NORMING COVID-19: THE URGENCY OF A NON-HUMANIST HOLISM

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It ... becomes necessary to think of reality that is specific to becoming.

-Keith Ansell Pearson

INTRODUCTION

In this paper we will argue that modern epidemics and pandemics—such as the one the world currently faces—escape humanist and anthropocentric ways of thinking; as a consequence of this it is hard to gain normative purchase to even begin to resolve the problem. While pandemics can be thought in terms of particular systems, say a public health system, the problem can also be thought in terms of a long list of other options, such as viral mutation rates, or as a problem of technology, in that the failure of some countries to transition to modern refrigeration and food storage techniques has resulted in wet markets. It can be imagined as a problem of political economy or a result of globalization. Unfortunately, any one of these ways of asking questions restricts the global answers that may be required.

Each way of framing the question of COVID-19 imagines its particular approach or angle of attack as getting to the heart of the problem. But so far, each way of thinking about normative interventions into COVID-19 has fallen short of the complexity of the whole. For instance, imagining it as a problem of viral evolution and viral infection, and thus focusing on vaccine or therapeutic interventions misses much of the problem. The public health approach sees it as a problem of health across populations, whereas seeing COVID-19 as a problem of wet markets imagines the problem to be one of food economy in China. Seeing COVID-19 as a problem arising in China might imagine it to be the result of government ideology; as often carried out, imagining it as the result of the cosmopolitan interaction of nation states conflates modes of action with modes of analysis. Inevitably, any systematic construal of the problem falls short of the complexity of what is happening. We must imagine the problem holistically as a techno-organic evolutionary political-economic complex.

Most ways of imagining this problem, we will argue, are grounded in humanistic ways of thinking. The normativity that animates humanistic ways of thinking limits how the question of COVID-19 is framed; it is delimited by the kinds of answers that can be given. Put differently, every question is already a type of quest; some spectrum of possible answers is already assumed in the act of questioning, while others are excluded. In the first section of this paper, we will present a typical narrative of the origin of COVID-19 as the result of genetic mutation, and then as some sort of failure of Chinese law, revealing how these are inaccurate and inadequate explanations: their inaccuracies result, we will argue, from framing the problem as a cosmopolitan dispute. Next, acknowledging the agricultural origins of COVID-19, we will look at counter-models of cosmopolitanism, specifically ones that include nonhuman animals as cosmopolitical subjects. We will show why this approach is deficient by invoking systems
analysis. We will then unfold two recent and related non-humanistic ways of imagining evolution, including simultaneous human and viroid evolution. We draw on the work of Bernard Stiegler for insight into the way life evolves by means other than life, namely through technical innovation; and benefit from Keith Ansell-Pearson’s proposal that machinic thinking may be required at all levels.  
We conclude with a reflection on the benefits of imagining the realities of globalized life in non-humanistic and non-anthropocentric ways. This approach gives us types of imaginaries to explore diagnoses excluded or foreclosed in overly humanist and anthropocentric ways of thinking.

A PROBLEMATIC VIRUS

Severe Acute Respiratory Syndrome Corona Virus-2 (SARS-CoV-2) is the designation given to the virus implicated in the COVID-19 pandemic. SARS CoV-2 is the third corona virus in the 21st Century implicated in a severe acute inflammatory syndrome affecting humans, particularly the respiratory system. While the virus can have effects on the liver and gastrointestinal tract, it is the virus’s effect on the airways and lungs that makes it potentially deadly in humans. SARS-CoV-2 is one individual virus that belongs to the family of Coronaviridae (which has 39 species in 27 subgenera, five genera, and two subfamilies) in the suborder of Coronavirinae, the order Nidovirales, in the realm of Riboviria. SARS-CoV-2 is a RNA virus with a lipid capsule and like other corona viruses it causes disease in several different mammals and seems to have multiple host animal reservoirs. For example, bats alone host up to 30 different coronaviruses.

The first virus isolated from the 2002 outbreak of Severe Acute Respiratory Syndrome (SARS) was designated SARS-CoV. The other coronavirus that causes severe illness in humans has been designated Middle East Respiratory Syndrome Corona Virus (MERS-CoV). MERS-CoV resulted in severe disease in Saudi Arabia in 2014 with a very high death rate of about 34% of those infected. The first SARS outbreak in 2002 had a death rate of about 10%. Fortunately, the death rate of the COVID-19 outbreak seems to be much lower, at about 2.0% worldwide.

CoVs are RNA viruses, and SARS-CoV-2 represents a new evolutionary branch within the CoVs. RNA viruses tend to have higher mutation rates than DNA viruses, in part because of the extra steps necessary for viral reproduction and thus the increase in potential transcription errors. However, the exact mutation that has resulted in the present pandemic is not certain. Genomic sequencing and comparison between SARS CoV-2 and SARS-CoV showed extremely high homology at both the nucleotide level (RNA) and the proteonomic level. The nucleocapsid protein is highly conserved across these CoVs. The CoV spike stalk protein (S protein) is also highly conserved, and it seems the S protein mediates the infection by binding to the Angiotensin Converting Enzyme-2 (ACE-2) receptors in epithelial cells. Not only does this result in the host cell taking in the CoV into its cytoplasm, it also blocks the ACE2 receptor, resulting in the down regulation of the ACE-2 receptor. At the same time, it has the physiological effect of upregulating angiotensin II and also upregulates a different type (1a) of ACE-2 receptor. Overall these biochemical effects create physiological effects resulting in interstitial pulmonary edema, which has been seen in SARS and which in turn results in respiratory distress and a life-threatening condition.

Given that the mutation rates of RNA viruses are higher, and given that we have already seen the rise of three novel CoVs since the first SARS patients were identified in 2002—including SARS-CoV, SARS-CoV-2, and MERS-CoV—one can imagine that it is a mutation in the RNA code for the S protein that has resulted in higher infectious rates and in the more severe and
deadly respiratory distress syndrome. While it is true that viral mutations do in fact result in the possibility of a more infectious and deadly virus, it is also true that viral mutation is not merely the result of mechanical error in the process of RNA reverse transcription, to DNA transcription, and then the transcription of DNA back into RNA in the viral reproductive cycle. In fact, the very conditions of the human-animal interface results both in environmental pressures for viral mutation and viral success (in the evolutionary sense), and also in human infection. Thus, CoVs present a case in which we must expand our thinking beyond virology and viral mutation, and even beyond epidemiology in order to engage the problem represented by the COVID-19 pandemic. We thus turn to the wet markets of Wuhan, China, where it is believed the virus leapt from the animal reservoir to the human animal, creating human disease.

