

Beware the Trolley Zealots

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Abstract

This essay draws on Mary Douglas' theory of institutional styles of thinking to analyze the debate about how and when the Coronavirus crisis can be brought to an end. The dominant approach, I show, frames the problem in utilitarian terms, akin to what is known among philosophers as "the trolley problem." I point out the pitfalls of this framing and contrast it with a counter-frame taken from the Judeo-Christian tradition of pastoral leadership. The lacunae of this institutional style of thinking are pointed out as well, in order to develop the critical distance necessary for a reasoned intervention in the crisis.

Keywords: Trolley problem; utilitarianism; bio-ethics; coronavirus; Covid-19; pastoral power; frames.

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As the debate is heating up about how and when the Coronavirus crisis can be brought to an end in a planned, rational and ethical way (Bazon, 2020), we are often presented by an argument favored by those who resisted the shelter-in-place policies to begin with, and who have kept a constant drumbeat at the president's ear about the need to restart the economy

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(Baker, Kanno-Youngs, & Rappeport, 2020). The medicine, they say, cannot be worse than the disease (quoted in Baird, 2020).

We need to begin easing up, they say, because the response to the epidemic could prove more ruinous than the epidemic itself. They point that jobless claims in the US now exceed twenty million and are projected to climb to a staggering 15% of the American labor force, while US GDP this quarter has shrunk by 4.8% and is on pace for a jaw-dropping 30% annual contraction (Morath & Chaney, 2020; Casselman, 2020).

Moreover, this argument is not only made by businesspeople worried about disappearing profits, but also by a growing chorus of public health experts, philosophers and pundits, who point to the human toll of what is shaping up to be an economic disruption equivalent to or worse than the Great Depression (Agamben, 2020; Bazelon, 2020; Hansen, 2020; Ioannidis, 2020).

Disease kills, they say, but so does the lack of livelihood. Social isolation and unemployment will lead to an untold number of “deaths of despair” (Case & Deaton, 2020) from suicide, alcoholism and drug use, often by men in their prime working years. They caution that we need to think about the trade-offs in human lives of continuing social distancing and quarantine measures. Some even venture that the calculation should be done not in terms of number of lives lost, but in terms of number of life years lost, or even QALYs (Quality Adjusted Life Years), pointing out that the epidemic disproportionately kills those who are already at the end of their lives (Toynbee, 2020).¹

The factual basis for these claims is thin, at best. Many economists reject the trade-off as a false one. To remove restrictions and let the economy come roaring back, they say, is dangerous... to the economy itself, because the resulting exponential spread of the virus will ultimately wreak even greater economic losses (Porter & Tankersley, 2020). Admittedly, this is less relevant for graduated exit strategies, but the tendency of their advocates to wave the red flag of “deaths of despair,” whenever they are challenged on some the details, should be questioned as well. Anne Case (quoted in Bazelon, 2020), co-author of the definitive study about the phenomenon, politely rejected the trade-off as unconvincing. Deaths of despair do not happen as an immediate response to a short-term crisis. They were caused by a long-term process that took years. They were enabled by the fact that nothing was done to combat unemployment and social isolation. There is no reason, therefore, to expect deaths of despair as an *inevitable* result of social distancing measures.

It is important to argue with the factual basis for these calls, but we should also recognize that their rhetorical power comes from posing the issue as a collective “trolley problem.” In the classic version of the trolley problem (Foot, 1967), you find yourself holding the shunting switch as a speeding train is bearing down on five people tied to the railway tracks. You can save them by pulling the switch, but this would send the train down a different track where you can

1. Both Ezekiel Emanuel and Peter Singer make this trade-off argument in the New York Times’ organized debate (Bazelon, 2020). To be clear, they are not advocating an abrupt end to the quarantine, but a graduated exit strategy conditional on improvements in certain key measures. This paper is not an analysis of the merits and demerits of this graduated exit strategy. I have no doubt that this is what needs to be done. As always, however, the devil is in the details. My sociologist’s ears pricked up because I noticed that whenever Emanuel or Singer were challenged regarding one of the details, they resorted to some version or another of the trade-off argument, offering a hypothetical calculation of number of life years lost, or even a lost “quality of life.” My concerns, therefore, are less about the content of their proposals than about how they are framed and justified. Justification is not an idle decoration added to these proposals. It is an “economy of worth,” allocating differential worth to people (Boltanski & Thevenot, 2006), thus quite central to exit strategies that have profound distributive consequences.

see another person is tied.

