that some face greater challenges than others. Yet there are lighter moments too – a comically frozen face, an accidentally forgotten 'mute' or a rogue household member wandering across the screen.

There are other positives and useful lessons to be learned from the digital format. One is that we find ourselves thinking more critically about how we communicate and how we are received. In some ways, the Socratic method translates relatively well to screen supervisions, but it is more than just asking questions; it is also about reading the response. For teaching, this means being more attentive to facial expressions (now often closer and clearer); ensuring that everyone in a group takes part (avoiding monologue mode!); and thinking about how to communicate non-verbal cues and signals effectively when we are all shoehorned into digital boxes. Teaching remotely is hardly an ideal substitute for being present in person but when we eventually emerge from this strange world into another, perhaps more familiar one, there is the promise that our senses will have been heightened and we will have become better communicators.

Where does that leave research? Admittedly, it has been a challenge to find sufficient time and space. If international law is responsible in part for the harmful impacts of globalisation and for deep structural inequality, then it can also facilitate human kindness and it can be a place for hope and aspiration. The COVID crisis underscores the reality that we are all intimately connected, but it also brings into sharp relief the inequalities created by that connection and the urgent need for global cooperation. Before the lockdown, I was working on a project that explores the challenges faced by democracies in addressing the spread of disinformation on digital platforms. The crisis has exemplified these challenges and heightened the need to find solutions that remove or suppress dangerous information while still protecting the democratisation of expression that decentralised control over content has brought. Borders may largely be shut now but we are likely to emerge evermore connected. So the question remains: how do we ensure that this connection serves us all, equally, now and in the future?

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## Reflections from the Fellowship

**Professor John Carr, Vice-President, Professor of Plant Virology, Tutor and Director of Studies in Biology, discusses the interaction of viruses and their impact on humans.**

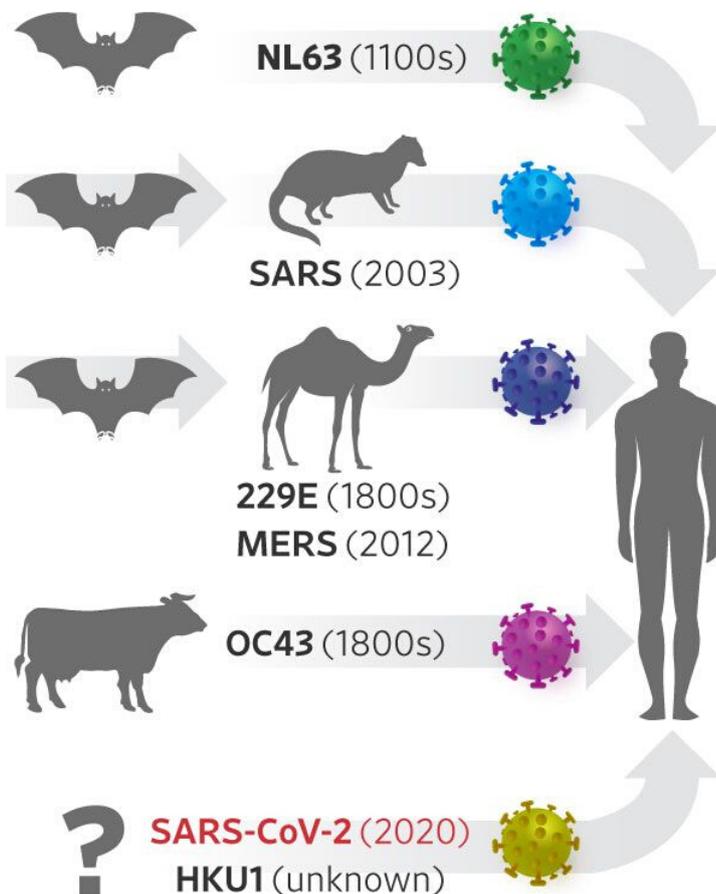
**What is SARS-CoV-2?** Viruses are parasites that only reproduce inside suitable host cells. The severe acute respiratory syndrome-coronavirus-2 (SARS-CoV-2), responsible for the pandemic of coronavirus disease discovered in 2019 (COVID-19), is in several ways a typical animal-infecting virus. For example, SARS-CoV-2's genetic material is a single strand of RNA (in contrast to human genetic material, double-stranded DNA), and each RNA molecule is protected within a virus particle or 'virion'. SARS-CoV-2's virion comprises one genomic RNA molecule, a lipid envelope, and several 'structural' proteins. 'Spike' proteins project from virions, making them resemble old-fashioned naval mines.