THE POLITICS OF COVID-19

It has been suggested that the real problem is the source of the virus. The virus infects many species of mammals, and many animals serve as a reservoir for the CoVs. Many of these animals are kept in Chinese wet markets, which are a major portion of the Chinese food economy. Indeed, it currently seems as though the pandemic traces its jump from animal reservoirs to humans at the Huanan Seafood Wholesale Market in Wuhan. Wet markets are open air markets that sell fresh meat, seafood, and produce, with live fish and occasionally live animals are slaughtered and cleaned on-site. In addition, other wild animals—including those that are reservoir hosts for CoVs—are often housed alongside traditional food sources (pork, fish, etc.), some being sold for medicinal and health purposes. Thus, the wet markets serve as the major point of human contact with CoVs’ animal reservoirs. The reporting done by Sam Ellis has brought wet markets to the forefront of the discussion of COVID-19. Naturally, the question arises, why does the Chinese government not shut down the wet markets?

To hear the National Review’s Therese Shaheen imagine it, COVID-19 represents a problem created by the failure of China government. Inadequate governance, or perhaps even ideology is the real problem. In fact, according to Shaheen the problem finds its origin in the Standing Committee of the National People’s Congress (in effect the standing Executive Committee of the Chinese Communist Party). That is to say, it is a problem of ideology that began with the rise to power of the Communists after the revolution. Better government control will solve the problem. In a sense, Ellis and Shahen are correct; the first SARS-CoV epidemic of 2002 began in the wet markets China. Several zoonotic epidemics began in ‘China and other regions of the world’ including ‘Ebola, HIV, bird flu, swine flu, and SARS.’ As a side note, however, one may question why Chinese wet markets are a primary source of critique here, especially since the swine flu outbreak of 2009 had its origin in North American swine.

In contemporary China, wet markets resurged in the wake of the Great Chinese Famine. Deng Xiaping, Mao Zedong’s successor, lifted state sanctions on peasant farming in order to feed a starving China, permitting open air markets and even local market economies to develop. These open markets, over the ensuing years, became central to the Chinese food economy. Yet, Shaheen points out that they also created conditions where ‘wild animals mix with common livestock …’ forming ‘a deadly combination.’ In addition, the markets permitted the growth of folk medicine and the use wild animal products as ‘magic ingredients in tonics and alternative medicines …’

The Chinese Government has created several new laws in response to the latest outbreak. However, as Shaheen notes:
We should be skeptical about reports of a crackdown on the wild-animal industry in the wake of the Wuhan catastrophe. We don’t know any details about the new laws that have been reported. What will be the enforcement and discipline? Law enforcement in rural China is notoriously lax, in contrast to the cities, where the use of surveillance technology and other means to control the population are widespread. What is the posture toward Chinese medicine, which is a significant driver of the wild-animal industry? While thousands of such west markets have been closed, how did we get to 2020 with such practices in a city larger than the largest U.S. City?\textsuperscript{18}

The problem, according to Shaheen, seems to be rural ignorance and uneducated, magical thinking; it is a problem that the government of China cannot control in the unregulated rural landscape. Proper food production can be suitably regulated in the city, but not in the rural areas; or so the story goes. The problem is one of political ideology.

Moreover, implied in both Ellis’s and Shaheen’s criticisms is the belief that China’s food economy suffers from lack of modernization. The suggestion is that, if China’s food economy was not backward, uneducated, rural, magical, and barbaric, then COVID-19, SARS, swine flu, and avian flu would not have been born. What China needs are modern supermarkets with the proper hygiene, with proper livestock that are not mixed with ‘wild animals,’ and good governmental oversight to maintain proper health standards. The only logical conclusion of such analysis is that Western style technological and market solutions, under the governance of democratic structures, would put an end to these sorts of epidemics and pandemics. The level of analysis, grounded in the humanism that animates liberalism, delimits the questions and the spectrum of solutions that can be imagined.

CULTURES AND MARKETS

The idea that the Chinese wet markets are some sort of premodern set of practices that could be solved by good government and the right (super)market solutions is simplistic. The practices in wet markets are not a problem that admits easily of top-down solutions as they are imagined by Ellis and Shaheen. Wet markets have become an essential part of Chinese food culture, and it could be argued are themselves free markets, something the \textit{National Review} is typically in favor of. Zhong et al., in a study published online in October 2019, prior to the COVID-19 outbreak, describes how wet markets have flourished alongside the rise of supermarkets in China.\textsuperscript{19} The study employs multiple methodologies, including participant observation surveys, vendor surveys, and in-depth customer interviews in urban areas of the Hainan province in both wet markets and supermarkets. The authors attempted to get to the heart of how consumers imagined ‘freshness’ as an idea that drove them to prefer wet markets over supermarkets.

Several themes emerged from the study. First, against Shaheen’s characterization that the wet markets are primarily rural, wet markets exist in urban areas all over China, including Beijing with 182, Guangzhou City with 400, and Shanghai with 985.\textsuperscript{20} They also note that several cities in China have closed down some wet markets using the rhetoric of modernization as the rationale, though Zhong et al. do not say how many markets or what the criteria were for determining which markets were to close and which to stay open.\textsuperscript{21} These wet markets continue to thrive despite the rise in supermarkets that offer bulk pricing, efficiency, convenience of weekly (as opposed to daily shopping), and the use of refrigeration to maintain ‘freshness’.\textsuperscript{22} Unlike in the North American context, notions of industrial freshness have not caught on in China.\textsuperscript{23} Zhong et al. set out to understand why this is the case.
Their findings are revealing. The main reason given by interviewees was that they continued to shop at wet markets for the freshness of the food. While freshness is not easily defined, shoppers at wet markets invoked notions of freshness similar to those found in European countries, like ‘local and seasonal, natural and authentic.’ However, Chinese consumers also had a stronger sense of freshness as a sensorial experience one could find through touch, or could see such as ‘signs of life’ in the food.24 The relationship between the consumer and the vendor provided a link to local farmers, assuring local freshness as well.25 They liked to see live birds and swimming fish that they would choose themselves, whereas supermarkets and technological refrigeration undermined any sense that the food was produced locally; there were no ‘signs of life’ in the supermarkets. Even the need for refrigeration at the consumer’s household was understood to diminish freshness; therefore daily habits of shopping have developed.26

So what? Shaheen, or someone who shares a similar mindset, could respond that the call for increased legislation isn’t hindered by a retelling of the cultural origins of the wet market. In fact, on first inspection, it seems as if the cultural origins and the legal structuring are two different conversation that speak past one another.

