



## A pandemic of nonsense

*Man is a rational animal: so at least I have been told. Throughout a long life, I have looked diligently for evidence in favour of this statement, but so far I have not had the good fortune to come across it, though I have searched in many countries spread over three continents. On the contrary, I have seen the world plunging continually further into madness. I have seen great nations, formerly leaders of civilisation, led astray by preachers of bombastic nonsense.*

Bertrand Russel<sup>1,p.73</sup>

A full two and a half years into the COVID-19 pandemic, at the time of this writing, we have witnessed no shortage of decisions and actions by both leaders of our public institutions and our fellow citizens that on first glance appear to be irrational. I am doubtful that these decisions are arbitrary, but they do seem to suffer from the application of inconsistent reasoning about the virus and risk of infection. For example, a public health or government leader might issue a mandate that applies in one context and not another despite the reasons given for the mandate applying in both contexts. Interestingly, many decisions came along with an espousal that we 'follow the science' (perceived to be objective, apolitical and value free in a lay view of science),<sup>2</sup> and yet it may be better to characterize these decisions as value laden (in their selection/interpretation of evidence and outcomes). Not surprisingly, in discussing how to deal with the crisis, many of us seem to be charitable in our assessments of reasoning by institutions or political parties or individuals that share some or all of our values, and quick to label reasoning as irrational or nonsense (or poorly motivated) if it comes from sources that do not align with our values or we do not like the decision resulting from that reasoning. Perhaps labelling this behaviour as 'irrational' could be avoided if all parties were explicit about the values that shape their reasoning, or at least the discourse on the issues might be improved. Short of that, we may have to tolerate curious decisions and the confusion and frustration that follows. Here, I would like to highlight some examples throughout the pandemic of the seemingly irrational decisions based on inconsistent reasoning and selective appeals to evidence. Where possible, I reflect on some of the implications of a failure to make values explicit or try to offer a different lens through which to see behaviour that appears to stem from inconsistent reasoning. In reviewing these examples, it is important to note that the reasoning and decisions in question are not necessarily reflective of poor motives—the individuals and institutions involved may be well intentioned.

During the first Omicron wave in Ontario, Canada (where I live), at the end of 2021, I heard support both for and against additional government intervention (in the form of more or less restrictions on behaviour), with both sides pointing to the science as support for their respective positions. Different interpretations of the data suggest values are in play. Consider pandemic modelling. Throughout the pandemic the public was shown models of what was to happen in the event of the implementation of a public intervention to curb infection and/or some contingent behaviour about adherence to that, only to be presented with seemingly illogical explanations for why predicted rates of infection, hospitalization, and death did not manifest despite the intervention. For example, on 16 April 2021, the Ontario public was told that with moderate public health restrictions in place and an increase in the pace of vaccination, we would see upwards of 10,000 new cases per day in May, and 15,000 per day in June. This was based on projections by the Science Advisory and Modelling Consensus Tables<sup>3</sup> and reiterated publicly by the co-chair of the province's science advisory table.<sup>4</sup> Based on the concerns of exponential growth, and with many restrictions already in place, Ontario implemented additional measures on 16 April 2021, only to walk back the core of the additional measures (i.e., increased police powers and closing of playgrounds) the next day because of lack of public support. In addition, there was no appreciable increase in vaccine uptake, and what increase did happen was nowhere close to what was predicted necessary to curb infection rate growth.<sup>5</sup> Recorded cases in Ontario peaked a few days later at around 4000, and we saw a twofold reduction in May and 10-fold reduction in June. It is not the missing the mark that is problematic—one cannot expect scientists and public health officials to predict the future. It was the explanation that was given about why the reduction came about that was curious.

