Till We Have Faces

An Analysis of COVID-19 and Public Policy

Bruce Hindmarsh, DPhil (Oxon)
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Foreword

There is little doubt that we are currently living in the midst of a transformative time of global upheaval that historians will be critically analyzing for decades to come. The terrorist events of 911 at the beginning of this century sparked dramatic increases in security concerns and responses that we are still reeling from today more than two decades later. However, the threat from a tiny virus identified as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has produced even greater impacts on our societies on a global scale. It has infected over 250 million people, and over 5 million deaths have already been directly attributed to the disease cause by SARS-CoV-2, which has been designated coronavirus disease-19 (COVID-19). Two years into the COVID-19 pandemic, our own country Canada has been plagued with 4 successive major waves of assault with this virus that have garnered even greater restrictive measures imposed by our health authorities and federal and provincial governments than ever before.

Vaccines using novel approaches have been rapidly developed and brought to bear against the SARS-CoV-2 virus, which has continued to undergo mutations to produce even more infectious variants. A concerted world-wide effort to confront and control the virus has revealed much about this virus and those that are most susceptible to its destructive effects. On the one hand, there has been tremendous, unified research efforts to rapidly learn and disseminate information about all things related to COVID-19. This has included the open access in scientific journals that normally have pay walls to freely view the latest scientific discoveries on the SARS-CoV-2 virus and the strategies that have emerged to confront it. On the other hand, the measures taken to combat the SARS-CoV-2 virus have divided countries, provinces and states, cities, friends and even families. Strangers and non-strangers alike are perceived as potential sources of sickness and death. A state of mass psychosis has gripped our societies that has been fueled by mainstream media that thrives when viewers and readers are driven to their platforms by fear and concerns about the virus and its consequences. Politicians have responded to the frightened masses by taking drastic actions that at first blush might seem effective, but are not necessarily supported by sound science and the evidence.

In a time of further enlightenment into the issues of diversity, equity and inclusion, we have seen a new kind of discrimination emerge that has distinguished the vaccinated from the unvaccinated, which has created a medical apartheid. Freedoms that we took for granted just two years ago are now special privileges where submission to vaccination provides a temporary passport for unrestricted access. No one really knows where the COVID-19 pandemic will take our societies in terms of its lasting effects. No doubt, the SARS-CoV-2 virus will no longer be a health threat due to natural and vaccine-induced immunity, and the increasing availabilities of new therapies to reduce its morbidity and mortality. The real question is how effective have our existing regulatory and health authority systems and news outlets been in taking on the threat of a highly infectious and deadly virus. Have the responses of societies to the COVID-19 challenge caused more harm to our populations physiologically, psychologically and economically than can be directly attributed to the virus itself? To address these questions, it is important to critically evaluate the course of events over the past two years dispassionately.

The scholarly and comprehensive essay that follows has been painstakingly researched and written by Dr. Bruce Hindmarsh, who is a professor of spiritual theology and a historian at Regent College in
Vancouver, B.C. The esoteric science and highly technical terminology typically associated with COVID-19 research makes it exceedingly challenging for laypersons to follow. However, Dr. Hindmarsh has done a remarkable job in making this information accessible, and he accurately tracks the unfolding of the COVID-19 pandemic and the consequences of how societies have reacted to this threat so far. In this regard, it is probably better that a non-scientist has crafted such a document. Nevertheless, several members of the Canadian Covid Care Alliance’s Scientific and Medical Advisory Committee have carefully vetted this essay to ensure its scientific accuracy and have offered suggestions. Personally, I have found this to be one of the most balanced and informative treatise on this subject that rivals anything that I have seen in scientific books and journals. It seems that much more is yet to be written on this matter as countries are becoming even more receptive to mandatory vaccinations, vaccine passports, terminations of employment, lockdowns, curfews, censorship, and other restrictions of draconian measures that most of us have not seen before in our lifetimes. This essay should serve as a sombre warning of how our human rights and freedoms actually are so fragile in these turbulent times.

Dr. Steven Pelech, Ph.D.
Professor, Department of Medicine, University of British Columbia
President and Chief Scientific Officer, Kinexus Bioinformatics Corporation
Chair, Scientific and Medical Advisory Committee, Canadian Covid Care Alliance
Preface

The following is my very personal attempt to understand COVID-19 and the unprecedented public policy response in Canada and Western nations. The issues involved are complex, fast changing, and touch on questions of science (in multiple fields), ethics and politics, and, ultimately, philosophy and theology. I have set myself the task of analysing the issues as honestly and carefully as I can. This may be beyond me in certain respects, but as a historian, I am accustomed to evaluating the quality of evidence, the soundness of arguments, and the judiciousness by which these are presented. Although I don’t work with p-values and confidence intervals, I know how important it is to indicate whether claims are certain, probable, possible, or merely speculative. I work mostly in the humanities and chiefly with written texts. I have written a little about Christianity and the history of contagious disease in light of the pandemic. I have done some research and writing in the history of medicine and in social science, but I am very aware that I have no expertise in medical science, statistics, epidemiology, virology, immunology, and other relevant fields.

I turned to analyse the COVID-19 crisis in more detail in part because of a crisis of authority. Whereas there is much that we all normally take on authority, deferring to expertise, this way of operating is disrupted when leading authorities disagree. It became apparent to me in the spring of 2021 that doctors and medical scientists of highest repute disagreed about many reported “facts” about the coronavirus, including the messaging of public health authorities.

I have learned a great deal in the past months in reading scientific papers and have grown in respect for the way such research is conducted, evaluated, and presented. I have learned about the epidemiologist Archibald Cochrane (1909-88) and the origins of evidence-based medicine. I have learned to look for large, representative samples and to distinguish randomized controlled trials from observational studies, preclinical trials, and other kinds of reports or expert opinion. I have learned about systematic reviews and meta-analyses, and I know to look for peer-reviewed studies wherever possible and to take note where a study is a preprint, report, or editorial commentary. I have learned to use PubMed, Cochrane, and other databases. I have learned the value of the evidence hierarchy pyramid, but also come to recognize that it introduces its own problems if it privileges only expensive industry-funded trials with narrow protocols. There is also a danger in this scheme that abstract data analysis can lose touch with expert clinician-based experience. Sometimes experienced critical care doctors can see patterns long before these can be validated at the level of expensive randomized control trials.

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1 I am grateful for the feedback and criticism of numbers of scientists and other academics, medical doctors and colleagues, but the opinions expressed here are my own. Likewise, I speak for myself and not for the institutions with which I am affiliated.


So, I have learned much. Yet I know that I may still be missing pieces or making amateur judgments without realizing it. I have benefited from critical feedback from experts to challenge my arguments or contest evidence or point out where I may be reading statistics incorrectly. I continue to welcome such criticism. And the research continues to expand. The sheer quantity of research on COVID-19 has been astonishing. As of August 1, 2021, there were 720,801 unique authors who had published scientific papers in all 174 scientific subfields (including Automotive Design and Engineering). So, even as I have looked for findings on discrete subjects, it is impossible to be comprehensive. One must remain open to new evidence and better research that may appear tomorrow. In addition, my analysis has taken me into areas where I have needed to engage not only with scientific writing, but also with journalism and opinion—of which there is also much. Where I have encountered non-specialist data analysis or hyper-partisan sources, I have tried to be cautious and sceptical. A crooked stick can still sometimes draw a straight line. More often than not, I have used these sources simply to mine other data. As I have found in years of thesis examination, even a bad dissertation often has a good bibliography.

Notwithstanding my respect for science, I want to take into account a sociology of knowledge that operates in science as elsewhere in such a way that, to put it crudely, large numbers of people can be wrong together. One only has to recall the Thalidomide tragedy in the early 1960s and the severe birth defects in thousands of children that resulted from the use of this “completely safe” drug prescribed to treat morning sickness in pregnant women. Something similar happened in the 1960s with chloramphenicol, developed to treat typhoid, but prescribed to some four million people per year for minor conditions and that caused hundreds of deaths from aplastic anemia. There is a danger when we assume that our current state of scientific knowledge is final and complete. Not only does science operate by the development of dominant paradigms that are elaborated, criticized, and then often disrupted fundamentally, but it is possible that “an entire academic discipline can succumb to groupthink, and create professional consensus with a strong tendency to reinforce itself, reject results that question its foundations, and dismiss dissenters,” and this “political groupthink particularly affects those fields with obvious policy implications.” Moreover, scientists operate as human beings with moral intentions, and the distinction between absolute fact (scientific) and relative value (cultural) is a chimera. The collusion of scientists, medical professionals, and politicians in eugenics policies in the

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6 Wherever possible, I have provided a digital object identifier (DOI) or other hyperlink to my sources for the reader to follow up. Where these links are no longer live, one may always search the internet archive: https://web.archive.org/.
early twentieth century, including the Sexual Sterilization Acts in Alberta (1928) and British Columbia (1933), reminds us how naïve and dangerous is the myth of self-evident science.\textsuperscript{11}

For all these reasons, the analysis of the pandemic calls for great care and vigilance, sorting through the issues, questioning consensus, assessing the evidence, and evaluating public policy critically. This is what I set out to do in the chapters that follow.\textsuperscript{12}


\textsuperscript{12} Nothing in this paper should, of course, be taken as medical advice, and any medical decisions should be made by an individual with his or her doctor on the basis of informed consent.
Chapter 1
The Making of the Pandemic

In December 2019, a number of individuals connected to a seafood and poultry market in Wuhan, China, became ill, and by the end of the month authorities reported that they were treating dozens of cases of a pneumonia-like illness. Soon afterward, a new coronavirus was identified by researchers—only the seventh in the coronavirus family to infect humans—and on January 11, 2020, the Chinese media reported the first death. Confirmed cases outside mainland China appeared in January in Japan, Thailand, South Korea, Taiwan, and the United States. The first presumptive case in Canada was a man who returned to Toronto from Wuhan on January 25.

The origins of what became known as the SARS-CoV-2 virus are still being investigated, but “as far back as late November [2019], U.S. intelligence officials were warning that a contagion was sweeping through China’s Wuhan region.”

Phylogenetic and taxonomic research (a kind of reverse engineering of the evolution of the virus) points to this same period for the emergence of a distinct strain of a SARS-like coronavirus. The theory that the virus escaped from experimental work on coronaviruses being conducted at the Wuhan Institute of Virology (“lab leak hypothesis”) was initially discounted by authorities, but in May 2021 the Wall Street Journal reported that in November 2019 three researchers from the Wuhan lab were hospitalized with symptoms consistent with COVID-19, and later investigation by U.S. intelligence agencies, though inconclusive, regarded the theory as credible.

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Public attention to the virus increased in January 2020. On January 23, Wuhan was sealed off and shut down by Chinese authorities, and a week later the WHO declared a “public health emergency of international concern.” Soon, the whole world was looking at frightening headlines from China and videos of panic in the streets. The Sun newspaper in Britain showed footage that went viral (an ironic phrase) and led with the headline, “Disaster Zone: Wuhan a ‘zombieland’ with people collapsing in streets and medics patrolling in hazmat suits.”

In mid-February the disease caused by the virus was named COVID-19, and by the end of the month, attention shifted to the first major outbreak in Europe as reported cases mounted in Italy and towns were shut down in Lombardy. Again, as with Wuhan, images from Bergamo in Italy were terrifying: army trucks brought in to transport dead bodies were seen around the world. Iran also saw an outbreak, and there were aerial photographs of mass burial sites. On March 11, the WHO declared a pandemic. Soon, nations worldwide began tracking and reporting case numbers, closing their borders, and imposing various emergency measures.

Thus, it was in March 2020, in this atmosphere of uncertainty and fear, that pre-existing, conventional strategy for pandemic management was abandoned by governments in response to the threat of COVID-19. Earlier, in October 2019, just months before a lockdown was first imposed in Hubei, the WHO published a report recommending the best way to manage an influenza pandemic. It included ventilating indoor spaces, limiting mass gatherings, and isolating symptomatic individuals. But the general population of exposed individuals were not to be quarantined “in any circumstance,” since “there is no obvious rationale for this measure.” This was the accepted, worldwide public health strategy prior to COVID-19. The “UK Influenza Pandemic Preparedness Strategy 2011,” for example, thought it “a waste of public health resources and capacity” to try to halt the spread of a new pandemic virus, even conceding that as many as 315,000 additional deaths over a 15-week period should be expected and managed. Initially, the British government attempted to follow this strategy. The plans

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18 Taylor, “A Timeline.”


20 Dodsworth, 24. As noted below, 70% of the undertakers were in quarantine and the army was called in for a one-time intervention to transport 60 coffins, but the image was frightening.


23 “UK Influenza Pandemic Preparedness Strategy 2011,” (first published 10 November 2011), 17, 28. Published to Department of Health website, in electronic PDF format only: www.gov.uk/government/publications/responding-to-a-uk-flu-pandemic. Thus: “Taking account of this, and the practicality of different levels of response, when planning for excess deaths, local planners should prepare to extend capacity on a precautionary but reasonably practicable basis, and aim to cope with a population mortality rate of up to 210,000 – 315,000 additional deaths, possibly over as little as a 15 week period and perhaps half of these over three weeks at the height of the outbreak” (p. 17).
were similar in the US and Australia.\textsuperscript{24} Established planning documents such as these are why Jay Bhattacharya could describe the ideal of focused protection of the vulnerable as something that was formerly known simply as “standard public health practice.”\textsuperscript{25} This was not, however, the path taken by most nations around the world in response to the threat of COVID-19.\textsuperscript{26}

**Assumptions about the Novel Coronavirus**

The foundation upon which this standard policy was overturned in favour of more severe restrictions for the population as a whole were three fundamental premises that emerged out of the initial narrative of the pandemic: (1) the virus SARS-CoV-2 is a new, extremely deadly pathogen against which we have no protection, and (2) the virus spreads rapidly and asymptotically (invisibly). And, coming to the fore a little later, in the winter of 2020-21: (3) the virus mutates into more transmissible and virulent forms. Importantly, these three assumptions together established the narrative of SARS-CoV-2 as an unprecedented danger to the human population worldwide.

The first premise was given authorization on March 11, 2020, by the WHO’s declaration of a “pandemic” and by the alarming epidemiological model produced by Imperial College, London, five days later, predicting 2.2 million deaths in America and more than half a million in the UK if there were no intervention. And the second premise was publicized in a widely cited paper in the *New England Journal of Medicine* that “seemed to confirm what public health experts feared: that someone who has no symptoms . . . can still transmit it to others.”\textsuperscript{27} These early reports were hurried and proved in each case to be seriously flawed, but they were effective in establishing the first two key assumptions.


\textsuperscript{25} Quoted in David Cayley, “Pandemic Revelations,” \url{https://www.davidecayley.com/blog/2020/12/3/pandemic-revelations-1}. Cayley is a former documentary producer for the CBC radio program *Ideas*. Bhattacharya made this remark during an appearance with his two colleagues on Unherd: \url{https://unherd.com/2020/10/COVID-experts-there-is-another-way}. See also \url{https://gbdeclaration.org/}. The ideal of focused protection is described in Martin Kulldorff, Jay Bhattacharya, and Gupta, Sunetra, “We Should Focus on Protecting the Vulnerable from COVID Infection,” *Newsweek*, 30 October 2020, \url{https://www.newsweek.com/we-should-focus-protecting-vulnerable-covid-infection-opinion-1543225}.

\textsuperscript{26} See the opinion piece, reviewing this departure from “basic principles of public health,” by Martin Kulldorff and Jay Bhattacharya, “How Fauci Fooled America,” *Newsweek*, 1 November 2021, \url{https://www.newsweek.com/how-fauci-fooled-america-opinion-1643839}.


of the extreme lethality and hidden transmissibility of COVID-19. This was how the virus was characterized from earliest reports.

On the basis of these fundamental premises, governments acted swiftly to impose extraordinary emergency measures on entire populations, including travel restrictions, quarantine, mask mandates, social distancing, and various forms of lockdown or shelter-in-place orders.\(^{28}\) The universal sense of panic seemed to demand this. And they implemented standard programs to “test, trace, and isolate” the virus, using chiefly a PCR (Polymerase Chain Reaction) molecular test that was based on nucleic acid sequence data from specimens of the virus as provided by Chinese authorities.\(^{29}\) With little time for debate or consideration, but with a sense of immediate and unprecedented crisis, politicians took action. The state of emergency represented by COVID-19 seemed to justify moving quickly, abridging multiple constitutional rights including the right to freedom of mobility, association, peaceful assembly, worship, privacy, free speech, and the right to pursue the gaining of a livelihood.\(^{30}\) As previously in history, the “state of fear” authorized a “state of exception.”\(^{31}\) The expectation was that this was temporary, initially two or three weeks to “flatten the curve.” These restrictions were instead prolonged for a year or more in most jurisdictions and in many cases only increased in severity. We will assess the efficacy of these public policies in Chapter 3 below. But it is important to note here that the narrative of deadly fear as a justification for emergency political measures was established early—in the spring of 2020. The sense of danger and uncertainty was widespread.

The third premise of dangerous mutation in the SARS-CoV-2 virus surfaced later in 2020 with the work of virologists to distinguish the appearance and spread of a UK variant in September and South African variant in October. In October 2020, there was news also of an Indian variant, and later, a Brazilian variant. These variants were subsequently renamed with letters from the Greek alphabet, but it was the variant in India that awakened the greatest fears worldwide of the possible dangers from mutation. News from India of the spread of disease, overwhelming of the health system, and reports of high numbers of deaths, with images of mass cremations—all this had a similar effect to the earlier images of coffins from Bergamo in Italy in March.\(^{32}\) Although the infection fatality rate in India was no greater than elsewhere, the absolute numbers reported from the populous sub-continent were alarming.\(^{33}\) It was another reason to fear what looked like a deadly threat.

\(^{28}\) The precedent for lockdown was China. The Scientific Advisory Group for Emergencies (SAGE) in the UK debated whether this could be done in Britain. As Neal Ferguson reported, “It’s a communist one-party state,’ we said. ‘We couldn’t get away with it in Europe, we thought.’ . . . ‘And then Italy did it. And we realised we could.’” Tom Whipple, “Interview with Professor Neil Ferguson: People Don’t Agree with Lockdown and Try to Undermine the Scientists,” 25 December 2020, https://www.thetimes.co.uk/article/people-don-t-agree-with-lockdown-and-try-to-undermine-the-scientists-gnjms7mp98.


\(^{30}\) The Canadian Charter of Rights and Freedoms, §§2-15.


In sum, then, there were three premises established very early in the history of the pandemic: the virus is lethal, the virus spreads, and the virus mutates. This was and has remained the dominant narrative of the pandemic. And it has aroused very deep fears. As David Cayley observed, “A National Post headline encapsulated the reaction: “PANIC,” it simply said, in a font so big and bold that it occupied a good part of the front page.”

**Fear and the New Health Security State**

A new health security state arose from these premises, as governments responded to the threat of the virus by declaring states of emergency and enacting extraordinary measures. The precise nature of the articulated danger has varied over time and the goal of public policy has shifted, but the narrative of a deadly, mutating threat that spreads silently has been sustained. Emergency measures were presented as necessary temporarily until the curve of cases is flattened, until the (first, second, third, fourth . . . ) wave recedes, until a vaccination program can be implemented, until the population is fully vaccinated (70%, 80%, 90%, 100% . . . children, pregnant women, etc.), until booster shots can revive immunity, until it is proven that vaccines can control new “variants of concern,” until we can eradicate COVID-19 within our borders, or until we can defeat COVID-19 worldwide (zero-Covid). Similarly, the goals have shifted from protecting the health care system from overload (while accepting that the total mortality from the virus would remain the same over time), to protecting the frail elderly and vulnerable from infection arising from uncontrolled community transmission (until vaccines arrive), to preventing illness and death from COVID-19 generally, to reducing the number of headline cases, to ending the pandemic altogether through mass universal vaccination.

All told, the alarming reports in March 2020 brought enormous pressure to bear on politicians to do something decisive to protect their people, and public opinion rewarded or punished them accordingly for the perceived strength or weakness of their actions. Significantly, once restrictive measures were mandated as public policy, the narrative established to support those policies became sacrosanct. It could not be questioned. The metaphors were increasingly of war. On March 15, 2020, the BBC announced the UK to be on a “war footing.” On September 21, 2020, the Globe and Mail, simply declared, “Canada is at war.” In a war, there is little room for dissent, and opinions are

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35 The psychiatrist David Eberhard argues that people feel less and less secure today despite arguably living in the safest period in human history, and that the pandemic has accelerated the de-risking of society generally. David Eberhard, *The Security Junkie Syndrome; How Pausing the World Leads to Catastrophe*, TEDx Talks, 1 May 2021, https://www.youtube.com/watch?v=43ljhD9IoY.


38 Cayley, Pandemic Revelations.
categorized simply as patriotic or traitorous. So also, with the war against this novel coronavirus.\textsuperscript{39} The enemy must be defeated, and all attention and every resource must be focused on this one concern.\textsuperscript{40}

Were we correct, however, in the assumptions we made about the virus? How effective have public policy interventions been? It is surely important to open space to consider these questions. In what follows, I seek first to look at the science and to examine carefully the premises identified above concerning the nature and extent of the danger presented by SARS-CoV-2 (Chap. 2), before assessing the efficacy of public policy interventions (Chaps. 3-4). Then, I turn to sum up and to analyse the balance of harms and the larger ethical and political concerns that have been raised by our shared crisis (Chaps. 5-6). This analysis is meant to build from science to ethics, from questions of “What do we know?” to questions of “How should we think about what we know?” It is not possible or desirable to separate these concerns entirely, for truth and goodness are always intertwined. Yet especially as we turn to the first category of scientific questions, it is important to remind ourselves again that the answers we assert today may need to be revised in light of evidence that may yet be discovered tomorrow.


\textsuperscript{40} See also, Ioannidis, John P A, “How the Pandemic Is Changing Scientific Norms,” Tablet Magazine, 9 September 2021, \url{https://www.tabletmag.com/sections/science/articles/pandemic-science}. 
Chapter 2
The Nature and Extent of the Danger

The fundamental assumptions driving perception of the novel coronavirus and the threat it represents can be seen clearly in the British Columbia Centre for Disease Control’s “communication tool,” which came out in 2021 with the roll out of vaccines. It instructs health care professionals to stay on message by acknowledging patient concerns, redirecting them to the correct risks, reinforcing the trustworthiness of the health system, and making a strong recommendation of vaccination for the patient and his or her children. In order to achieve these health policy goals the document begins with “Key Messages for the Public.” It says, succinctly, “The virus is a villain!” and this is followed by bullet points: “Easily spread (SPREAD). Potentially kills (KILLS). Can change and adapt (ADAPTS).” This is accompanied by a cartoon image of the virus as an angry, frowning villain. Significantly, these are the same three premises (in a different order) that I traced in the previous chapter as they emerged in 2020. So, again, these three stark “messages” together form the dominant narrative of COVID-19, and they have established an unprecedented level of fear in society. It is of great importance therefore that these assumptions each be examined carefully and critically.

Lethality

The first question is: To what extent is COVID-19 a new, extremely deadly threat against which we are unprotected? What does the evidence tell us?

COVID-19 has not in fact proved anything like as deadly as first predicted in March 2020. Early ascertainment bias (data from people admitted to hospital, tested for active infection, or volunteers) and worst-case scenario extrapolations led to exaggerated claims of an infection fatality rate (the probability of death for a person infected with the virus) as high as 3.4%. Again, this was being reported at the same time that those terrifying images were being broadcast around the world from Northern Italy of army trucks transporting coffins from hospitals to mass burial sites. People were understandably afraid.

Although there is still some debate over infection fatality rates (IFRs), estimates from antibody studies (seroprevalence data) indicate a typical infection fatality rate that is much less than originally projected. A peer-reviewed study published in the Bulletin of the World Health Organization in October


42 Phillip W. Magness, “Imperial College Predicted Catastrophe in Every Country on Earth. Then the Models Failed,” American Institute for Economic Research, 5 May 2021. Magness notes that the Imperial College “forecast of 179,000 deaths in Taiwan, which never locked down, was off by 1,798,000%.” https://www.aier.org/article/imperial-college-predicted-catastrophe-in-every-country-on-earth-then-the-models-failed/.

43 “This would make you think that army trucks were needed because there were so many bodies. In fact, according to the Italian Funeral Industry Federation, 70% of undertakers had to stop work to quarantine at the start of the outbreak, so the army was drafted in for a one-off transport of 60 coffins.” Laura Dodsworth, A State of Fear: (London: Pinter & Martin, 2021), 25.
2020, based on examining 51 different locations, estimated an infection fatality rate of 0.23% or lower worldwide, though hardest hit areas rose to as high as 1.63%. In February 2021, a further review of systematic evaluations gave a global IFR of 0.15%. This is higher than the average seasonal influenza infection fatality rate of 0.05% to 0.1%, but lower than the more serious influenza outbreaks in 1936, 1951, 1957, and 1968, where the rate was 0.30%. According to this estimate, the “Spanish flu” in 1918 had a rate some ten times higher than COVID-19 (2.0%). Infection fatality rates are not static, however, and they change over time and from place to place, but even so, these averages and comparisons are important for assessing the overall lethality of this virus. It allows us to compare its dangers to others we know.

Crucially, for those under 70 years of age, the infection fatality rates are significantly lower yet for COVID-19. The median infection fatality rate for COVID-19 drops to 0.05%, or 1 out of 2,000. For those under 70, this rate is therefore comparable to the average seasonal influenza. This is not, of course, to say that the symptoms, severity, and course of illness with COVID-19 are the same as with a typical flu, especially for those unfortunate individuals for whom the disease progresses to its acute pulmonary stage, or for those who suffer from long Covid.