On the one hand, as we have shown, cultural origin contradicts Shaheen’s origin story of the wet markets as a corrupt fringe of food production that flourishes in legal dark spots. Wet markets appear to thrive precisely because a culture has grown up around them, and because they supply something that even those in the industrialized West search for, namely freshness. The wet markets thrive for the same reason that farmer’s markets and locally grown food markets have grown in US cities. There seems to be a cultural bias at work here, since the qualities that make wet markets important in the Chinese food economy are similar to those of urbane Westerns. So, the narrative that these markets are primarily backward and permitted only by a corrupt Chinese government would not fit the self-conception of the average person who shops at an urban wet market.

On the other hand, it actually is somewhat true that the conversations go past one another. In fact, this is precisely one of the points we are trying to make! Complex multi-system problems such as COVID-19 inherently resist solutions that proceed down one genre of intervention. The top-down solution to be implemented with legislation by nation-states (whether liberal governments in the West or the communist government of China) finds its origins in philosophical humanism, particularly as received through cosmopolitanism. We are now at a point where we can begin to show the cracks in humanist philosophy and the fractured understandings of normativity it produces.

The logic to which Shaheen appeals for the way nation-states are supposed to interact is a logic of cosmopolitanism, a logic in which nation-states work together procedurally under a kind of loose common morality, grounded in philosophical humanism. As H. Tristram Engelhardt, Jr. points out, philosophical humanism sets out to ground the type of cosmopolitanism that would be found in Shaheen’s argument.27 The language of humanism carries a felicitous vagueness that lends itself to various meanings, most of which carry a positive moral valence.28 The language of the cosmopolitanism that animates the commerce between nation-states gains its generalities at the expense of rootedness.29 Those that aspire to the language of cosmopolitanism aspire ‘to be at home anywhere—except that is, of course, in what they regard as backward …’30 The particular ways in which people carve out their lives—under whatever political regime—is imagined by other political regimes as parochial and simplistic. The drive of humanism is to imagine
a shared unity in humanity, where particular differences are dissolved and all of humankind is bound together around that unity. But as Marshall Berman put it in his analysis of modernity, that unity is ‘a paradoxical unity, a unity of disunity: it pours us all into a maelstrom of perpetual disintegration and renewal, of struggle and of contradiction … To be modern is to be a part of a universe in which, as Marx said, “all that is solid melts into air.”’

As noted by Donald Hodges, the various definitions of humanism stem from Renaissance Humanism, which was a movement of the elites to ground their culture in the learning of ancient Greek and Roman culture. Or, as Engelhardt has so poignantly put it, we ‘should take stock of the words and ideas that cluster around humanism’ and we should ‘appreciate the power of the original insights given articulation by aristocratic, often slave-holding men whose visions still inspire and liberate twentieth-century men and women of both democratic and socialist societies.’ The various humanisms are to be perpetuated in a certain form of literate human culture. In time, humanism began to be something that set itself off against ‘religious’ and ‘backward’ learning and practices, and it became more firmly rooted in Protagoras’s claim that the human is the measure of all things. For the most part, Shaheen’s claim that COVID-19 could have been prevented by better, more cosmopolitan government resembles a Kantian humanism articulated in ‘Perpetual Peace,’ where a league of nations mediates the problems of nation states in a universal cosmopolitanism.

Does it really make sense to claim that the real problem of COVID-19 is a failure of good government and government control over wet markets, and a failure of Communist China to enter into the cosmopolitan league of nations? Zhang et. al. suggest that wet markets’ popularity and butchering methods are more adequately explained by cultural notions of freshness. The spread of the virus is probably more accurately explained by a system of commerce that encourages world travel for holiday and for business. And, even more fundamentally, the existence of wet markets at all bears witness to a human population that feeds off of other animals. It is somewhat ironic that, despite the fact that that the most recent coronavirus outbreaks (SARS, MERS, and COVID-19) have all come from human treatment of animals, that the solution we are grasping for is written in terms of cosmopolitanism.

Now, to be clear, the critique here is not that a cosmopolitan world is in some way undesirable (even if we would want to amend what is meant by cosmopolitanism). Rather, the critique falls on the cosmopolitical tendency to analyze problems in terms of a ‘what can be done’ or ‘what can be enacted legislatively.’ It is doubtless true that a change in Chinese food regulation would have some effect; certainly, it will. Our point is not that a change in regulation could not be part of some mode of action; rather it is that the cosmopolitan deploys an inaccurate analysis to perceive the problem as ‘a failure of Chinese food policy.’ If your only mode of action is to enact legislation (the means by which an idealized humanistic cosmopolitanism enacts change), then you run the risk of perceiving all problems, rather than just parts of their solutions, as legislative problems.

If the COVID-19 outbreak really owes its origins to the human-animal interface, then the decision to clamp down on wet markets only allows the human-animal interaction to slip through its fingers. It will miss the problems created by commonplace practices found in technologically sophisticated countries like the United States that uses broad spectrum antibiotics, for instance, in ‘safe’ beef production. It will miss the extraordinarily dense populations of ducks being raised next to pigs in China. It will indeed miss the question of agrobusiness generally. If it is true that ‘big farms make big flu,’ as it is put in Rob Wallace’s book, then what will have been accomplished by banning wet markets? Certainly pangolin-based zoonotic diseases, such as COVID-19 is suspected to be, will be minimized, but the use of cosmopolitanism as a mode of analysis will be misplaced in the most general sense.
Moreover, the history of cosmopolitan mediation between nation-states has been one of history’s defining mixed bags. Those mixed results have prompted Westerners to imagine a different humanistic solution to problems facing the globe, like COVID-19. All that is needed is better and more modern and technologically sophisticated markets. What is needed is the transnational, neoliberal political economy founded in the Chicago school of economics, which imagines the human as *homo economicus*, which is a vision of the human as a self-interested actor as a utility maximizer.\(^{37}\)

Still others have imagined a broader cosmopolitanism as the solution to problems like COVID-19. But what if the humanism that calls for a cosmopolitanism was too limiting, and if we opened up to a larger cosmopolitanism in which non-human animals are imagined as valuable? Perhaps Kant is wrong that ‘The fields of politics and morality, as they are brought to bear on cosmopolitan thought, are understood as exclusively human fields, even if, as in Kant, there are thought to be greater forces at work.’\(^ {38}\) Given that the origins of many of the most recent influenzas are in livestock agriculture, we ought to take seriously the idea that these pandemics represent a type of ‘return of the repressed’ of potentially cosmopolitical subjects who are perpetually kept invisible. Thus, we must turn to this broader cosmopolitanism to see what it offers and in doing so, we will introduce a mode of thinking in complex systems. Yet, as we shall see, this broader cosmopolitanism is found wanting, too.