Would doing so be morally justified? Utilitarian philosophers think so, while others disagree. One utilitarian philosopher who has used the trolley problem in his work, Peter Singer, is also among those who point out that the pandemic “is killing mostly older people (...) I think we want to take into account the number of life years lost — not just the number of lives lost” (quoted in Bazelon, 2020). His implication is that we should pull the shunting switch, however “gradually,” and send the train down the nursing homes tracks, rather than through the workplaces, where QALYs are abundant. He urges that “we need to really consider that trade-off” between the loss of life now and the “victims in the future,” especially our children, who will “bear the economic costs we incur now” (*ibidem*). His reasoning is echoed by an unlikely partner on the other side of the political spectrum, Texas’ Lieutenant-Governor Dan Patrick (69), who said that he would be proud to die for the sake of preserving economic well-being and prosperity for his grandchildren (Rodriguez, 2020).

We should beware of being drawn into the moral trap of this new version of the trolley problem. One thing that has become clear over the years about the classic version of the trolley problem is that little tweaks in the scenario and how it is presented completely change how ordinary people respond to it. When given the classic scenario in a 3-D simulation, for example, 90% of test subjects pulled the switch (Navarrete et al., 2012). But if some of the details are changed, for example, if the lone individual is somebody you know or is a young child, far fewer people pull the switch (Bleske-Rechek et al., 2010). Of course, the main artifice that sets up the trolley problem as a moral trap is the image of *rails*, of which there are only two. What this image sneaks in without discussion is the pretense that we know the odds of the two courses of action (and that there are only two), that we can calculate these odds fairly well, and that uncertainties have been reduced to the necessary minimum.²

The trolley problem resonates right now because the current moment is one of wrenching moral choices. An epidemic forces a society to confront fundamental questions about its character as a collective endeavor. For this very reason, however, it is not enough to merely counter the utilitarian argument with a different utilitarian calculus, like the economists’ argument that the economic losses will be greater if we open too soon. The rejoinder needs to begin from completely different premises about how such moral choices are posed and addressed. How do we act morally at a time of immense collective uncertainty, without pretending that we know how to transform this uncertainty into calculable odds? Trolley-like trade-off arguments prevent us from facing these questions. When they warn about “deaths of despair,” for example, they sneak in *ipso facto* precisely what needs to be changed about the American status quo; indeed, what the pandemic could serve as a lever for changing — namely the casualization and systemic precarity of the labor force (Griesbach, 2020), the dismantling of social services and community support, the declining trust in institutions. These are the “rails” on which their trade-off

2. “Knowing the odds” does not mean certainty. I am referring here to Frank Knight’s famous distinction between risk and uncertainty. Brian Wynne (1992, p. 114) formulates it as follows: risk is when you know the odds, namely the probabilities attached to different courses of action, so you can calculate how best to manage them. Uncertainty is when you do not know the odds. At best, you may know some of the main parameters. You can attempt to transform uncertainty into calculable risk by estimates and guesswork, but you most likely increase thereby the extent of your ignorance, namely what you don’t know that you don’t know. Callon, Lascoumes and Barthe (2009, pp. 18–26) make the same point when they call risk a “false friend.” They caution that when experts claim that they know how to calculate the odds, we should press them to demonstrate that they have compiled an exhaustive list of alternatives open to us; that the odds of these alternatives are also calculable; and that they understand the system of interactions for each alternative well-enough to anticipate outcomes and side-effects.

argument proceeds.

It was the late anthropologist, Dame Mary Douglas, who saw through the charade of the trolley problem. Putting it in her own pugnacious and somewhat enigmatic style, she said that individuals do not resolve such intractable problems on their own, *institutions do* (Douglas, 1990, p. 7; p. 111). What she meant by this is that when individuals approach a harrowing moral choice, they draw upon traditions of thinking and acting that have been collectively elaborated over centuries. These traditions act like *frames* (Goffman, 1974): they make you pay attention to what is inside the frame and ignore what is outside it. The frame, therefore, sets up the problem with a particular image that already implies what would be the morally correct way to approach it, often because it makes you disattend to what is uncertain and inconvenient for your view of the world.