At the higher end, a different peer-reviewed seroprevalence study, based on 45 countries and data up to September 2020, estimated a higher population infection fatality rate of 0.79%. (This would be at least 8 times worse than a typical flu season.). However, the focus of this study was not on calculating average IFR but principally on the age gradient for COVID-19. Like other studies, it found a markedly consistent relationship worldwide between age and infection fatality rate on a logarithmic scale. It is one of the crucial, defining features of this virus (noted by all these studies) that its lethality varies with age. As another systematic review and meta-analysis in December 2020 found, it is harmless to children (at age 10 an IFR of 0.002%) but increases exponentially in lethality in a regular pattern with age until it becomes deadly to the elderly (at age 85 an IFR of 15%).

In sum, although there is a range of estimates of the infection fatality rate of COVID-19, the lethality of the virus has proved to be both much less than predicted (by orders of magnitude) and more limited in scope (varying by age and location). Again, as a review of studies published in May

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46 When comparing the IFR of COVID-19 for the unvaccinated population to the average seasonal influenza in the recent past, it is also important to remember that estimated fatality rates for influenza are based in populations where most of the elderly and those at greatest risks are already vaccinated seasonally. The fatality rates would be even higher for influenza otherwise.


48 Ioannidis, “Infection Fatality Rate.”

49 Megan O'Driscoll et al., “Age-Specific Mortality and Immunity Patterns of SARS-CoV-2,” Nature 590, no. 7844 (4 February 2021): 140–45, https://doi.org/10.1038/s41586-020-2918-0. Another similar study, using different methods across 34 locations, has found a range of infection fatality rates from 0.5% (Geneva) to 1.0% (New York City) to 1.5% (Australia) to 2.7% (Italy). Andrew T. Levin et al., “Assessing the Age Specificity of Infection Fatality Rates for COVID-19: Systematic Review, Meta-Analysis, and Public Policy Implications,” European Journal of Epidemiology 35, no. 12 (December 2020): 1123–38, https://doi.org/10.1007/s10654-020-00698-1.

2021 indicates, “SARS-CoV-2 is widely spread and has lower average IFR than originally feared, and substantial global and local heterogeneity.” It has varied, that is, by time and place in lethality, but it did not turn out to spread like a scythe, cutting down three or four people out of every hundred everywhere it went. This is not the public perception. In July 2020 in the UK, researchers found that the public believed the death toll to be one hundred times higher than it really is. Polls have reported the same misperception, by orders of magnitude, in the US.

Data on excess deaths from all causes during the period of the pandemic, when compared with medium and long-term averages, offers another picture of overall lethality for COVID-19 to compare with seroprevalence data. This data, however, is very sensitive to the time frame selected, can mask other causes of death in a given year (including from lockdowns), and must also be adjusted for changes in population. Ideally, one would also use “influenza years” rather than calendar years. One needs to consider falling mortality rates over time too, and the increase or decrease of the average age of the population. But all-cause mortality indicates excess deaths in England and Wales, to take one example, were 10.2 per thousand in 2020, compared with 8.9 per thousand in 2019. Although we do not know how many of these deaths were “from COVID-19” in 2020, the excess death rate certainly spiked in March–April, above average, and rose again with the second wave in December. This is a

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52 In many cases the hospital system was clearly not overloaded either. In Saskatchewan in 2020-21, there were fewer ICU visits each month and in aggregate, compared with 2019-20. “Annual Report to the Legislature, 2020-21” (Saskatchewan Health Authority, 31 March 2021), 15, https://www.saskhealthauthority.ca/sites/default/files/2021-07/2021-07-28-CFC-20.21SHAAnnualReport-vFinal.pdf.


54 The Gallup-Franklin Templeton poll, for example. See Jordan Davidson, “Study: Majority Of Americans Grossly Overestimated COVID Hospitalization,” The Federalist, 22 March 2021, https://thefederalist.com/2021/03/22/study-majority-of-americans-grossly-overestimated-covid-19-hospitalization-rates/; “The current hospitalization rate for COVID-related illness in the United States hovers between 1 and 5 percent, but 41 percent of Democrats, 28 percent of Republicans, and 35 percent of independents or members of other political parties said there is a 50-plus percent chance that someone with the Wuhan virus will need to be treated at a hospital.” See also Jonathan Rothwell and Sonai Desai, “How Misinformation Is Distorting COVID Policies and Behaviors,” Brookings (blog), 22 December 2020, https://www.brookings.edu/research/how-misinformation-is-distorting-covid-policies-and-behaviors/. The University of Southern California tracked American perceptions of COVID-19 risks, and for those under 40 years of age, the average estimate of the chance of dying if you catch COVID-19 was about 10-14%. The chance of getting infected was perceived to be about 20%. (The accurate global IFR estimate is 0.15 – 0.23%). The chart is available here: “Average Perceived Chance of Getting or Dying from the Coronavirus (under 40),” USC Dornsife - Understanding Coronavirus in America | Understanding America Study, 26 September 2021, https://covid19pulse.usc.edu/. See also, Thiemo Fetzer et al., “Coronavirus Perceptions And Economic Anxiety,” ArXiv:2003.03848 [Econ, q-Fin], 4 July 2020, 5-6, http://arxiv.org/abs/2003.03848.


signal that something was taking more lives than usual. In comparison with the 5-year average, the age-adjusted mortality rate in the UK as a whole was 7.2% higher than normal. In absolute terms, however, “the average risk of death to every person in England was actually higher in 2008 and every year preceding it,” when compared to 2020. And there were many weeks during the year when the mortality rate dropped. For the week ending April 18, 2021, the UK mortality rate was 12% lower than normal levels. So, again, as with serological surveys, the data is lumpy. It varies by time, as also by place: Denmark, Finland, Iceland, Latvia, and Norway experienced fewer deaths in 2020 than expected, based on 4–5-year averages; others, such as Poland and Chile, were higher than the UK.

A sophisticated analysis of the Canadian mortality data shows the annual and weekly mortality pattern in 2020 to be in line with overall trends, notwithstanding the same spring and winter curves as in England. Another full review of the data from 2010 to 2021 concludes similarly that within this larger context “there is no extraordinary surge in yearly or seasonal mortality in Canada, which can be ascribed to a COVID-19 pandemic.”

Data on excess deaths is challenging to interpret. How many of these excess deaths were from COVID-19, and how many from the conditions of lockdown and other measures? In England and Wales 48% of excess deaths in the summer of 2021 were non-COVID related, including an increase in excess death registrations for heart disease and stroke. In Canada, there has been an increase in excess deaths in the most elderly and in young males. Note, however, Statistics Canada reported (provisionally) 5.2% more deaths than would be expected, were there no pandemic, during the period from March 2020 to July 2021. See Government of Canada, “Provisional Death Counts and Excess Mortality, January 2020 to August 2021,” Statistics Canada: The Daily, 8 November 2021, https://www150.statcan.gc.ca/n1/daily-quotidien/211108/dq211108a-eng.htm.

See above, and Ufuk Parildar, Rafael Perara, and Jason Oke, “Excess Mortality across Countries in 2020,” The Centre for Evidence-Based Medicine, 3 March 2021, https://www.ccmb.net/COVID-19/excess-mortality-across-countries-in-2020/. England and Wales in 2020 compared to the five year average is charted here: https://excessmortality.shinyapps.io/multi-page-stmif/. See also the commentary on excess deaths by the pathologist John Lee, “Unlocked,” documentary video, posted on YouTube, 6 May 2021. The Scottish doctor and writer Malcolm Kendrick has all but given up tracking the contradictory studies of COVID-19 that have been appearing with such rapidity, but he is willing to look at raw numbers of deaths, since these numbers are more reliable: someone is dead, or they are not. He displays a graph for England and reports, “As you can see, a spike in overall mortality in Spring 2020. A spike in Winter 2020/21. Currently, no excess mortality at all. So, if COVID19 is infecting hundreds of thousands of people each week, it is not showing up as any excess deaths . . . at all.” Dr Malcolm Kendrick, “I Have Not Been Silenced,” Dr Malcolm Kendrick (blog), 3 September 2021, https://idrmalcolmkendrick.org/2021/09/03/i-have-not-been-silenced/.


Parildar, et al., “Excess Mortality.” On variations by place and time in Europe, see the report, noted above, from the Office of Statistics in the UK, “Comparisons of All-Cause Mortality between European Countries.”


deaths from overdose and alcohol poisoning since the pandemic began.\textsuperscript{64} The excess deaths among young people in the US calls for explanation as well, since this is not where we would expect to find deaths from COVID-19.\textsuperscript{65}

Indeed, in all this, it is important to emphasize that excess deaths during COVID-19 have been mostly among the frail elderly and in congregant settings. This is what we would expect from the risk stratification in seroprevalence data. In Western countries, the median age of death from COVID-19 is over 80 years of age, and half of deaths have been in long-term care homes. In Canada, for example, 67% of COVID-19 cases which proved fatal were in individuals over 80 years of age.\textsuperscript{66} Because of this mortality profile, life expectancy under COVID-19 has remained almost identical to what was pre-COVID-19. For example, at the peak of the epidemic in the UK the risk of catching and dying (as distinct from the fatality rate once infected) from COVID-19 was “equivalent to experiencing around 5 weeks extra ‘normal’ risk for those over 55, decreasing steadily with age, to just 2 extra days for schoolchildren.”\textsuperscript{67} Life expectancy was very little reduced. The same correlation (of COVID-19 deaths by age and normal life-expectancy) has been demonstrated from the American data.\textsuperscript{68} Again, it is the frail elderly who have been most susceptible to death from COVID-19, just as they are to other vulnerabilities. Statistically, most of those who died of COVID-19 in 2020 would not have lived much longer even if there were no pandemic. Every human life and every day of life is unspeakably precious, but it is important to see the lethality of COVID-19 in the context of normal human mortality.\textsuperscript{69} One reason for the excess deaths in 2020 in certain countries is the entirely expected epidemiological phenomenon of the survival of the frail elderly through one or more mild flu seasons in immediately prior years, resulting in a larger population of susceptible individuals when a more virulent virus appears.\textsuperscript{70}

Although it is more difficult to obtain the location data for where infections originated, it appears that a high percentage of the fatal cases of infection have been in custodial institutions: nosocomial


\textsuperscript{67} David Spiegelhalter, “Use of ‘Normal’ Risk to Improve Understanding of Dangers of COVID-19,” \textit{BMJ}, 9 September 2020, m3259, \url{https://doi.org/10.1136/bmj.m3259}.


\textsuperscript{69} Also note the possibility that public policy measures may have increased the dangers to the elderly: “Epidemic theory dictates that a reduction in the force of infection by a pathogen is associated with an increase in the average age at which individuals are exposed. For those pathogens that cause more severe disease among hosts of an older age, interventions that limit transmission can paradoxically increase the burden of disease in a population.” Ted Cohen and Marc Lipsitch, “Too Little of a Good Thing: A Paradox of Moderate Infection Control,” \textit{Epidemiology} 19, no. 4 (July 2008): 588–89, \url{https://doi.org/10.1097/EDE.0b013e31817734ba}.

(acquired in hospital or long-term care) or in prison, and not in the community.\textsuperscript{71} Another way to put this is to say that if the population were divided between those in government-controlled institutions in Canada and the rest of the population, we would find that a high percentage of deadly cases of COVID-19 originated in these institutional settings.\textsuperscript{72} One is twenty times more likely to die from a case of COVID-19 acquired in long-term care than in the community. It is not just that most individuals died in nosocomial and government-controlled institutional settings: it appears that they also in large numbers acquired the infection there. For example, data from Public Health Canada in April 2021 indicates that where there have been local outbreaks (two or more confirmed cases in the same location, epidemiologically linked), 18.5\% of cases in long-term care and retirement homes were fatal, and 7.6\% in hospitals. This is where vulnerable people are congegated. In schools and childcare, as in restaurants and retail, by comparison, 0.01\% of cases were fatal.\textsuperscript{73} This has important implications for public policy that have not been adequately considered.

In estimating the lethality of COVID-19, a further serious problem has been the way numbers of COVID-19 deaths are reported, since it has been common practice, as in Germany, to count “any deceased person who was infected with coronavirus as a Covid19 death, whether or not it actually caused death.”\textsuperscript{74} Reports indicate that this is true also in Australia, the UK, and the U.S.\textsuperscript{75} I presume this is also true of provincial public health reporting in Canada. Some scientists have however described COVID-19 not as a pandemic but as a “syndemic,” wherein a communicable disease intersects with a noncommunicable disease. Describing COVID-19 as a “syndemic” signals that most deaths have involved comorbidities.\textsuperscript{76} In Canada, 90\% of COVID-19-involved deaths between March and July 2020 had at least one other cause, condition, or complication reported on the death certificate.\textsuperscript{77} In Scotland, between March and August 2021, there were pre-existing conditions indicated for 9,877 COVID-19-involved deaths, and only 732 deaths without such conditions

\textsuperscript{71} The public data has been analysed in detail by Juliu Ruechel, “The Lies Exposed by the Numbers: Fear, Misdirection, & Institutional Deaths (An Investigative Report),” 28 May 2021, \url{https://www.juliusruechel.com/2021/05/the-lies-exposed-by-numbers-fear.html}. I have reviewed the public data myself (see note below).


\textsuperscript{73} The data comes from Table 6, “Canada COVID-19 Weekly.”

\textsuperscript{74} Kit Knightly, “COVID19 Death Figures ‘A Substantial Over-Estimate,’” \textit{OffGuardian}, 5 April 2020, \url{https://off-guardian.org/2020/04/05/covid19-death-figures-a-substantial-over-estimate/}.


recorded. 78 In Ireland, every non-COVID-19 cause of death dropped in the 1st quarter of 2020, compared to the previous year, and analysis shows this clearly to be a result of reclassification as COVID-19 deaths. 79 The failure to distinguish death from COVID-19 and death with COVID-19, or to reckon properly any serious co-morbidities, has exaggerated the lethality of the virus in reporting to the public. If someone without symptoms tests positive for COVID-19 in the twenty-eight days before dying in a car accident, his or her cause of death is still registered as COVID-19 in many countries. This confusion leads to distortions in fatality rates and in public perception of lethality, since “deaths from COVID-19” is one of the daily headline statistics regularly reported alongside “cases,” and “hospitalizations.” 80

To recapitulate, seroprevalence studies, excess deaths data, the age risk-profile for COVID-19, the location of acquired infection (chiefly nosocomial), and problems in cause-of-death reporting all alike point to a relatively low risk for the general population of healthy individuals of catching and dying of COVID-19, especially outside of hospitals and long-term care homes and under 70 years of age. However, whether institutionalized or in the community, the frail elderly and other vulnerable individuals (such as those with obesity, diabetes, and the immune-compromised) are more seriously at risk of severe illness and death from this virus and in most need of protection.

The first premise in the dominant narrative—that COVID-19 is a new, unprecedented lethal danger against which we have no protection—is in many ways the most important, for it is here that fear is first awakened. The science presented in this initial section should allow us to reckon more proportionately with the danger of COVID-19 by assessing its risks. We have compared the risk of dying from a COVID-19 infection to the seasonal flu. Here is another context for comparison: The odds in the United States in 2018 of dying from accidental injury in a motor vehicle accident, over the course of an entire lifetime, was 1 in 106, or 0.94%. 81 If the average risk of dying from a case of COVID-19 (once infected) is in the range of 0.15%, how fearful should we be? Moreover, if we know the age-stratified risk profile for COVID-19, and if we know other specific risk factors, does this not give us even more confidence and allow us to take appropriate, specific precautions for those most vulnerable?

**Asymptomatic Spread**

The dominant narrative assumes that the virus is transmitted by people without visible symptoms and at speed. This is frightening, since you never know in any social setting, among seemingly healthy people, whether undetectable but deadly viral transmission might be taking place. Here too, we may examine the evidence critically. To what extent does this new coronavirus spread rapidly and asymptotically (invisibly), unlike anything we have experienced before?

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78 Stuart Allan, “COVID-19 Mortality Table, by Age Group and Pre-Existing Condition, Updated to Include August 2021 Data. Deaths without Pre-Existing Conditions in the under 25s, since the Start of the Pandemic, ZERO. Https://T.Co/VH0gkmKTLA,” Tweet, @OutsideAllan (blog), 24 September 2021, https://twitter.com/OutsideAllan/status/1441435148143190016.
80 Ioannidis, “Over- and under-Estimation.”
Much of the evidence for asymptomatic spread of the SARS-CoV-2 virus was, at least initially, uncertain. Governments acted on a precautionary principle, based not on certain evidence but on the dangerous possibility of asymptomatic transmission suggested in various reports, especially from the beginning of the outbreak. It was not clear initially how soon and for how long someone incubating the SARS-CoV-2 could shed virus. At some point it was agreed that the danger period was around 14 days, and this became the standard for quarantine in most countries. Thus, one summary of research stated in September 2020: “Asymptomatic persons seem to account for approximately 40% to 45% of SARS-CoV-2 infections, and they can transmit the virus to others for an extended period, perhaps longer than 14 days.” Public policy took this up as a basic assumption.

However, although the available studies indicate asymptomatic and pre-symptomatic patients can test positive for the virus at rates ranging from 18% to 57%, it is not at all clear what a molecular PCR test precisely indicates in terms of actual infection or infectiousness. As one article in the British Medical Journal noted in December 2020: “Unusually in disease management, a positive test result is the sole criterion for a COVID-19 case. Normally, a test is a support for clinical diagnosis, not a substitute.” The absence of clinical oversight has implications. It means “we know very little about the proportions of people with positive results who are truly asymptomatic throughout the course of their infection and the proportions who are paucisymptomatic (subclinical), presymptomatic (go on to develop symptoms later), or post-infection (with viral RNA fragments still detectable from an earlier infection).” There is also, of course, a significant percentage of false positives in the PCR test and inconsistency in the cycle threshold used for amplifying trace RNA.

It remains uncertain therefore how much, how soon, and how long a non-symptomatic person incubating SARS-CoV-2 sheds virus. In one small study of infector-infectee pairs, viral transmission was estimated to occur two or three days prior to the onset of symptoms in about 44% of patients in a pattern “more similar to seasonal influenza” than to the previous SARS outbreak. But again, quoting the earlier study, it is “unclear to what extent people with no symptoms transmit SARS-CoV-2. The only test for live virus is viral culture. PCR and lateral flow tests do not distinguish live virus. No test of infection or infectiousness is currently available for routine use. As things stand, a person who tests positive with any kind of test may or may not have an active infection with live virus, and may or may not be infectious.” More importantly, based on detailed contact tracing, several other careful peer-reviewed studies question whether asymptomatic individuals are really driving the spread

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86 Pollock and Lancaster, “Asymptomatic Transmission.”
of the virus at all. As one study reported, “The lack of substantial transmission from observed asymptomatic index cases is notable.”

If the virus is indeed spreading sub-clinically through the population, it may be doing so largely in a way that is unnoticed, with the majority of individuals showing mild or no symptoms, quietly generating an effective immune response, but not themselves representing a significant vector of continuing infection. Indeed, the prevalence of this transmission sub rosa is one reason Jay Bhattacharya and Mikko Packalen consider contact tracing to be futile with COVID-19. Such individuals are not the main drivers of symptomatic illness, as the studies above have indicated. Moreover, there is evidence that some populations started out with a level of protective or partial cross-immunity from prior coronaviruses, providing active T-cell cross-reactivity, and that geographic variations in the severity of COVID-19 may be explained in part therefore by the specific epidemiological history of a location or other endogenous factors (age of population, BMI, population density, state of public health, etc.), rather than by public health management of the pandemic. For example, an antibody study in Vancouver, published in March 2021, looked at a sample of 276 healthy (unvaccinated) adults and filtered out those who might have acquired immunity after a case of COVID-19. Of the remaining group, the authors found that “more than 90% of uninfected adults showed antibody reactivity against the spike protein.” A European study published in August 2021 found similar results. The fact that the Diamond Princess cruise ship—a floating petri dish in February 2020, where the virus could spread freely in the air conditioning system—saw only some


20% of its passengers and crew infected was an early clue that there might be some pre-existing immunity that would challenge the mathematical models of infection, morbidity (the incidence of disease in the population) and mortality.94

Variations in levels of such pre-existing immunity would go far to explain both the similar bell-shaped viral curve in most countries, regardless of public policy interventions, and the flaring at the same time of specific isolated hot spots: Wuhan, northern Italy, Iran, New York, Brazil, India, and so on. At the most basic level, the evidence for prior T-cell cross immunity at least calls into question the assumption that populations are uniformly susceptible to SARS-CoV-2 as an entirely novel pathogen to which everyone everywhere is equally vulnerable. The human population was not “virgin soil” for the SARS-CoV-2. Most of the modelling has wrongly assumed this. It is one of the dangers of modelling studies, like those of Imperial College, London, early in the pandemic, that they depend upon the accuracy of complex assumptions and are therefore susceptible to enormous distortion when subsequent computational analysis magnifies any errors.95 Predictions based on modelling studies are also inherently unfalsifiable. There are too many uncontrolled variables.96 Did public policy intervention prevent a disaster that modelling predicted? Or was there a normal viral curve? Or were the other factors at work?

It was the assumption of virulent asymptomatic spread, however, combined with the assumption that the entire population is vulnerable, that created the unique social situation in which every human being, however apparently healthy, was now to be regarded as a threatening vector of deadly disease. As a result, we all became not only mysophobic (fearing contamination) but also anthropophobic—afraid of other people. Explicitly anti-social practices (confinement, isolation, masking, de-socialization, etc.), recommended or mandatory for more than a year, intensified these phobias, even though the first two assumptions about transmission and lethality remain questionable, and we have considerable research now that allows us to be more exact about these matters than in the beginning.

**Adaptation**

Although the twin assumptions of lethality and asymptomatic spread were fundamental from the start to the sense of danger and to the initial public policy response to SARS-CoV-2, latterly a third premise became prominent in the media and in the messages from public health officials. As the British Columbia Centre for Disease Control states, the danger from the virus is not only that it kills and it spreads, but also that it *adapts.*97 This third premise renders the first two more frightening. Everything

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we have learned may be wrong, and all our responses rendered ineffectual, since the pandemic can re-boot itself anytime and anywhere. The concern is that new variants of the virus may prove more lethal or more transmissible or that these variants may escape natural or vaccine-induced immunity. Indeed, these are the three criteria (lethality, transmissibility, and immune escape) by which some variants, among the many produced by the constantly mutating coronavirus, rise to the official status of Variants of Concern (VOC). Scientists are carefully tracing the phylogenetic tree of genetic variation in the virus in various countries, and the WHO has now established a nomenclature for public communication for the major variants of interest (VOI) or variants of concern (VOC), based, as we have noted, on the Greek alphabet (alpha, beta, gamma, delta, etc.).

A major worry in Western countries in the summer of 2021 was that the delta variant would lead to a deadly new wave of infection, and that vaccination programs would not be able to stop it. The delta variant, which first appeared in India in October 2020, overtook the alpha variant as the dominant strain of the coronavirus in the UK and then elsewhere. The delta variant accounted for 90% of new cases in the UK, and spread to 74 countries, as of June 14, 2021. By August 2021, it had spread to 163 countries. In Canada, it emerged in Ontario in April 2021 and became the dominant strain there by July.

Much of the initial research on this variant came from the UK government’s internal data and analysis by its public health advisory groups. A cohort study in Scotland from within this circle was published in the Lancet, and it reported, “Risk of COVID-19 hospital admission was approximately doubled in those with the Delta VOC [variant of concern] when compared to the Alpha VOC, with risk of admission particularly increased in those with five or more relevant comorbidities.” Again, this early report set the tone. What if the coronavirus was changing into a more virulent form? These worries led to a delay in the scheduled plan to reduce nationwide restrictions in the UK on June 21, 2021: “Modelling showed that thousands more people might die unless reopening was pushed

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103 These include, for example, the New and Emerging Respiratory Virus Threats Advisory Group (NERVTAG) and the Scientific Pandemic Influenza Group on Modelling, Operational sub-group (SPI-M-O) for the Scientific Advisory Group for Emergencies (SAGE). There seems to be a particular penchant in the UK government for naming committees in such a way as to achieve striking acronyms.

back.”\textsuperscript{105} Again, this modelling came from the internal government advisory group SPI-M-O, and was informed by the work of Imperial College, London, and others. Initial reporting on the delta variant in Canada largely depended on this data out of the UK.\textsuperscript{106}

Are these variants cause for alarm? Oxford epidemiologist Sunetra Gupta, writing well before the appearance of COVID-19, describes the normal pattern of a pathogen after its initial appearance in a population: “The second epidemic will always be smaller, and the third time, smaller still. This is because much of the population will still be immune each time another epidemic occurs. Eventually, an equilibrium is reached where the infectious agent kills a constant number of individuals every year, which is a very small proportion of what it could achieve in ‘virgin soil’. At this stage, the disease is said to be ‘endemic’ rather than epidemic.”\textsuperscript{107} This is what she expects is most likely with SARS-CoV-2.\textsuperscript{108} Unless something interferes with this pattern, this is also what virologists also expect: “Since SARS-CoV-2 has shown such a propensity to mutate, it is reasonable to expect this virus will become endemic.”\textsuperscript{109}

So, although the threat posed by variation surfaced in the media in the winter of 2020-21 (and alarm about a “double mutant” spread in May 2021),\textsuperscript{110} there was nothing here unexpected for scientists. Genetic drift in RNA respiratory viruses is swift, compared with measles, polio, and smallpox. SARS-CoV-2 was not behaving in an unprecedented way by mutating.\textsuperscript{111} Quite the contrary. Rapid respiratory viral mutation is why there is a new flu shot every year (although, in relative terms, influenza has a higher capacity for large scale mutations than SARS-CoV-2).