**NONHUMAN COSMOPOLITANISMS AND PROBLEMS OF SYSTEMS**

In order to make our point about the problems generated by the human-animal interface, we need to give an extended example. In Cape Town, South Africa, residents are often vexed by local baboon populations. Baboons steal food, look through garbage, and, in more dangerous cases, break into people’s homes or even briefly take children hostage as a diversion tactic:

> [M]onitors and field biologists reported that (baboon) troops based at the tourist destination Cape Point will observe picnics being set out by unsuspecting tourists and when the opportunity presents itself, individual baboons will rush forward and take hold of a human child. The child typically reacts by screaming, as does the baboon, and the child’s family rush to its aid. The moment they leave the picnic unattended the troop descends, raids the picnic, and the hostage-taker releases his or her victim. This is a high-risk behaviour and as a result is not commonplace.\(^{39}\)

Now, it’s understandable that parents won’t long tolerate their children being seized by baboons. It is also true that any political community in Cape Town does not include baboons as part of it. Or, at least, the human residents of Cape Town by-and-large do not want to include the baboons in the political community. In fact, baboons are poorly treated due to their foraging behaviors and the inconveniences to the human community.\(^{40}\)

As we have seen, COVID-19’s origins lie at one level with the wet markets and the culture of shopping in China. However, another way to look at it requires us to set aside a merely humanistic frame and to see how the hoarding of animals, their slaughter and sell in the lively urban areas might lead to the spread. Yet, if we set aside the merely human frame, we might wonder how the animals would vote if given a voice. Is the answer, then, to fold nonhuman animals into the political community? Perhaps if the animals of the wet markets ‘had a voice’, whatever that would look like, then they could have protested their treatment, or perhaps at least cautioned us of the dangers posed by creating such environments. Some thinkers have attempted to rewrite cosmopolitanism to remove its humanist biases.
There are many attempts to articulate a nonhumanist cosmopolitanism, and rather than give a total overview of them, we will instead focus on the portrait given by Eduardo Mendieta in his chapter ‘Interspecies Cosmopolitanism.’ Mendieta attacks a cosmopolitanism that hoists the interests of humans above animals wholesale. Interspecies cosmopolitanism cannot merely think the animal as a human, nor the human as merely animal. With Donna Haraway, Mendieta calls for a ‘robust nonanthropomorphic sensibility that is accountable to irreducible differences.’ Mendieta calls for a process of ‘worlding together,’ by which he means a becoming-with of human and animal together. Humans will have to come to terms ‘with the vertigo of being in a world in which we are no longer exceptional,’ and enter ‘into the messy world of companion species.’ In short, human and nonhuman animals both have their place in an interspecies cosmopolitan order, but such an order must be established without erasing what are ultimately insuperable differences. While humans and, say, orangutans and eels have their place in the order of the world, it is a mistake to say that they have the same interests expressed in the same way.

Yet, Mendieta’s account goes further drawing on theoretical work from Donna Haraway; it troubles human exceptionalism from a different angle, namely the angel of non-human technics. The human has become ‘the informatic or cyborgian, which infolds organic and technological flesh’, which melds the human to a different kind of non-human as well. As Mendieta notes, ‘We are our own domesticated animals.’

Already here the question is not just simply ‘who gets to participate in the cosmopolitan order?’ but ‘who are the participants in the first place?’ It turns out that human exceptionalism is compromised not just outwardly in the face of the nonhuman animal-other, but also inwardly in the inability to neatly delineate the supposedly integrated whole of the biologically human individual, given that individual humans have fluid boundaries between the taken-for-granted human body and the microbiome, and the human-technology relationship of say supermarkets, for instance. We will discuss the importance of ‘nonhuman technics’ in more detail shortly, but even when addressing the foundations for a new cosmopolitanism, which must be ‘rethought in terms of not just a legal/political order of rights, of mutual rights and duties, that extends to only human subjects, but now of rights and duties that must be extended to the entire space of nature, of the cosmos, of that physical horizon in which we live, to which we belong, along with every other living being on the planet.’ Political analysis, then, extends well beyond a list drawn up of humans with a few ‘higher-level’ animals added in.

What is not immediately clear or certain, though, is the extent to which the nonorganic is an actual participant in the cosmopolitan order. Surely one would not expect a ‘citizen mineral’ to have a vote in the polis! Mendieta acknowledges a seeming contradiction at the core of his own broader cosmopolitanism.

On the one hand, there is a reference to the whole wide world, to the universe, to the boundless expanse of nature, the known and unknown ‘cosmos’. On the other hand, there is a reference to an all-too human notion, to a circumscribed, limited, fragile, and at times unacknowledged institution, namely the polis as a realm in which humans rise above nature in as much as they live in a world made according to laws they dictate.

In short, the concerns of the participants in a cosmopolitan order reside in a scope beyond the immediate reaches of the cosmopolitan order itself, and as we have hinted, in a scope beyond the humanism on which it is founded. In other words, there is a dimension beyond any human boundary-drawing that is a work and over which the human act of boundary-drawing has no effect.
Take, as a paradigm example the albedo effect. Large sheets of snow help keep the earth cool by reflecting light that would otherwise be absorbed into the earth’s surface. As the snow sheets melt, this creates a runaway effect. Less snow means less light reflected. Less light reflected means the ground absorbs more light. As the ground absorbs more light, it makes the global temperature warmer. As the global temperature warms, it causes more snow to melt, which causes less light to be reflected, etc. The effect builds upon itself, and, importantly, it is a system which is unaffected by the promulgation of laws.