The trolley problem is such a frame. It is an individualist, utilitarian fable that presents the solution to be “obviously” some form of calculus of known benefits and losses. It is also a temporal frame, forcing diverse temporal rhythms into a single instant of choice. All the uncertainties and indeterminacies that I mentioned above are left outside the frame. Instead of thinking for ourselves, we are letting a certain tradition, the utilitarian one, do the thinking for us. The style of thinking that it represents is exposed whenever philosophers embellish the problem and add that the five people are young (or healthy), while the lone person is old (or, in the even more callous versions, fat). This is supposed to lead you towards the obvious calculation of QALYs lost. Unsurprisingly, we hear similar calculations now in the midst of the epidemic, euphemized as “people with limited life expectancies” (Ioannidis, 2020). Framing the epidemic as a collective trolley problem implies that the old and unhealthy should be sacrificed for the sake of the young and healthy. Conversely, the temporal frame of the trade-off channels us into an intergenerational dilemma, wherein we appear to be shortchanging our children’s right to appropriate education for the sake of the elderly. Yet the potential educational consequences lie years in the future, with ample time in between to assess and ameliorate the purported damage, provided the political will exists.

In the Judeo-Christian tradition there is a counter-fable. This is the famous Rabbinical story, of which the Church Fathers were fond as well, about Moses and the lamb. While herding a flock of sheep through the desert, so the story goes, Moses noticed that a single little lamb was lost. Risking the safety of the whole herd, he sets out on his own to find and save the single lamb. Seeing this, God selects him to be the leader of his people because, God says, he has the quality of mercy.³ Framing the epidemic with this story would imply that society is mobilized to defend its weakest members, the infirm, the elderly, the immune-compromised, even when there is a price to be paid.

Note that the Rabbinical story is the exact opposite of the Trolley problem. Instead of sacrificing the few for the many, Moses took the risk of sacrificing the whole herd for the sake of one little lamb. This is, of course, a paradox. One should not take it literally. The paradox is deepened, moreover, when we notice another way in which the Talmudic story is the exact opposite of the trolley problem. The trolley problem empowers an ordinary individual, anybody, whoever is at the switch, to make fateful life-and-death decisions. It is a thought experiment that places you, the everyman, in a bird’s-eye view of the action, exercising godly powers. In this way, uncertainty is left outside the frame, differing temporal rhythms are forced together, and the solution no longer requires human decision-making. A machine placed at the switch

3. This is a famous Rabbinical commentary on the book of *Exodus*. The Hebrew reference is: מדרש שמות רבה, פרשה ב', פסקה ב'

would do the best job, as is shown by the relish with which autonomous cars' enthusiasts have embraced the trolley problem (Bogost, 2018).

The Rabbinical story, on the other hand, puts you inside the action, with Moses running, eyes trained on the little lamb, the vast desert precluding any ability to take in the whole scene. There is no bird's-eye view. Uncertainty is very much inside the frame. Moreover, when Moses the Shepherd, the future leader of his people, the very prototype of leadership in the Judeo-Christian tradition, balks at the "obvious" sacrifice of the one for the many, our attention is directed to the wrenching difficulty of moral leadership in a time of radical uncertainty, and to the *hubris* of presuming to know with certainty the calculus of utilities. After all, if the herd knows that the shepherd would sacrifice any one of them, without a moment's hesitation, for the greater good, wouldn't they bolt the moment they suspect their turn is coming? This is why armies the world over often risk the lives of the many to save a single soldier, or even merely to recover his or her dead body.

To translate this to the current moment, retelling the Rabbinical story serves to sensitize us to the inhumane bargain we are being offered. When the epidemic ends, would we really want its lasting effect to be that we have granted state administrations the power to conduct policy and make decisions on the basis of trolley problem calculations? Do we want to be ruled by a power that can legitimately calculate (or let an algorithm calculate) the number and type of lives expendable for the sake of the continued growth of Capital?