It was not a surprise then that a more transmissible mutation like the delta variant would appear and out-compete other strains of the virus.\textsuperscript{112} But what about morbidity and mortality? The report from Scotland that the delta variant could be more virulent was based on limited, preliminary data.\textsuperscript{113}

\begin{footnotes}
\item[107] Sunetra Gupta, Pandemics: Our Fears and the Facts, Kindle, 2013, loc. 58.
\item[112] It is important to note the distinction between higher transmission (which could occur for a number of exogenous reasons) and higher transmissibility. This is helpfully analysed by Philippe Lemoine, “Is the Delta Variant Really More than Twice as Transmissible as the Original Strain of the Virus?” CSPI Center (blog), 31 August 2021, https://cspticenter.org/blog/waronscience/is-the-delta-variant-really-more-than-twice-as-transmissible-as-the-original-strain-of-the-virus/.
\item[113] Aziz Sheikh et al., “SARS-CoV-2 Delta VOC in Scotland: Demographics, Risk of Hospital Admission, and Vaccine Effectiveness,” The Lancet 0, no. 0 (14 June 2021), https://doi.org/10.1016/S0140-6736(21)01358-1; However, note the
In a later technical briefing from the UK government on variants of concern, the data showed the delta variant to be considerably less lethal than the alpha variant. Case fatality rates after 28 days were 1.9% for alpha and 0.3% for delta. In India, the delta variant was the strain of the coronavirus for their first (or perhaps, second wave), and though the overall numbers of cases and fatalities for India were large in April and May, the epidemic curve, infection fatality rate, and deaths per million were comparable to what occurred elsewhere, and decreased rapidly. In other words, even in “virgin soil,” the delta variant of SARS-CoV-2 did not appear more deadly, though the reports from India were heartbreaking. (There are possible confounders: The steep drop-off in the epidemic curve in June 2021 also coincided with the more widespread use of Ivermectin as a drug therapy, which I discuss further below.) However, although there are varying reports from cohort studies, there is not yet reason to think that the delta variant is a new, more deadly threat that sustains the danger of the pandemic in general at heightened levels.

In the normal course of things, it is entirely expected that there will be ongoing variation and selection (adaptation) of the SARS-CoV-2 virus in the direction of higher transmissibility and lower virulence over time, arriving at endemic equilibrium. In this respect, it would be acting like other coronaviruses. As a recent article on historical epidemiology reminds us, “Every established respiratory pandemic of the last 130 years has caused seasonal waves of infection and has culminated in viral endemicity.” A review of the delta variant in Canada, the UK, the US, and Israel, published on August 10, 2021, reported higher transmissibility (about two times greater) but lower virulence. Cases rose, but deaths did not: “The overall conclusions regarding the delta variant in the above countries is that although it is more transmissible, it is less virulent.”


Could it be different this time, though? As they say in financial planning, past performance is no guarantee of future results. History stands open to new possibilities, for good or ill. The winter respiratory season for northern countries (2021-22) will show whether the viral curve is more or less deadly. I do not think anyone knows for sure how the virus will evolve.

It is possible, in fact, that vaccines themselves may interfere with the normal path to endemcity by influencing the evolution of SARS-CoV-2. There is increasing evidence of immune escape from vaccine-induced immunity (“leaky” vaccines with “breakthrough” infections), and some have theorized that this is inevitable since the present vaccines have narrowly targeted the spike protein, which is the most changeable element in the coronavirus. The concern is that imperfect vaccines, which do not confer sterilizing immunity, may apply selective pressure on the evolution of the virus toward increased pathogenic virulence. This is a well-known phenomenon, familiar from the evolution of antibiotic-resistant strains of bacteria. In contrast, acquired natural immunity has proven broader and substantially more protective. One sincerely hopes that the combination of vaccines, therapeutic drugs, and natural immunity will over time change this COVID-19 epidemic into something similar to the endemic diseases our society has been accustomed to living with, for the virus will certainly continue to co-evolve with our immune system and with our vaccines.

The survey in this chapter of what we know about lethality, transmission, and variation is no doubt incomplete, but there are sufficient research findings available now to challenge the dominant narrative of the pandemic. At best, it is over simplistic. Moreover, rather than ameliorating public anxiety with more detailed, accurate information as it became available in 2020-21, our leaders and journalists more often reinforced the simplistic fear narrative in ways that we will analyse further below in Chapters 5 and 6. The primal human fear of contagion has been awakened. And it has been sustained by the steady drumbeat of a threefold narrative: it kills, it spreads, it adapts. This is the narrative that allowed an unprecedented public policy response around the world. It is to these public policy interventions we now turn in the following two chapters.

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Chapter 3
The Efficacy of Public Policy:
Restrictive Non-Pharmaceutical Interventions

If the virus kills, spreads, and adapts, then governments must clearly do something to save lives if they can. This was the assumption from the beginning. However, governments almost universally (excepting Sweden) abandoned pre-existing pandemic strategies and chose instead to impose wide-ranging restrictive measures—so-called, “non-pharmaceutical interventions.” How effective were these measures?\(^{122}\) And what were the collateral harms?

Even if one were to accept without dispute all the prevailing assumptions regarding the lethal asymptomatic transmission of an adaptable SARS-CoV-2 virus, one might still question the efficacy of restrictive public health measures introduced in response. Did these measures help? There are a number of real-world studies now that contest the efficacy of most of the measures imposed on a population-wide basis, including mask mandates, social distancing, and lockdowns. Likewise, the effort to contain the virus through management of identified “cases” with test, trace, and isolation procedures (and the resulting mobility restrictions and travel quarantines), has been demonstrably compromised by dependence upon problematic molecular PCR testing. Containment strategies have inevitably proved ineffective for preventing the airborne transmission of a respiratory virus. In a laboratory, containment would necessitate the rigorous level-three biosafety protocols that a level-three pathogen requires.\(^{123}\) As Australia and New Zealand found, no amount or severity of public policy intervention could achieve this level of containment in society at large.

**Mask Mandates**

The evidence that mask mandates have been effective in limiting viral transmission is weak. In May 2020, the American Center for Disease Control and Prevention published a study in *Emerging Infectious Diseases* evaluating various protective measures. The authors reviewed ten randomized controlled trials estimating the effectiveness of face masks in reducing laboratory-confirmed influenza virus, concluding: “In pooled analysis, we found no significant reduction in influenza transmission with the use of face masks.”\(^{124}\) A real-world study in Denmark studying the effectiveness of masks in the midst of COVID-19 included more than 6,000 people in a randomized controlled trial (RCT). The authors summarize their findings: “Our results suggest that the recommendation to wear a surgical mask when outside the home among others did not reduce, at conventional levels of statistical significance, the

\(^{122}\) Although in scientific discourse, “efficacy” is the term used for results from trials and “effectiveness” for results in real-world settings, I am using these terms interchangeably in my analysis in this chapter and the next, except where I have noted otherwise in discussing vaccine trials.


The incidence of SARS-CoV-2 infection in mask wearers.”  

Although there are some observational studies that support the efficacy of face masks, and some mechanical studies, these are not univocal, and there is no large randomized controlled trial that does so. One widely reported RCT from Bangladesh reported a relative risk reduction of symptomatic COVID-19 disease of 5% for cloth masks and 11% for surgical masks, but the confidence interval was wide enough that one cannot not say whether this was statistically significant. A systematic review and meta-analysis from February 2021, looking into the efficacy of masks in preventing viral transmission in the case of respiratory diseases generally, reported: “Eleven RCTs [randomized controlled trials] in a meta-analysis studying other respiratory illnesses found no significant benefit of masks (±hand hygiene) for influenza-like-illness symptoms nor laboratory confirmed viruses. One RCT found a significant benefit of surgical masks compared with cloth masks.” The conclusion of epidemiologist Sunetra Gupta about mask mandates during the COVID-19 crisis is unequivocal: “When you look at the data, it is absolutely clear now that mask mandates make no difference.”


The imposition of face masks as a protective measure has of course become a hotly debated issue and highly political, especially in America. The widespread introduction of mandatory masking in the summer of 2020 represented a complete and sudden reversal of official policy recommendations, and the public were rightly confused. Indeed, a BBC medical correspondent reported on Twitter in July 2020: “We had been told by various sources WHO committee reviewing the evidence had not backed masks but they recommended them due to political lobbying. This point was put to WHO who did not deny.”130 It does not therefore appear that mask mandates were based on anything like “settled scientific consensus.” Taken as a whole, the statements of Public Health Officers about masks were equivocal, contradictory, and the subject of ridicule.131

The introduction of mask mandates was perhaps the precautionary principle at work again combined with enormous popular pressure on politicians and public health officials to do something. Here was a means by which ordinary people could gain control, fend off helplessness, and feel a little more safe. It is reasonable to expect that there must be some obvious droplet containment with a mask, like coughing into your sleeve. There is also, however, a strong anthropological and semiotic dynamic in a practice that touches our humanity so deeply: to cover up one’s face in the presence of another. This is a potent ritual, a public liturgy that communicates a message. It is a way to announce, “I recognize with you that this is happening,” and “We are all in this together.” In public spaces, this ritual signals danger, provides comfort, offers reassurance, evokes solidarity, recognizes authority, and resists powerlessness.132 It is a sign of virtuous compliance with the deemed public good. As always, rituals satisfy a psychological and not just a medical need. The ritual nature of wearing a face mask may make it hard for people to stop doing so when the pandemic is declared officially to be over. One member of the Scientific Advisory Group for Emergencies (SAGE) in the UK has argued that mask wearing and social distancing need to be kept up “for the long term . . . forever, to some extent,” and used the analogy of how we have got used to wearing seat belts or picking up dog poo in the park.133

Let’s all wear masks forever.

Social Distancing

Mask mandates were combined with social distancing. The mandated public separation at a distance of six feet (or two metres) in Canada is an arbitrary number, especially given the complexity of real-world conditions. The WHO and many other countries recommended one metre, a guideline deriving


131 There are video mash-ups of the contradictory statements in the media of Public Health Officers, such as, for example, the conflicting statements of British Columbia’s Public Health Officer on 11 March 2021 that she had always supported wearing masks and her statement on six occasions (6 and 19 March, 11 May, 22 June, 22 July, and 11 September, 2020) that she did not recommend that healthy people wear masks. Jay Zimma, Bonnie vs Bonnie, 2021, https://www.youtube.com/watch?v=–GefaYs. pFs. This was itself likely inspired by “Fauci vs. Fauci,” which has become a meme in itself. See Tim Hains, “Montage: Fauci vs. Fauci On Mask-Wearing,” RealClear Politics, 27 July 2021, https://www.realclearpolitics.com/video/2021/07/27/montage_fauci_vs_fauci_on_mask-wearing.html.


133 This comment was made on Channel 5 News by Professor Susan Michie of University College, London. Channel 5 News, Tweet, @5_News, 9 June 2021, https://twitter.com/5_News/status/1402682447586811913.
ultimately from a study in the 1930s of tuberculosis, estimating the distance droplets travel.\textsuperscript{134} Other national recommendations have varied widely. As one article sums up the policy of social distancing: “There is an infinite number of scenarios and having one rule that applies to them all is impossible. This means that different countries’ rules are, ultimately, best guesses made on the basis of some of the factors described above [respiratory droplets, viral load, infectious dose, and environment].”\textsuperscript{135}

With masks and social distancing, it is important to remember the sheer quantity and microscopic size of virus particles exhaled in every breath when someone is actively shedding virus, especially if these are being spread by aerosol transmission (or micro-droplets or nano-droplets) and not just droplets, as is now argued.\textsuperscript{136} Even masks in such a situation cannot contain a viral cloud. It has been described as something like using a chain-link fence to stop mosquitos. In this situation of aerosol transmission, the recommended safe distance according to a study of fluid dynamics at MIT is suggested to be something more than 27 feet.\textsuperscript{137} And, of course, aerosol transmission means a much longer period for the virus lingering in enclosed spaces.\textsuperscript{138} Given all of this, it is debatable whether an arbitrary social distance mandate is as meaningful as simply advising the public about transmission and ventilation, and then letting people use their best judgement in real world conditions, inescapably complex as they are. A rule of thumb might have been better than a mandate.

In any case, the more important question is surely whether healthy human beings ought to be looked upon as assumed vectors of such viral transmission, without exception, or whether taking various precautions makes more sense chiefly for and around the vulnerable or for anyone in the presence of known clinical, symptomatic disease, such as in hospital. Never before has it been public health practice to have an entire non-symptomatic population keep apart from one another like this. The social and human costs of sustaining the practice (and, even more, the attitude) of “social distancing” in society at large is enormous. Conscientious individuals have accepted the official message that this is a way to display altruism, but the longer this is practiced, the greater is the loss of pro-social openness to strangers, conviviality, hospitality, and companionability in society. It is, as the philosopher Georgio Agamben says, the loss of the neighbour. Today, the good Samaritan is the one who walks by on the other side.


Lockdowns

The most restrictive measures by far have been various forms of confinement, lockdown, shelter-in-place, or stay-at-home orders. Pre-COVID-19 pandemic planning recognized the cost of such measures and their limited value: “Experience has shown that communities faced with epidemics or other adverse events respond best and with the least anxiety when the normal social functioning of the community is least disrupted.”\textsuperscript{139} The social and economic costs, and the human suffering, imposed by confinement orders during the COVID-19 pandemic is something we have only begun to calculate.\textsuperscript{140} Research arguing for the efficacy of these measures in reducing incidence of COVID-19 and in saving lives has largely been based on epidemiological, mathematical modelling or uncontrolled observational studies. A WHO-commissioned review of these studies pointed out the problems and limitations of this research: “The current evidence is limited because most studies on Covid-19 are mathematical modelling studies that make different assumptions on important model parameters.”\textsuperscript{141} Such modelling has been shown repeatedly to be inaccurate, and the WHO itself describes such simulation studies as providing “a low strength of evidence.”\textsuperscript{142} There are now dozens of real-world studies, based on numbers of cases and deaths, and comparison of regions, that challenge the effectiveness of lockdowns, and that weigh carefully the benefits against the costs.

The aggregating and dissemination of this dissenting research has been done by groups from across the political spectrum, ranging from the free-market American Institute for Economic Research to the UK-based socialist group of Left Lockdown Sceptics.\textsuperscript{143} In a highly political environment where it can be very difficult to challenge the dominant narrative, there are also several groups of concerned non-partisan scientists who have carefully collated and posted scientific evidence against lockdowns, such as the group Collateral Global, or the Health Advisory and Recovery Team (HART), or the Canadian Physicians for Science and Truth, as well as private initiatives such as the Pandemics Data


\textsuperscript{140} See the studies on health, the economy, education, culture, inequality, and ethics collected at “CG Database,” Collateral Global, accessed 25 May 2021, https://collateralglobal.org/cg-database/.

\textsuperscript{141} Note also the authors’ caution, “We are uncertain about the evidence we found for several reasons. The observational studies on Covid-19 did not include a comparison group without quarantine. The Covid-19 studies based their models on limited data and made different assumptions about the virus (e.g. how quickly it would spread). The other studies investigated SARS and MERS so they only provide indirect evidence.” Barbara Nussbaumer-Streit et al., “Quarantine Alone or in Combination with Other Public Health Measures to Control COVID-19: A Rapid Review,” ed. Cochrane Infectious Diseases Group, \textit{Cochrane Database of Systematic Reviews}, 14 September 2020, https://doi.org/10.1002/14651858.CD013574.pub2.


and Analysis (PANDA) group led by the South African actuary Nick Hudson.144 There is now a significant body of reputable, evidence-based criticism of confinement as a public health measure during COVID-19. As a headline in Quillette put it in March 2021, “Lockdown Scepticism Was Never a ‘Fringe’ Viewpoint.”145

For example, while acknowledging the difficulty of cross-country comparisons, a peer-reviewed study in the European Journal of Clinical Investigation in December 2020 concluded, “There is no evidence that more restrictive nonpharmaceutical interventions (‘lockdowns’) contributed substantially to bending the curve of new cases in England, France, Germany, Iran, Italy, the Netherlands, Spain or the United States in early 2020.”146 A peer-reviewed study published in March 2021, comparing mortality rates in 24 European countries, found likewise “no clear association between lockdown policies and mortality development.”147 Based on data from cases and deaths in the United States between February and May 2020, another peer-reviewed study reported, “We find that shelter-in-place orders had no detectable health benefits.”148 A further peer-reviewed paper published in September 2021 by Simon Fraser University economist Douglas Allen surveyed over one hundred COVID-19 studies and concluded that many of these “over-estimated the benefits and under-estimated the costs of lockdown.” Moreover, “The most recent research has shown that lockdowns have had, at best, a marginal effect on the number of COVID-19 deaths,” and, “the unconditional cumulative COVID-19 deaths per million is not negatively correlated with the stringency of lockdown across countries.”149 The number of studies arguing similarly is now overwhelming.150

Of equal importance, confinement orders have caused enormous harms worldwide and these harms have disproportionately affected low-income, vulnerable populations. In July, Oxfam reported that “20 million more people have been pushed to extreme levels of hunger this year” and there has been a sixfold increase in the number of people living in famine-like conditions.151 In India, “lockdown

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and restrictions due to COVID-19 have exposed millions of workers and their families to starvation.”¹⁵² This is true in other low- and middle-income countries. Jay Bhattacharya has noted that “50 to 80% of population in Bangladesh, Burkina Faso, Colombia, Ghana, Kenya, Rwanda, and Sierra Leone report income losses during COVID-19.” This risks “pushing tens of millions of . . . vulnerable into poverty and food insecurity.”¹⁵³ Lockdowns are directly linked to these harms. In June 2021, a study of 43 countries and all US states reported “that following the implementation of SIP [shelter in place] policies, excess mortality increases.”¹⁵⁴ Within wealthy, industrialized nations, the harms have fallen disproportionately on the less affluent, deepening social inequalities.¹⁵⁵ The evidence for the harms imposed by lockdowns is steadily mounting.¹⁵⁶

In sum, although it is difficult to sift through all the opinion and overstated claims made about restrictive public policy measures, including mask mandates, social distancing, and lockdowns, it is clear that there is now considerable evidence-based research calling into question the efficacy of all three of these measures. Even if the “state of fear” generated by the official narrative were entirely justified—and we have argued in the previous chapter that it is not—there is weak evidence to support the assumption that these highly restrictive public health orders have made much difference in reducing the impact of SARS-CoV-2. On the contrary, they have introduced new, serious harms. No one wants anyone to suffer and to die from COVID-19, but for politicians and public officials to assert a scientific consensus in support of these policies is dubious. It is akin intellectually simply to making a declaration of eminent domain—expropriating territory by decree without regard to other claims.

**PCR Testing**

Evaluating the efficacy of public policy is further complicated by the dependence upon PCR testing and universal “test, trace, and isolate” procedures. PCR testing has also driven the reporting of headline numbers of daily “cases” as the almost exclusive basis upon which public judgements have been made about whether the severity of danger is increasing or decreasing in the population. This reporting has been done without any consistency in numbers of tests administered, the targeting of these tests (randomized vs. presumed infected), repeat testing, cycle thresholds, or the identification of positive test results (“cases”) as symptomatic or not.

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It has been bewildering from the beginning to understand the meaning of bare case numbers, without context. I wrote to several journalists about this and received no satisfactory answer. Imagine the virus was a fish in a lake. More boats in the water: more fish caught. More fishing in prime locations: more fish caught. A finer mesh net let down into the water: more fish caught. Throw all the fish caught back, and fish again: more fish caught. Count everything that comes up in the net as a fish: more fish caught. Despite all the well trained and intelligent personnel working for our public health departments, little help has been given to the public to interpret the crude statistics of cases beyond the daily headlines that “case numbers have gone up.” Likewise, rates of hospitalization and death have rarely been placed in a comparative context, relative to other years or flu seasons. Given the demonstrated cynical strategy of public officials to “increase fear” in the UK (see further, Chap. 5 below), it is all the more important to have better reporting to maintain public trust.

The PCR test became the standard for testing because of its reputed sensitivity (the ability of the test to correctly identify those patients with the virus) and specificity (the ability of the test to identify correctly those patients without the virus). However, the accuracy of the test varies greatly depending on the site of the sample (lungs, throat, sputum, etc.), care in administration of the test, and which specific genes (or how many) are targeted by the test. One study in the British Medical Journal noted the variation in estimates in systematic reviews but settled on “approximate numbers of 70% for sensitivity and 95% for specificity.” As with all tests, there are therefore a number of false positives (which send folks into isolation who don’t have the virus) and false negatives (which send folks home who do). Moreover, as a WHO medical notice stated in January, “the cycle threshold (Ct) needed to detect virus is inversely proportional to the patient’s viral load.” At high cycle thresholds, this means the test will pick up viral debris in an immune person long after any infectious viruses are present. The result in this situation is not a false positive: the test is positive and accurate (having found viral fragments), but the individual is neither ill nor infectious. It is a “cold positive.” The higher the threshold, the more likely this is to occur. And, finally, the predictive value of the test varies with the background prevalence of the disease: “WHO reminds [users of the technology] that disease prevalence alters the predictive value of test results; as disease prevalence decreases, the risk of false positive increases. This means that the probability that a person who has a positive result (SARS-CoV-2 detected) is truly infected with SARS-CoV-2 decreases as prevalence decreases, irrespective of the claimed specificity.”

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is only a 55% post-test probability.\textsuperscript{161} A simple way to illustrate this is to imagine that the PCR test was a pregnancy test (with a 95% specificity, as in the BMJ report above) and it was given to a random sample of 10,000 males weekly (0% background prevalence): it would still find about 500 each week to be pregnant.\textsuperscript{162}

True positive cases identified by a PCR test may not in many instances be infectious. An article in the Journal of Infection in May reported that in analyzing PCR tests in Munich, they found that “more than half of individuals with positive PCR test results are unlikely to have been infectious.”\textsuperscript{163} The Chief Microbiologist and Laboratory Specialist in Manitoba, Dr. Jared Bullard, testified under oath as a witness for the government in a court case that PCR tests “do not verify infectiousness, and were never intended to be used to diagnose respiratory illnesses,” and his own study found that only 44% of positive PCR test results would actually grow in the lab. He also testified that non-infectious viral fragments could be detected by the PCR test in the nose for up to 100 days after exposure.\textsuperscript{164} In August 2020, the New York Times reported, “In three sets of testing data that include cycle thresholds, compiled by officials in Massachusetts, New York and Nevada, up to 90 percent of people testing positive carried barely any virus.”\textsuperscript{165} Because of this unreliability, courts in Portugal (November 2020), Austria (April 2021), and Germany (April 2021) have deemed the PCR and other COVID-19 tests invalid.\textsuperscript{166}

The complexity of interpreting PCR test results is rarely appreciated in the public reporting of “case” numbers.\textsuperscript{167} And, as noted above, it is a deviation from standard medical practice to consider positive test results as “cases” without accompanying clinical diagnosis. Again, the WHO warns, “Most PCR assays are indicated as an aid for diagnosis, therefore, health care providers must consider any result in combination with timing of sampling, specimen type, assay specifics, clinical observations, and his own study found that only 44% of positive PCR test results would actually grow in the lab. He also testified that non-infectious viral fragments could be detected by the PCR test in the nose for up to 100 days after exposure.\textsuperscript{164} In August 2020, the New York Times reported, “In three sets of testing data that include cycle thresholds, compiled by officials in Massachusetts, New York and Nevada, up to 90 percent of people testing positive carried barely any virus.”\textsuperscript{165} Because of this unreliability, courts in Portugal (November 2020), Austria (April 2021), and Germany (April 2021) have deemed the PCR and other COVID-19 tests invalid.\textsuperscript{166}

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\textsuperscript{162} Doctors for Covid Ethics, “The Nonsense RT-PCR Test’s Specificity Is 98.6%, i.e. 1.4% False Positives, in the Presence of No Virus, Decreasing to 92.4%, i.e. 7.6% False Positives, in Presence of Other Coronaviruses. The Meaning of This When the Prevalence of SARS-CoV-2 Is 0, as Pregnancies in Men Are . . . ,” Tweet, @Drs4CovidEthics (blog), 1 September 2021, https://twitter.com/Drs4CovidEthics/status/1433129175335030790.


patient history, confirmed status of any contacts, and epidemiological information.” In July 2021, the CDC announced the withdrawal of its emergency use authorization of the PCR test, effective the end of the year. The use of molecular test information in patient diagnosis and care is valuable, like other lab tests, but its use on its own in public policy when aggregated and reported as raw case numbers is clearly much more problematic, if not outright misleading.

It follows that the protocol to “test, trace, and isolate” makes best sense with infectious diseases where testing can be confirmed with clear clinical diagnosis, and where transmission is limited to defined chains of immediate contact, such as with smallpox or Ebola. But with a respiratory virus that literally spreads on the air there is too much “leakage,” and with only a molecular test and no clinical diagnosis, it is hard to understand how “test, trace, and isolate” is much of a containment strategy. Thus, the WHO recommended against contact tracing in October 2019 in a publication on mitigating the risk and impact of epidemic and pandemic influenza. Identifying and isolating individuals may make some sense where there is symptomatic disease, and especially in a cluster (just as we send children home from school when they are sick), but “test, trace, and isolate” as a routine protocol for asymptomatic individuals, or travellers, is a questionable practice. In the management of “outbreaks” (two or more “cases” that are epidemiologically linked) in long-term care homes and elsewhere, rapid testing and isolation may have helped to prevent ongoing transmission and saved lives. Yet it seems we know too much, and we know too little. We can amp up the cycle threshold and find trace RNA, but we don’t know if there is any meaningful infection or infectiousness. Nevertheless, the PCR test, and the reporting derived from it, has been one of the principal ways the dominant narrative has been sustained in the reports of public health officials and in the media. Case numbers have been reported as a proxy for how afraid we should be.