A rational explanation for the discrepancy between the model predictions and measured cases, in my mind, would be that the models were incorrect, or that the virus has in some way changed, or that there was a change in how cases were being measured, or that people were behaving differently due to the concern (e.g., staying home at a higher rate), or all or some of the above, or something else. A claim that it was due to the effectiveness of public health measures is not something that would come to mind, given there were no appreciable changes in the measures and the ones in place were deemed insufficient. However, a key finding by the Science Advisory and Modelling Consensus Tables, presented 20 May 2021, stated that 'cases, positivity and hospitalization rates are decreasing. Control of the pandemic is improving [their emphasis] due to current public health measures and the efforts of Ontarians'.<sup>6</sup> Data from the

Institute for Health Metrics and Evaluation at the University of Washington suggest a minimal upward trend in social contacts and a minimal downward trend in mask use in Ontario during the period in question.<sup>7</sup> That is, key metrics of behaviour, coupled with vaccine uptake, which I will interpret as 'efforts of Ontarians' were somewhat static and perhaps even reflective of pandemic fatigue during the period after 16 April 2021. That leaves only the 'current public health measures' as the reason, given by the Advisory Tables, for the improvement in the control of the pandemic. It is logically inconsistent to claim that, in April, more restrictive public health measures are needed and yet, in May, claim that it was those measures that were in place in April that explain the drop. This pattern seemed to play out like clockwork throughout the pandemic: a claim is made, the models miss the mark, the narrative that warranted public action is preserved (somehow). All roads lead to public health restrictions (and mask use, and vaccinations) as the reason for pandemic success. All failures are due to a public not adhering to these practices or government failure to enact them. Other explanations, such as attenuation of the virus due to selective pressures or natural immunity due to infection, are considered unfathomable and need no discussion as a possibility by right-minded people who follow the science. Russell observed that 'man is a credulous animal, and must believe something; in the absence of good grounds for belief, he will be satisfied with bad ones',<sup>1,p.92</sup> or as Simon and Garfunkel eloquently state in *The Boxer*, 'a man hears what he wants to hear and disregards the rest'. Cognitive scientists refer to such behaviour as 'confirmation bias'.

The pandemic models were the basis for reasoning about which public health interventions were necessary to mitigate virus transmission. Let us consider one such intervention, that is, the use of face coverings/masks in public. Early on, many public health and government officials, including those at the World Health Organization, did not consider that mask wearing in public was necessary to reduce infection rates, claiming that the science did not support its effectiveness.<sup>8</sup> As mask wearing became more common (often as a result of mandates or public pleas by physicians and scientists about their perceived value), masks would take on a moral status—failure to wear one was seen as a political statement or deep character flaw (e.g., the individual was antiscience or too stupid to understand the benefit)—despite little change in the evidence base supporting effectiveness. In Ontario, critics, which included public health officers, physicians, and scientists, continually railed against governments for easing the mask mandate (or indicating that it will be eased), pointing to rising cases of the Omicron variant,<sup>9,10</sup> yet failed to acknowledge that an estimated majority of the population had been infected despite the mandate still in place. Also not acknowledged by these critics was the fact that there were other jurisdictions, where the mask mandate had been suspended or removed, that saw similar rates of infection growth to what was experienced in Ontario during that period, and that many people continued to wear a mask after mandates were lifted (and did so even after having been infected despite past use). I feel it important to pause here and note that I am not suggesting that mask mandates

were not effective—it is possible that the infection rate would have been steeper and peaked at a higher level—nor am I suggesting that masks do not reduce transmission. Those are empirical questions that can potentially be answered through scientific study rather than endless debate in public. What I am suggesting is a selectivity (by critics on both sides of the debate) in the reasoning from the whole body of evidence in the claims about what is the most desirable action. Remember that mask mandates were pursued and implemented on the basis of the precautionary principle.<sup>11,12</sup> A claim of 'low cost, high potential benefit' quickly drifted to a perception of 'irrefutable evidence of benefit' in the discourse, once the public became accustomed to their use.

The often inconsistent reasoning (selective of the evidence) at the centre of discourse about use of masks had implications for how the public responded to appeals that we wear them to protect ourselves (and others) from the virus. For example, the moralizing of mask use is likely what led to the curious (to me) criticism I once received when spotted (at a distance of several metres) not wearing my mask when walking my dog (incidentally, named Bertrand Russell). The physics of how exactly I was to infect others not in my immediate vicinity and in fresh air is still not entirely clear to me. However, it is also true that strict outdoor masking mandates were implemented in some countries (e.g., Spain and Italy). Although the reasoning behind that mandate seems to me inconsistent with our understanding of respiratory virus transmission, especially in situations where people are keeping several metres apart (also a public health suggestion), it may be reasonable for someone to see my actions as problematic when faced with knowledge that some governments were advising stricter public health interventions than our own. In another example, it may appear strange to witness a person alone in their car wearing an N95 or surgical mask while driving. These individuals seem to envision a virus that can penetrate the frame of a car but is thwarted by a mask. That seems to stem from inconsistent reasoning about physics and biology. Perhaps they are correct. There is still so much about this virus we do not know. On the other hand, these actions may have good reasons when viewed from a different perspective (e.g., the driver makes frequent stops for delivery and finds it convenient to keep the mask on).