I have used the Rabbinical story as a counter-frame, with which to expose what the trolley problem leaves outside the frame. But this story, too, is not innocent. Thinking with and through this story, we have now let a different tradition do the thinking for us. Moses and his little lamb also leave several very important things outside the frame. We need to acknowledge and deal with these. After all, what could be the point of showing, as Douglas does, that institutions are doing the thinking for us, if it is not to allow us to do at least some of the thinking for ourselves?

First, while the story makes it seem as if the whole society is mobilized to defend its weakest members, in reality there is a more specific group that is doing the defending and is thereby exposed to greater risks than others. These are obviously the doctors and the nurses, the EMTs and healthcare workers, but also the delivery workers, the long-haul drivers, the grocery store clerks, the meat packing workers, agricultural laborers, the post office employees, the police, and many others. For many of these workers, there is no choice but to work and to expose themselves, while the rest of us — including myself — are protecting ourselves at home. Moreover, many of these workers are poor and belong to minority groups. Many are women (Robertson & Gebeloff, 2020). Once again they are being asked to suffer a heavier burden than others. This is an inconvenient truth that is currently outside the frame of "shelter in place" policies. But there is a device for bringing it inside the frame. In an analogy to 9/11 "first responders," these workers should be designated as "frontline workers" entitled for significant merit pay and security of employment when the epidemic ends (Davis, 2020). Additionally, existing regulations can be enforced to guarantee that they have first priority for protective gear and that their employers take all measures to provide them with as safe working conditions as possible. Together, these measures would be the proper recognition for the fact that once again they are shouldering more of the collective burden and danger than anybody else.

Second, I am well-aware that even as I write these lines, doctors in NYC, where I live, are called upon to make the morally wrenching decision who gets a ventilator and who doesn't. They do not have the luxury to pursue one little lamb, but must face the certainty that by allocating the ventilator to one patient, they are giving up on another. In contrast, the tradition of

thinking represented by the trolley problem seems well-suited to guide their actions. Indeed, the very same people who presented opening the economy as a trolley problem, have also formulated guidelines for the allocation of ventilators (Emanuel et al., 2020), saying that “how many years of life you save is a relevant ethical concern” (Ezekiel Emanuel, quoted in McCoy & Wagner, 2020). We should vehemently reject this kind of reasoning. Hospital bio-ethics committees issuing guidelines for the allocation of ventilators should not take QALYs or even age by itself into account. They should be guided by the principle of universal individual right to medical care and the dignity of the human person. The only criterion that should guide their deliberations is an assessment — which doctors make routinely even in the best of times — of who is more likely to be saved by being given a ventilator, while carefully watching for potential biases that may sneak into such uncertain assessments (such as the fact that underlying conditions, which reduce the chances of success, are more prevalent among minorities and poor people [Baker & Fink, 2020]). We should not be taken in by the utilitarian slippery slope that leads from the fact that age is likely to be a factor in this assessment, to the dubitable value judgment that the remaining life years of an older person are somehow less worthy of preserving.