In summary, how do we evaluate the efficacy of the non-pharmaceutical public policies introduced to mitigate COVID-19? There is in fact little evidence that the restrictive health measures (masks, distancing, and lockdowns) have been especially effective in reducing “case” numbers, and the demonstrated limitations of the PCR test call into question the public health communications program (daily headline “case” numbers) and the containment strategies that depend entirely upon it. Moreover, despite all the data on record, the public has not been offered any rigorous cost–benefit analysis or balance of harms assessment of these measures. The Hippocratic commitment “first to do no harm”

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170 Jay Bhattacharya and Mikko Packalen make an argument against contact tracing: “We argue first that the epidemic is too widespread for contact tracing to limit disease spread; second, that errors in PCR tests substantially raise the human costs of contact tracing and render it less effective; and finally, that contact tracing creates strong incentives among the public to mislead public health authorities and avoid voluntary testing.” They also make the important point that “the presence of so many asymptomatic people spreading the disease sub rosa means that contact tracing cannot work—the strategy will never identify transmission stemming from unidentified, asymptomatic cases.” Jay Bhattacharya and Mikko Packalen, “On the Futility of Contact Tracing,” Inference: International Review of Science 5, no. 3 (28 September 2020), 2, https://inference-review.com/article/on-the-futility-of-contact-tracing. See the critique and the author’s response: Emily Gurley et al., “Contact Tracing Is Far from Futile,” Inference: International Review of Science 6, no. 1 (12 May 2021), https://inference-review.com/letter/contact-tracing-is-far-from-futile.
has not been documented. Nor has the Oakes test been applied. The Oakes test established by the
Supreme Court of Canada requires that in violating Charter rights “the government must establish
that the benefits of a law outweigh its negative impact.” 172 Surely the burden of proof and
overwhelming preponderance of evidence must be on the side of any democratic government that
would wish to abridge the rights of its citizens and introduce policies that cause direct economic and
other harms. That the stated dangers (Chap. 2) and public interventions (Chap. 3) are all clearly
contestable on scientific grounds should be enough to call into question political dogmatism and the
imposition of authoritarian measures.

07/oakes-test/.
Chapter 4
The Efficacy of Public Policy: Pharmaceutical Interventions

Two other areas of public health policy raise questions about whether efficacy has been adequately assessed: vaccine development and administration, and attention to therapeutics. Have political pressures and the financial self-interest of big pharmaceutical companies reduced the level of scrutiny for vaccines and, conversely, led to inexpensive therapeutic treatments being too quickly dismissed? Should the public be concerned that the pharmaceutical companies producing vaccines have been granted blanket legal immunity and cannot be sued in court for vaccine-induced harms for four years?\(^{173}\) Again, in the present environment, many are charged as being anti-science conspiracy theorists even to ask for due diligence on these questions rather than to trust authority unquestioningly. Yet the recognition of obvious political and profit motives, although it does not falsify policy, surely calls all the more for accountability and demonstration.

Vaccines

It is standard practice to weigh the risk of an adverse reaction to a vaccine against the risk of contracting the disease. And, of course, one’s analysis of the danger of COVID-19 generally (Chap. 2 above) will alter fundamentally one’s assessment of the risk–benefit ratio for any given vaccine. In initial short-term trials, the major vaccines for COVID-19 showed a high level of short-term efficacy in preventing cases of mild illness, relative to control groups, and they were certainly developed at record speed. A systematic review and meta-analysis of twenty-five randomized controlled trials, published in May 2021, reported a 94.6% efficacy for mRNA vaccines and 80.2% for adenovirus vaccines, and it noted that within a four-week period “only a rare few recipients have experienced extreme adverse effects,” such as anaphylactic shock, allergic reactions, or blood-related problems.\(^{174}\) However, data on thrombosis (emerging as this study concluded) was largely excluded, and the authors

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acknowledge that they only looked at very short-term impacts of the vaccines. As the vaccine program has advanced, more serious safety concerns have been raised, as we will discuss below.

In evaluating vaccine efficacy more carefully (the probability of benefit), concerns have also been raised about outcome reporting bias. There may, for example, be selection bias, by excluding or minimizing those most vulnerable to COVID-19 from the trials. An article in Toxictology Reports in August 2021 raised this concern: “Our impression is that the sickest were excluded from the trials, but were first in line for the innoculants.” A whistle-blower from Pfizer reported further problems with data integrity: “A regional director who was employed at the research organisation Ventavia Research Group has told The BMJ that the company falsified data, unblinded patients, employed inadequately trained vaccinators, and was slow to follow up on adverse events reported in Pfizer’s pivotal phase III trial.” The raw data from these studies is also simply unavailable to outside scientists. As Canadian physician and medical writer Norman Doidge reports, “Pfizer data . . . might arrive in January 2025. Moderna said it may be available once the trial is complete (sometime in 2022). Other companies were similarly vague. To date, approximately 4 billion people have already got these vaccines—many receiving a first-of-its-kind mRNA genetic formulation, without outside sources reviewing the raw study data.”

In addition, in assessing vaccine efficacy in the Pfizer clinical trials, the confirmed COVID-19 positive cases were determined using very high cycle thresholds in the PCR tests employed, leading to the problem, again, of false positives. In this case, high thresholds skew the efficacy findings. An editorial in the peer-reviewed journal Medicina in February 2021 raised the further problem of relative vs. absolute risk reduction with respect to the COVID-19 vaccines: “Omitting absolute risk reduction findings in public health and clinical reports of vaccine efficacy . . . ignores unfavorable outcomes and misleads the public’s impression and scientific understanding of a treatment’s efficacy and benefits.”

The difference between absolute risk reduction (ARR) and relative risk reduction (RRR) can be confusing for the lay person, however, and usually requires explanation. If two people out of a hundred in a control group experienced an “event” (say, an infection accompanied by mild symptoms), and only one out of a hundred in the vaccinated group experienced the same event, then when we compare the two groups the relative risk reduction is 50%. Risk is reduced two to one. However, the absolute risk reduction has been only been 1%. You only had a 2% chance of illness without a vaccine; and with the vaccine that risk dropped to 1%. In the case of COVID-19, the numbers for the difference between RRR and ARR are dramatic. Most people likely suspect that a reported 94.6% efficacy means that with vaccination you have reduced your risk of infection and illness by nearly 95%. This is not

178 Ronald B. Brown, “Outcome Reporting Bias in COVID-19 MRNA Vaccine Clinical Trials,” Medicina 57, no. 3 (26 February 2021): 199, https://doi.org/10.3390/medicina57030199. Again, “Reporting relative measures may be sufficient to summarize evidence of a study for comparisons with other studies, but absolute measures are also necessary for applying study findings to specific clinical or public health circumstances.”
the case. According to the vaccine trials, you have reduced your risk by 0.7% (Pfizer) or 1.1% (Moderna).

How important is this? Very important, it turns out. The FDA’s “Evidence-based User Guide” for communicating risks and benefits says, “Provide absolute risks, not just relative risks. Patients are unduly influenced when risk information is presented using a relative risk approach; this can result in suboptimal decisions. Thus, an absolute risk format should be used.”179 Again, an article in the Drugs and Therapeutic Bulletin in 2019 discusses how to communicate evidence to patients, and it states clearly, “Relative risks, then, can exaggerate the perception of difference, and this is especially prominent when the absolute risks are very small. They should never be used alone.”180 Thus, Claus Rinner suggests we ask ourselves, “What would you think if the headlines about the trial successes had read ‘Shot Reduces COVID-19 Risk by 0.7%’ instead of ‘COVID-19 Shot 95% Effective’?”181

Moreover, even this initial efficacy in short-term trials has not been sustained in real-world settings. The data have demonstrated waning efficacy and breakthrough infections following vaccination campaigns in 2021, especially after about five or six months.182 This waning occurs irrespective of variants.183 This is clear from the rates of serious illness and hospitalization in those countries that


have achieved the highest rates of vaccination. Israel is giving a 3rd booster shot and talking about a 4th booster shot, within a year of beginning vaccination, to try to restore failing vaccine-induced immunity. Other jurisdictions are following similarly. There are many reports now of serious outbreaks with breakthrough infections among the fully vaccinated. And the vaccinated are also infectious, shedding the virus, and registering the same peak viral load as those not vaccinated.


188 Kasen K. Riemersma et al., “Shedding of Infectious SARS-CoV-2 Despite Vaccination,” preprint (Infectious Diseases except HIV/AIDS), 31 July 2021, https://doi.org/10.1016/j.medic.2021.07.31.21261387; Charlotte B. Acharya et al., “No Significant Difference in Viral Load Between Vaccinated and Unvaccinated, Asymptomatic and Symptomatic Groups Infected with SARS-CoV-2 Delta Variant,” preprint (Infectious Diseases except HIV/AIDS), 29 September 2021, https://doi.org/10.1101/2021.09.28.21264262; Anika Singanayagam et al., “Community Transmission and Viral Load Kinetics of the SARS-CoV-2 Delta (B.1.617.2) Variant in Vaccinated and Unvaccinated Individuals in the UK: A Prospective, Longitudinal, Cohort Study,” The Lancet Infectious Diseases 0, no. 0 (29 October 2021), https://doi.org/10.1016/s1473-3099(21)00648-4; “We found that the secondary attack rate in fully vaccinated household contacts was high at 25%, but this value was lower than that of unvaccinated contacts (38%). Risk of infection increased
These vaccines are not, that is, sterilizing, and one can continue to incubate virus in the upper respiratory tract. At this rate, COVID-19 vaccination could well become an annual or quarterly immunity subscription service. Canadian virologist Byram Bridle thinks this is an indictment of the current vaccines. “As someone who develops vaccines, I can tell you that it is difficult to make a vaccine that will perform as poorly as the current COVID-19 vaccines. Indeed, most vaccines given in childhood never require a booster shot later in life.” The poor overall efficacy of the COVID-19 vaccines means that they cannot be the simple answer to ending the pandemic. Whether considered in terms of absolute risk reduction or in terms of waning immunity, these vaccines are “leaky.” They over-promise and under-deliver. An important study of rates of vaccination and incidence of COVID-19 across 68 countries and more than 2947 counties in the USA found essentially no correlation between the two. There is no path here to zero-Covid. However, for those individuals in high-risk categories (the elderly, the immunosuppressed, those with diabetes, or those with other risk factors), these vaccines may still provide important protection against serious illness and death. The risk–benefit analysis is necessarily highly individual.

Indeed, for any individual considering a medical procedure, such as a vaccine injection, it is important, in addition to asking what protective benefits might or might not be conferred, to consider also the added risks that come with the procedure. This due consideration of the risks of any medical treatment is a long-established principle of informed consent, and it is included in the instructions for Pre-Vaccine Counselling in the Canadian Immunization Guide. Vaccine providers should “provide information regarding the benefits and risks of receiving or not receiving the vaccine,” while also assessing the individual patient’s present health, vaccine history, and any contraindications or precautions. And they should discuss “frequently occurring minor adverse events and potential rare severe adverse events,” before obtaining informed consent.

Safety is especially paramount with vaccines, for vaccination is a medical procedure provided at scale to an otherwise largely healthy population. Rigorous procedures have therefore been set by

with time in the 2–3 months since the second dose of vaccine.” Also, “Fully vaccinated individuals with breakthrough infections have peak viral load similar to unvaccinated cases and can efficiently transmit infection in household settings, including to fully vaccinated contacts.” See also, Venice Servellita et al., “Predominance of Antibody-Resistant SARS-CoV-2 Variants in Vaccine Breakthrough Cases from the San Francisco Bay Area, California,” 8 October 2021, https://doi.org/10.1101/2021.08.19.21262139: “Our results suggest that vaccine breakthrough infections are overrepresented by circulating antibody-resistant SARS-CoV-2 variants, and that symptomatic breakthrough infections may potentially transmit COVID-19 as efficiently as unvaccinated infections, regardless of the infecting lineage.”


Risk may be defined as “a measure of the probability of an adverse or untoward outcome occurring and the severity of the resultant harm to health of individuals in a defined population associated with use of a medical technology applied for a given medical problem under specified conditions of use.” United States Congress, Office of Technology Assessment, “Assessing the Efficacy and Safety of Medical Technologies” (Washington, DC, September 1978), p. xii, https://digital.library.unt.edu/ark:/67531/metadc39383/.


Safety may be defined as “a judgment of the acceptability of relative risk in a specified situation.” Congress, “Assessing the Efficacy and Safety,” p. xii.
government agencies for monitoring the research and development of new vaccines to ensure safety. A typical vaccine development timeline is 5 to 10 years, or longer. The COVID-19 vaccines have been expedited as never before (“operation warp speed”), while also employing innovative mRNA technologies. Thus, although Dr. Supriya Sharma, Chief Medical Advisor at Health Canada, sought to reassure Canadians in May 2021 that the COVID-19 vaccines authorized for use have gone through “exactly the same type of review that any vaccine would,” assessing the same amount of data, but just doing it faster, it is reasonable still to ask for substantial reassurance about vaccine safety: we should be given the evidence for this consequential statement.

The emergency use authorization (USA) or interim order (Canada) for COVID-19 vaccines meant that the safety data from phase-three trials was necessarily very short-term, and this was justified by a population-level, risk–benefit assessment peculiar to a “public health emergency” (USA) and “urgent public health needs relating to COVID-19” (Canada). The FDA emergency use authorization (EUA) of the Pfizer vaccine in December 2020, for example, took into account data on safety for a period ending at a median of only two months after the second dose, with a sample size of 36,523. This excluded (among others) pregnant women, lactating women, women of child-bearing age, and immunocompromised individuals, and it could not therefore report safety data for these cases. A phase-three trial (mass testing) normally takes years to complete, and Pfizer’s trial is scheduled to continue for another two years.

Overlapping trial stages and rolling reviews allowed COVID-19 vaccines to be approved more quickly than usual, but it also meant they were released with minimal data on adverse reactions. Typically, approval for use would come at the end of a phase-three trial rather than only two months into it. And there would be high standards for pharmacovigilance after initial approval. If there are adverse effects detectable only in a large-scale, long-term analysis of real-world data, these simply cannot be known within the timelines authorized for emergency use. Pandemrix was distributed in Europe during the swine flu in 2009. It took two years of accumulated data collection before a statistically significant correlation was found indicating a fourteen-fold and seven-fold increase in narcolepsy in children and adolescents respectively. The medium- and long-term safety and efficacy

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of the present COVID-19 vaccines will not be known until long after the majority of the population in many countries have received the injections.

The associate editor of the British Medical Journal wrote with concerns about the phase-three trials already in October 2020: “History shows many examples of serious adverse events from vaccines brought to market in periods of enormous pressure and expectation. There were contaminated polio vaccines in 1955, cases of Guillain-Barré syndrome in recipients of flu vaccines in 1976, and narcolepsy linked to one brand of influenza vaccine in 2009.”¹⁹⁹ This same article raised serious questions about the design of the phase-three trials, since they were not set up to prove that these vaccines prevent severe illness or hospitalization nor that they effectively interrupt disease transmission (conferring “sterilizing immunity”).²⁰⁰ They were only set up to show efficacy in preventing cases of mild illness. The “endpoint” was a positive PCR test and a cough. A trial of 30,000 people was not large enough, nor was it continued long enough, to do more than this. According to the CDC, only 3.4% of symptomatic cases of COVID-19 end up in hospital overall. They are relatively rare, that is. Therefore, “Hospital admissions and deaths from COVID-19 are simply too uncommon in the population being studied for an effective vaccine to demonstrate statistically significant differences in a trial of 30,000 people. The same is true of its ability to save lives or prevent transmission: the trials are not designed to find out.”²⁰¹ A much larger, longer trial would have been required. It was also, of course, not clear from these compressed phase 3 trials how long vaccine-induced immunity would last.

Were shortcuts taken? Were these consequential? In addition to the abridgement of the phase-three trial and the limited data on adverse reactions and efficacy, there is evidence that the FDA and EMA (European Medicines Agency) allowed Pfizer and others to proceed without industry-standard, quality management practices during the early preclinical stage with respect to toxicology studies. This is where vaccines would be tested in rats and nonhuman primates, and data would be gathered on genotoxicity (mutations in the DNA) and reproductive toxicity. FOIA (freedom of information act) requests gained access to some of the reports of the European reviewers. These included the warning: “No traditional pharmacokinetic or biodistribution studies have been performed with the vaccine candidate.”²⁰² Yet these are the precisely the studies that would be necessary to see if vaccine compounds travel throughout the body and what tissues and organs are affected.

A number of European scientists were concerned quite early about the dangers from COVID-19 vaccines of clotting, bleeding, and platelet abnormalities, along with thromboembolic serious adverse events, and they wrote three open letters to the European Medicines Agency. “We foresaw deaths and harm from clotting, warning of these dangers before blood clots led to vaccine suspensions around

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²⁰¹ Ibid. Efficacy in initial phase-three trials meant demonstrating that the vaccines prevented mild illness, for which the end point was as little as a positive PCR test and a cough. The chief medical officer at Moderna said, “Would I like to know that this prevents mortality? Sure, because I believe it does. I just don’t think it’s feasible within the timeframe [of the trial].”

the world.”

Others have identified a number of potential pathologies that could emerge, based on known virology and vaccine theory. Given unknown tropisms (tissue destination), concerns were raised that the spike protein produced by the new COVID-19 vaccines could bind with and interact with cells throughout the body with potential damage to tissues and organs. A confidential Pfizer biodistribution study performed with rats and filed in Japan, again obtained through a freedom-of-information request, confirmed that in the cases studied the lipid nanoparticles used in the Pfizer vaccination did circulate in the blood post-vaccine and then they “accumulated in organs and tissues including the spleen, bone marrow, the liver, adrenal glands, and in ‘quite high concentrations’ in the ovaries.” About the same time, there were early reports in the media of more serious side effects, especially related to blood clots and vaccine-induced thrombotic thrombocytopenia (VITT). There are now a number of sworn declarations from physicians attesting to serious harms witnessed from COVID-19 vaccines, as well as websites where individuals are reporting their post-vaccine injuries.


More broadly, there is a vast amount of data accumulating on post-vaccine adverse events in passive pharmacovigilance surveillance systems such as the Vaccine Adverse Event Reporting System (VAERS) in the United States and the Yellow Card scheme in the UK.\(^{209}\) There is also a VigiAccess system maintained by the Uppsala Monitoring Centre for the WHO.\(^{210}\) These systems rely on voluntary reporting by individuals and physicians, and the data are therefore far from complete. Under-reporting and under-recording are understood limitations.\(^{211}\) The data nevertheless provides “signals” that call for careful investigation, rigorous follow-up studies, and clinical scrutiny of cases.\(^{212}\)

Still, the raw data in VAERS is of itself concerning, for it includes hundreds of thousands of reports of adverse events following COVID-19 vaccine injections. As of October 8, 2021, the VigiAccess system records 2,201,851 reports of adverse reactions to COVID-19 vaccines. This is unprecedented. According to the analysis of VAERS by immunological researcher Jessica Rose, as of August 27, 2021 there were reports of adverse events from 1/400 individuals fully vaccinated and reports of serious adverse events from 1/2000. On the whole, the number of unique individuals reporting adverse events in 2021 was more than a thousand times the yearly average already by the end of August.\(^{213}\) The VAERS data for reported deaths following a COVID-19 vaccine were 5,888 as of June 4, 2021, more than the total of reported deaths for all seventy vaccines in the VAERS system for a period of over thirty years. As of the November 5, 2021, this number had risen to 18,461.\(^{214}\) According to the UK Yellow Card scheme, the COVID-19 AstraZeneca analysis from January 4 to May 26, 2021, indicated reports of 6,067 blood disorders, 7,177 cardiac disorders, 106 congenital disorders, 7,222 ear disorders, 218 endocrine disorders, 10,948 eye disorders, 68,971 gastrointestinal disorders, and so on alphabetically for 105 pages, with a total of 695,214 reactions reported, 831 of which were fatal. As of
November 5, 2021, the reported number of recorded fatalities following AstraZeneca vaccination in the UK was 1,118.215

All these raw numbers themselves require careful analysis. It is impossible to say which of these conditions were “caused” by the vaccine, and these numbers must of course be seen relative to the large numbers vaccinated and compared to other vaccines. But as Yale epidemiologist Harvey Risch and UCLA medical professor Joseph Lapado wrote in the Wall Street Journal in June 2021, “The database cannot tell what would have happened in the absence of vaccination. Nonetheless, the large clustering of some adverse events immediately after vaccination is concerning.”216 Temporal proximity is one of the Bradford Hill criteria for assessing causation.217 All of these reports of adverse events ought to be investigated and the data compared to the normal incidence of these conditions, which is what would usually happen in a longer phase-three trial and follow-up studies. It is clear already, however, that there are indications in the data of serious safety issues in regard to cardiovascular, neurological, and immunological issues. A danger of myocarditis in young males is now widely recognized.218 Reports of female reproductive issues and adverse events among children are also on the rise.219 The data on risks to pregnant women remains limited.220 And given the lack of reproductive

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218 Justine Coleman, “Israel Cites ‘possible Link’ between Pfizer Vaccine, Mild Heart Inflammation in Young Men,” Text, TheHill, 2 June 2021, https://thehill.com/policy/healthcare/556470-israel-cites-possible-link-between-pfizer-vaccine-mild-heart-inflammation. “Clinical Considerations: Myocarditis after MRNA COVID-19 Vaccines | CDC,” 25 August 2021, https://www.cdc.gov/vaccines/COVID-19/covid-19-clinical-considerations/myocarditis.html. Biyekm Bozkurt, Ishan Kamat, and Peter J. Hotez, “Myocarditis With COVID-19 MRNA Vaccines,” Circulation 144, no. 6 (10 August 2021): 471–84, https://doi.org/10.1161/CIRCULATIONAHA.121.056135; Tracy Beth Hoeg et al., “SARS-CoV-2 MRNA Vaccination-Associated Myocarditis in Children Ages 12-17: A Stratified National Database Analysis,” preprint (Epidemiology, 8 September 2021), https://doi.org/10.1101/2021.08.30.21262866. The latter reports: “For boys with no underlying health conditions, the chance of either cardiac adverse event (CAE), or hospitalization for CAE, after their 2nd dose of mRNA vaccine are considerably higher than their 120-day risk of COVID hospitalization, even at times of peak disease prevalence.” The myocarditis signal among young people was reported early on in Israel. It may be seen clearly in the US data in the graph by Jessica Rose, “And What’s the Deal with Myocarditis? And Dose Relationship? To Age... Hmmm,” Academic (blog), 3 September 2021, https://i-do-not-consent.netlify.app/post/hi-hugo/. See also Jessica Rose and Peter A. McCullough, “A Report on Myocarditis Adverse Events in the U.S. Vaccine Adverse Events Reporting System (VAERS) in Association with COVID-19 Injectable Biological Products,” Current Problems in Cardiology, October 2021, 101011, https://doi.org/10.1016/j.cpcardiol.2021.101011. (This article has been temporarily removed by the journal as of 14 November 2021, with a statement that “A replacement will appear as soon as possible in which the reason for the removal of the article will be specified, or the article will be reinstated.”)


toxicology reporting in the preclinical stage of vaccine development and approval, the evidence from the Japanese biodistribution study of lipid nanoparticles in the ovaries, and the high number of reports of spontaneous abortions post-vaccine, can we really tell pregnant women and women of child-bearing age, that there is no risk?

It does seem clear, however, given the confirmed age-stratified risks associated with COVID-19, that the younger one is, the more the risk–benefit ratio of the vaccine skews toward risk. “There is a thousand-fold difference in the risk of mortality from COVID-19 infection between the young and the old.” Thus, some scientists have worried about the vaccination of children, “What is the rush for a group at essentially zero risk? Given that the inoculations were tested only for a few months, only very short-term adverse effects could be obtained.” The possibility that longer-term data could identify safety issues (auto-immune, neurological, antibody-dependent enhancement, and other effects) means if any of these prove significant, “The children are the ones who will have to bear the brunt of the suffering. There appear to be no benefits for the children and young adults from the inoculations and only costs!”

All things considered, how are we to think about these safety data? We have been reassured on many occasions by public officials that all the vaccines are “safe and effective,” without qualification.

Pregnancy Registry 2020-21,” preprint (In Review, 9 August 2021), https://doi.org/10.21203/rs.3.rs-798175/v1. There was debate about the numbers reported in the former article, where it seemed possible that the data could be read as indicating an 82% rate of spontaneous abortion. In a previous version of this paper, I quoted this. The questions were raised here: Deanna McLeod, Ira Bernstein, and Sanja Jovanovic, “Letter to Editor – Comment on “MRNA COVID-19 Vaccine Safety in Pregnant Persons”, Shimabukuro et al. (NEJM Apr 2021),” April 2021, https://onedrive.live.com/view.aspx?resid=F3C3887684911EE4!64771&ithint=file%2cdocx&authkey=!APbt8mmGlzQO6e8; Peter A. MacCullough et al., “Lack of Compelling Safety Data for MRNA COVID Vaccines in Pregnant Women,” TrialSiteNews, 30 July 2021, https://trialsiteneWS.com/lack-of-compelling-safety-data-for-mrna-covid-vaccines-in-pregnant-women/. The confusion arose over errors in the presentation of the data in the original NEJM article, which has now been corrected: T.T. Shimabukuro, et al, “Correction: Preliminary Findings of MRNA COVID-19 Vaccine Safety in Pregnant Persons,” New England Journal of Medicine, 8 September 2021, NEJMx210016, https://doi.org/10.1056/NEJMx210016. The best analysis I have seen is John Jalsevac, “Study Shows 82% Miscarriage Rate among Covid-Vaccinated Women? Nope. Here’s Why.” Substack newsletter, Casual Thoughts (blog), 30 June 2021, https://iohnjalsevac.substack.com/p/no-study-doesnt-show-82-of-covid, and Syed Ah Kahn, “The Curious Case of the Miscalculated Miscarriages,” Substack newsletter, Arkmedic’s Blog (blog), 14 September 2021, https://arkmedic.substack.com/p/the-curious-case-of-the-miscalculated. Jalsevac points to the selection bias, lack of data, and short time frame (10 weeks) of the study: “Almost certainly (given statistical averages) more of the women would have gone on to miscarry after the study was completed. How many? Well, again, we don’t know. . . More data is needed.” And again, “I don’t see how you can use such a hodgepodge sample of women as a representative sample, and justify drawing the conclusion the authors did. The 3958 women in the study were all vaccinated at different stages of pregnancy, and at different stages of the study. Some early. Some late. The women also overwhelmingly worked in healthcare. In other words, the study sample is very messy and suffers from selection bias.” These concerns have been raised in an academic article also: Aleisha R. Brock and Simon Thornley, “Spontaneous Abortions and Policies on COVID-19 MRNA Vaccine Use During Pregnancy,” Science, Public Health Policy, and the Law 4 (November 2021): 130–43: “In this article, we draw attention to these errors [in Shimabukuro et al.] and recalculate the risk of this outcome based on the cohort that was exposed to the vaccine before 20 weeks’ gestation. Our re-analysis indicates a cumulative incidence of spontaneous abortion 7 to 8 times higher than the original authors’ results (p < 0.001) and the typical average for pregnancy loss during this time period” (p. 130).