Staying on the topic of mask mandates, there are some in the public who seemed to take issue with having to wear one, claiming it was an infringement on their personal freedoms. Curiously, these same people do not seem overly burdened by the requirement that they wear pants. The convention that we wear clothes in public, especially in the hottest days of summer, is not rooted in our freedoms or science. Rather, covering of one's genitals is an issue of the moral sensibilities of our (e.g., in the case of Europe and North America, Christian) forefathers. Perhaps masks will become a convention much like wearing clothes in public has for much of the world. We have already seen such adoption of masks as social convention in parts of East Asia since the SARS pandemic in 2002–2003.

Lockdowns provided all kinds of examples of decisions based on inconsistent reasoning. The premise of lockdowns was to keep



people apart from each other to mitigate transmission of the virus, thereby reducing hospitalizations/protecting healthcare institutions (either through a reduction of overall cases or to force a protracted rate of admission—the so-called ‘flattening the curve’) and reducing morbidity and mortality due to the virus. Accompanying lockdowns in some jurisdictions (including my own) was the closing of public parks, hiking trails, and golf courses. If the goal of lockdown is to keep people apart, asking them to do so in increasingly restricted space seems to me counterproductive, especially when dealing with respiratory infection. The same could be said about evening curfews, which were implemented in some jurisdictions. Presumably, it is ok to walk around in public during the day but restricting activity at night might imply that the risk of infection increases once the sun goes down, never mind the fact that restricting movement at certain times of the day pushes public activity into a smaller window of time, potentially resulting in more people about in public at the same time. Camping alone in a secluded forest at night, perhaps the safest way to avoid infection from COVID-19, was considered a fineable offence. In October of 2020 it was considered a public health offence for someone to visit their family for a Thanksgiving holiday dinner, but perfectly fine, in the eyes of the Ontario government, for them to meet at a restaurant on the very same day instead. Somehow, being in a room with strangers, provided everyone wore a mask when leaving the table and made their contact information available to staff, was considered a lower health risk than sitting in a dining room in a private home? I know of at least one University mandating that students and staff keep 2 m apart when in hallways but allowing them to sit shoulder to shoulder in a classroom for 2 h, provided a mask was worn by all (those with exemption, excepted). I suppose the risk of infection is higher in hallways than in classrooms. Admittedly, inconsistency in such policies was likely about the challenges of policing behaviour and/or maintaining desired services and activities within resource constraints. Still, one could be forgiven if they find these decisions puzzling.

I found public discourse on vaccination for COVID-19 to be a particularly interesting issue. While much of the vaccine got into arms while still under the status ‘emergency use authorization’, the vaccines in question were still subject to rigorous international randomized controlled trials before authorization and to surveillance once in the market. Despite the existence of these data and claims of benefit by experts on vaccination, public health officials, and physicians, many people publicly voiced concern about the safety and effectiveness of these vaccines and a significant proportion of society in many countries refused to accept them. Among them were a not insignificant number of healthcare professionals,<sup>13</sup> perhaps unaware that much of the care they provide in routine practice (and in some cases, have accepted themselves) has not undergone a similar level of formal scientific scrutiny. I am also not aware of similar demands (to those for COVID-19 vaccines) for evidence of effectiveness for much of what the public commonly accepts to address their healthcare needs, the vaccine hesitant included. I am doubtful those refusing vaccination are equally diligent about the science for all decisions about their health and make a habit of

routinely eschewing care of the healthcare system if irrefutable evidence of benefit and harms is not presented, although I am sure there are some among them with such discipline.