Finally, as Michel Foucault (1981) noted, the paradox of Moses and the lamb was repeated and celebrated in the Judeo-Christian tradition as a model for how power should be exercised, and as a justification for its extension into ever greater surveillance of populations and individuals. Foucault, the ultimate paranoid, called it “pastoral power” and warned against the dangers residing in a power that seeks to know and control each individual by claiming to take care of their health and well-being, even their very survival. From today’s vantage point, he was clearly right to be worried. The pandemic has already led to an intensification and extension of the powers of surveillance at the disposal of both authoritarian and democratic states, who present themselves as modern-day Moses (Gebrekidan, 2020; Sonn, 2020). Such attempts to use the pandemic as justification for extending surveillance powers should be resisted, but, as Foucault taught, resistance takes place from within power, not outside it. It should not succumb to the infantile rejection of all power as “tyranny” (Burnett & Slodysko, 2020). There are currently multiple proposals how to deploy digital technology to combat the pandemic and to facilitate a graduated exit strategy. They should be each evaluated in terms of whether they provide privacy protections and take into account equity considerations. Digital contact-tracing, for example, utilizing a Bluetooth app, if it stores the data on the user’s phone and requires user permission to be shared with contact tracers, as in Singapore, or if it provides legal guarantees that the data will be deleted after thirty days, as in Norway, is much preferable to proposals that give authorities access to GPS location and credit card data of unaffected individuals (Valentino-DeVries, Singer & Krolik, 2020; Pueyo, 2020), or which empower — as in Israel — the General Security Service to track individuals (Goychman, 2020). But privacy is not the only consideration. These proposals do not really track individuals but “dividuals” (Deleuze, 1992), namely smartphones. Not everybody has a smartphone (it is estimated that about a million Israelis, for example, do not [Goychman, 2020]). Hence, we should reject measures, however well-intentioned, that tie conditionalities to the possession of a smartphone, like scanning QR codes before you can enter a building (Pueyo, 2020). As to the issuance of “immunity passports” permitting some to go back to work or move about more freely than others, it is likely to be an important tool in a graduated exit strategy, but it should not take place without equitable access to testing, nor should it be conditional on possessing a smartphone, and it certainly shouldn’t be done through algorithmic assignment of risk status (Dave, 2020; Kabir, 2020; Proctor, Sample & Oltermann, 2020).

The current moment represents a double test for our society. Obviously, our public health systems are being tested by the pandemic. But our politics are also being tested by the very power that we have unleashed to counter the pandemic. We are awestruck by how formidable this power is, which has brought the world economy to a near standstill within a few weeks, has completely transformed everyday routines, and could engage in unprecedented surveillance. Yet, what makes this power so formidable is the fact that we all participate in its operation, and we do so because it promises to take care of all and each, as Moses did. The test is whether we can learn how to resist it from within, flex our democratic muscles to limit its excesses, not reject it wholesale from without.

In comparison, the call to restart the economy, because the people who will likely die as a result have “limited life expectancies,” amounts to a form of state-sanctioned abandonment of lives who are thereby defined not only as no longer worth living, but as burdening and endangering the continuous circulation of capital, commodities and labor. It would be a dark day indeed if we let ourselves be drawn into the moral trap of the trolley problem.

References

- Agamben, G. (2020). Clarifications. *An und für sich Blog*, March 17. <https://itself.blog/2020/03/17/giorgio-agamben-clarifications/> (last accessed April 20, 2020).
- Baird, A. (2020). Trump Suggested Businesses Might Open Again Soon, Defying Public Health Experts. *Buzzfeed News*, March 23. <https://www.buzzfeednews.com/article/addybaird/trump-open-business-soon-coronavirus-weeks> (last accessed April 20, 2020).
- Baker, M., & Fink, S. (2020). At the Top of the Covid-19 Curve, How Do Hospitals Decide Who Gets Treatment?. *The New York Times*, March 31. <https://www.nytimes.com/2020/03/31/us/coronavirus-covid-triage-rationing-ventilators.html> (last accessed April 20, 2020).
- Baker, P., Kanno-Youngs, Z., & Rappeport, A. (2020). Torn Over Reopening Economy, Trump Says He Faces “Biggest Decision I’ve Ever Had to Make.” *The New York Times*, April 10. <https://www.nytimes.com/2020/04/10/us/politics/coronavirus-trump-economy.html> (last accessed April 20, 2020).
- Bazon, E. (2020). Restarting America Means People will Die. When Do We Do It? *The New York Times Magazine*, April 10. <https://www.nytimes.com/2020/04/10/magazine/coronavirus-economy-debate.html> (last accessed April 20, 2020).
- Bleske-Rechek, A., Nelson, L.A., Baker, J.P., Remoker, M.W., & Brandt, S.J. (2010). Evolution and The Trolley Problem: People Save Five Over One Unless The One is Young, Genetically Related, or a Romantic Partner. *Journal of Social, Evolutionary, and Cultural Psychology*, 4(3), 115–127. <http://dx.doi.org/10.1037/h0099295>
- Bogost, I. (2020). Enough with the Trolley Problem. *The Atlantic*, March 30. <https://www.theatlantic.com/technology/archive/2018/03/got-99-problems-but-a-trolley-aint-one/556805/> (last accessed April 20, 2020).
- Boltanski, L., & Thévenot, L. (2006). *On Justification: Economies of Worth*. Princeton, NJ: Princeton University Press.