Perhaps. But one would have expected that the expedited timeline for vaccine development and the granting of emergency use authorization would have corresponded to an urgent demand for heightened pharmacovigilance. It has not. Instead, the public campaign for universal vaccination has repeatedly minimized these concerns: As Risch and Lapado observed, “The silence around these potential signals of harm reflects the policy surrounding COVID-19 vaccines.”

Changes in protocols in the midst of the vaccine roll out, especially in Canada, such as changes to the timing of doses and the mixing of vaccines, will in fact make the task of identifying long-term statistically meaningful correlations in the data more difficult. And the more that universal vaccination is mandated, the more we lose a control group for study. Still, the initial data on reports of adverse reactions to COVID-19 vaccination are worrying enough that on June 9, 2021, Tess Lawrie, the director of Evidence-based Medicine Consultancy (UK), conducted a rapid review of the Yellow Card data and wrote to the Medicines and Healthcare Products Regulatory Agency, calling for a halt to vaccinations: “The MHRA now has more than enough evidence on the Yellow Card system to declare the COVID-19 vaccines unsafe for use in humans.” Indeed, the outstanding questions about safety have meant that there are reputable pro-vaccine virologists and immunologists, and hundreds of frontline personnel, with no financial conflict of interest, choosing not to recommend this particular vaccine. This makes it all the harder for the general public simply to take it on trust from politicians and public health officials that there is nothing to worry about, nothing to see here. There is, at minimum, a crisis of authority.

In Chap. 6, below, we will return to the discussion of vaccines in terms of the ethics of vaccine mandates, coercion, and medical segregation (vaccine passes or passports). It will be important there to bear in mind the questions raised here about safety and efficacy.

Therapeutics

One of the reasons why so many hopes have been pinned on vaccines for COVID-19 is because of the assumption that there are no other means to prevent or treat the disease. At the beginning of the crisis there was no outpatient or hospital treatment protocol beyond supportive care: Tylenol and fluids at home, and then mechanical ventilation in hospital when the disease advanced to the stage of acute pulmonary inflammation. Indeed, emergency use authorization for vaccines in the United States required that “there are no adequate, approved, and available alternatives.” However, notwithstanding a bewildering but powerful campaign to discredit the use of repurposed drugs (“off-label”) for COVID-19, several effective treatment protocols have been developed, and there is now considerable

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224 Tess Lawrie, “Open Letter from Dr Tess Lawrie to Chief Exec MHRA Dr Raine – Urgent Preliminary Report of Yellow Card Data up to 26 Th May 2021,” 9 June 2021, [http://medisolve.org/yellowcard_urgentprelimreport.pdf?fbclid=IwAR1k77zN0j7peGaGaQ74heGuoczvaz1XL5etl-wWIFtbx8kYFVLChgUC3w](http://medisolve.org/yellowcard_urgentprelimreport.pdf?fbclid=IwAR1k77zN0j7peGaGaQ74heGuoczvaz1XL5etl-wWIFtbx8kYFVLChgUC3w). See also the preprint, Bruno R et al., “SARS-CoV-2 Mass Vaccination: Urgent Questions on Vaccine Safety That Demand Answers from International Health Agencies, Regulatory Authorities, Governments and Vaccine Developers,” 24 May 2021, [https://doi.org/10.22541/au.162136772.22862058/v2](https://doi.org/10.22541/au.162136772.22862058/v2).


evidence for promising drug therapy. A large number of physicians and critical care doctors worldwide have been providing effective early, outpatient, and hospital-based treatments.\(^\text{227}\)

Because of the nature of COVID-19 as a communicable disease, doctors did not typically in 2020 have face-to-face office consultations with individuals who contracted the disease in the community, nor were these patients easily able to get medical imaging, lab work, or help from a pharmacy. Instead, these patients had supportive care only. Several research clinicians were concerned to find out if anything more could be done by way of early treatment. One attempt to enroll individuals in a large outpatient trial was unsuccessful finding candidates. It was left to critical care physicians to develop protocols based on their experience and expertise. For example, twenty-three experienced clinical experts reviewed existing literature and developed a protocol for outpatient care based on five principles: reducing reinoculation (ventilating the space, etc.), immunomodulation (e.g. corticosteroids), combination antiviral therapy, antiplatelet antithrombotic therapy, and offering oxygen, monitoring, and telemedicine.\(^\text{228}\) The lead author of the study testified before the Texas Senate Committee on Health and Human Services on March 10, 2021 that this protocol proved highly effective in preventing hospitalizations and deaths.\(^\text{229}\) Other early treatment protocols have been developed elsewhere.\(^\text{230}\)

Throughout the coronavirus crisis, misinformation and exaggerated claims of all kinds have been spread online. But drug therapy in particular became quickly politicized in 2020 and claims for the antimalarial, anti-inflammatory drug Hydroxychloroquine became a flashpoint for controversy, perhaps especially after it was associated with the polarizing figure of Donald Trump and was reported as ineffective in some initial clinical trials.\(^\text{231}\) However, clinical researchers have understandably been


\(^{229}\) Association of American Physicians and Surgeons, Peter McCullough, MD Testifies to Texas Senate HHS Committee, 2021, https://www.youtube.com/watch?v=OAHj3lX3oGM.


\(^{231}\) The decision early in the pandemic by some doctors to prescribe hydroxychloroquine as a therapeutic trial was in keeping with Principle 37 of the Helsinki Agreement on Medical Research, which states that “physicians may use an unproven intervention if in the physician’s judgement it offers hope of saving life, re-establishing health or alleviating suffering. This intervention should subsequently be made the object of research.” However, some subsequent RCT’s reported negative results. “FAQ on Ivermectin,” FLCCC | Front Line COVID-19 Critical Care Alliance, accessed 7 June 2021, https://covid19criticalcare.com/ivermectin-in-COVID-19/faq-on-ivermectin/. Note, however, that some question whether the negative findings against hydroxychloroquine are valid. See the collation of studies at “HCQ for COVID-19: Real-Time Analysis of All 306 Studies,” accessed 14 June 2021, https://c19hcq.com/.
scouring the repertoire of existing drugs in the approved pharmacopeia, studying their profiles, and looking to see if anything might be promising for the treatment of COVID-19 with its complex disease progression: a viral phase, a pulmonary phase, and a hyperinflammatory phase. Various combination therapies of antivirals, nutraceuticals, anti-inflammatories, and other drugs have been used with varying degrees of success. Monoclonal antibodies have also proved a viable treatment option and received emergency use authorization in the United States.

Paul Marik and Pierre Kory are experienced critical care physicians and highly credentialed researchers who developed a hospital protocol for treating COVID-19 which they refined with other intensivists, forming the Front Line COVID-19 Critical Care Consortium (FLCCC) on April 5, 2020. The doctors using this protocol claimed to have a low rate of mortality (less than 6.1%) after treating some 450 patients within six hours of presentation to their hospitals. Of those who died, the doctors reported that they either succumbed to co-morbidities or had presented in an advanced stage. By October 2020, this group also developed a prevention and early outpatient treatment protocol for COVID-19 that added Ivermectin as a core medication based on a review of the research literature. A year later, they listed 1,578 physicians worldwide supporting or using their protocols. The US-based FLCCC has become the foremost advocacy group investigating and promoting Ivermectin as part of prevention and treatment protocols for COVID-19. But there are others. In January 2021, a team from the Evidence-Based Medicine Consultancy in the UK looked at the evidence for Ivermectin and formed the British Ivermectin Recommendation Development Group (BIRD), working with experts worldwide. They have produced and collected research, protocols, and resources for early treatment, including Ivermectin, and have listed more than thirty health and patients’ organizations from around the world as affiliates in advocating for the use of Ivermectin to treat COVID-19.

Ivermectin has been used for four decades as a highly successful anti-parasitic drug. It is on the WHO’s list of essential medicines and has an established record for safety (it has been an over-the-counter medicine in France), with some 3.7 billion doses having been administered globally. Its discoverers won the Nobel prize in medicine in 2015. In vitro evidence of anti-viral and anti-inflammatory properties made it a promising candidate for COVID-19 as the search for therapeutics began in 2020. Initial clinical trials reported “repeated, large magnitude improvements in clinical


outcomes.” However, as the FLCCC researchers went to publish their findings, this proved unexpectedly controversial. It has remained so and is now a matter of public interest and debate. According to Google Trends, the search term Ivermectin has been steadily growing in popularity, with a peak interest in late summer 2021.

The discussion of Ivermectin as a treatment for COVID-19 has become especially politically charged, for the major regulatory agencies have rated it as “not promising” or “insufficient evidence” to recommend, while other physicians, scientists, and medical authorities have continued to amass a body of research robustly contesting this verdict. Everyone realizes that lives hang in the balance. For the supporters of Ivermectin, it is a David against Goliath battle; for its detractors, it is a defence of orthodoxy against heresy. Media and technology platforms subscribing to the “Trusted News Initiative” have censored reports or stories advocating Ivermectin, and this has pushed the public discussion of the science of Ivermectin and COVID-19 away from these platforms. We will look at some of the published clinical trials below, but how one discusses Ivermectin has now become a proxy for how one relates to authority. It is a test of faith in the normal evidence-based pyramid of medical research, peer-review and regulation as governed by the big agencies (CDC, FDA, NIH, WHO), since this authority is being challenged by dissenting experts who have turned to alternative platforms to aggregate research and appeal directly to the public. In terms of my usual research as a historian of Christianity, this looks like a version of Church and Sect, or Establishment and Dissent.

An international alliance of physicians and medical scientists met in Rome in September 2021 for a Global Covid Summit, and in just a few weeks they gathered more than 10,000 signatures from doctors and scientists, subscribing to a published declaration rejecting “political intrusion into the practice of medicine” and defending the right of physicians to exchange objective scientific findings “without fear of retribution, censorship, slander, or disciplinary action” and to be free to prescribe safe and effective treatments to their patients. Their website provides resources on early treatment and prevention, including resources on Ivermectin and links to the FLCCC. The numbers and organization of this dissenting body of medical opinion is growing.

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The FLCCC provides links to a database and real-time analysis of COVID-19 treatment studies, including Ivermectin, by the anonymous, volunteer research group @CovidAnalysis. Although this aggregation of research does not have the status of PubMed or Cochrane, the sources and data are all public and open to verification. This is a good example of dissemination that is operating outside the usual orthodox system for sifting and distributing the findings of medical research. This stands in contrast to authoritative services such as UpToDate or PEER that working doctors depend upon to sort and summarize the latest research.

Turning to the research itself, the @CovidAnalysis group offers a real-time meta-analysis of their database of studies of Ivermectin. As of October 2021, this includes 65 studies from some twenty countries, of which 45 are peer-reviewed and 32 are RCTs. The summary states, “Meta analysis using the most serious outcome reported shows 66% [53-76%] and 86% [75-92%] improvement for early treatment and prophylaxis, with similar results after exclusion based sensitivity analysis and restriction to peer-reviewed studies or Randomized Controlled Trials.” More importantly, the site acts as a repository, with all 65 studies made publicly available for examination.245

Ivermectin is off-patent and about $13 USD per dose—and considerably less in other countries ($0.60—$1.80 for a 5-day course in Bangladesh, for example). No drug company will make any money from this, and the researchers have no financial conflict of interest. When I looked up the Cochrane Central Register of Controlled Trials to see what RCTs were registered between February and June 2021 for Ivermectin and COVID-19, I was surprised to find that these are being undertaken almost entirely outside of rich industrialized countries in nations such as Iran, Paraguay, Bolivia, Nigeria, Uganda, Gambia, and Brazil, with studies completed in Bangladesh and Egypt.244 Many of these are


physician-led studies, and until recently none were the sort of large expensive studies that are done by drug companies. Critics call for larger trials and better data.

Andrew Bryant, Tess Lawrie, et al. published what is likely the best peer-reviewed systematic review and meta-analysis that supports the use of Ivermectin for COVID-19. The authors reviewed 24 RCTs (randomized controlled trials) and in a meta-analysis of 15 of these found a reduced risk of death of 62% and a reduced risk of infection (taken prophylactically) of 86% and no significant risk of severe adverse reactions. As the authors comment in their discussion, “Corticosteroids have become an accepted standard of care in COVID-19, based on a single RCT of dexamethasone. If a single RCT is sufficient for the adoption of dexamethasone, then a fortiori the evidence of 2 dozen RCTs supports the adoption of ivermectin.”

A later Cochrane systematic review reported, in contrast, uncertainty about Ivermectin efficacy, but this has been vigorously critiqued (“erroneously concluding ‘no effect’ from what was merely weaker evidence of a positive effect”) and the original finding of positive effect was confirmed by a third party through a series of probability analyses. Individual RCTs that have have


been reported as evidence against using Ivermectin, such as appear in newsletters for family physicians, are included in the larger meta-analyses by Bryant, Lawrie, et al. and in the real-time meta-analysis by @CovidAnalysis.²⁴⁸ As far as I can tell, they have not cooked the books.

On October 14, 2021, the Office of the Attorney General of the State of Nebraska issued a thorough 48-page review of the use of Ivermectin and Hydroxychloroquine for COVID-19, assessing all this data and more. This legal opinion was done at the request of the Chief Executive Officer of the Department of Health, and the filing with the Department of Justice upheld physicians’ right to prescribe these treatments for COVID-19. The authors conclude with respect to Ivermectin: “We find the studies and meta-analyses sufficient to resolve this question,” and they note in addition “that epidemiological evidence—derived from analyzing COVID-19-related data from various states, countries, or regions—is also instructive in the context of a global pandemic.”²⁴⁹ The chairman of the Tokyo Medical Association, Haruo Ozaki, has also recommended the use of ivermectin for COVID-19 patients.²⁵⁰


Indeed, Ivermectin has already been adopted for use in many countries, and the viral curve has consistently dropped off after its introduction.251 The most dramatic report has come from Uttar Pradesh, the most populous state in India, with over 200 million people. If Uttar Pradesh were a country, it would be at least the 8th largest by population in the world.252 On September 10, 2021, the Hindustan Times reported, “There are no active cases of the coronavirus disease (COVID-19) in 33 districts of Uttar Pradesh, the state government informed on Friday.”253 If this is correct, this is important data, for this is with only 11% fully vaccinated (as of September 19). Ivermectin was introduced as a prophylaxis and for treatment by government order on August 6, 2020. Vikssendu Agrawal, State Surveillance Officer, said “Uttar Pradesh was the first state in the country to introduce large-scale prophylactic and therapeutic use of Ivermectin,” and he claimed its success was due to the timely introduction of the drug.254 The Indian Bar Association has served legal notice on the WHO for having “deliberately suppressed the data regarding effectiveness of the drug Ivermectin, with an intent to dissuade the people of India from using Ivermectin.”255

In contrast, critical care patients in the United States have had to resort to legal action to receive treatment with Ivermectin, and Canadian doctors who choose to treat with Ivermectin are disciplined or relieved of their duties.256 Pharmacies in British Columbia are not permitted to fill prescriptions from doctors for Ivermectin if it is for COVID-19. It is unclear why there has been such strong opposition to Ivermectin by politicians, the media, national regulatory agencies, and the WHO.257

There has been a news blackout on Ivermectin in the mainstream media, and social media platforms have censored serious scientific reports as misinformation. The National Institute of Health (NIH) in the United States has approved Remdesivir as a treatment for COVID-19, a drug produced by one of the world’s largest pharmaceutical companies, Gilead Sciences, costing $3000 USD per dose, though studies have shown no mortality benefit with COVID-19. In this case there is a serious conflict of interest. “Seven members NIH COVID-19 Treatment Guidelines Panel acknowledge in financial disclosures that they have received research support or consultant payments from Gilead, or sit on the advisory board of the $60 billion company.” The US Senate hearing on early COVID-19 treatments, which was to hear from a panel about the promising reviews of Ivermectin, was panned beforehand by the New York Times as a forum for dubious, fringe theories. Moreover, “the hearing was boycotted by all seven Democrats (who have received a total of $1.3 million in big pharma bucks from Pfizer, AstraZeneca, Johnson & Johnson, Merck, Gilead, and others), and four of the seven Republicans, including Utah’s Mitt Romney (more than $3 million received from big pharma), Ohio’s Rob Portman ($542,400), and Florida’s Rick Scott (more than $1 million in stock in Gilead Sciences, maker of Remdesivir).” Pierre Kory’s official testimony in this Senate hearing was erased by YouTube as “endangering the community” when it approached nine million views.

Merck, the pharmaceutical giant who developed Ivermectin, have been working on a new anti-viral drug Molnupiravir, which is in late-stage clinical trials for treatment of COVID-19, and it stands to make the company handsome profits. (It was approved for use in the UK in November 2021.) They are seeking expedited approval for this drug under emergency use authorization guidelines, which, again, requires that there be no viable alternative available. Indeed, the US government announced on June 17 that it was investing more than $3 billion in the development of new antiviral drug therapies, and this included a contract with Merck for $1.2 billion for Molnupiravir. So here again there is a massive conflict of interest when the company issued a press release saying (without providing documentation) that there is no evidence of clinical efficacy of the off-patent Ivermectin for COVID-19 and also a concern about safety.

On January 14, the NIH changed its negative recommendation against Ivermectin to a more neutral judgement of “insufficient evidence” to recommend. However, as of March 5, the FDA was still

260 Ibid.
warning consumers against Ivermectin, raising concerns about safety at high dosage.264 And on March 31, the WHO recommended against use of Ivermectin, except in clinical trials.265 The WHO Ivermectin panel has been charged with not following its own protocols, arbitrarily excluding data, and other breaches of best practice.266 On July 8, 2021, the NIH (the agency specifically governing hospital practice) quietly changed its guidelines to include Ivermectin as an antiviral agent “approved or under evaluation” with a dosing regimen and other parameters for use.267

It remains to be seen what the outcome of this controversy will be. Is there a danger of “populist medicine” intruding into the realm of “expert medicine”? Or is there suppressed evidence—for whatever reason—that needs to be heard? It might be useful to engage in a thought experiment that historians call a counter-factual hypothetical. Let us suppose that the internet had existed during the Thalidomide crisis in the 1960s. Could we imagine that dissenting scientists and regulators, or front-line medical personnel witnessing birth defects, might have taken to the internet to raise their concerns? If they were censored on mainstream platforms, might they have persisted getting the word out on their own websites or alternative platforms? Regardless of the answers to these hypotheticals, one hopes that in the present question (of the use of Ivermectin for COVID-19 treatment) the evidence will soon become sufficiently overwhelming to resolve the controversy decisively.

The politicized controversy over Ivermectin as a treatment for COVID-19 raises a number of larger questions about financial interest, censorship, and the influence of large drug companies, large technology companies, and others. We have largely avoided these questions thus far, but these issues will be taken up below in Chapter 6. For our purposes here in this chapter, seeking to analyse the efficacy of public policy with respect to pharmaceutical interventions (vaccines and therapeutics), it is enough to draw a few conclusions. There are clearly serious scientific questions outstanding. This is true regarding the safety of vaccines and also their overall efficacy, especially when employed not chiefly as a means of protecting the vulnerable, respecting individual informed consent, but as a sole public health strategy to achieve population-wide immunity and to end the state of emergency. But then there are also mounting questions about the suppression of certain therapeutics (especially Ivermectin) and unwillingness by public health authorities and the media to support or allow reasonable treatment protocols for outpatient and hospitalized cases of COVID-19. In rich industrialized countries, there were no emergency use authorizations for Ivermectin. Quite the contrary. Despite the low safety risk and high benefit potential, treatment with Ivermectin could get a doctor fired.

Chapter 5
Our Disproportionate Response
and the Fears We Have Awakened

To review, the mainstream public narrative has been that the lethal danger of COVID-19 can only be managed by submitting to an emergency regime of restrictions until near-universal vaccination provides a level of immunity from COVID-19 and its variants that allows us to return to normal. The analysis in the first chapter above suggests that the assumptions about the lethality and transmission of COVID-19, upon which public policy have been based, are faulty. The “state of fear” aroused by these faulty assumptions has been the basis for the legal “state of exception,” authorizing the use of emergency powers to suspend constitutional rights and mandate universal restrictive interventions at a population level. These interventions themselves (masks, social distancing, lockdown, PCR testing) have weak and questionable scientific evidence for efficacy in reducing the transmission of the virus, but they have caused enormous collateral harms. With respect to pharmaceutical interventions, public health authorities have made special emergency provision for vaccines but have largely discountenanced repurposed drugs for therapeutic treatment. The evidence for vaccine safety is incomplete at best, and mounting evidence in support of repurposed therapeutics is suppressed ferociously, and in both cases there are potentially damning conflicts of interest. The public health strategy for pharmaceutical intervention has followed the example of restrictive non-pharmaceutical interventions by using the state of emergency to justify near-compulsory mass vaccination. This is seen as the only way to save lives. The alternative public policy of “focused protection” of the vulnerable, which seeks to allow civil society to function as freely as possible, has been rejected, even though this was standard public health policy prior to March 2020.

It remains now to turn from the data itself to analyse in more detail the social, ethical, and political response to COVID-19. The first and most fundamental observation is that tremendous fears have been awakened, sustained, and exploited. The restrictive public policies that have been imposed on society would not have succeeded apart from this state of fear.

The State of Fear: Convergent Interests and the Dominant Narrative
A particular egregious example of a national government weaponizing fear of the virus in order to manipulate the public into compliance with restrictive measures has been documented in the UK. A paper written by the Scientific Pandemic Influenza Group on Behaviours, dated March 22, 2020, advised the government “that a substantial number of people still do not feel sufficiently personally threatened” to follow the rules. One of the options proposed by these behavioural scientists to increase public compliance with imposed public health measures was to use media to increase a sense of alarm, since “the perceived level of personal threat needs to be increased among those who are
complacent, using hard-hitting emotional messaging.”

The covert use of nudge behaviourism throughout the pandemic in the UK has also been documented by the journalist Laura Dodsworth in a detailed investigative report published in May 2021. Canadian federal and provincial governments followed Britain’s example in “the massive social science experiment” to modify citizen behaviour by applying the insights of behavioural science with “nudge units” operating behind the scenes to advise authorities on communication strategy. Indeed, even the Canadian military were involved. An article in the National Post reported in September 2021: “Canadian military leaders saw the pandemic as a unique opportunity to test out propaganda techniques on an unsuspecting public, a newly released Canadian Forces report concludes. The propaganda plan was developed and put in place in April 2020 even though the Canadian Forces had already acknowledged that ‘information operations and targeting policies and doctrines are aimed at adversaries and have a limited application in a domestic context.’” The Canadian Forces spent more than a million dollars training personnel in behaviour modification techniques. The aim was to “change attitudes and behaviours of Canadians as well as to collect and analyze information from public social media accounts,” using “information warfare” tactics on citizens. It is important to realize that communication from public authorities about COVID-19 has been neither a straightforward, candid reporting of facts nor an ingenuous sharing of information, but, more often than not, a sophisticated species of calculated, crafted, behavioural messaging.

Even apart from such overtly cynical tactics, there have been a number of mutually reinforcing interests at work to buttress the terrifying narrative of a deadly, invisible danger. The interests of politicians, chief medical health offices, and media have converged to sustain an official narrative. Politicians, untrained and unprepared for an epidemic, depended heavily on their expert staff. It is clearly costly for politicians to go against the advice of their chief medical officers, though these officers themselves only hold their positions at the pleasure of the politicians. It has often not been clear therefore who has been answering to whom, nor how moral and political decisions (as distinct to work butttressthe terrifiednarrative of adeadly, invisible danger. The interests of politicians, chief medical health offices, and media have converged to sustain an official narrative. Politicians, untrained and unprepared for an epidemic, depended heavily on their expert staff. It is clearly costly for politicians to go against the advice of their chief medical officers, though these officers themselves only hold their positions at the pleasure of the politicians. It has often not been clear therefore who has been answering to whom, nor how moral and political decisions (as distinct

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269 Dodsworth, State of Fear (see previous note). Her book has become an immediate best-seller in the UK in multiple categories.


from scientific assessments) have been made. Moreover, the media have almost universally reinforced, rather than challenged, the political narrative. There have been a few notable exceptions, chiefly in op-ed pieces. But media revenues are now either reliant on outright direct government funding (especially in the case of the CBC and the BBC) or dependent upon online user engagement, and the financial incentive is overwhelming to report alarming headlines (“click-bait”): “If it scares it airs; if it bleeds, it leads.” In most cases, as I was told when I enquired with a reporter at the Vancouver Sun, the mainstream media do not any longer have the resources or much will for sustained, investigative journalism. Again, David Cayley has noticed how “both the Globe and the CBC seem to conceive their role not as platforms for discussion but as guardians of correct thought.”274 The decision on the part of editors to select stories that evoke fear, to highlight statistics that alarm (without context), and to display images that frighten has added to the pressure on politicians to demonstrate strength. The tough regulatory actions of politicians in one region, approved by public opinion, have exerted pressure on politicians in other regions to act likewise. Soon everyone is using the same talking points.