Coronavirus spikes bind 'ACE2', a protein occurring on the surfaces of cells lining the lung. Coincidentally, ACE2 regulates blood pressure and inflammation – suggesting a possible link to some COVID-19 symptoms. Spike-to-ACE2 attachment promotes entry of virions into host cells, and release of viral RNA. Coronavirus RNA directs infected cells to make viral structural proteins, a protein that reproduces viral RNA, and factors that subvert antiviral resistance (e.g. the interferon system). Other proteins over-stimulate inflammatory responses leading to fluid accumulation in the lungs and pneumonia.

Most coronaviruses do not infect people but many cause serious diseases in domestic and wild animals. Human coronaviruses were discovered by the UK's Common Cold Research Unit in the mid-'60s and shown to be one of several virus families causing 'colds'. Unlike many animal coronaviruses, human coronaviruses rarely engender serious complications like pneumonia. The research unit was closed in 1990 to save money and because of the perceived difficulty of curing 40 different 'cold' viruses. Human coronavirus research languished until SARS-CoV emerged in Guangzhou, China in 2003, and the 2012 appearance of Middle East respiratory syndrome coronavirus (MERS-CoV) in Saudi Arabia. SARS-CoV and MERS-CoV spread to other countries but both appear to be controlled. This is fortunate; SARS-CoV and MERS-CoV kill, respectively, 10 to 30 per cent of patients.

## Epidemic Potential

Coronaviruses are jumping increasingly from animals to humans, creating new threats



## Can we prevent novel virus outbreaks?

Comparing RNA sequences between SARS-CoV, MERS-CoV, SARS-CoV-2 and other coronaviruses showed they are related to bat-infecting coronaviruses (Figure 1). The specific bat reservoir species for SARS-CoV-2 is unknown. No intermediate host has been confirmed, although it is probably one of the wild species sold for consumption at Wuhan's Huanan market during November 2019.

China's rapid sequencing of SARS-CoV-2 accelerated development of detection assays, therapeutics and (we hope) vaccines. But arguably, these technical solutions should never have been necessary. COVID-19's emergence should not have surprised anyone and was, perhaps, avoidable.

This century's most lethal epidemics have been viral 'zoonoses' (diseases that jump from animals to humans): avian and pig influenzas, SARS and MERS, Ebola and Nipah. The influenzas arose in farming systems, the others from bat reservoirs. The earlier epidemics showed that natural habitat disruption, insanitary farming practice and bushmeat consumption all risk fostering novel zoonoses, and that our world's interconnectedness easily converts local outbreaks into pandemics. The magnitude and duration of the COVID-19 catastrophe owes much to neglect of lessons provided by these previous twenty-first-century outbreaks.

SAR-CoV present in horseshoe bats living in caves in Yunnan jumped to masked palm civets which acted as intermediate hosts for transfer of the virus to humans 2002–2003 who came into contact with civets transported 1600 km to Guangzhou. MERS-CoV jumped from bats to camels to man (first report in 2012) and although under control infects a few hundred human patients each year. SARS-CoV-2 causes COVID-19, which has reached pandemic levels of spread. SARS-CoV-2 is closely related to bat-infecting coronaviruses and exploits the same receptor, ACE2, as SARS-CoV to attach to host cells. The bat primary host species is unknown, as is the intermediate host that provided the transmission bridge between bats and humans.

*Image: Example of bat to human transmission of coronaviruses*



**Professor Karol Sikora (m1966) and Honorary Fellow, looks at the impact the COVID-19 pandemic has had on cancer treatment and the NHS.**

I left Corpus in 1969 and have really enjoyed my career as an oncologist. It's been varied and challenging. I've been a bit controversial and I know I'm like marmite - some like me, others hate me.

After five years as a young consultant at Addenbrookes, I became director of cancer services at Hammersmith and Charing Cross Hospitals – Imperial College. I've edited the main postgraduate textbook *Treatment of Cancer* for seven editions. I'm now 71 and never been busier running a network of proton treatment centres. So after 40 years, along comes a small piece of RNA with only 31,000 bases (the building blocks of our genes discovered by Watson and Crick in 1953 in the building behind Corpus on Free School Lane) surrounded by the now familiar spikes and a nice shiny coat.

The coronavirus has affected us all. Markets have plummeted. International borders are shut. Planes are empty. The world has simply ground to a halt. All this caused by the simplest of life forms. The philosophers are in their element – why does it exist, was it created by God or man, does it have a soul? Why are they so quiet? It's all fascinating stuff. And SARS-CoV-2 has now been found to contain HIV sequences – perhaps deliberately inserted. Conspiracy theories abound.