- Burnett, S., & Slodysko, B. (2020). "Liberate Michigan!" Right-Wing Coalitions Rallying to End Lockdown Restrictions amid Coronavirus Pandemic. *Chicago Tribune*, April 17. <https://www.chicagotribune.com/coronavirus/ct-nw-coronavirus-protesters-trump-20200417-7oad7qhicrc53eywjaclwdsaoq-story.html> (last accessed April 20, 2020).
- Callon, M., Lascoumes, P., & Barthe, Y. (2009). *Acting in an Uncertain World: An Essay on Technical Democracy*. Cambridge, MA: The MIT Press.
- Case, A., & Deaton, A. (2020). *Deaths of Despair and the Future of Capitalism*. Princeton, NJ: Princeton University Press.
- Casselmann, B. (2020). Worst Economy in a Decade. What Next? "Worst in a Lifetime." *The New York Times*, April 29. <https://www.nytimes.com/2020/04/29/business/economy/us-gdp.html> (last accessed April 29, 2020).
- Dave, P. (2020). Explainer: How Smartphone Apps Can Help "Contact Trace" the New Coronavirus. *Reuters Technology News*, April 14. <https://www.reuters.com/article/us-health-coronavirus-tracing-apps-expla/explainer-how-smartphone-apps-can-help-contact-trace-the-new-coronavirus-idUSKCN21W2I8> (last accessed April 20, 2020).
- Davis, S. (2020). "We Should Reward Them": Senate Democrats to Push for Frontline Worker Hazard Pay. *NPR*, April 7. <https://www.npr.org/sections/coronavirus-live-updates/2020/04/07/829007895/we-should-reward-them-senate-democrats-to-push-for-frontline-worker-hazard-pay> (last accessed April 20, 2020).
- Deleuze, G. (1992). Postscript on the Societies of Control. *October*, 59, 3–7. <https://www.jstor.org/stable/778828>
- Douglas, M. (1990). *How Institutions Think*. Syracuse, NY: Syracuse University Press.
- Emanuel, E.J., Persad, G., Upshur, R., Thome, B., Parker, M., Glickman, A., Zhang, C., Boyle, C., Smith, M., & Phillips, J.P. (2020). Fair Allocation of Scarce Medical Resources in the Time of Covid-19. *The New England Journal of Medicine*, March 23. <http://dx.doi.org/10.1056/NEJMs2005114>
- Foot, P. (1967). The Problem of Abortion and the Doctrine of Double Effect. *Oxford Review*, 5, 5–15.
- Foucault, M. (1981). Omnes et Singulatim: Towards a Criticism of Political Reason. In S. McMurrin (Ed.), *The Tanner Lectures on Human Values*, Vol. II (pp. 225–254). Salt Lake City, Utah: University of Utah Press.
- Gebrekidan, S. (2020). For Autocrats, and Others, Coronavirus is a Chance to Grab Even More Power. *The New York Times*, March 30. <https://www.nytimes.com/2020/03/30/world/europe/coronavirus-governments-power.html> (last accessed April 20, 2020).
- Goffman, E. (1974). *Frame Analysis: An Essay on the Organization of Experience*. New York: Harper & Row.
- Griesbach, K. (2020). *Positional Uncertainty: Seeking a Place in Unstable Times*. PhD Dissertation. Department of Sociology, Columbia University.