Given the political cost of admitting that harmful restrictions and mandates could have been a mistake, the pressure to maintain the narrative (high lethality, invisible spread, and dangerous mutation) has increased the longer the measures are in place. The “sunk costs” are enormous. Accordingly, science and medicine have been recast, not as contingent bodies of knowledge open to contestation, but as a homogeneous discourse offering an immaculate set of facts and received opinions.275 The meme on social media is “Follow the Science™.” Cayley has noted how science has been personified as a singular voice: science tells us, or follow the science, or “we know that . . .,” etc.276 The foil to this myth of self-evident science is that any arguments that challenge the dominant narrative, however reasoned and supported by evidence, are mischaracterized, discountenanced, caricatured, or censored, and critics are regularly labelled as “Covid deniers” or worse.277 Alternative viewpoints are dismissed as the fringe ideas of “anti-mask, anti-vax, right-wing conspiracy theorists.”

John Ioannidis’s indictment of this distortion of scientific discourse is scathing: “Honest, continuous questioning and exploration of alternative paths are indispensable for good science. In the authoritarian (as opposed to participatory) version of public health, these activities were seen as treason and desertion.” With COVID-19 the rhetoric turned increasingly martial: “The dominant narrative became that ‘we are at war.’ When at war, everyone has to follow orders. If a platoon is

274 Cayley, Pandemic Revelations.


ordered to go right and some soldiers explore maneuvering to the left, they are shot as deserters. Scientific skepticism had to be shot, no questions asked.” In this atmosphere, Ioannidis observes, even serious scientists were driven to become “unrestrained, wild-beast avatars of themselves, spitting massive quantities of inanity and nonsense.”

A cancel culture, dismissive of any scientific dissent, was evident in many quarters in the hostile reception of the “Great Barrington Declaration,” a minority report, as it were, by scientists of the highest reputation from Harvard, Stanford, and Oxford, with more than 860,000 signatories, including a large number of highly respected medical and public health scientists and medical practitioners.

Another example, here in Canada, is the treatment of Dr. John Conly, a senior professor at the University of Calgary, who took part in a scientific panel discussion in April 2021 on the transmissibility of the virus. Evidence was coming out that the virus might be spread by aerosols and not by droplets. He maintained the latter position (a minority view), but the brutal response illustrates the silencing of scientific discussion by slander. “Social media attacks compared Conly and like-thinking colleagues to Auschwitz doctor Josef Mengele, called him stupid and a quack, and suggested he was responsible for ‘millions of deaths.’ It did not matter that the professor was a member of the Order of Canada and chair of a committee that advises the World Health Organization on COVID-19 infection control. The official narrative has discountenanced dissent and authorized such vitriol.

Again, the official narrative has been reinforced by a convergence of interests among politicians, public health officers, and the media—all of these together. At the same time, it has become clear that the financial and political motivations of the world’s largest pharmaceutical and technology corporations, along with certain influential globalist elites, are aligned to support the same account. The greater the fear, the greater the overall prospects for drug companies, including not only billions in profits, but also expedited approvals, legal immunity, and the suppression of alternatives. So also the pandemic has emboldened technology giants like Google to call for what Naomi Klein calls a

“Screen New Deal.” In the interests now of safety and public health, and in an environment of fear and uncertainty, comes a promise of a safe “no-touch future” and Amazon-like efficiency in the delivery of services. In particular, the present crisis has been seized on as a moment to overcome any remaining democratic obstacles to heightened digital surveillance. As Google’s Eric Schmidt said already in a presentation in May 2019, “Surveillance is one of the ‘first-and-best customers’ for AI,” and “Mass surveillance is a killer application for deep learning.” And as New York Governor Andrew Cuomo said on May 8, 2020, after a video conference with Schmidt, “We are ready, we are all-in.”

In addition to the potentially self-serving interests of highly capitalized drug companies and technology corporations, we have seen the opportunistic call likewise for more globalist policy (“build back better,” and “the great reset”) under the conditions of the pandemic: modern monetary theory, staggering levels of sovereign debt, big government, universal basic income, large-scale public–private partnerships, as well as the expansion of the state in censorship and legislative coercion—all in the service of solving global problems and within a new world order. These ideas have been a theme of the World Economic Forum and other global elites, elected and unelected. The term “progressive” is not ideal for these policy directions since the adherents of these political proposals do not necessarily correspond to traditional capitalist–socialist or liberal–conservative alignments. Indeed, the globalist vision has been critiqued as neo-feudalism. There are critics of “Big Tech” and “Big Pharma” from both the left and right, from both socialists and libertarians and all those in between on the political spectrum. All told, however, the interests of large drug companies, dominant technology platforms, and globalist elites have been powerfully reinforcing during the COVID-19 crisis. One need not assume a secret conspiracy still to see convergent opportunism. The saying, “Don’t waste a good crisis,” has been used often during the pandemic.

The final and most volatile domain where the official narrative is reinforced has been in the swift reactions not of the sovereign people, but of the “twitter mob” with its instant judgements on social media. In this polarizing environment—where there is no longer any private sphere, but instead the


283 Ibid.


display and permanence of every error, the denial of atonement for any wrongs, and the mass hysteria of crowds (“nudged” this way or that by the invisible algorithms of surveillance technology)—the stakes have been raised enormously for public figures to keep control of the narrative. As Douglas Murray has observed about the madness of crowds in social media, “It is the reason why politicians look so terrified when anyone tries to lead them on to any rocky terrain . . . One negative response (from anybody in the world) can be turned into a storm. This fear now engulfs almost all public figures.”

Ethics Beyond Sociology

It is not that individual politicians, public health officials, journalists, business owners, and activists are necessarily compelled to act dishonestly or to collude in their own interests. Many, if not most, have no doubt been acting more or less from conviction, conscience, and according to professional standards. When interests converge like this, however, there exists what sociologists call a “plausibility structure” powerfully supporting the assumption that the danger must be as it appears and the necessary response, self-evident. Indeed, the sociology of moral panics, developed by Stanley Cohen and others, and widely applied to analyze past crises, describes just such a repeated pattern of response to perceived threats in a society: the identification of a danger, the development of hostility to those associated with the threat, the emergence of a consensus narrative to account for it, the disproportional actions taken to eliminate it, and so on. It would be hard not to recognize COVID-19 as just such a moral panic. Similar dynamics are evident in the psychology of mass formation, where social isolation, anomie, free-floating anxiety and discontent are conditions that allow for mass formation (“mental intoxication”) around a focal narrative that is radically intolerant of dissent. Sociological and psychological pressures do not themselves falsify the official narrative of the pandemic, of course, but they do signal the possibility of distortion and the acute importance of heightened vigilance, investigative research, and critical assessment of all the evidence available.

These social forces are real, and individuals and corporate bodies may be acting in self-interest or operating in the grip of a moral panic. This needs to be acknowledged and assessed in due course. But it is good to remember that public reasoning always operates under social pressures. Scientists, politicians, public health officers, and every one of us, operate daily in the midst of myriad temptations to act in self-interest rather than in pursuit of what is wholly good and true. The motives of power and profit, shame and approval, must be resisted by all people of goodwill in the effort to know the truth. The important first question to ask about pandemic reporting must always, therefore, be “Is it true?” And then we can ask, “Have we acted rightly?”

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288 The term was coined by Peter L. Berger, *The Sacred Canopy* (Garden City, NY: Doubleday, 1967).


Proportionality and the Balance of Harms

My own assessment in light of the analysis in the chapters above is that the response to COVID-19 has been disproportionate and that if the Oakes test had been properly applied in Canada, there could have been a more proportionate response and a more careful balancing of harms.291 This is what was called for in December 2020 and January 2021 by Preston Manning, former leader of the official opposition in Parliament, in an article in the Globe and Mail and an open letter to Justice Minister and Attorney General David Lametti in the National Post.292 Manning called for “a better and more equitable balance between: the protection of the health of Canadians through government measures adopted in response to the COVID-19 crisis and the protection of the rights and freedoms of Canadians as guaranteed by the Canadian Charter of Rights and Freedoms.” He also noted the government’s “obligation to provide Parliament, and the public, with evidence that it has done its due diligence and taken into account all the scientific evidence, including the views of those who disagree with the government’s assumptions.” He called specifically for “government to broaden its management beyond the health department and the advice of the medical community to include a broader range of scientific expertise.” There should also be a “comprehensive assessments of the impacts of health-protection measures,” especially a full economic impact assessment. I would add the need to provide an accounting for the full balance of harms inflicted on Canadians by public health mandates including (but not limited to) the impact of missed GP and specialist appointments, missed cancer screening, delayed emergency medical treatment of stroke and cardiovascular disease (including cardiac arrest), and other delayed treatments; rates of drug addiction, alcoholism, homelessness, and suicide; impacts on mental health; rates of domestic and child abuse; impacts on all levels of education; impacts on arts and culture; rates of unemployment and closing of businesses; and impacts on inequality.293

Some data are beginning to appear, and it is concerning. For example, in the UK, reports are that 12,000 women were left with breast cancer undiagnosed because of the lockdowns.294 There was a five-fold increase in the number of rape victims waiting more than a year for justice.295 Cases of serious harm to children linked to abuse rose by a fifth.296 As with the statistics on COVID-19, each of these listed harms is an abstraction that stands for countless stories of human tragedy and suffering. I have

293 Some of these harms have been catalogued in the UK by Laura Dodsworth, State of Fear, 232-235, and internationally at “CG Database,” Collateral Global, accessed 25 May 2021, https://collateralglobal.org/cg-database/.
tried to focus in this essay on analysis, and so I have avoided narrating the many poignant human stories that lie beneath the data and the issues. An anecdote is a data point of one. And yet it is good to be reminded that not only with the harms of COVID-19, but also with the collateral harms of public policy, there is real suffering, grief, and loss for individuals and their loved ones.

In poor countries especially, the impact of restrictive measures has been devastating. A news release from the WHO stated, “Drastic cuts in the availability and use of essential public health services across South Asia due to COVID-19 may have contributed to an estimated 228,000 additional child deaths in 2020, according to a new United Nations Report. Around 11,000 additional maternal deaths are also expected.” Here too we need a full accounting of the balance of harms.

The need for proportionality is not about a cold economic calculus that can be computed by actuarial tables of QALYs (quality adjusted life years). It requires moral judgement. The call for proportionality is grounded in our deepest moral intuitions as human beings that each person matters and that we have an obligation to one another. For the philosopher Emmanuel Levinas, ethics has its very foundation here, in “the face of the other.” The pandemic has, however, opened up a dangerous ethical gap. Medical ethics has typically been patient-centred and focused upon individuals and an absolute “duty of care” in the Hippocratic tradition. I must do my best for the person before me. The ethics of public health, on the other hand, concerns populations, and epidemiological calculations are inevitably utilitarian: the greatest good for the greatest number. There is a very serious danger in the shift toward the latter framework of a brutal utilitarianism that has no regard for the individual life. One only need imagine a “cold utilitarianism” that would see nothing wrong with killing one person to harvest his or her organs and redistribute these body parts to save a greater number of others. Utilitarian thinking quickly dispenses with individual rights and constitutional protections, and it always leads to a police state. The history of the twentieth century reminds us that cold utilitarianism is not as unthinkable as we might suppose. In the end, neither autonomous self-interest nor a population-level calculus will serve the good of each and of all. A relational ethics (which for the Christian will always be grounded in revealed nature of God himself as persons-in-communion)


300 I am drawing here on the insights of a graduate student paper by medical doctor whose name I shall keep private, “Whose lives matter…and how: Trinitarian ethics applied to isolation of the elderly during COVID-19,” Research Paper, 14 December 2020, Regent College, Vancouver. The contrast between these two ethical frameworks is noted in David Ian Jeffrey, “Relational Ethical Approaches to the COVID-19 Pandemic,” Journal of Medical Ethics 46, no. 8 (1 August 2020): 495–98, https://doi.org/10.1136/medethics-2020-106264. “Clinicians and nurses are trained to adopt a duty based (Kantian), ethical approach which stipulates that the care of the individual patient is their prime concern. When health risks primarily affect an individual, respect for autonomy has a high value. However, when a population is at risk, collective interests assume the greatest relevance” (p. 495).

will always strive to consider the individual good and the common good together. And over against the harms so easily imposed by the bureaucratic state and its centralized planning, the ideal of subsidiarity in Catholic social thought argues that nothing should be done by a larger and more complex organization which could be done just as well by a smaller and simpler organization. This principle would go far to ensure that the local care for vulnerable individuals is not crushed by the enforcement of broad population-wide public policies that can never take into account the exigencies of those particular persons-in-relation who do not conform to the abstract quantities of epidemiological reasoning. Trying to adhere fastidiously to public health orders has so often led to absurdities in practice. At best there is a loss of common sense; at worst, there are enormous harms. Public Health Canada is not anyone’s doctor, and there is no way such authority or its representatives can prescribe medical treatment for any individual’s needs and circumstance. Prime Minister Trudeau: you are not my doctor.

**The Crisis of Fear**

The danger of the disproportionate response to the threat of COVID-19 on the part of western governments is not trivial. As the Swedish psychiatrist David Eberhard has argued, “We feel less and less secure despite arguably living in the safest period of time in human history.” This paradox was observed well before the virus became a unique threat. Matthew Crawford argues, “Safetyism is a disposition that has been gaining strength for decades and is having a triumphal moment just now because of the virus. Public health, one of many institutions that speak on behalf of safety, has claimed authority to sweep aside whole domains of human activity as reckless, and therefore illegitimate.” A population that has been made to feel disproportionately afraid is uniquely vulnerable, for “people willingly sacrifice liberty for security during a crisis.” The Italian philosopher Giorgio Agamben watched on as his country descended in 2020 into a biosecurity state: “We can use the term ‘biosecurity’ to describe the government apparatus that consists of this new religion of health, conjoined with the state power and its state of exceptio...”


“... Experience has shown that, once a threat to health is in place, people are willing to accept limitations on their freedom that they would never theretofore have considered.”


bureaucratic grasping, we can note that emergency powers are seldom relinquished once the emergency has passed. Together, these dynamics make up a kind of ratchet mechanism that moves in only one direction, tightening against the human spirit.”

This is why I think it is important to address this crisis directly at the point where people are most afraid, and to ask, “Why are you afraid?” and “What are you afraid of?” This is the key inflection point. When the flight-or-fight amygdala brain is activated, it is important to slow down and to think. To provide people with a more accurate and specific risk assessment of morbidity and mortality is therefore one important task at all levels of society (politicians, public health authorities, media). This is essential if we are to reduce the ancient, deep-seated fear of contagion and death that has been awakened. It is important to demand that we not be lied to or misled. We each need to be able to make our own informed evaluation of the data. The principle of informed consent in medicine is sacrosanct.

At a deeper level, this crisis exposes the need to reckon more seriously with the human condition as subject to frailty and irretrievably mortal. Of course, we urgently want to prevent unnecessary suffering and death. But there is a more profound existential question we are facing: “Why are we afraid to suffer and to die?” and do we really think modern medicine and a biosecurity state can protect us from the human condition itself? What other resources do we have, and how are we prepared to face up to the suffering that surely comes to us all, sooner or later, so that we might find meaning and hope in the midst of this and still to live a good life? And what will it mean for us to die a good death? The state cannot intervene, nor can the medical establishment, to pre-empt the need to answer these questions for ourselves. I suspect there is a great inner freedom when you are not afraid to die. Alasdair McIntyre wrote of the need for a new St. Benedict in our time to help us recover virtue. I wonder if we need a new St. Francis now to teach us how to receive the world as a gift and, when the time comes, how to die. We want to save lives, heal the sick, and protect the vulnerable, but we must still reckon with our mortality.

In his 1974 article entitled “Medical Nemesis” in Lancet, and in the book that followed, Limits to Medicine, the philosopher and social critic Ivan Illich provided the classic analysis of iatrogenic (medically induced) harm at all levels: clinically, socially, and culturally. And part of what I have been concerned with in the analysis above are the very direct iatrogenic harms that may be seriously underplayed at present for political and other motives. More broadly, though, Illich believed that as the goods of modern medicine advanced in the last century there came a point where more and more of life was medicalized. Soon the bureaucratic management of health as a quasi-industrial system began to do harm (as with education and transportation). Although Illich documented myriad harms at many levels, perhaps his greatest concern was the way modern medicine can make us passive to our own lives and dependent upon institutions from birth to death, supplanting in particular the human, social, cultural, and religious resources necessary to face with dignity the intimate experience of pain.

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307 Crawford, “Danger of Safetyism.”
impairment, loss, and death to which we are subject. Medicine can aid us in these human experiences, but it cannot protect us from the contingency that comes with being alive.\textsuperscript{309}

As we probe more deeply our own fear of suffering and death in this crisis, we may find that we have been willing to trade almost everything for what Illich and Agamben describe as mere natural life, or bare life, or biological life.\textsuperscript{310} What is a society with no value other than survival?\textsuperscript{311} Again, each human life is unspeakably precious, irrespective of any deemed “usefulness,” and the preservation of life itself is a holy task. But how long can we sustain a society of the half dead, living in what Walker Percy once described in fiction as the “thanatos syndrome”?

Of course, we want to mitigate what harms we can, and especially to protect the vulnerable with skill, determination, and sacrifice. But something happens to us when we begin really to indwell in the sort of epidemiological modelling that we have been subjected to daily for the past year and more. I cease to live the life present to me immediately, here in my own body, in this moment, in this place, with my own unique history. Illich spoke prophetically in the 1990s when he said, “In the most intense way, this disembodiment happens through what we call risk awareness. If anybody should ask me what is the most important religiously celebrated ideology today, I would say the ideology of risk awareness.” He explained, “Why is risk so disemboding? Because it is a strictly mathematical concept. It is a placing of myself, each time I think of risk, into a base population for which certain events, future events, can be calculated. It’s an invitation to intensive self-algorithmization, not only disemboding, but reducing myself entirely to misplaced concreteness by projecting myself on a curve.”\textsuperscript{312} His compound word “self-algorithmization” is dreadful, but I can think of none better to describe the experience of the pandemic this past twenty months, as we locate ourselves repeatedly in the daily reporting of “cases” or, now, in the percentage of the population vaccinated. It is as if we listen to the weather forecast all day, and indwell its numbers, but never go outside to see if it is raining.

Agamben at his most tender suggests another response to the fears that have been awakened in society. In an admittedly dense Heideggerian phenomenological analysis of fear, he comes to the conclusion that it may be less by rational argument than by memory that we find our way out of the disabling anxiety of the moment. He knows that people cannot easily argue themselves out of fear. He suggests instead “remembering”—remembering that it is a condition of our being alive to the world, open to it, that we can also be afraid sometimes. Still, the world presents itself to me as pure gift. “Only because I am in the world can things appear to me and, potentially, scare me.” But remembering this prior reality of a larger, unspeakably beautiful world that stands open to me—this


\textsuperscript{310} Agamben, Where Are We Now? 17-18.

\textsuperscript{311} Agamben, 18.

\textsuperscript{312} Illich and Cayley, Rivers North, 210. Cf. David Cayley’s introduction, p. 39: “Indeed, he believed that the ever-growing emphasis on risk calculation in medicine constitutes the ultimate disembodiment, because it invites people to think of themselves not as unique persons but as members of an abstract class for which probabilities can be calculated.”
can allow me to find proportion and resist the abuse of power on the basis of fear.\textsuperscript{313} As we recover a sense of awe before the sheer contingency of a fragile world to which we are present and fully conscious, we may discover a reservoir of wisdom for coping with particular things that threaten. In biblical terms, the fear of the Lord is the beginning of wisdom (Prov. 9: 10).

In the fourteenth century, Julian of Norwich lived through the frightening experience of bubonic plague, war, and economic instability. This was her pandemic, and it was much more brutal than our own. Perhaps this contributed to her sense of the world as something contingent. Her insight was not unlike that of Agamben. The universe could have been otherwise, it need not have been at all, and it only exists for me as sheer gift. She imagined the whole universe, from God’s point of view, as something reduced almost to a point. It was like something the size of a hazelnut, she said. Her response was not a profound sense of secular alienation but rather astonished awe that all things exist only as they are held in being by a God who tenderly made, loves, and keeps them. It is as if the entire universe were a tiny hazelnut cupped in the hand of God. Our world is lovingly held in being. Julian realized how fragile life seems: “This little thing which is created seemed to me as if it could have fallen into nothing because of its littleness.”\textsuperscript{314} Her sense of repose in a time of insecurity was not “in this thing which is so little,” but in the divine love underneath it all.

Absent this sense of contingency, we may be tempted to believe we have more control than we do over the world. Modernity has in many ways granted human beings an unprecedented sense of control over nature, and the spread of a novel coronavirus was a shock to all the modern systems that deliver this control (especially initially). Would the financial system collapse? Would fiscal and monetary interventions stabilize markets, stave off hyper-inflation, avoid deflation, and prevent a great depression? Would supply chains collapse and render daily life precarious? (Who can forget the hoarding of toilet paper?) Would the medical system be overwhelmed? Would science save us from the virus? Would technology rescue us from our isolation? Would our educational systems survive? Would the welfare system be robust enough to cope with mass unemployment? The fears awakened by this pandemic thus went beyond the fear of death. A microscopic new pathogen, around 50 to 140 billionths of a metre in diam, suddenly exposed the taken-for-granted quality of modern life as much more fragile than we had ever imagined.

Fear can lead people to do terrible things. In the time of the plague, during Julian’s life, Jews were scapegoated and accused of bringing on the plague by poisoning water, and so mob violence was directed at them, and there were expulsions and massacres. In one day at Strasbourg in 1349 nearly two hundred Jews were burned to death by an angry mob. There are dangers presently that disproportionate fear has already led to disproportionate reactions. The front page of the Toronto Star on August 25, 2021, quoted Twitter in large type, “I have no empathy left for the wilfully unvaccinated. Let them die. I honestly don’t care if they die from COVID-19. Not even a little bit. Unvaccinated patients do not deserve ICU beds.”\textsuperscript{315} Scapegoating, as René Girard foretold, remains a dangerous

\textsuperscript{313} Agamben, Where are we now? 95. Again, Illich reflects on this contingency of our nature: “The world which is around me, the cat over there and the four red roses which bloomed during the night are a gift, something which is a grace. This moment . . . isn’t logically necessary, but rather is pure gift.” Illich, River North, 65.


temptation even today. The is a perilous path from incitement of fear to incitement of contempt, and from incitement of hatred to incitement of violence. A better path is for us to allow fear to put us in touch with our own mortality. Recognizing the human condition, we can prepare in wisdom for the death that will come as an absolute certainty to us all. A salutary fear can lead to awe, and awe to wisdom. Every human being deserves love and respect.
Chapter 6
Till We Have Faces:
Implications for Human Flourishing

The disproportionate fear and disproportionate response of governments has been damaging to individuals and to society, as touched on at various points above, not only in terms of serious direct harms and the violation of fundamental rights, but also the loss of the neighbour, conviviality, “third places” (neither home nor work); the reduction of pro-social openness to strangers; the pitting of citizens against one another (Covid scolds); the social impoverishment of endless digitally mediated experiences; and much else.

These issues are serious enough. But, at the same time, this crisis has exposed deep pathologies in the media, government, and some of the world’s largest corporate interests in technology and drug manufacturing. I discussed above the near collapse of the fourth estate, the absence of critical investigative journalism, and the base appeal to fear in the reporting of this crisis. Where journalists could have been holding public policy up to scrutiny, demanding evidence, pointing out inconsistencies, and making space for serious debate, they have instead done little more than amplify the official narrative in Canada and elsewhere. Where does this leave us? I think we can now identify at least five very specific pathologies exposed by this crisis. There are dangers here that go far beyond the biological threat of the virus itself. Our fears may in fact be misplaced. The final pathology—the suspension of democratic rights and freedoms—is the one that concerns me most, and I’ll devote most space to explaining why I think this has become so serious.

Pathology 1: The Censorship of Science
Even worse than the weakness of the fourth estate has been the outright censorship of dissenting scientists of the very highest reputation on social media. To take just one example among many, Martin Kulldorff was kicked off Twitter for a month. Was he some tinfoil-hat conspiracy theorist pedalling hate or dangerous remedies? Here is his byline: “Martin Kulldorff, Ph.D., is a biostatistician, epidemiologist, and professor of medicine at Harvard Medical. His research centers on developing and applying new disease surveillance methods for post-market drug and vaccine safety surveillance and for the early detection and monitoring of infectious disease outbreaks. His methods are used by most federal and state public health agencies around the world, and by many local public health departments and hospital epidemiologists.” How is anyone at Twitter qualified to de-platform such a scientist? Twitter has also widely censored reports on early treatment of COVID-19, and much else. We have noted further examples above of this sort of censorship. It is now happening on all

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the leading technology platforms. This is much more serious than a violation of free speech, important as this is. It is a manipulation of public science at the very moment when it is most important for informed debate.319

The Trusted News Initiative, set up initially in 2019 “to protect audiences and users from disinformation” related to elections, has been directed now against alleged disinformation threatening public health. It has been repurposed “to tackle the spread of harmful coronavirus disinformation.” The partners include AP, AFP; BBC, CBC/Radio-Canada, European Broadcasting Union (EBU), Facebook, Financial Times, First Draft, Google/YouTube, The Hindu, Microsoft, Reuters, Reuters Institute for the Study of Journalism, Twitter, and The Washington Post.320 So, for example, the “COVID-19 Medical Misinformation Policy” of Google/YouTube states: “YouTube doesn’t allow content that spreads medical misinformation that contradicts local health authorities’ or the World Health Organization’s (WHO) medical information about COVID-19,” and this includes anything that contradicts these agencies’ guidance on “treatment, prevention, diagnosis, transmission, social distancing and self-isolation guidelines.”321 If any scientists contradict public health authorities, then off they go. There are some courageous journalists who have spoken out against this “paralyzing consensus” in the media.322

In some cases, these news organizations have been guilty of egregious misinformation themselves. For example, the New York Times reported on October 6, 2021, the alarming statistic that “nearly 900,000 children have been hospitalized with COVID-19 since the pandemic began.” 323 The newspaper was forced to admit the following day that the number was closer to 63,000.324 In late August 2021, a number of news agencies reported that Ivermectin was a dangerous “horse de-wormer,” leaving the distinct but misleading impression that it was not a drug prescribed (billions of times) for human use and in clinical trials for COVID-19. Sanjay Gupta, CNN’s top medical analyst, had to retract comments made on the network. On October 13, 2021, he admitted to the popular podcaster Joe Rogan, who took a medical prescription for the drug and recovered from COVID-19,


that the network should not have called it a horse de-wormer: “They shouldn’t have said that.”

