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SPECIAL ISSUE

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LESSONS LEARNT FROM A PANDEMIC: COVID-19 IN PERSPECTIVE

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CONTENTS

I. Setting the scene

LESSONS LEARNT FROM A PANDEMIC: OUTLINE

ELISABETH HSU

This *Special Issue* on 'Lessons learnt from a pandemic' presents the voluntary collaboration of the entire cohort of first-year medical anthropology master's students at the University of Oxford during the still ongoing COVID-19 pandemic in the 2020-2021 academic year. All lectures, seminars, supervisions and tutorials were held through e-communication during the several months of lockdown. Hence this joint project was envisaged specifically as a way of creating a community while in lockdown, welcoming personal initiative and fostering resilience in this extraordinary year. In medical anthropology at Oxford, a 2500-word essay is written weekly in term time, and tutorials in critical medical anthropology alternate with others on ecological approaches to biomedicine. In the first trimester of this year, of the three essay prompts, every week students could choose one addressing COVID-19. These essays were single-authored, and the students received feedback on them in the tutorials. They were then asked to resubmit their essays either revised on their own or in co-authorship in the following term.

This Special Issue presents the essays in five sections: 1. 'Setting the scene'; 2. 'Policies and predispositions' (as they affect the public); 3. 'Efficacious metaphors' (together with individual narratives); 4. 'Reproducing inequalities'; and 5. 'Outlook: coevolution and ecological public health'. It nicely reflects the contents of the teaching in medical anthropology at Oxford in the first term.

As the first essay on Rosenberg's dramaturgical form of epidemics shows, policies to contain the pandemic have been constantly changing globally at very short notice, curtailing civil liberties and collective enterprise, rendering people frustrated and disoriented, and sending some into depression. There has been a lack of co-ordination between countries: each has asserted its own sovereignty, while furtively looking over its neighbour's shoulder and copying how the most influential countries are dealing with this unknown.

The second section on 'Policies and predispositions' thereupon presents three thematically related essays: two on ideological prioritizations regarding 'data surveillance' and 'mask-wearing' respectively, to which the third essay responds with some reflections. From the start, the difference between China, the alleged culprit, and Western 'democracies' has been emphasized, thereby reproducing the age-old orientalist bias that contrasts the collectivist East with the individualistic

West. The assumption is that peoples' willingness to follow guidelines and their educational and religious predispositions are specific to society and subculture, yet the essays raise issues that show, from a critical medical anthropology perspective, that in the case of COVID-19 the policies governments adopted have been just as place-specific and are not always bio-scientifically justified.

The third section on 'Efficacious Metaphors?' discusses how policies affecting the public impact on individual experiences of the pandemic. It highlights how issues studied in medical anthropology are framed, critically and bioculturally examining what people do when they speak of health and well-ness, of illness, disease and dis-ease, of sickness and local biologies, or situated biologies. Routine though these questions may appear, and however much of an exercise in definitions they may seem, the two essays presented in this section highlight how the disease paradigm informed the understanding of COVID-19 as a sickness and its treatment through current public health and biotechnological measures. Meanwhile, they also show how very little is yet known about COVID-19 as an *illness*, how it affects individuals, and what kinds of home-based remedies, self-help techniques and primary care facilities its sufferers have made use of.

Photo 1. Photo by Mike Erskine on Unsplash (https://unsplash.com/s/photos/capitalism)

The fourth section addresses the persistent problem of health and social inequality. A pandemic causes a crisis situation; the old collapses, you would have thought, and the new takes off. So, if capitalism (Photo 1) is to be blamed for the ruthless encroaching on our companion species' habitats and for fragmenting the bases of their livelihoods, why is no further radical and

fundamental re-thinking happening? Where are the platforms for defining a world that does not encroach as relentlessly on the habitat of wildlife whence zoonotic pandemics originate? Why is there no discussion of reducing flights, or the shipping and transport industry? Why is the problem of speed not questioned but rather cultivated through ever fancier electronic gadgets? The UK was unprepared a year ago, but it has become a world leader with its vaccination scheme (after Israel). Why is the technocratic solution winning again and thereby reproducing given structures of inequality? Given the monthly £1 increase in salary for essential care-workers in the NHS, why do gender and other discriminations of all sorts persist, all exacerbated by increased constraints and structural violence, rather than turning this health crisis into an opportunity to address our chronic social ills?

It is important not to be tunnel-visioned and not to focus merely on humans, human health and human ecology, but to care for biodiversity. The *Special Issue* ends, in its final and fifth section, with a plea to foreground considerations of co-evolution and to cultivate a sensitivity for biodiverse ecologies in public health as well.