- Goychman, R. (2020). Intelligence Sub-Committee Confirms that the GSS will Continue to Track Citizens. *The Marker*, April 30. <https://www.themarker.com/coronavirus/premium-1.8808216> (last accessed April 30, 2020).
- Hansen, S. (2020). The Great Depression Vs. Coronavirus Recession: 3 Metrics That Will Determine How Much Worse It Can Get. *Forbes*, March 24. <https://www.forbes.com/sites/sarahhansen/2020/03/24/the-great-depression-vs-coronavirus-recession-3-metrics-that-will-determine-how-much-worse-it-can-get/#3147d67a15bd> (last accessed April 20, 2020).
- Ioannidis, J. (2020) A Fiasco in the Making? As the Coronavirus Pandemic Takes Hold, We Are Making Decisions Without Reliable Data. *STAT Reports*, March 17. <https://www.statnews.com/2020/03/17/a-fiasco-in-the-making-as-the-coronavirus-pandemic-takes-hold-we-are-making-decisions-without-reliable-data/> (last accessed April 20, 2020).
- Kabir, O. (2020). New Israeli Covid-19 Infection Ranking App Reminiscent of China's Citizen Ranking System, Experts Say. *Calcalist Tech*, April 1. <https://www.calcalistech.com/ctech/articles/0,7340,L-3805426,00.html> (last accessed April 20, 2020).
- Morath, E. & Chaney, S. (2020). U.S. Jobless Claims Top 20 Million Since Start of Shutdowns. *The Wall Street Journal*, April 16. <https://www.wsj.com/articles/u-s-unemployment-claims-likely-continued-at-record-levels-11587029401> (last accessed April 20, 2020).
- Navarrete, C.D., McDonald, M., Mott, M., & Asher, B. (2012). Virtual Morality: Emotion and Action in a Simulated 3-D "Trolley Problem". *Emotion*, 12(2), 364–370. <http://dx.doi.org/10.1037/a0025561>
- Porter, E., & Tankersley, J. (2020). Shutdown Spotlights Economic Cost of Saving Lives. *The New York Times*, March 24. <https://www.nytimes.com/2020/03/24/business/economy/coronavirus-economy.html> (last accessed April 20, 2020).
- Proctor, K., Sample, I., & Oltermann, P. (2020). "Immunity Passports" Could Speed Up Return to Work After Covid-19. *The Guardian*, March 30. <https://www.theguardian.com/world/2020/mar/30/immunity-passports-could-speed-up-return-to-work-after-covid-19> (last accessed April 20, 2020).
- Pueyo, T. (2020). Coronavirus: How to Do Testing and Contact Tracing. *Medium.com*, April 28. <https://medium.com/@tomaspueyo/coronavirus-how-to-do-testing-and-contact-tracing-bde85b64072e> (last accessed April 30, 2020).
- Robertson, C., & Gebeloff, R. (2020). How Millions of Women Became the Most Essential Workers in America. *The New York Times*, April 18. <https://www.nytimes.com/2020/04/18/us/coronavirus-women-essential-workers.html> (last accessed April 20, 2020).
- Rodriguez, A. (2020). Texas' Lieutenant Governor Suggests Grandparents Are Willing to Die for US Economy. *USA Today*, March 24. <https://www.usatoday.com/story/news/nation/2020/03/24/covid-19-texas-official-suggests-elderly-willing-die-economy/2905990001/> (last accessed April 20, 2020).
- Sonn, J.W. (2020). Coronavirus: South Korea's Success in Controlling Disease Is Due to Its Acceptance of Surveillance. *The Conversation*, March 19. <https://theconversation.com>

[com/coronavirus-south-koreas-success-in-controlling-disease-is-due-to-its-acceptance-of-surveillance-134068](https://www.theguardian.com/coronavirus-south-koreas-success-in-controlling-disease-is-due-to-its-acceptance-of-surveillance-134068) (last accessed April 20, 2020).

Toynbee, P. (2020). Your Money or Your Life? Coronavirus has Sparked the Latest Culture War. *The Guardian*, April 7. <https://www.theguardian.com/commentisfree/2020/apr/07/coronavirus-culture-war-lockdown-economy> (last accessed April 20, 2020).

Valentino-DeVries, J., Singer, N., & Krolik, A. (2020). A Scramble for Virus Apps that Do No Harm. *The New York Times*, April 29. <https://www.nytimes.com/2020/04/29/business/coronavirus-cellphone-apps-contact-tracing.html> (last accessed April 30, 2020).

Wynne, B. (1992). Uncertainty and Environmental Learning: Reconceiving Science and Policy in the Preventive Paradigm. *Global Environmental Change*, 2(2), 111–127. [https://doi.org/10.1016/0959-3780\(92\)90017-2](https://doi.org/10.1016/0959-3780(92)90017-2)

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