Which vaccine to acquire and how the doses were combined also raised some interesting concerns. People in Canada were told to accept the first vaccine available, which for many was the Astra Zeneca vaccine. Citing concerns about safety related to clotting and data showing more favourable results for the mRNA vaccines (based on relative metrics within studies—a flawed basis for comparison; also noteworthy, the vaccines were not directly compared within studies<sup>14</sup>), the public was encouraged (although not required—Astra Zeneca vaccine was still available for second doses, but not for boosters) to obtain a second dose, and later a booster dose, of the Moderna and/or Pfizer vaccine. The result was many Canadians receiving a ‘mixed dose’ of vaccine. Mixing of vaccines was a strategy that is discouraged by the US Centers for Disease Control and Prevention<sup>15,16</sup> and was not recognized by the US government until late 2021,<sup>17</sup> leaving many Canadians with the status of ‘not fully vaccinated’ for purposes of entering the United States or, for example, attending theatre performances in New York. What is strange is that mixing of brands and formulations is common for other viruses that make up part of routine vaccine programs (e.g., annual flu shots). Why the line was drawn on this strategy for COVID-19 was not clear. Differing standards among neighbouring countries can certainly lead to skepticism about vaccines. One might reasonably ask why two regulatory/advisory bodies for health products in neighbouring countries have very different views despite access to the same scientific data. I have no doubt both bodies have their reasons, and it would not be charitable to suggest either did not have the best interests of their populations in mind.

It is in this environment that some parts of the public began to push back against their government. Even here we see reasoning that is curiously selective and uncharitable. Take the ‘Freedom Convoy’ in Canada that has attained international attention. The concerns of the protestors are complex, but the impetus, or at least that gaining public attention, was the vaccine mandates promoted by the Federal and Provincial governments. The tension between protestors and government can be examined and explained through a variety of lenses—class struggle, erosion of rights and freedoms, frustration with government coupled with lack of agency, pandemic fatigue, among others. Popular explanations in media, by governments, and by academics characterized the protest as an attack on democracy,<sup>18,19</sup> ‘aggrieved entitlement’,<sup>20</sup> racist (indeed, there was brandishing of emblems of white supremacist organizations among some protestors),<sup>21</sup> or reflective of an antisience movement. These may be true as well—like I said, the concerns are complex, much as the protestors are not a homogeneous group. The question is when is the criticism or protest by the public no longer healthy skepticism (in part due to a reaction to the inconsistent reasoning in public discourse, especially when it is that of scientists, healthcare workers, and public health officials/government) towards public institutions and instead strategic pessimism? Motivation for reasoning is much harder to identify than inconsistency.



Let us focus on the vaccine mandates as the core reason for the Freedom Convoy protests. One explanation I have heard for the protestors' concern for the mandates is that they are either antiscience or ignorant of science. Let us consider this issue a different way. Does uptake of the vaccine mean one is automatically pro-science or supportive of vaccine mandates? Not necessarily. An individual may see a vaccine as both effective and a personal choice. Alternatively, the vaccination status of an individual may be reflective of social desirability or want for access to school and work. One may believe in the science on vaccines, accept the vaccine (as many protestors did) and yet see vaccine mandates as problematic due to restricting access to the workplace or education institutions, recognizing that vaccine uptake is typically lower among marginalized sectors of society that could most benefit from these institutions. This latter explanation may be very charitable in this case, although the motivation of either side in characterizing the decisions of the other is not my concern. My hope is that the reader can understand how frustration with governments and public institutions leading to protest during the pandemic could arise and that it does not necessarily indicate a nefarious agenda on the part of the protester. Protest, while inconvenient for some (i.e., by design), is a tool of the political process and a means for those who are not (or do not feel) represented to have their views enter the political discourse.

The pandemic has been hard on most everyone in our society, not limited to one country, region or continent. Making the values that guide our reasoning more explicit may help ease some of the problems we have encountered in navigating this crisis together. First, it may improve the quality of public discourse and avoid some of the confusion as to why a policy is put forward despite apparent inconsistencies in reasoning. That may lead to better public acceptance of implemented measures. Second, it may help to temper our frustration when encountering those judgements that we perceive as irrational. Awareness of the values that guide the behaviour we find curious may give insight into the concerns and motivations for a particular belief or action. That may help both parties to identify the source of a tension when trying to navigate a common concern, of which the pandemic has provided many. When dealing with a pandemic, some decisions will not be universally popular (some have a greater impact on some segments of the population over others), some will require revision (or even reversal), and some may even be incorrect. Better attention to the basis for a decision, including the values that guide it, may do much to engender trust, and avoid society descending into polarizing judgement of others.

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