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# INTENSIVE CARE

A GP, A COMMUNITY & A PANDEMIC

GAVIN FRANCIS

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## A NOTE ON CONFIDENTIALITY

This book takes the reader into the coronavirus pandemic as seen beyond the walls of the hospital, out in the communities that I work with, and for, urban and rural.

Just as physicians must honour the privileged access they have to our bodies, they must honour the trust with which we share our stories. As a doctor who is also a writer, I've spent a great deal of time deliberating over what can and cannot be said without betraying the confidence of my patients.

The reflections that follow are all grounded in events within my clinical experience, but the patients in them have been so disguised as to be unrecognisable – any similarities that remain are coincidental. Protecting confidences is an essential part of what I do: 'confidence' means 'with faith' – we are all patients sooner or later; we all want faith that we'll be heard, and that our privacy will be respected.

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I – JANUARY

## INCUBATION

*'[T]he infection was propagated insensibly, and by such persons as were not visibly infected, who neither knew whom they infected or who they were infected by.'*

Daniel Defoe

*A Journal of the Plague Year*

On 13 January 2020 a bulletin from Health Protection Scotland was sent to all GP practices in the country describing a 'novel Wuhan coronavirus'. I work in a small clinic in central Edinburgh with four doctors, two nurses and six admin staff, responsible for almost 4,000 patients. It was the first time I'd heard of the virus. 'Current reports describe no evidence of significant human to human transmission, including no infections of healthcare workers,' the note said, reassuringly.

I cast my mind back to the SARS coronavirus of almost two decades ago, now referred to as SARS-CoV-1, and briefly wondered how quickly the spread of this coronavirus would be stopped, as that one was. A seafood market had been closed and sanitised. The bulletin said that although Wuhan was a city of 19 million people, there were only three flights per week from there to the UK, and the likely impact was 'Very Low'. I gave it a moment's thought, then carried on with my work.

Scientists had already discovered that the new virus was

different from SARS-CoV-1, though still within the family of coronaviruses. These were first seen under the electron microscope in 1964 by a Scottish virologist, June Almeida, in a sample swabbed from a boy with symptoms of the common cold. 'Corona' refers to the spiky little packets of sugared protein stuck all over the surface of the spherical virus, like fleurs-de-lys sprouting from the band of a crown, or the flared corona of the sun. Under an electron microscope they look like tiny planets, each one buzzing with angry satellites. It's been estimated that between 5 per cent and 10 per cent of common colds are caused by coronaviruses of one kind or another – they're a perennial nuisance to human populations, and usually cause mild illness. SARS-CoV-1, though, was more severe in its effects (hence the name 'Severe Acute Respiratory Syndrome'): between 2002 and 2003 it infected about 8,000 people across 29 countries, causing almost 800 deaths.

Coronaviruses are a similar size to flu viruses – 0.1 microns in diameter – and are widespread among many different mammals. SARS-CoV-1 came to humans from the Asian civet; Middle East Respiratory Syndrome (MERS), which emerged in 2012 and caused the deaths of around 2,500 people (mostly in Saudi Arabia), came via dromedary camels. The new virus had its origin in bats, but whether there was another mammalian intermediary between bats and humans was, at the time I was reading the bulletin, uncertain.

I spent the afternoon of 13 January in the library of the Royal College of Physicians on Edinburgh's Queen Street – it is Scotland's oldest medical library, containing some 60,000 volumes, some going back to the 1400s. It's a calm place to study and write, with windows that face north over the trees and gardens of the city's New Town and the Firth of Forth. Later that evening I met up with a friend, a consultant

physician who'd recently come back to clinical work after a period of time doing research. She was stationed at a general hospital thirty miles or so from Edinburgh, and was enjoying being back in the thick of it, though startled at how stretched her medical colleagues were. The annual winter flu season was on us, and beds in hospital were tight. 'It's the same every year,' she said. 'I wonder when health boards will realise how many winter beds we actually need.'

A week later, Chinese infections stood at 550, and the death toll: 17. A new bulletin arrived reassuring me that the risk of infection was still low, but attaching a form to be completed should I suspect someone of having the virus – specifically anyone flying in from Wuhan. My practice looks after hundreds of students; I was disgruntled but not alarmed when one of the Edinburgh universities asked worried Chinese students to seek their GP's attention. 'By phone!' I wanted them to add. 'Tell them to seek attention by phone!'