On October 12, 2021, Alberta Health reported its “youngest COVID-related death to date,” and the headline in City News (Edmonton) was “Young teen among new COVID deaths reported Tuesday.” This had to be retracted the following day after the family took to Twitter to express their outrage: “The 14 year old was my brother who was fighting a high grade glioma brain cancer for 9 months. On the verge of his death after his body stopped accepting fluids and the doctor preparing us for his death they randomly decided to conduct a covid test which came back positive.” In many cases, such as these, media coverage of COVID-19 has been distorted by political pressures and the tactical “messaging” of public health. On October 18, 2021, the Saskatchewan Health Authority tweeted out blatant misinformation as part of its vaccination campaign, saying, “Your risk from COVID-19 is not determined by age, fitness level or community.” Nothing could be less true. Yet these sort of “noble lies” are amplified when taken up by the media as a standard for “trusted news.”

The media mandate to support public policy unquestioningly has included the censoring of serious scientific discourse at the highest level. Yet, as Joseph Ladapo and Harvey Risch have written, “One remarkable aspect of the COVID-19 pandemic has been how often unpopular scientific ideas, from the lab-leak theory to the efficacy of masks, were initially dismissed, even ridiculed, only to resurface later in mainstream thinking. Differences of opinion have sometimes been rooted in disagreement over the underlying science. But the more common motivation has been political.”

There have been death threats and job losses and discrimination directed at scientists and doctors who have dared to stray from the official narrative. Unfortunately, examples could be multiplied. As soon as the respected virologist Byram Bridle raised concerns about the spike protein targeted in COVID-19 vaccines, he was attacked. The bounce-back on his email included the following: “Unfortunately, as a result of this media commitment I have found myself under vicious attacks by some. A libelous website has been developed using my domain name, a false Twitter account has been created, and a public smearing campaign has been initiated. I am even experiencing some harassment.


327 Saskatchewan Health Authority, “Your Risk from COVID-19 Is Not Determined by Age, Fitness Level or Community...Your Risk Is Determined by Vaccine Status. ~78% of All New Cases & Hospitalizations in #Sask in Sep Were Unvaccinated or Partially Vaccinated People,” Tweet, @SaskHealth (blog), 18 October 2021, https://twitter.com/SaskHealth/status/1450191878255783940.


in my workplace.”

Doctors have been officially muzzled by the College of Physicians and Surgeons of Ontario: “Physicians hold a unique position of trust with the public and have a professional responsibility to not communicate anti-vaccine, anti-masking, anti-distancing and anti-lockdown statements and/or promoting unsupported, unproven treatments for COVID-19,” and this instruction has been followed up with threats of investigation and disciplinary action. The exercise of power in these ways to silence informed dissent and expert opinion is a sign of deep pathology in civil society at all levels. It also erodes trust in public institutions when we most need absolute fidelity to the truth.

Pathology 2: Covert Government Communication Strategies

As discussed above, the use of nudge behaviourism and covert manipulation of audiences, such as has been documented in the UK and on record in Canada, is also deeply troubling. This business model of massive data harvesting, involving digital surveillance and targeted advertising, is worth billions and has been exposed as working in a polarizing way against healthy public discourse. It involves an ongoing violation of fundamental rights, including the right to privacy, the right to be forgotten, and what Shoshana Zuboff calls “the right to the future tense.” If my choices are being manipulated covertly, like slanting the floor so it is more difficult to walk uphill, then I am losing my sovereignty over my freely chosen future. It is disturbing enough that this manipulation is driving internet searches and communication across almost all online commercial platforms, but it is more troubling that these same tactics are being used by government to manipulate citizens, and that even the Canadian military has been secretly using these behavioural techniques on its own citizens.

With the collapse of the fourth estate, de-platforming, and manipulation, it is no wonder that both scientific debate and public discussion have become highly polarized and vicious. I certainly do not think the answer will come with the government taking on the role of censor or any other “ministry

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333 Several observers on social media have noticed that GAVI, a vaccine alliance, is buying ads on Google to discredit Ivermectin, claiming Google promotes their link to the top of the search results page when someone searches for Ivermectin. In the nature of things, one simply does not know how search algorithms are being adjusted silently by the tech giants to influence discussion of COVID-19 and public policy.

of truth.” I hope that liability shields will be lifted so that large technology platforms and drug companies can be sued, and that anti-monopoly and privacy laws can be strengthened. We may also need laws that give us some form of control or ownership of our personal data, along with other digital rights, so that the advertising and data-harvesting model that has been so corrupting of public life can be finally destroyed. We also need laws preventing governments from using covert communication strategies without the consent of the public. It would be good if this health crisis, where it counted so much to have good governance and civil discourse, led to these sorts of reforms. As Shoshana Zuboff has commented, we need to be vigilant always to ask, “Who knows?” “Who decides?” and “Who decides who decides?”

Pathology 3: Conflict of Interest for Drug Companies

I discussed above the convergence of interests of various parties in responding to COVID-19, but it is worth underlining the pervasive conflict of interest that is already documented and well known in the case of the largest, dominant drug companies. One does not need to resort to conspiracy theories, when the worst has been confirmed by no less than Marcia Angell, a former editor-in-chief of the New England Journal of Medicine. Jon Jureidini and Leemon McHenry have also traced how conflict of interest has distorted research and development at each stage of bringing a drug to market. The large-scale randomized controlled trials necessary to approve a new drug are paid for by large, private drug companies such as Gilead or Merck or Pfizer. At the design stage they can influence factors like the coding (such as calling “suicidal thoughts” simply “emotional lability”) or the dosage level necessary to trigger side effects (pushing the dose if trialing a competing drug) or any number of other parameters. The drug company then usually contracts out the conduct of the trial to companies (contract research organizations or CROs) with a financial interest in producing the results that the sponsor desires. The data remains the property of the drug company, and they can suppress negative outcomes, and try again repeatedly, or withhold data. The trial results are often written up by a ghostwriter from a medical communications company, with a blank spot left for the name of a lead researcher. Then the drug company shops around for an academic from a research university with a suitable reputation (KOLs or “key opinion leaders”) to be named as lead investigator, with often very little detailed knowledge of the data, but with perhaps a well-paid position on the pharmaceutical advisory board or handsome remuneration through a speaker’s bureau. At this point intellectual copyright is transferred to the lead author. (In 2005, one of the first whistle-blower reports of this process exposed the company AstraZeneca who were condemned for “an egregious case of unethical

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336 Zuboff, Surveillance Capitalism, 180-82.


338 See their overview of the whole process, Jureidini and McHenry, Illusion of Evidence-Based Medicine, 8-9.

339 Ibid., 32, 27. The authors list ten ways the designs of trials have been manipulated to distort the reporting of adverse effects (pp. 34-36, cf. 77).

340 Ibid., 106-7.
The journals that publish these trials are themselves supported by massive ad buys from the drug companies and huge purchases of offprints. Even the important peer-review process can be corrupted. The *Lancet* editor, Richard Horton, claimed it has “devolved into information-laundering operations for the pharmaceutical industry.” The drug companies again contribute hefty amounts to politicians and pay professional lobbyists to advance their interests in Congress. 45% of the FDA budget is paid by drug companies, and the 1997 modernization act “required the agency to lower its standards for approving drugs (sometimes accepting just one clinical trial instead of two, for example).”

Doctors receive samples and the public are carpet-bombed with advertising, and so on. The manipulation of evidence-based medicine in the manner I have described has been traced in detail in the case of two trials for psychiatric drugs, while seeking approval for use in children: GlaxoSmithKline’s Study 329, testing paroxetine; and Forest Laboratories’ Study CIT-MD-18, testing citalopram. All this is only the tip of the iceberg of what has been found in investigative research. There is a revolving door between the large 3-letter agencies and the drug companies and the media, and the well-studied phenomenon of regulatory capture is a serious danger.

It may seem overly cynical to suspect large pharmaceutical companies of acting in bad faith in these ways, but the evidence is overwhelming. In September 2009, Pfizer was fined $2.3 billion dollars in what was then the largest criminal fine ever imposed in the US for misbranding a pain-killer “with the intent to defraud or mislead.” In November 2011, Merck paid a fine of $950 million for the illegal promotion of the painkiller Vioxx, later taken off the shelves after it was found to increase the risk of heart attacks. GlaxoSmithKline: $3 billion in fines in July 2012 for “failure to report safety data.” Johnson & Johnson: $2.2 billion in fines for promoting drugs “for uses not approved as safe and effective.” AstraZeneca: $520 million in April 2010 to resolve a similar charge. These are only a few examples. Johnson & Johnson has accumulated over $9 billion in fines since the year 2000 for false claims, safety violations, corrupt practices, price-fixing, and other offenses, including $5 billion for

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341 Ibid., 108. Adriane Fugh-Berman, “The Corporate Coauthor,” *Journal of General Internal Medicine* 20, no. 6 (June 2005): 546–48, [https://doi.org/10.1111/j.1525-1497.2005.05857.x](https://doi.org/10.1111/j.1525-1497.2005.05857.x). The journal editors revised the article to remove the names of the specific companies “to focus on the issues at hand, not the individual companies involved” (Ibid., 546n).


343 Ibid., 185, quoting Angell, *The Truth about Drug Companies*.

344 See the sources above, fn. 355.


contributing to the national opioid epidemic. Cases related to asbestos-contaminated talcum powder are still making their way through the courts.

Notwithstanding this history of documented malfeasance and this degree of conflicted interest, it would be wrong to assume that every individual involved in the development of a new drug is inevitably venal and un Concerned for the public good. And it is clearly not in the long-term interest of pharmaceutical companies to produce drugs that are found to be unsafe. Over the years, these large drug companies have produced important, life-saving drugs. Still, there are some powerful dynamics operating behind the scenes. I don’t know for sure whether financial self-interest on the part of drug companies has led to a corruption of evidence-based judgements in the promotion of COVID-19 vaccines or in the suppression of therapeutics. This knowledge will have to await future investigative research. But it does seem, as one observer put it, like there is a huge gravitational force that can be felt, skewing the discourse, and it makes you look for a corresponding object out there somewhere.

If it comes to light that there has indeed been a falsification of the truth, bribery, or intent to deceive in this public health crisis, it would be not only be deplorable: it would be criminal.

**Pathology 4: Undemocratic Globalist Influence**

The deployment of vast reserves of capital can also be seen at an international level in the case of the Bill and Melinda Gates Foundation and their support of the WHO and numerous other agencies such as the vaccine alliance GAVI and the Tony Blair Institute for Global Change. As with the World Economic Forum, the interests here are not neutral. There is an agenda, as the Blair Institute clearly indicates, for “global change.” Without prejudice to the individuals involved, these are unelected, unaccountable actors on the international stage, with vast resources, who are on record as working toward a new international order—a fourth industrial revolution. It is only nation states who can finally enact the legal measures to realize these changes, but we have seen during this crisis how quick international elites have been to leverage the crisis for long desired goals such as biometric interoperable digital IDs.

It may well be that the motivation of the elites who support the Davos Agenda are in many cases benign and their goals worthy of debate, but the power and money at work

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349 The comment was made in an interview with Pierre Kory by Bret Weinstein, COVID, Ivermectin, and the Crime of the Century: DarkHorse Podcast with Pierre Kory & Bret Weinstein, 2021, [https://www.youtube.com/watch?v=Tn_b4NRTB6k](https://www.youtube.com/watch?v=Tn_b4NRTB6k).

in the absence of democratic accountability, during a time of global anxiety over a new pathogen, invites close scrutiny.351

Pathology 5: Suspension of Democratic Rights and Freedoms
Although democratic western governments declared states of emergency and suspended fundamental rights and freedoms in response to COVID-19, the justification has been that this is both necessary and temporary. Agamben, who has long studied the use of the “state of exception” by governments, is more concerned. One only has to imagine the “state of exception” being prolonged indefinitely to see the danger. With the fears now being raised about any number of variants, and immune escape, this is not implausible. Some worry that unless widespread testing is abandoned, and lockdowns thoroughly discredited, this crisis will never end. “The state of exception,” Agamben says, “is the mechanism by which democracies can transform themselves into totalitarian states”352. Again, the danger is that the rights of the individual will be bulldozed by the needs of the whole. “If health becomes the object of a state politics transformed into biopolitics, then it ceases to concern itself first and foremost with the agency of each individual and becomes, instead, an obligation which must at any cost, no matter how high, be fulfilled.”353 The previously unthinkable rationing of health services for only the morally deserving sick is now advocated openly. You have an obligation to the state to be healthy.

It may seem extreme to express a worry about totalitarian or authoritarian government emerging out of this crisis, but observers have already described the ideology of cancel culture as a form of “soft totalitarianism.”354 There is not only an alt-right, but also a ctrl-left. Moreover, Stephen Thomson and Eric Ip have traced in detail, country by country, the concerning wave of authoritarian governance that during the COVID-19 crisis in 2020 “swept the globe with profound, worldwide implications for democracy, the rule of law, and human rights, dignity, and autonomy.”355 As just one example, the Hungarian Act on the Containment of the Coronavirus granted extraordinary emergency powers to the government to suspend enforcement of existing laws and bypass statutory requirements and implement new measures by decree—all this to continue indefinitely, without a sunset clause. During this indefinite period, no elections or referenda were to be permitted. And the spreading of false or


352 Agamben, Where Are We Now? 38.

353 Ibid., 81.


even “distorted” claims about the COVID-19 outbreak was made a legal offense punishable by up to five years’ imprisonment.\textsuperscript{356} The Economist Intelligence Unit produced its annual Democracy Index and found 2020 to be the worst year on record, noting that “the pandemic resulted in the withdrawal of civil liberties on a massive scale and fuelled an existing trend of intolerance and censorship of dissenting opinion.” Of the countries covered, almost 70\% suffered a decline in their overall score.\textsuperscript{357}

I expect 2021 will be even worse with the imposition of increasingly harsh restrictions on “unvaccinated” individuals. The Edo State Governor in Nigeria for example, banned unvaccinated individuals not only from places of worship and public venues, but also from banks.\textsuperscript{358} In the Northern Territory in Australia essential workers (“employees who interact with the public”) are not only being ordered to take the vaccine but they will be fined $5,000 if they refuse.\textsuperscript{359} Like Indonesia, Micronesia, and Turkmenistan, Austria has announced plans for compulsory vaccination for all citizens as of February 1, 2022.\textsuperscript{360} In the autumn of 2021, the pressure mounted in Canada. The federal government announced the exclusion of the vaccine injured and those medically contraindicated, those partially vaccinated or unvaccinated, those with objections based on religious conscience—the exclusion of all these without exception from employment in government or government regulated industries, from increasing numbers of workplaces, and from domestic and international travel by air or train.\textsuperscript{361} On October 6, 2021, the Prime Minister made clear: “Exemptions will be exceedingly narrow, specific, and to be honest somewhat onerous to obtain. The goal is to ensure everyone chooses to get vaccinated.”\textsuperscript{362} Canada now has some of the harshest restrictions in the world on travel for the unvaccinated, and it joins Russia and North Korea as a state that has effectively barred dissidents from leaving the country. As one observer in Scotland noted, “Canada is about to become the world’s biggest prison for the unvaccinated.”\textsuperscript{363} Moreover, after November 30, 2021, an unvaccinated citizen (or partially vaccinated, vaccine injured, medically contraindicated, or conscientious objecting) cannot

\begin{itemize}
  \item \textsuperscript{356} Ibid., 22.
  \item \textsuperscript{357} The Economist Intelligence Unit, “Democracy Index 2020,” The Economist, 2021, \url{https://www.eiu.com/n/campaigns/democracy-index-2020/}.
  \item \textsuperscript{360} Philip Oltermann, “Austria Plans Compulsory Covid Vaccination for All,” The Guardian, 19 November 2021, sec. World news, \url{https://www.theguardian.com/world/2021/nov/19/austria-plans-compulsory-covid-vaccination-for-all}. One newspaper reports that there will be fines of 3,600 euros or a month’s imprisonment in the event of refusal: “Impfung Oder Haft: Corona-Regime Will Impfpflicht Für ALLE Ab 1. Februar!” Wochenblick, 19 November 2021, \url{https://www.wochenblick.at/impfung-oder-haft-corona-regime-will-impfpflicht-fuer-alle-ab-1-februar/}.
  \item \textsuperscript{362} “PM Trudeau Unveils Vaccine Mandates,” CPAC - For the Record, 6 October 2021, \url{https://www.cpac.ca/episode?id=4261737b-8ca9-4ea4-8a33-56ea2a1732bb}.
  \item \textsuperscript{363} James Melville, “Unvaccinated Travellers in Canada Will Not Be Allowed to Depart from Canadian Airports from 30th October. Canada Is about to Become the World’s Biggest Prison for the Unvaccinated. Https://T.Co/PMITTbp0ss,” Tweet, @JamesMelville (blog), 9 October 2021, \url{https://twitter.com/JamesMelville/status/144673998933527040}.
\end{itemize}
travel by air or rail even within the country for a family emergency, to visit a dying loved one, attend a funeral of a close relative, or for any other reason. All this was enacted not by legislation in parliament but by press release.

The mainstream media (or “legacy media”) has largely failed to report on the growing number of protests worldwide against authoritarian public health measures. Crowds numbering in the thousands and tens of thousands have been gathering to protest weekly in cities in Europe and elsewhere around the world. In Toronto on September 18, 2021 there was a peaceful demonstration as part of the fourth Worldwide Rally for Freedom with more than 20,000 marching in the streets to protest unconstitutional lockdowns, mask mandates, vaccine mandates and coercion, domestic and international travel restrictions, and all state-of-emergency declarations. Similar rallies took place in dozens of cities in Canada and in at least 43 countries around the world. Yet you have to look beyond the mainstream media, and past the censorship of the major technology platforms, to find information about these protests on the internet. But there is an abundance of eye-witness reports, including pictures, raw video, and drone footage documenting the movement of dissent. Again, none of this was covered in the mainstream media outlets in Canada.

Australia has seen some of the harshest lockdown policies and medical mandates among Western nations, and it also is one of the countries that has seen large protests in various cities, including parents and children, young and old, gathering to demonstrate. In Melbourne there has been escalating police violence against these unarmed protestors, including security forces in full body armour with assault vehicles, using tear gas, pepper spray, rubber bullets, and making brutal physical assaults and arrests. All this also is not reported in the mainstream Canadian media, though the violent police state that has emerged has been documented by local observers and citizen journalists. Canada has not itself been immune from incidents of police violence in response to the pandemic. There are signs that officers of the law are themselves are troubled by the orders they are asked to enforce. An open letter to RCMP Commissioner Brenda Lucki questions the enforcement of vaccine mandates and

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367 It is difficult to watch some of the scenes of violence, but at least some of it can be seen at “#AustraliaHasFallen - Twitter Search / Twitter,” Twitter, accessed 26 September 2021, https://twitter.com/search?q=%23AustraliaHasFallen, though there seem to be tweets disappearing.

other restrictions imposed on the general public. Within four days it had over 40,000 signatures from RCMP staff and their supporters.\(^{369}\)

Could we be witnessing, as Agamben warns, a slide into a form totalitarianism justified by the demands of biosecurity? The foremost philosopher to analyse totalitarian government was Hannah Arendt, and she argued that the distinctive features of this form of government are terror, on the one hand, and ideology, on the other. Totalitarianism differs from mere tyranny because it is not arbitrary power. Positive laws (those laws “posited” or enacted by duly established authority) are not abolished simply by an act of power by a self-interested ruler. No, positive law is abolished by a direct appeal to the realization of justice. “Its defiance of positive laws claims to be a higher from of legitimacy which, since it is inspired by the sources themselves, can do away with petty legality.”\(^{370}\) But this higher principle of justice is not the ancient idea of a stable natural law or divine law but a special insight into the historical process in terms of a central controlling idea: the arc of history. Again, in the rise of totalitarianism, power shifts from the army to the police, and foreign policy is directed toward a world order.\(^{371}\) To bring people into this form of government requires widespread fear and isolation. In this movement, enforced by terror, totalitarianism “eliminates individuals for the sake of the species, sacrifices the ‘parts’ for the sake of the ‘whole.’”\(^{372}\) And “by pressing men against each other, total terror destroys the space between them.” It does not just “curtail liberties or abolish essential freedoms . . . It destroys the one essential prerequisite of all freedom which is simply the capacity of motion which cannot exist without space.”\(^{373}\) Today, and for the past year or more, it certainly feels like the space for free discourse and movement has been closing.

According to Arendt, ideology is what provides the motive force or principle of action for the regime—an “-ism” which to the satisfaction of their adherents “can explain everything and every occurrence by deducing it from a single premise.”\(^{374}\) It presents itself to the fearful as a total explanation. Such an ideology is characterized by carrying through the logic of its premise without regard for other ideas or experience. It derives B from A, and C from B, “down to the end of the murderous alphabet.”\(^{375}\) This ideological thinking (“deductive dogmatism”) becomes independent of reality, or, rather, it provides a “sixth sense” to see “behind” appearances. Arendt writes, “The preparation has succeeded when people have lost contact with their fellow men as well as the reality around them . . . The ideal subject of totalitarian rule is not the convinced Nazi or the convinced Communist, but people for whom the distinction between fact and fiction (i.e., the reality of experience) and the distinction between true and false (i.e., the standards of thought) no longer exist.”\(^{376}\) Are we losing the capacity today to distinguish fact and fiction, truth and falsity?


\(^{371}\) Ibid., 460.

\(^{372}\) Ibid., 465.

\(^{373}\) Ibid., 466.

\(^{374}\) Ibid., 468.

\(^{375}\) Ibid., 472.

\(^{376}\) Ibid. 474.
It is the combination in this coronavirus crisis of exaggerated fear, heightened ideology, and policies of enforced social alienation that is genuinely worrying if we cannot “snap back” to normal. Arendt says simply, “Isolation is, as it were, pre-totalitarian.”\(^{377}\) It is possible to analyse these conditions and recognize the dangers without being simply alarmist. One hopes democratic instincts are robust enough, and our institutions resilient enough, to endure and outlast the pandemic.

In British Columbia, our chief public health officer did much to win confidence and maintain public support, even after public health recommendations became public health orders that have the force of law. The appeal to citizens here seems to have been to something Agamben calls “a sort of superlative civicism wherein the imposed obligations are presented as proofs of altruism, and where the citizen . . . [is] forced by law to be healthy (‘biosecurity’).”\(^{378}\) Good people, who care about others, will be compliant. The duty to neighbour becomes framed as a duty to uphold the (health) system, and the duty to the system becomes an enforceable duty to the state, or biosecurity.

However, perhaps the most troubling aspect of public health orders in British Columbia during 2020-21 was the way churches and religious groups were uniquely singled out and prevented from gathering. This went beyond almost any other jurisdiction I am aware of (except perhaps Ireland). For much of the pandemic churches were closed entirely while yoga studios and fitness studios remained open, and while liquor stores never closed at all. It is not clear why the purpose of a gathering should be the basis for discrimination. British Columbia was in the strange situation where for much of this period an Alcoholics Anonymous meeting could gather in the church basement, but if they stayed on to open a bible or pray, it would be against the law. In a similar situation, the Supreme Court in the United States sided with religious organizations and overturned Governor Andrew Cuomo’s restrictions on religious gatherings in New York, and in its ruling in November 2020, it pointed to exactly this sort of inequity.\(^{379}\) On the whole, with only a few exceptions, churches and religious organizations in Canada have not worried about these issues and have been, rather, at the forefront of displaying zealous conformity to all public health orders, recommendations, and protocols. It is understandable, once the official narrative is accepted, that strict conformity is seen as a way of “loving my neighbour” and preventing deadly harms. Who wants to be the church that spreads disease and kills people? Still, the longer this “state of exception” continues, the more important it will be for churches to exercise critical judgement in respect of the actual dangers, to assess the harms of public policy, to stand up for basic rights and the rule of law, and to ensure their independence of the state. It is good to see that a number of church leaders have united in opposition to vaccine discrimination in society or in the church. As of early October 2021, there were 1,896 signatories from Christian leaders in the UK protesting vaccine passports.\(^{380}\)

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377 Ibid.
378 Agamben, *Where Are We Now?*, 56.
Conclusion
The Bright Red Line:
Medical Discrimination and Coercion

For me, the Rubicon is indeed the use of vaccine mandates and passports to deny fundamental human rights to certain members of society: the unvaccinated, the conscientious objecting, the partially vaccinated, the vaccine injured, the vaccine at risk, and those unwilling to yield up their medical privacy. Depriving such individuals of their livelihood, or restricting their mobility or assembly, or their access to work or any place of business or worship, is unjust. It is medical segregation and medical apartheid, plain and simple. It is not only discriminatory; it is persecutory. Crucially, “vaccine passes” are not really passes to allow vaccinated people in; these are passes that keep unvaccinated people out. It is only the prolonged state of exception, suspending rights and freedoms for months on end, that now gives the impression otherwise. Proof of vaccination is presented as a solution to “ending the pandemic,” when in reality it is being offered as a means to end the restrictions imposed by the state.