I've completely avoided social media until a month ago when I was persuaded to open a Twitter account for the first time (@[profkarolsikora](#)). It's a strange medium but compulsive. Now I know why everybody is glued to their phones on the train. I began tweeting messages about cancer patients not getting through the system. Both the NHS and the independent hospitals have been completely overtaken by COVID-19. But the numbers are now thankfully dropping – we are through the pandemic. We need to turn on the taps for cancer, cardiac and other serious illnesses which need urgent care.



And society, including schools and universities, needs to get going again. Hopefully by the time you read this we will be there. Our government has done its best but not entirely covered itself in glory. It failed on the provision of adequate protective clothing for NHS staff. It's almost laughable in a *Yes Minister* sort of way. The tragedy is that staff feel vulnerable – even the cleaners in our hospitals are scared. It also failed on testing both for the presence of the virus and the antibody to it that stays around after infection – the footprint in the sand – Corona's calling card.

Other countries did both much better and were better prepared. *Operation Cygnus* was a secret pandemic preparedness exercise carried out by the NHS in 2016. We failed miserably in this, yet the results were never released.

How is it all going to end? Well, I'm an optimist so my view is that the swirling virus will just leave us alone now. The mass hysteria will soon disappear and things will move on. Even Heathrow will get painfully busy again. The shattered NHS and economy will slowly return to normal. But the post-COVID world will be different. Entrepreneurs will find ways of making more money, management consultants will continue to borrow peoples watches and tell them the time, churches will be full again and cancer patients will restart their treatment pathways. Maybe it will reset society in a very positive way. It's strange but the pandemic may have brought us all much closer together. I really hope so.



**Dr Kai Ruggeri, former Fellow in Psychological and Behavioural Science, discusses his global replication study in which Corpus undergraduate, Charlotte Rutherford, was a junior researcher.**

Just as lockdowns began, we were informed the study I described in the 2019 edition of *The Pelican* would be published in *Nature Human Behaviour*, which is one of the most influential scientific journals in behavioural science.

The timing of such a critical study related to how humans make decisions with risk and uncertainty could not be more relevant – beyond the relevance of COVID, behavioural science has faced a reckoning with widely report failed replications of well-known experiments. The driving force behind the work were early career researchers from the Junior Researcher Programme, which I have directed since 2011. For the first time in our history, I am delighted to say that a Corpus student (for whom I was Director of Studies) was part of the JRP.

During one of the Corpus Open Days in 2017, I had the great fortune of meeting Charlotte Rutherford and discussing the prospects of her coming to Cambridge to read Psychological and Behavioural Sciences. The intensity to which she wrote (nay, CARVED) every concept she might want to explore or book she might enjoy reading is forever burned into my memory – as was my (unsurprised) delight several months later at her interview when she informed me that she had read them all.

Charlotte's roles in the project involved technical checks on the data collection tools prior to circulation as well as support for data collection in both the UK and Australia. Everything about her accomplishments in this project comes down to her tremendous intellect, commitment and proactive approach. This was an opportunity she sought out herself, and I could not be more thrilled for her. I was delighted to find out her interests overlapped with my research, and am sure all of College shares in my excitement for her accomplishments at such an early stage in her academic career.



Only days before, coincidentally during the Corpus gatherings in New York, I was informed by my superior officers in the New York Guard that I should be prepared to deploy as part of the COVID mission. As you likely read, New York City was hardest hit in the earliest days of the US outbreak. As a state, New York has a unique military structure that allows me to continue making an impact in my professional research career while also being able to serve community and country. COVID brought unprecedented mobilisation to this structure, and my role has required substantial adaptation and a rapid escalation of responsibilities. Soon after the lockdown began, I was asked to move into an acting command position, becoming responsible for the coordination, training, and oversight of an entire detachment (approximately forty soldiers). Those duties have mostly now eased, but they have told us to prepare for a long mission.

While still able to continue with most of my professional academic responsibilities, the past sixty days have meant working almost two parallel jobs. While it is too early to say, my hope is that we will be back soon, running the next major study with JRP, and I will look forward to seeing everyone in Hall then.

*Image: Charlotte Rutherford (m 2018), current undergraduate in Psychological and Behavioural Sciences Tripos*

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## Observations from the Past

**Professor John Hatcher, Emeritus Professor of Social and Economic History, and Life Fellow, discusses the Black Death and compares its social effects to those of today.**

It is understandable that some of us, facing the continuing threat of a mysterious disease that is rapidly spreading across the world, exposing the limits of medical and scientific knowledge and especially of mathematical modelling, and challenging the ability of society and institutions to respond swiftly with appropriate counter measures, should use part of the spare time granted by enforced lockdowns and social isolation to reflect on major epidemics and pandemics of the past.