Meanwhile Zhong Nanshan, head of the Chinese National Health Commission's team investigating the virus, confirmed that it was not constrained to spreading through infected animals, but could spread between infected humans. There were two people ill with the virus who had caught it from family members and fourteen healthcare workers were confirmed as having fallen ill through caring for infected patients. China was in the thick of the Lunar Holiday season – the time of year in which the greatest number of journeys within China are made – 2 billion trips. Millions of journeys are also made between China and the rest of the world for the same holiday. Countries in east Asia, nervous about the virus and primed by memories of SARS-CoV-1, began to screen arrivals from China for fever, asking them about cough symptoms.

By 24 January train and plane journeys from Wuhan and nearby Xiantao and Chibi were all cancelled. The WHO

said they had, at that time, no evidence of human to human spread outside of China. More cities around Wuhan in Hubei province closed down, putting the number of people under quarantine at around 40 million.

In Scotland, 25 January is celebrated as the birthday of the poet Robert Burns: I had invitations to Burns suppers that weekend in Edinburgh, and with friends I joined crowds walking between film installations projected on to some of the city's most famous public buildings, visuals accompanied by poetry and music. Close to the city centre, Robin Robertson's poem 'Ten Thousand Miles Of Edge' illuminated a monument on Calton Hill. We stood high on the hill, the lights of the city beneath us like raked embers, the darkness of the river Forth to the north and, beyond it, the coastline of Fife diminishing as it merged with the North Sea, listening to Robertson's voice: low, wry, grave and severe, reading 'the sea protects us, the sea links us'.

That weekend celebratory events for Chinese New Year were cancelled in Beijing and the first death outside Hubei province was reported. Five more cities locked down, a hard-to-imagine 56 million people affected. Dinner in Edinburgh that night at a friend's house was haggis, neeps and tatties washed down with a half bottle of whisky. We discussed the virus, but briefly: there was still the sense that this problem was a distant one, something for east Asia to deal with; perhaps a few flailing sparks of infection might need to be extinguished elsewhere. But it was all in hand, it would be fixed, and the planet would go on twisting into the sun each morning and we'd keep our usual concerns: Brexit, politics, ageing, the changing climate.

The word 'epidemic' is Greek and means 'upon the people'; it carries the sense of a burden endured – a concise way of

describing the oppressive fear of infectious outbreaks in the centuries before anyone had any idea of the bacteria and viruses that cause them. There was no distinction, then, between such disparate areas of knowledge as medicine, meteorology, natural science and nutrition. The first writings on the subject have a startling breadth as to what might have a bearing on the rampant spread of disease. 'There was much rain in Thasos about the time of the autumnal equinox' begins the *Epidemics* of Hippocrates. 'It fell gently and continuously and the wind was from the south ... but the spring was cold with southerly winds and there was little rain.'

Reading between the lines, you can feel the frustration of these early physicians, oblivious of the rudiments of infection control, casting around for some way of understanding the devastation inflicted on their patients. Respiratory infections like coronavirus and influenza were undoubtedly known to the physicians collectively known as 'Hippocrates', one of whom wrote of a plague in Greece in Book 1 of the *Epidemics*, around 400 BCE. 'Many patients had dry, unproductive coughs and hoarse voices ... Some had fever, but not all.' Later in the same book another plague is described: 'of those who contracted it death was most common among youths, young men, men in the prime of life ... those with thin voices, those with rough voices.' Perhaps those Greek physicians were on to something – it's since been found there is an association between the severity of a respiratory illness and alterations to the voice. In later months, I would read in a daily news bulletin of artificial intelligence research seeking a vocal signature of coronavirus, using voice sampling from smartphones.

In some ways epidemics remain as bewildering and burdensome to us now as they have been at any time in the history of humanity. But in truth we understand immeasurably more

about them, and have, in theory, the knowledge to limit their spread (though with Covid-19, it's conspicuous how much we failed to put this knowledge into action).

The book of Genesis speaks of waves of plague breaking over Egypt; in 430 BCE there was an epidemic in Athens that killed a quarter of the population (like Covid-19, its symptoms included 'headache, coughing, chest pains'). About 5 million people are thought to have died in the Antonine Plague (probably smallpox) of the Roman Empire, and in the mid-200s CE a plague in Rome was killing 5,000 citizens a day.

Looking back through history, it's easy – or it was, at least, in January – to pity our ancestors, at the mercy of forces they barely understood, and awash in misinformation. Epidemics were once thought to wax and wane at the whim of the gods or the heavens, and the word 'influenza' derives from the perceived 'influence' of the stars. But they've also long been associated with a more familiar series of changes: the flux of the seasons. 'In all cases so far described,' wrote Hippocrates, 'the spring was the worst time and most of the deaths occurred then; the summer was the easiest time and few died then ... For the coming of winter terminates summer diseases, and the coming of summer shifts winter diseases.'