Now, we are not saying that human law or human efforts have no ultimate effect on the runaway albedo effect. It is true that if humanity lowers pollution and slows global warming, then the runaway of the albedo effect could be slowed or even halted. However, the point here is that law _qua_ law does not draw a response out of the system circumscribed by the albedo effect. The law needs other mechanisms of mediation in order to draw any response. This seems obvious, but it is often not so, and the frustration of this inexchangeability (i.e. of the promulgation of law with law’s downstream effects) often goes unnoticed. The norms or regulating principles of a system are often called that system’s ‘laws,’ but this creates a slippage between law in the physical/social/chemical sense and law in the judicial or moral (i.e. natural law) sense.48

To demonstrate this, let us return again to the Cape Town baboons. Certainly, the human residents of Cape Town hold baboons and other humans to different standards. However, (t) he baboons themselves … treat humans in a consistent and, it could be argued, inherently moral manner. They engage with humans in much the same way that they engage with other baboons. Trying to appreciate what baboons believe about humans is a difficult but not impossible task.49 Although we had mentioned earlier that baboons might briefly seize a child as a diversionary tactic, this is something they are willing to do to other baboon troops as well and constitutes what we might say they consider ‘fair treatment.’ Samantha Hurn describes in her own field work how close contact with Cape Town baboons led to her and her research group being tolerated as strangers. On occasion, she found herself so close ‘to mothers carrying their babies as they foraged’ that she ‘inadvertently brushed against them.’ While the mothers glared and tutted disapprovingly, she was never subjected to any hostility and was often included in the conversations of the baboons.50 Social regulative principles very much exist in baboons and have real effects on the world, but they are not laws in the same way that humans make laws. They are not human laws, but they affect the way baboons interact with humans and thereby also vice versa. Yet, human law has problems when approaching baboons. Namely: law _qua_ law does not draw responses out of baboons.

Baboons have no sense of property _tout court_51 and do not speak English. They therefore inevitably fall out of the human legal order, despite taking part in a normatively regulated social order in their own right. In its own right, it would make no difference to a baboon if humans established a law which sentenced baboon home intruders to death. It will only draw a response when those baboons actually start getting killed.

This brings us to our key point, namely the kind of thinking that happens in systems: forces which draw responses out of one system do not necessarily draw responses out of other systems, even if their downstream effects can. But, regardless, many forces which draw responses out of one system must be _transformed_ before they draw responses out of others. Let us look back to the Cape Town baboons one final time. Imagine the case where a baboon raids a house for food and angers the homeowner. Do baboons respond to the anger of humans? Not immediately! The anger must be transformed or channeled, say in negative facial expressions or in an outward expression of force, in order to disperse the baboons. Yet, it is a grave mistake to say that the homeowner’s anger is impotent short of its being transformed such that it draws a response from the baboons. The feelings of anger certainly draw responses from the homeowner themselves.
It will change hormone secretion, affect emotional equilibrium, and so forth. Similarly, even for humans, law *qua* law usually does not immediately draw a response. Law depends on police, courts, prisons, cultural reverence for law, in short a whole assemblage of symbolically mediated apparatuses.\(^{52}\)

So, which of these systems is more real than the other? Is it the self-contained emotional state of the homeowner or the complex formed by considering the homeowner in relation to the baboons? Or is it the troop of baboons itself, even? For the purpose of sharp analysis, we must reject any system as fundamentally *more real* than another. If a set of systematic relations exists, it exists. The task of analysis is to locate and identify which systems seem most relevant to the types of questions being asked. This problem is, perhaps, cosmopolitanism’s chief pitfall. Cosmopolitanism, by denoting an ethical-political order works by assessing the states of the *ethically* relevant members who constitute the cosmopolitan order—an *ethical* system in which animals and viruses do *not* forthrightly participate. As a result, however, the tool for ethical assessment tends to bleed over into analysis in and of itself. But, just as the runaway effects of the albedo effect are not merely emergent properties from a more fundamental system of law, so too is the state of the cosmos understood in the largest sense not simply emergent from the state of the cosmopolitan project. So, the humanist and anthropocentric mode of engaging COVID-19 runs into similar sorts of problems, especially around the human-animal interface.

**TECHNO-CULTURAL APPARATUSES AND VIROID LIFE**

Picking up on some of the points to which we alluded in reference to Haraway, the problem of COVID-19 must now be considered form the point of view of the non-human world of technics. Just as humanistic analysis misses something ethically important at the human-animal interface, we now turn to the human-technics interface. There are several ways in which technics might be seen as participating in the problem. On the positive side, we can imagine more widely available and widely accepted refrigeration technologies, which might result in the reduction of wet markets, and which, in turn, might reduce the interaction of wild-animal, domesticated food animals, and humans, thus reducing the rate of transmission of viruses for zoonotic hosts to humans. On the negative side, of course, this ‘better-world’ would come at the price of a larger carbon footprint as the result of increased electricity needed to make this a possibility. Or we could see the problem as one in which the COVID-19 pandemic is the result of globalization made possible by the technologies of mass transit. Technology, then can be imagined as both the slave and the master. In this sense, we might imagine technology as having some form of agency or impacts upon the world, some of which are unintended consequences of human actors and consequences outside human anticipation.

To bring further clarity to this way of thinking about the problem of COVID-19, we turn to the work of Bernard Stiegler in his three-volume work, *Technics and Time*. Stiegler sets out to argue that while we tend to believe that technology is inert and only gets deployed through human intentionality, the realities of technological activity are much more complex. Our way of imagining technological activity owes its vision to a long history. First, Plato’s distinction between *episteme* and *techne* (and thus the distinction between philosophy and sophistry [Protagoras’s ‘man as the measure of all things’]) sets the epistemological trajectory of Western philosophy in motion; *techne* and the technical arts are merely instrumental, an instrument of sophistry. Second, Aristotle’s distinction between natural and technical beings is that natural beings having their own motion within themselves, and technical objects only have their source of motion outside themselves; this distinction set the trajectory of Western
thinking on ontology, such that technical objects are imagined as inert, relying solely on the intentions of the human animal for their motion. Third, Larmarck introduces the distinction between living and nonliving beings on the grounds that living beings are organized and distinct from nonliving beings, even those that have mechanical motion. Thus, Stiegler concludes, in the mainstream Western way of thinking, technical objects are more like rocks than they are like living beings, which are organized and ordered to some end. ‘Lodged between mechanics and biology, a technical being came to be considered a complex of heterogeneous forces.’