Within just the last two decades the world has experienced a succession of new viruses, including Ebola, swine flu, avian flu and SARS. None of which, thankfully, has caused mortality to surge world-wide on anything like the scale that many experts had been predicting. More arresting for those of an apocalyptic disposition is the so-called 'Spanish Flu' of 1918-1919, which swept across the world killing anywhere between 20 and 100 million, of which an unusually high proportion were the young and those in the prime of life.

If real diseases are not fascinating enough there are those that might emerge, as evidenced by the huge spike in the popularity of the 2011 thriller, *Contagion*, a film about the devastation to the contemporary world and the pillars of civilisation wrought by a novel killer virus that was also portentously passed onto humans from bats. Having languished in 270th position in December 2019 on the Warner Bros list of downloads, this film is now second in popularity only to the *Harry Potter* franchise. Clearly a substantial proportion of us are not seeking escapism, but instead searching in the darker reaches of what happened in history or what might happen in the future. Even so, the scale of the recent surge of interest in the Black Death of the mid-fourteenth century is surprising. Sales of books on what was undoubtedly the worst catastrophe ever suffered in recorded history have multiplied, radio and TV stations across the world have devoted programmes to covering its characteristics and impact, leading newspapers have featured articles seeking to draw parallels with the current COVID-19 pandemic and its likely aftermath, and podcasts, professional and amateur, from the terrifying to the titillating, have proliferated on the web.

Fortunately, the parallels between medieval plague and COVID-19 are not at all close. For not only was the Black Death a bacterial rather than a viral disease, it was far, far more lethal than COVID-19. As it swept across the known world between 1345 and 1353 the plague wiped out between 30 and 50 per cent of the total population, with at least two thirds of those who contracted the bubonic form dying from it within a week and none of those who contracted the pneumonic and septicaemic surviving for more than a day or two. Yet, as we are often told, every cloud has a silver lining. As a result of the massive reduction in population the great majority of survivors and their successors benefited from easier access to land, cheaper food, higher wages, and the loosening of the bonds of serfdom. And, of course, the Black Death led directly and promptly to the founding of our College.

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## Reflections from the Staff

**Tim Rhodes, Corpus Boatman, shares his experience as an NHS volunteer during the lockdown.**

The last time I had heard the word 'furloughed' used quite so much was in the re-runs of Sgt Bilko I used to watch. However, as many others are finding at the moment, that is what has happened to me from my role as College Boatman at Corpus.

So when the call for NHS volunteers was put out, I signed up immediately. After a delay of a few days I was accepted as one of the team. I received emails telling me what was and to some degree wasn't expected of me – including to please not make my own uniform. I cleaned and even hoovered my car, ready to help transport people or shopping or medication to wherever it was needed. But days passed and no call came. My enthusiasm was still in place but there appeared to be no outlet for it. However, an email did come from Dr David Secher, the Interim Bursar, who had heard of my volunteering effort. He passed on the suggestion of another volunteering group; Scrub hub. This brings together people who can sew gowns, masks and hats which are collected at a 'hub' and are then taken by bicycle to be delivered to the NHS hospital at Fulbourn and distributed as needed.

It sounded just the thing for me. I made email contact with the extremely efficient Tricia who organises the volunteers and was quickly given my first assignment. This was a collection of gowns from Bishops Stortford, or at least a farm on the outskirts. I attached my panniers to my bike, and an extra bag just in case, and set off. The weather was perfect; sun, blue sky and a breeze that was just the wrong side of ideal. My journey took me out of Cambridge through Shelford, Duxford, and over the higher ground from Ickleton to Littlebury Green, where sky larks were making themselves heard above. After a while, though, I wondered if that had anything to do with the kestrel circling and swooping around the area.



Further towards the border of Hertfordshire I pedalled through Arkesden, Clavering, the almost picture perfect Manuden and finally to the farm where I was to meet Suzy. I cycled into a very quiet farmyard and phoned Suzy to let her know I had arrived. Two large packages of sewn garments, double wrapped in plastic, were stowed in my panniers and after a chat and a glass of water I set off on the return journey.

My route was exactly the same in reverse. My only challenge was a police car that overtook me, slowed down and then put his flashing blue lights on. I thought, hopefully, mine was a legitimate reason to be out and about this far from home. However, it turned out I did not need to give a reason; the police officers had slowed down to wave and turn their lights on for the children of a young family coming in the opposite direction.

Eventually, Cambridge came into view and my first collection and delivery was safely delivered to the NHS hospital at Fulbourn.

So, although coaching the College's crews and seeking a hundred ways to say 'try to engage your legs a little more' may be on temporary hold, I'm hoping to put my own legs to good use for the foreseeable future.

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*Pelican in Brief* is available on our website and all issues can be found [here](#).

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For further information, please visit our website [www.corpus.cam.ac.uk](http://www.corpus.cam.ac.uk) or contact

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