Compare this with a World Health Organization statement on the novel Wuhan coronavirus: 'Currently the northern hemisphere (and China) is in the midst of the winter season when Influenza and other respiratory infections are prevalent ... countries need to take into consideration that travellers with signs and symptoms suggestive of respiratory infection may result from respiratory diseases other than Covid-19.' In other words, when it comes to epidemics, seasons matter as much now as they ever did.

★

On 29 January the first cases of the new coronavirus were confirmed in the UK: a Chinese couple staying in a hotel in York. The following day, 30 January, the WHO announced a global health emergency as the death toll reached 170 in China, and the cases in that country alone reached almost 8,000. Cases were also confirmed in India and the Philippines.

I also received my first instruction to tell patients to 'self-isolate' even if they had no symptoms. It was from Lothian NHS Board, and asked that anyone coming from Wuhan city lock themselves away for fourteen days, even if they had no symptoms. They were to

inform NHS 24 of their travel history and symptoms when they call. If they become symptomatic they should not leave their home until they have been given advice by a clinician. That coronaviruses do not usually spread if people don't have symptoms, but we cannot be 100% sure – so this is a precautionary measure.

This would later be shown to be wrong – one of the reasons SARS-CoV-2 is so devastatingly effective as a virus is its ability to spread without triggering symptoms of illness. The instructions also informed us that masks 'and other personal protective equipment' would be sent to us shortly. We didn't have a great deal of faith in NHS procurement, particularly for workers in general practice, and the instruction prompted jokes among my colleagues that we'd be sent a paper bag and some of those cling film gloves you get at petrol stations. But we were wrong: some surgical masks did arrive later that week, and tear-off plastic aprons.

During the week I work at my small Edinburgh practice, but at the weekend I work evening shifts at an 'out of hours'

(OOH) centre in the city covering a much larger population, with a different team of doctors and nurses. I had an email from the clinical director of the centre, Sian Tucker, advising me to tell any patients from mainland China outside Wuhan that they would only need to self-isolate if they had symptoms, adding that those symptoms did *not* include a sore throat. Until then I'd been assuming that a dripping nose and a sore throat would be the herald of coronavirus infection, the way those symptoms are the manifestation of most respiratory viruses. My practice started a WhatsApp group to keep one another updated. It proved as helpful for sharing joke videos as for divesting the latest governmental advice.

In my routine clinic in Edinburgh's city centre, Monday to Friday, my three colleagues and I began slowly to orientate ourselves towards the changes this virus might make necessary. I had worked as a GP for fifteen years, having moved to that role after six years in hospital medicine focussing on surgery and on emergency medicine. I was drawn to general practice for the way its work is balanced between clinic and home visits, young and old, the mundane and the life-threatening. There are many things to love about the work: the variety of different encounters with people who flow through the clinic doors each day, the breadth of their concerns, the intimacy of the private consulting space with its ethical codes of confidentiality and candour, the strange mingling of science and kindness, the intuitive leaps made necessary by the constraints of time and resources. The work is satisfying because it is, at its heart, about listening to people's stories and offering modest, practical advice.

Strictly speaking, UK general practice clinics are not part of the NHS; they're small businesses run by the doctors who are for the most part 'partners' rather than employees. But

they're odd businesses, in that they have essentially only one customer: the National Health Service, which 'buys' health-care for a defined population, paying each practice through a complex and historically convoluted set of mechanisms that have somehow stood through seven decades with only minor adjustments. The distinction of being theoretically independent brings freedom, autonomy and agility, but it also brings administrative hassles and money concerns that pass hospital specialists by: surgeons aren't obliged to own and maintain their operating theatres the way many GPs have to own and maintain their surgery premises, for example.

Just as the funding mechanisms of general practice hadn't changed much in seventy years, so too the model to which many of us worked: a reception, a waiting room, a series of clinical offices in which each doctor spent two or three hours in the morning, and again in the afternoon, seeing between twelve and sixteen people and talking to them about their problems, one after the other, in short, often pre-arranged appointments. At busy times the waiting room would be full, and for flu jab clinics in the autumn the corridors would be crammed as, between us, the doctors and nurses of the practice would vaccinate about a quarter of the practice population in the space of a few weeks – those whose age or infirmity meant they were more susceptible than the wider population.

Lunch was often skipped or hurried, the time between morning and afternoon clinics filled with home visits, and with reading volumes of correspondence from hospital colleagues: advice; letters on anyone who'd been recently discharged from hospital; reports on X-rays and ultrasound scans; results of blood tests we'd taken ourselves; summaries of specialist reviews on everything from audiology to urology. Some doctors find reading through correspondence a chore, but it has never felt like that to me: diagnosing