In fact, technology has its own automaticities—self-motion—and its own tendencies that are not fully under human control. One need think only of an assembly line, in which there are machines building machines. The machines carry the human intentions forward to build cars, for example, but the human actors in the factory are marginal to the activity. The humans are there only to assure the smooth running of the machines; the machine calls for human activity only when the machine fails. Humans are responsive to the machine, as much as the machines are responsive to the human will.

Blown up to the scale of thinking about technology as a technological system, we can see the global techno-capital system. An example used by Stiegler will be illustrative of his point. The use of tariffs on the importation of English iron into France in the mid-19th Century. With the tariffs in place, and with the decrease in cheap English iron, France could not develop the strong steel rails that could support the weight of more powerful steam engines. Thus, France lagged behind England in technological development and had to change its tariff laws in order to enter back into the system of technological development. In other words, technology leads in its own development and the economic system is really there to support the progressive movement of technological innovation. In fact, novel, progressive, and indeed permanent technological innovation sets the horizon of the cultural imaginary. Technology leads culture, which is to say it leads cultural evolution. Life evolves by means other than life itself—namely by technological mediation. Permanent innovation sets the pace of evolutionary development.

On Stiegler’s account, just as technology sets future development, it also shapes the past. To make this point, Stiegler notes that there are three modes of inheritance that shape the human being. The first mode is genetic inheritance, which is the unconscious biological inheritance that bequeaths to human life its biological foundations. The second form is what he called epigenetic inheritance, which is the conscious awareness of one’s own lived experience. This form of inheritance could include the conscious awareness of the genetic inheritance, and the meaning or significance of the biological genetic inheritance for lived experience. Epigenetic inheritance is simply the routine memory of an individual, shaping her particular projects. The third form Stiegler calls the epiphylogenetic inheritance, which is the inheritance of the past that is recorded in and through our technologies. This inheritance is technologically mediated by books or by monuments, or recordings. It includes institutions like libraries and universities that carry the past into the present shaping how human actors imagine the future. Human evolution is technologically mediated by this epiphylogenetic inheritance.

While certain features of the technologically-mediated, epiphylogenetic inheritance fall into the background and may no longer shape the future, other features that conform to the goal of permanent innovation come into play, such as the triumphalist history that construes technological innovation as progress. That is, human actors come to imagine any form of technological innovation as progress for the benefit of perpetual innovation. It is thus not so much biological inheritance that drives human evolution and human culture; rather it is the disruption created by technological innovation that recursively comes to shape
culture and cultural memory, or the cultural memory that matters for the sake of permanent innovation. Again, life proceeds by means other than life.

Stiegler, in a sense, has given us a vision of life that moves away from genetic evolution and the anthropomorphism of the selfish gene. Technics even sets the agenda for what comes to be imagined as progress. Thus, Stiegler is giving new life to a kind of Lemarckian version of inheritance and evolution. In light of COVID-19, the CoVs are themselves riding on the back of technics. Technics participates in the evolutionary process that permits viral replication and mutation, and both viral and human evolution. Life proceeds by means other than life.

However, Keith Ansell Pearson suggests we should be wary even of those, like Stiegler, who collapse ‘bios and technos into each other,’ and who, in doing so collapse into a kind of political naïveté. Doing so, they produce ‘a completely reified grand narrative of technology as the true agent and telos of natural and (in)human history.’ They also restrict ‘technics to anthropos, binding history to anthropocentrism, and overlooking the simple fact that the genesis of the human is not only a technogenises but equally, and just as importantly, a bio-technogenesis.’

Thus, it is obvious that even Stiegler sneaks in anthropocentrism. While Stiegler is certainly more sophisticated than those who place so much emphasis on the arrival of technology as the next stage of becoming—the arrival of the silicon age—trans-humanists forget that bacteria have engaged in a prehuman ‘metallurgy’ with their ‘use of magnetite for internal compasses’ long before humans arrive on the scene. Apropos to our task here, Ansell Pearson notes, ‘creative evolution on earth would have been impossible without the genetic engineering that characterizes viroid life.’ In other words, we have come full circle to viroid life that is SARS-CoV-2. Ansell Pearson, following Deluze and Guattari, but also correcting them, understands life and its evolution as a process of involution and a process taking place in what he calls the mechnosphere. It is the ability of viruses to ride, not just on biological entities but on technological entities, products of artifice created by humans that governs evolution. Ansell Pearson encourages us to think of it in terms of a mechanosphere, where viroid life is imagined as mechanics. If we think in nonhumanist or non-anthropocentric terms—insofar as that is possible—we might have a better picture of what the human is up against in the midst of this multivalent mechanosphere. The human trick, however, is to not lose hope in the face of a world where human agency seems so impotent.

CONCLUSION

What we have attempted to do is to show the possible limitations to the dominant humanist approach to the COVID-19 pandemic. We have asked the questions, ‘what might be contributed to human moral reflection if the human is decentralized; what do we gain in terms of normative leverage points if we move away from anthropocentrism in order to think the dynamism of the whole?’ We have argued that the humanist cosmopolitan approach itself constricts what it is possible for us to think, and thus constricts where it is possible for us to imagine points of intervention. The distinction between and unilateral preference for organisms (viruses, animals, humans), inorganic beings (viruses and technics), and engineered artifacts (technologies) seems inadequate to the realities COVID-19. When thinking of COVID-19 as a viral problem, or a problem of viral mutation, or a problem of public health, or as a problem amenable to nation-state control, or as a legislative problem amenable to cosmopolitanism, or as problem of the failures of technocapitalism, one is limited by the places where normative interventions can find a footing. The reality of viroid life is not solely a question of the N protein, or the S protein, or RNA viral mutation; it is also a question
of wet markets, and cultural values, and technocapitalist apparatuses, on which viroid life rides. In fact, this rather simple virus, SARS-CoV-2, now rides on a larger evolutionary scale, mediated in part by culture, by law, by technology; and even on the cosmopolitan philosophy held by modern natation states. Its own survival depends, not directly on the metal, or on the machines, but on the shifting boundary points between a variety of systems. We have argued then that by an appeal to non-humanist (and thus, non-normative) ways of thinking, we can catch a larger glimpse of the vast multivalency of the problem, and possibly even of novel places for human normativity to gain purchase.