However, vaccine discrimination is both unwarranted and unethical. As we have demonstrated in Chapter 4, the argument that only universal vaccination will protect society is scientifically flawed in many respects, and the risk of adverse vaccine reactions has not been fully assessed. More importantly, the introduction of vaccine passes imposes civil disabilities on those who will not undergo an invasive medical procedure: it is a violation of privacy, it is intrusive, and it implies that fundamental human rights are somehow in the gift of the government of the day. It is a serious form of medical coercion. As Ivan Illich noted in a discussion of “diagnostic imperialism,” medical certification does only two things outside of treatment. “Medicalized status” can exempt someone from obligations (work, prison, military service, etc.), or it can authorize others to encroach upon the certificate holder’s freedom (institutionalization, denying work, travel, etc.).

I wrote these last paragraphs in June 2021, thinking that I was describing an unlikely dystopian future. This was an abstract possible, not an imminent probable. Surely, we would never contemplate such a thing as vaccine discrimination in Canada? I was aware that the Prime Minister, premiers of provinces, and public health officers had all said this would never happen here. I spoke personally with my Member of Parliament, the Hon. Joyce Murray, and she assured me in August 2021 that the Prime Minister had no plans to introduce vaccine passes or mandates. This was just days before a divisive, hardline vaccine policy became a leading plank in the platform of the Liberal Party of Canada in the autumn election. It was widely recognized in the media as a cynical wedge issue: something to

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383 Illich, Limits to Medicine, 77
exploit for partisan advantage.\textsuperscript{384} Thus began a new turn toward authoritarian government and a deepening of the biosecurity state in Canada.

To be clear, on January 14, 2021 Justin Trudeau opposed mandatory vaccination as an “extreme measure,” saying, “I think the indications that the vast majority of Canadians are looking to get vaccinated will get us to a good place without having to take more extreme measures that could have real divisive impacts on community and country.”\textsuperscript{385} The Prime Minister responded to the question of mandating vaccines by saying that he could think of numerous legitimate reasons why Canadians would not take a COVID-19 shot: “We always know there are people who won’t get vaccinated, and not necessarily through a personal or political choice. There are medical reasons. There are a broad range of reasons why someone might not get vaccinated and I’m worried about creating knock-on, undesirable effects in our community.”\textsuperscript{386} Even early in the election campaign when passes and mandates were being announced as policy goals, Canada’s chief human resources officer, Christine Donoghue, wrote a memo to deputy ministers: “We recognize that some people are unable to be vaccinated. In these cases, we will discuss accommodations that could be put in place.”\textsuperscript{387} These ethical concerns all evaporated overnight, and indeed there is reason to regard the Prime Minister’s statements with some scepticism, since it appears the Liberal cabinet was looking at the feasibility of immunopassports as early as April 22, 2020.\textsuperscript{388}

A similar reversal of policy took place in British Columbia, where our chief public health officer, Bonnie Henry, stated on May 25, 2021: “This virus has shown us that there are inequities in our society that have been exacerbated by this pandemic. And there is no way that we will recommend that inequities be increased by use of things like vaccine passports for services for public access here in British Columbia. And that’s my advice. And I’ve got support from—the premier and I have talked about this, Minister Dix, and others. . . It would not be my advice that we have any sort of vaccine passport within British Columbia for services in BC.”\textsuperscript{389} And yet on August 23, 2021, Henry announced the introduction of vaccine passports and digital IDs to begin excluding “unvaccinated” persons by order from various venues and residences (for students)—with no provision for medical or religious or any other exemptions. With the encouragement of the public health officer, we are also seeing increasing numbers of vaccine mandates imposed on government employees, government-


\textsuperscript{388} Holly Doan, “EMAIL: Covid “Passport” Kept Quiet @PrivyCouncilCA Memo April 22, 2020 from Deputy Secretary to Cabinet Thao Pham to @FinanceCanada Minister @cabinetland in Answer to “Your Questions”. https://Blacklocks.ca/Covid-Passport-Kept-Quiet/ #cdnpoli #VaccinePassport Https://T.Co/QUhYMmWP3Y,” Tweet, @hollyanndoan, 26 August 2021, https://twitter.com/hollyanndoan/status/143085603715083273.

regulated industries, healthcare workers, universities, and other businesses: get vaccinated or get terminated.

On September 6, 2021, Trudeau also promised legal protection for employers mandating vaccines, removing any legal liability for intrusion into medical privacy or for medical coercion, and indemnifying employers from lawsuits arising from vaccine injuries. One would think the opposite would be the case, that legal liability would be a corollary of a mandatory medical procedure. This contradiction was noted by Agamben in his speech to a committee of the Italian Senate on October 7, 2021, prior to the vote on a wide-ranging vaccine mandate in the country. He began by reminding the lawmakers of the special Decree Law, number 44, called the criminal shield, by which the government exempted itself from any liability for damage caused by the vaccines. The law clearly envisioned the possibility of serious damage. Article 3 of the decree “explicitly mentions Articles 589 and 590 of the Criminal Code, which refer to manslaughter and negligent injury.” To force citizens then to be vaccinated or be excluded from social life and employment is a contradiction. “Is it possible to imagine a situation legally and morally more abnormal? How can the state accuse of irresponsibility those who choose not to vaccinate, when it is the same state that first formally disclaims any responsibility for the possible serious consequences?”

Mandates and the threat of job loss clearly represent a new level of coercion. Even earlier, with public policy driven by the official narrative of the extreme lethal danger of COVID-19 to one and all, there was increasing social and political pressure brought to bear on the “vaccine hesitant.” Individuals were not, and still are not, being encouraged to undertake a careful risk–benefit assessment for their own situation, but the message has been that “no one is safe, until we are all safe.” The vaccination of virtually the entire population has been presented as the only way to return to normal life. For public policy, everything now depends on vaccine-induced immunity.

However, the evidence of high rates of breakthrough infections among the vaccinated and rapidly waning vaccine-induced immunity, together with the evidence of high case rates and hospitalization in those countries with the highest rates of vaccination—never mind the possibility of antibody-dependent enhanced disease and epigenetic pressure on the virus—argues firmly against universal vaccination as the only way to protect society. These vaccines are too “leaky,” and they fade. Moreover, it is clear now that the COVID-19 vaccines, even when they provide some protection from serious illness and death, do not provide sterilizing immunity. On August 6, 2021, Rochelle Walensky, Director of the CDC, spoke about the vaccines and admitted, “What they can't do anymore is prevent

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transmission.”\textsuperscript{394} Evidently, the government likes people who transmit SARS-CoV-2 after an injection, but not people who transmit it with no injection. Even if we did want to divide society into “safe” people and “unsafe” people, there is no scientific evidence that the vaccinated are safe to be around if you are worried about getting an infection. This is why, prima facie (literally), mask mandates continue for the vaccinated. The evidence is (again quite literally) staring you in the face. This is very different from previous vaccines, such as for Yellow Fever, where after taking the inoculation, you feel safe to travel across the world and place yourself in the very middle of the path of the pathogen.\textsuperscript{395}

At the same time, however, while people are wrongly being told that the vaccinated are somehow “safe,” people are also wrongly being told that all unvaccinated people are categorically “unsafe,” without acknowledgement of the lasting protective immunity to SARS-CoV-2 following natural infection for many.\textsuperscript{396} Even if one has acquired natural immunity through having had COVID-19, there is no program to screen out vaccine candidates based on this history, nor based on an antibody test. To punish these individuals for failing to be vaccinated makes no sense. Moreover, the risk–benefit ratio for such individuals has to be all risk of vaccine-induced harm and no benefit whatsoever. There is evidence too that the vaccine is more risky for those who have had COVID-19.\textsuperscript{397} But the


\textsuperscript{395} The observation was made by Byram Bridle in Jane Stannus, “Crush the Science,” The Spectator World, 11 October 2021, \url{https://spectatorworld.com/topic/byram-bridle-suppression-scientific-debate/}


point here is simply that the unvaccinated include many individuals with a broad-based, lasting and
effective natural immunity, rendering the notion that all unvaccinated people are “unsafe” invalid.
That this is not taken into account in public policy suggests that it is not immunity that is the goal: it is
simply universal vaccination, at all costs. Both in Israel and here in British Columbia, public health
officials have been caught on microphone acknowledging that vaccination passes are not about
preventing transmission but only about coercing or incentivising vaccination.\textsuperscript{998}

In addition, we found earlier that asymptomatic transmission has not been the driver of serious
infection and disease. It remains the case that we should not treat ordinary healthy people with no
symptoms as a vector of deadly disease since they might just become infectious. We should not treat
them as guilty (sick) until proven innocent (healthy). I keep thinking of the science fiction film Minority
Report that portrays a future world where the elite law enforcement branch “Precrime” uses special
powers of pre-cognition to predict crimes and then to arrest individuals for crimes they are about to
commit. This is the dystopian world in which the unvaccinated and partially vaccinated now live. Those
who were ordinary people yesterday are regarded as lepers today.\textsuperscript{999}

When we hear news that ICUs and hospitals are in crisis and over-capacity, we ought rightly to be
concerned and have compassion on both the sick and those who care for them. I believe the reports
from doctors and front-line medical staff who are overwhelmed and traumatized by what they are
facing, and I have heard from some of these doctors personally. This invites our compassion.
However, it is important to exercise critical judgement in assessing the messaging of public health and
political figures in this regard, especially the oft-repeated refrain that this is now “a pandemic of the
unvaccinated” or that it is only the unvaccinated ending up in hospital now. All the numbers must be
verified and given context.

Moreover, if it were true generally that “this is a pandemic of the unvaccinated,” how do we make
sense of the rate of hospitalization seen in countries like Israel with the highest rate of vaccination?
How long does protective immunity last? There are other questions to ask. What is the significance of
counting among the unvaccinated all those who have only one shot or who are fewer than 14 days
post-injection for the second? How do the large numbers of “unknown” (neither vaccinated nor
unvaccinated) affect the reporting? What are the co-morbidities on admission? How many acquire
COVID-19 in hospital? Why are they not being given the full range of early treatment and hospital
treatment protocols that are being used effectively elsewhere? Is there a “supply side” problem that is
being obscured, and not just a “demand side” problem? In September 2021, reports from Alberta
were of a system overloaded with COVID-19 patients, but Alberta began with a very low number of
beds per capita compared with other jurisdictions in Canada and elsewhere, and this was made worse

\textsuperscript{998} FWM Staff, “Israeli Health Minister: Health Pass Only Designed to Increase Jab Rates,” Free West Media, 14
September 2021, https://freewestmedia.com/2021/09/14/israeli-health-minister-health-pass-only-designed-to-increase-
jab-rates/.
\textsuperscript{999} “COVID-19 Virtual Medical Staff Forum: Vaccine Updates & Build Back Better | Vancouver Coastal Health,”
Odysee, 9 October 2021, https://odysee.com/COVID-19-Virtual-Medical-Staff-Forum--Vaccine-Updates--Build-Back-
Better--Vancouver-Coastal-Health/ff3a990eadd35daa2f25c7981e596b3eac5707dd.
by staff shortages and resignations. Taking the larger picture, the case survival rate for COVID-19 in Alberta as of October 1, 2021, was still over 99%. But as we have noted above, the data for COVID-19 infections and virulence this past 18 months is “lumpy”—i.e., it is not distributed evenly temporally or geographically. Where there are outbreaks, I am not sure we necessarily understand all the reasons why, and it makes the question of “supply” more urgent. Rather than spending more than $300 billion in Canada to shut down the economy, would it not have made more sense to spend a fraction of that to ensure health care capacity and adequate staffing and support? Moreover, it is surely the worst possible time to start laying off health care workers that refuse to become vaccinated. Ironically, health care workers are those most likely to have acquired robust natural immunity due to their high exposure to COVID-19 patients.

Thus far, I have been seeking to discredit the widely held belief that “we’re not safe, until we’re all safe” with its implication that universal vaccination is necessary to keep each other well. And I have been arguing that this is scientifically unwarranted, even if one were to accept the population-based utilitarian ethic that runs roughshod over individual needs, concerns, circumstances and, above all, rights.

The normal assumption with a vaccine is that the vulnerable or the frightened can protect themselves by making their own risk–benefit assessment and then choosing to get vaccinated, but this has been overtaken by the idea that anyone who does not take the vaccine is failing to protect others. The unvaccinated are selfish. However, if vaccines are effective and you are vaccinated, it is not clear

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400 Special to National Post, “Vitor Marciano: Alberta’s Fourth Wave Exposes How Little Capacity Canada’s Hospitals Actually Have,” National Post, 29 September 2021, https://nationalpost.com/opinion/vitor-marciano-albertas-fourth-wave-exposes-how-little-capacity-canadas-hospitalsactually-have. “Pre-pandemic data from 2018 showed that all U.S. states except Hawaii and Vermont had an ICU capacity of 18 per 100,000 or better — that’s not hospital capacity, that is ICU capacity and those numbers have likely increased since COVID. Alberta’s expanded ICU capacity is 370 beds, or about eight per 100,000.” See also J. J. McCullough, “What Alberta’s Covid Numbers Tell Us about the Deficiencies of Canada’s Health System,” Washington Post, accessed 8 October 2021, https://www.washingtonpost.com/opinions/2021/10/01/canada-alberta-covid-alabama-deficiencies-government-healthcare/.


402 The question of whether we are seeing a “pandemic of the unvaccinated,” or the reverse, is hotly debated. In many countries the case rate following vaccination has risen. For example, the COVID-19 Vaccine Surveillance Reports from what is now called the UK Health Security Agency are showing growing numbers of cases among the vaccinated, though with some continued protection against severe illness, hospitalization, and death. See “COVID-19 Vaccine Surveillance Report Week 40” (UK Health Security Agency, 7 October 2021), https://www.gov.uk/government/publications/COVID-19-vaccine-weekly-surveillance-reports. See also the online analysis by Don Wolt, “Oct 7, 2021 Update: UK CoV2 Infection Rates among the Fully Vaccinated Are Now Higher than Those of the Unvaccinated in All Age Cohorts ≥30. Both Vaxxed & Unvaxxed Get Infected and Spread & in Most Age Groups, the Vaxxed More so, Which Renders Vaccine Passports Useless.” T.Co/FN7nLYmUdA,” Tweet, @tlowdon (blog), 8 October 2021, https://twitter.com/tlowdon/status/1446330963902885888; el gato malo, “An Epidemic of the Vaccinated,” Substack newsletter, 8 October 2021, https://boriquagato.substack.com/p/an-epidemic-of-the-vaccinated.

403 It seems President Biden does not realize that the vaccinated have no sterilizing immunity. On 7 October 2021, he announced, “We’re making sure healthcare workers are vaccinated because if you seek care at a healthcare facility, you should have the certainty that the people providing that care are protected from COVID and cannot spread it to you.” Ian Schwartz, “Biden: The Vaccinated Are ‘Protected’ From COVID, ‘Cannot Spread It To You,’” 7 October 2021, https://www.realclearpolitics.com/video/2021/10/07/biden_vaccinated_protected_from_covid_cannot_spread_it_to_you.html. This is despite his own Director of the CDC, Rochelle Walensky, admitting, “What they can’t do anymore is prevent transmission.” Madeline Holcombe and Christina Maxouris, ‘Fully Vaccinated People Who Get a COVID-19 Breakthrough Infection Can Transmit the Virus, CDC Chief Says,” CNN, 6 August 2021, https://www.cnn.com/2021/08/05/health/us-coronavirus-thursday/index.html.
why the person next to you needs to be vaccinated for your safety. We have not treated other vaccines this way. This has been summed up in a riddle: Why do the protected need to be protected from the unprotected by forcing the unprotected to use the protection that didn’t protect the protected in the first place? All the pressure now is to forgo an individual risk–benefit calculation, and instead focus on the supposed public good of population-wide vaccine-induced immunity, notwithstanding the impossibility of achieving this goal. This superseding analysis of risk–benefit at a population level (which authorized the emergency use legislation in the first place) is itself based entirely on problematic assumptions related both to dangers and to efficacy. Also, the targets for the vaccination rate, necessary before restrictions can be lifted, seem to be based on the same sort of mathematical modeling that has proved unreliable at many points since March 2020.

Given the official narrative regarding COVID-19 and the public policy that has gone all-in for vaccination, the campaign to persuade or coerce individuals to “take the first vaccine you are offered” was in full force in Canada in the spring of 2021, and the messaging that “all approved vaccines are safe and effective” was relentless. This proved not to be the best advice, as various vaccines were later withdrawn, or advice modified. This revision of official advice continues. But nevertheless the so-called vaccine-hesitant have been treated increasingly as socially irresponsible free-riders, deserving of shame. Social pressure is being directed also toward pregnant women and the young to be vaccinated (the latter, able to do so by law in British Columbia and many other jurisdictions without parental consent). Initially, this was a matter of inducement. The fear of COVID-19 led to widespread calls for vaccine incentives. Beginning with Ohio in May, many US states, and then Canadian provinces, rolled out million-dollar lotteries (“Vax-a-million”) as vaccine incentives. Now, having tried the carrot, authorities are turning to the stick.

I think June was an inflection point. On June 6, 2021, the Tony Blair Institute for Global Change released a paper, “Less Risk, More Freedom,” advocating sweeping public discrimination against the unvaccinated. The mechanism proposed for this was an interoperable, digital biometric app from the government to prove vaccine status, on the basis of which travel could be restricted and businesses could be vaccine-only. Such vaccine-only businesses would be permitted to open without the legal restrictions of businesses open to all. The app would be interoperable with other countries and could be updated as necessary to take into account new variants and updated vaccines, adjusting the individual freedoms of the user accordingly. This platform was obviously long in the making.

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Blair said on the BBC in an interview, “We should really distinguish between the vaccinated and the unvaccinated,” and “it’s important to give people a real incentive to get vaccinated.” When asked about discrimination, the former prime minister replied, “I think, you know, the word ‘discrimination’ has got a very loaded meaning in the English language now. But really when it comes to risk management it’s all about discrimination.”

No wonder Nick Cohen wrote in The Guardian already in February 2021, “It is only a matter of time before we turn on the unvaccinated.” Indeed, a German doctor argued that those who do not receive a COVID-19 vaccine should not be able to access a ventilator in hospital if they get sick. As authorities such as President Joe Biden publicly expressed anger toward the “unvaccinated” (“Our patience is running out. Your refusal has cost us all”), and this was echoed by Canadian politicians such as Premier Scott Moe (“time for patience is over”), a fearful population was freed of any inhibitions from openly declaring hatred toward their fellow citizens. Twitter is full of reports of people being told, “I hope you die.” It has never gone well in history when societies have openly divided the population into the safe and the unsafe, the clean and the unclean, the virtuous and the unvirtuous. It has almost always led to violence. And, as with lockdowns, this policy is discriminating most against racial minorities.

Instead of encouraging individual, informed consent and the rational assessment of personal risks and benefits, state authorities and public leaders first advocated bribes to take a vaccine, and then, with Tony Blair, called for basic human rights to be withheld and health status monitored.

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412 For example, Yvonne C, Fighting Back is the New Normal, “Life in Trudeau’s Canada: As We Were Walking Back to Our Car from the Toronto March Yesterday Carrying Our Protest Signs, We Passed a Woman on the Sidewalk Who Looked at Us with Hatred and Said, ‘I Hope You Die.’” Tweet, @CountryGardener (blog), 5 September 2021, https://twitter.com/CountryGardener/status/1434635311724775377. In Lithuania, a former member of parliament and speaker of the house, has said that COVID-19 is like wartime and previously in times of war those who side with the enemy are shot, but “there will be no need to shoot the anti-vaxxers. I hope they will die out on their own.” See the mainstream Lithuanian newspaper article, 17 September 2021: https://www.15min.lt/naujiena/aktualus/komentarai/arunas-valinskas-apie-galviju-pasus-kodel-nerieikia-saudyti-antivakseriu-500-1566398. (English trans. available through Google translate, and widely reported in Twitter.)

Notwithstanding safety concerns, unless you allow a government authorized molecule to be injected into your body, with updates as required, your fundamental freedoms will be denied, and a digital app will track this in a social credit system that is permanent and revisable at any moment. The digital platform is designed for boosters and further vaccinations, as indeed for other social credit monitoring. These technologies were planned for use in Canada well before this autumn.  

It is true that one’s fundamental human rights do not grant one a right to endanger others. Freedom of mobility does not confer a right to drive drunk. But we have argued that it is scientifically unwarranted to regard the unvaccinated as endangering the vaccinated, and unethical to divide citizens into categories of safe and unsafe people. Personal health and disease is too complicated and individual for such crude generalization. In fact, if epigenetic pressure from vaccines causes the evolution of more virulent variants, it will be the vaccinated that have endangered the unvaccinated. The so-called Marek effect has been studied in the case of leaky vaccines for chickens. All the unvaccinated chickens now die within ten days. The long-term effects of the vaccines remain unknown. The nightmare scenario would be the rise of antibody-dependent enhancement of disease in individuals or vaccine-induced virulence in the virus, while, at the same time, the unvaccinated are wrongly scapegoated as a reservoir of deadly disease.

Instead, we must remind ourselves of what we used to know about human rights and informed medical consent. The Universal Declaration on Bioethics and Human Rights, UNESCO, 2005, states (Art. 3.1) that “Human dignity, human rights and fundamental freedoms are to be fully respected.” And it continues (Art. 3.2) with the sacrosanct principle: “The interests and welfare of the individual should have priority over the sole interest of science or society.” As a corollary (Art. 6.1), “Any preventive, diagnostic and therapeutic medical intervention is only to be carried out with the prior, free and informed consent of the person concerned, based on adequate information. The consent should, where appropriate, be express and may be withdrawn by the person concerned at any time and for any reason without disadvantage or prejudice.” The principle of medical privacy is also fundamental (Art. 9): “The privacy of the persons concerned and the confidentiality of their personal information should be respected.” And in all this, there should be no shaming or discrimination. Thus (Art. 11), “No individual or group should be discriminated against or stigmatized on any grounds, in violation of human dignity, human rights and fundamental freedoms.”

These principles were also enshrined in the World Medical Association Declaration of Helsinki on Ethical Principles for Medical Research, 1964 (with amendments, to 2013). The principle of informed consent and concomitant right to refuse are stated clearly, and the priority of the individual is again affirmed in the Hippocratic tradition: “The health of my patient will be my first consideration.”

Moreover, insofar as the current investigative vaccines are an acknowledged human experiment, and this is implied by the emergency use authorizations and the shortened trials and the introduction

of new technologies (mRNA), such experiments are governed by the Nuremberg Code on “Permissible Medical Experiment” (1947), ratified by Western nations. This ethical code likewise stresses informed choice, and the utter freedom to reject and discontinue an experiment at any stage in the process.418

These are fundamental, established principles of bio-ethics and medical ethics. My conviction is also that vaccine passes and mandates are an unconstitutional violation of Canadian Charter rights and freedoms, which are also based on protecting individuals against the power of majorities. This is the distinction between constitutional law and positive law. Lex must be based on ius. In our Canadian Charter we declare as constitutional (not the gift of the state or the government of the day), our fundamental freedoms of assembly and association (§2), our mobility rights to move about freely and to pursue the gaining of a livelihood (§6.2), our legal rights to liberty and security of the person, including bodily integrity (§7) and to privacy (§8) and the presumption of innocence (§11(d)), and to not be subjected to cruel and unusual treatment or punishment (§12). We also assert our equality rights to equal protection and equal benefit under the law for every individual without discrimination (§15).

It is a telling indictment of public policy that medical doctor and ethicist Aaron Kheriaty, a professor in the School of Medicine and Director of the Medical Ethics Program at University of California Irvine was suspended by his university for the stand he has taken against vaccine mandates.419 In Canada, likewise, ethics professor of twenty years at University of Western Ontario, Julie Ponesse, took a courageous stand against mandates, at the cost of her own job, and gave a short but moving final lecture to her students online: Ethics 101. She was terminated on September 7, 2021, but her video went viral around the world, despite censorship.420 These were ethicists that were fired or suspended. There are increasing numbers of doctors and nurses also taking a costly stand against vaccine mandates. An open letter opposing these measures in Alberta was, signed by 3,544 health care workers including 73 physicians, 1,111 nurses, 227 paramedics and thousands of allied health professionals.421 A similar response has been mounted in Ontario.422

In conclusion, what are we to do as a society and as individuals in response to this crisis? I am convinced that we need to stop travelling in the direction of authoritarian biosecuri

420 It has been mirrored on “Ethics Professor Threatened with Dismissal for Refusing Vaccine,” Canadian Covid Care Alliance, accessed 8 October 2021, https://www.canadiancovidcarealliance.org/media-resources/ethics-professor-dismissed-for-refusing-vaccine/.
functioning society that includes the sorts of risks we have tolerated in time past. To continue in the present direction, and indefinitely to isolate, discriminate, and distance people from one another damages individuals and society at its foundation. Agamben describes the essence of politics as being present to one another, face to face, since individuals in society “must first communicate their openness—in other words, a pure communicability—[and] the face is the very condition of politics, the site on which everything that individuals say and communicate is founded.” The longer we are masked, literally and metaphorically, and kept separate from one another, the greater the danger inflicted upon-the-demos (epi-demic, a Greek word that originally meant civil war in Homer). The danger is great for the society that Augustine called the city of men. The city of God, which we anticipate, is itself described as the place of pure openness, where by grace we shall see God facie ad faciem, face to face. This is why C. S. Lewis spoke of the need to speak openly from “the centre of your soul,” without any mask, veil, or persona. In his great novel on this theme, he wrote that the gods require this very thing of mortals. “How can [the gods] meet us face to face till we have faces?” If we turn back now, we can perhaps recover this openness, this sense of generosity to one another in a society where the flourishing of each enriches the other.

423 Agamben, Where Are We Now? 86-87.
424 1 Cor. 13: 12.
425 C. S. Lewis, Till We Have Faces (1956; repr. Glasgow: Collins, 1983), 305.