Perhaps our own interests, then, depend on the imaginative ability of the human animal—the activity of human mind to imagine beyond its own being. Many of the popular, typical responses to pandemics like COVID-19 are ready-made and tool-like; in fact, the tool-like responses themselves are what frame the question. Each way of taking up with the problem, each way of questioning COVID-19 has its ready-made tool-like solution in mind. And each way of taking up with COVID-19 constrains what is possible to imagine, limiting the spectrum of possible answers. The different levels of reality all too often exceed a ready-made conceptual construction or tool-like intervention. These human-centric approaches focus on humanity, its ability to act, and what affects it and thereby constrinct what is possible for us to think. Much is left hidden from our taking up the pandemic we now face.

We would therefore do well to see the origins COVID-19 through a non-humanist lens. In fact, COVID-19 itself poses a unique opportunity to perform such an analysis. The virus, its origin, its proliferation, and its effects, stretch across many different domains. The rapidity of the pandemic has meant that its ‘shocks to the system’ have not yet had time to be absorbed or recuperated by more traditional, narrow forms of analysis. Rather than focusing our diagnosis on the virus-animal, or the virus-human, or the animal-human, or the human-culture, or the human-technics, or the technic-virus interface, we must instead acknowledge a reality that does not forthrightly fit into our systems of thought. To uncritically privilege any one of these interfaces over the others can have devastating consequences.

Our technical modes of taking up with the world are themselves products of histories not of our own choosing, making our ways of enframing the cosmos provisional. The cosmos continually overflows narrow analysis, particularly where the cosmos itself is already intensely multivalent and in flux. The problem seems to be that, at whatever level our moment of engagement, there is no escaping the human dimension because every imaginative engagement that the human makes brings with it an element of human subjectivity. How could our thinking not be human?

While it seems odd, we have argued that our self-interested moral desire to continue human survival depends on us being able to abstract from regnant humanisms and anthropocentrisms. One must not confuse the tool for evaluation (e.g. whether our survival is ‘going well’) with the tool of diagnosis (e.g. what the world around us is like). Perhaps by doing so, we can find places to deploy normative interventions that are to our best interests for the kind of being that the human is, but also circumscribed by the kind of relation we are in with non-human things, whether viruses, animals, or technological beings. Our intervention here also brings to the forefront another set of questions about normativity. Can normativity be established from such nonhumanist approaches? Isn’t normativity, by definition, a product of the human? Of course, even in following the nonhumanist advice of Ansell Pearson and imagining all of reality as a dynamic unity, a kind of mechanosphere, one is still engaged in the human act of imagination. Viruses are little machines that contribute to the movement of information across species; cultural apparatuses move information across time, the human culture participating even in the evolution of viroid life—all an activity of the human.
Thus, problems like COVID-19 sit at the crossroads of a plurality of different systems, discourses, cultural formations, and realities that resist easy conceptualization. We should reject the over-simplifications of seeing the problem as one of wet markets in China, or food economies world-wide, or ‘a failure of legislation’, or what have you. Rather, by setting aside the various humanisms and by imaginatively stepping outside the normativity in the various humanisms, we might open towards new and difficult diagnoses. By doing so, other anchor points where normative leverage may be deployed might come into relief. COVID-19 straddles too many different systems: culture, cuisine, diet, economic practice, and so forth, for narrow humanisms.

We hope that our analysis makes possible thinking of points of normative intervention that both acknowledge the complexity of the cosmos while also resisting false and simple answers given by those who would attempt to isolate and exalt narrowly bounded systems. COVID-19 is both a paradigm example of a problem which over-flows hastily erected boundaries as well as an example of a problem that demands urgency. We hope that our work is a meaningful contribution to the powerful analysis required to confront it.

Notes

1. Coronaviridae Study Group of the International Committee on Taxonomy of Viruses, “The Species Severe Acute Respiratory Syndrome-Related Coronavirus: Classifying 2019-NCoV and Naming it SARS-CoV-2” Nature Microbiology 2020; 5: 536-544. Another area not addressed in this essay is the question about the inability of different scientific systems to intersect with one another. While the Coronaviridae Study Group (CSG) calls for better and consistent taxonomic designations and better communication between the virologists of CSG and public health science and practitioners, in part we would argue that there is always slippage between different scientific construals even if taxonomy does the work that the CSG imagines it will do. After all, one could create a system of naming the viruses that fits within the nucleotide or proteonomics, or in terms of the infectious mechanism, or in terms of spread of the virus. There will always be varying degrees of overlap in the scientific taxonomies created.

2. Jiabao Xu, Shizhe Zhao, Tiesahn Teng, et al. “Systematic Comparison of Two Animal-to-Human Transmitted Human Coronaviruses: SARS-CoV-2 and SARS-CoV” Viruses 2020; 12 244: https://doi.org/10.3390/v12020244.

3. Xu, Zhao, Teng et al. 2020; CSG 2020.

4. Experts question whether or not this is due to testing biases seeing as probably only the most severe cases sought hospitalization.

5. Noah C Peeri, Nistha Shrestha, Md Siddikur Rahman, et al. “The SARS, MERS and novel coronavirus (COVID-19) epidemics, the newest and biggest global health threats: what lessons have we learned?” International Journal of Epidemiology 2020, 1-10; https://doi.org/10.1093/ije/dyaa033.

6. Kayla M. Peck and Adam S. Lauring, “Complexities of Viral Mutation Rates,” Journal of Virology, 2018; 92(14). https://doi.org/10.1128/JVI.01031-17.

7. Xu, Zhao, Teng et al. 2020.

8. Xu, Zhao, Teng, et al. 2020. We do not entertain the question about whether medicine and the use of ACE inhibitors or other medication might have also exerted some as yet unexplained evolutionary pressure on the CoVs, though an investigation of this question would fit nicely into the overall narrative we are trying to construct about how one ought to conceive of the origin / problematic of the COVID-19 pandemic.

9. Peck and Lauring 2018; Xu, Zhao, Teng et al. 2020.

10. See, for example: Rob Wallace, Big Farms Make Big Flu, (New York: Monthly Review Press, 2016).

11. Wu et. al. “The outbreak of COVID-19: An overview,” Journal of the Chinese Medical Association 83, no. 3 (2020): 217-220.

12. Sam Ellis, “Why new diseases keep appearing in China: Why COVID-19 was bound to happen” Vox, March 6, 2020. See also, Sam Ellis’s Vox Atlas piece, “How wildlife trade is linked to coronavirus”, March 6, 2020. Accessed March 27, 2020. See also Julia Belluz, “Did China downplay the coronavirus outbreak early on?” Vox January 27, 2020. Accessed Mach 31, 2020.

13. Therese Shaheen, “The Chinese Wild-Animal Industry and wet markets must go” National Review, March 19, 2020. Accessed March 25, 2020.

14. Shaheen 2020.
Perhaps even more provocatively, it is not clear why this problem isn’t conceived of as one of animal consumption generally. This is not to suggest that one of the conclusions of our paper is that we all ought to adopt a plant-based diet per se, but it is an interesting illustration of the limits of imagination that one of the primarily takeaways of COVID-19 in public discourse has been how to manage the vast amount of agricultural animals more safely rather than to suggest that there be fewer such animals in the first place.

Shaheen 2020; Ellis “How wildlife” 2020.

Shaheen 2020.

Shuru Zhong, Mike Crang, Guojun Zeng, “Constructing freshness: the vitality of wet markets in urban China,” Agriculture and Human Values, 2020; 37:175-185, 177. The paper was accepted in September 2019, and based on fieldwork done from May 2016-July 2017 and in part of 2018.

Zhong, Crang, and Zeng 2020, 178.

Zong 2020, 178.

Zhong et al., 176.

S. Friedberg, Fresh: A Perishable History, Cambridge, MA: Harvard, 2009.

Zhong 2020, 179.

Zhong 2020, 181.

Zhong 2020, 180.

H. Tristram Engelhardt, Jr. Bioethics and Secular Humanism: The Search for a Common Morality, Eugene, OR: Wipf and Stock, 2011, p. 38.

For the way this felicitous vagueness plays itself out in medical educational arenas, see Jeffrey P. Bishop, “Rejecting Medical Humanism: Medical Humanities and the Metaphysics of Medicine,” Journal of Medical Humanities 2008; 29(1): 15-25.

Engelhardt 2011, 38.

Alasdair MacIntyre, Whose Justice, Which Rationality? Notre Dame, IN: University of Notre Dame Press, 1988, 388.

Marshall Berman, All that is Solid Melts Into Air, New York: Simon and Schuster, 1982, 15.

Donald Clark Hodges, “Marx’s Contribution to Humanism” Science and Society 1965; 29(2): 173-191, 177.

Engelhardt 2011, p. 43. It should be noted that the liberalism that animates many Western governments and the socialism that animates communist governments (even in China) stem from Western humanist philosophy. See for example Hodges, “Marx’s Contribution,” 1965. See also Reobert E. Gahringer, “Liberalism and Humanism”, Ethics, 1955; 66(1): 36-50; George Lichtheim, Marxism: An Historical and Critical Study, New York: 1961.

And, given what we currently know of the origins of this disease and of influenzas generally, this seems quite likely!

Rob Wallace, Big Farms Make Big Flu, (New York: Monthly Review Press, 2016)

We will elaborate on this point later in the paper. But, in a word, what is meant here is that it is a mistake to use the cosmopolitical methods for arbitrating dispute, say in the context of a league of nations, as the primarily tool for analysis of a situation generally. In this case, the question of “what could China change in its domestic food regulation” is certainly a cosmopolitan question, but it loses sight of the complexity of the different systems functioning in the COVID-19 pandemic.

For an analysis of homo economicus see Jeffrey P. Bishop, M. Therese Lysaught, and Andrew A. Michel, Chasing After Virtue: Neuroscience, Economics, and the Biopolitics of Morality… in progress.

Andrea Haslanger, “The Cynic as Cosmopolitan Animal,” in Nagai et. al. (eds.) Cosmopolitan Animals, (New York: Palgrave Macmillan, 2015), 31.

Samantha Hurn, “Baboon Cosmopolitanism: More-Than-Human Moralities in a Multispecies Community,” in Nagai et. al. (eds.) Cosmopolitan Animals, (New York: Palgrave Macmillan, 2015), 158.

Hurn, “Baboon Cosmopolitanism,” 160.

Donna Haraway, When Species Meet, (Minneapolis and London: University of Minnesota Press, 2008), 90.

Eduardo Mendieta, “Interspecies Cosmopolitanism,” in Delanty (ed.) Routledge Handbook of Cosmopolitanism Studies, (New York: Routledge, 2012), 278-279.

Mendieta, “interspecies Cosmopolitanism,” 279; Mendieta is citing Haraway, When Species Meet, 2008, 12.

Mendieta, “Interspecies Cosmopolitanism,” 279.
Although, as has been suggested here and will be demonstrated later, it is mistaken to think of “humans” as one thing over here and “technics” as another different thing over there. They are hopelessly entangled, though this observation ought not to be morally evaluated simply in terms of its ability to blur the line between what might traditionally have been thought as two different metaphysical species.

Mendieta, “Interspecies Cosmopolitanism,” 282.

Mendieta, “Interspecies Cosmopolitanism,” 279-280.

For the purpose of clarity, from here on out in this paper, “law” is reserved for the judicial law, except where noted.

Hurn, Baboon Cosmopolitanism, 160.

Hurn, Baboon Cosmopolitanism, 161.

Or at least not in the sense of having legal title over something.

This is, in part, why a nation-state refusing to abide by international regulation is such a puzzling problem for the international community writ large. Often the first response is something to the effect of “but wait, you can’t do that!”

Stiegler, 1998, 1.

Bernard Stiegler, Technics and Time, 1998, 1-2.

Stiegler, 1998, 2.

Stiegler, Technics and Time 1998, 32-33.

Stiegler, Technics and Time, vol. 1 1998; 17-19, 136-145.

Note that Stiegler uses terms that may have other meanings in the natural sciences. Their technical meanings are given here and ought to be carefully separated from their ordinary usage.

Keith Ansell Pearson, Viroid Life: Perspectives on Nietzsche and the Transhuman Condition, New York: Routledge, 1997, 124.

Ansell Pearson 1997, 124. Italices in original.

Ansell Person 1997, 133.

Ansell Pearson 1997, 133.