STAGING THE COVID-19 PANDEMIC:
REVISITING ROSENBERG'S DRAMATURGICAL FORM OF EPIDEMICS

SONORA ENGLISH

Epidemics are biosocial events. However diverse their biology may be, they share a common dramaturgical form (Rosenberg 1992); each epidemic has a beginning, follows a plot of increasing and revelatory tension, approaches a climax of crisis, and eventually fades to an end. Rosenberg described this dramaturgical form of the epidemic in response to the AIDS crisis in the USA, an epidemic that served as a stark reminder that the Global North was also susceptible to the perils of infectious disease. Now the COVID-19 pandemic has again reminded us of our collective vulnerability. The emergence of and responses to SARS-CoV-2 have differed greatly between countries. Some, such as China, have carried out well-coordinated responses to coronavirus, minimizing excess deaths and successfully containing transmission after the initial outbreak. Others, in contrast, have seen high rates of excess mortality due to incoherent and poorly directed response strategies; the UK should be placed among the latter. This essay will argue that the diversity in local responses to SARS-CoV-2 can be meaningfully examined through the lens of Rosenberg's dramaturgical model of the epidemic by comparing the emergence of and responses

to COVID-19 in China and the UK respectively. In so doing, it will reveal the pandemic as at once a localized and a globalized biosocial phenomenon.

Act I. Emergence of an epidemic

According to Rosenberg's model, in Act I of an epidemic, suspicious cases start to arise, but the aetiology of the illness remains unclear. During this act, experts may suppress their anxieties or be silenced by the authorities, who remain unwilling to acknowledge the looming threat publicly. Public acknowledgement inevitably threatens the institutional and economic interests of the authorities, as well as the emotional assurance of ordinary people and the maintenance of public order. Nevertheless, the public is not necessarily naïve to the mounting risks, especially as increasing fatalities occur. It is often not until deaths and suffering have patently accumulated that a threat is officially recognized. With this recognition, the act ends (Rosenberg 1992).

COVID-19 first emerged in Wuhan, China, as the story goes, in December 2019. A patient with a pneumonia of unknown aetiology was identified on 8 December, and soon a cluster of patients with this diagnosis emerged (He et al. 2020). By 31 December the cluster had grown to 27 cases, and the WHO China Country Office was alerted to the existence of this unknown disease. These cases were all traced to a wet market in Wuhan. On 1 January 2020 the market was closed (AlTakarli 2020). This, however, did not mark an official acknowledgement of the pandemic-to-be, as no further measures were implemented. On 9 January the causative agent of the patient clusters was identified: SARS-CoV-2 (ibid.). Despite warnings from whistle-blowers, no measures to curtail the spread of coronavirus were implemented until 10 January, and even then they were insufficient (Pan et al. 2020). The imposition of COVID-19-specific measures can be considered to mark official recognition of the threat from the disease in China.

SARS-CoV-2 has now created a global pandemic, or an epidemic impacting on the global community. However, the dramaturgical form of COVID-19 has played itself out differently in different countries, with each epidemic progressing through its dramaturgical course in its own way. For example, the emergence and acknowledgement of COVID-19 in China did not prompt acknowledgement of the epidemic threat in the UK. Globalized information networks allowed the UK government to follow the spread of the pandemic and anticipate its arrival but did not prompt it to take significant action. In fact, while the first UK local transmission of SARS-CoV-2 appeared on 28 February 2020, the UK government did not raise its threat level to high until 12 March or give official advice on social distancing until 16 March (Drury et al. 2020). The bar for action that would constitute recognition of COVID-19 in the UK is admittedly higher than that previously described for China. However, I believe that this is a reasonable distinction to make, given that the

UK had witnessed the severity of countless COVID-19 epidemics in other countries, providing the government with insights into what policies would constitute genuine action.

Act II. Conceptualization of arbitrariness

Following acknowledgement that there is an epidemic, a framework for understanding its arbitrariness must be established. These frameworks of understanding help people rationalize their susceptibility through risk factors such as behaviour, lifestyle and the environment. For example, by conceptualizing the mode of transmission of a disease, a measure of understanding and a sense of control is acquired (Rosenberg 1992).

During the COVID-19 pandemic, many conceptualizations of the disease have emerged. This essay focuses on the scientific frameworks that were developed to understand COVID-19 due to their relevance to the national responses seen in China and the UK. The events in Act II that are most significant to policy decisions were the confirmation of human-to-human transmission of the SARS-CoV-2 virus in China and the recognition of its transmission through aerosol droplets (He et al. 2020; Lupton 2020). In this understanding of COVID-19, people of all social groups and geographical regions are at risk of infection if they leave their homes or interact with potentially infected persons (Lupton 2020). Nevertheless, the risk of severe illness and mortality from the disease is not equally distributed: the risk is much higher for people aged sixty and over and for those with pre-existing conditions (Liu et al. 2020; Aveyard et al. 2021).

While frameworks of understanding COVID-19 are based predominantly on scientific research and advice, conceptualizations do differ between countries. For example, in the UK the government initially conceptualized COVID-19 as posing a limited local risk. This conceptualization of COVID-19, like all frameworks developed to understand it, has had significant effects on the public response (Drury et al., 2020).

Act III. Response

In Act III, the sense of crisis produced by the epidemic elicits moral and political pressure for a decisive and visible community response. The response is predominantly guided by the conceptualizations of the epidemic developed in Act II, but significantly the public health responses that were adopted also reflect cultural attitudes (Rosenberg 1992).

While the COVID-19 pandemic has undeniably unfolded on a global stage, the differences in its local forms can be seen most clearly through national response strategies. Strategies have varied significantly between countries, as can be seen below through the examples of China and the UK (Hale et al. 2020).

China

COVID-19-specific restrictions were first put in place in China on 10 January 2020, the first day of the Spring Festival travel season, or *Chunyun*. During *Chunyun*, millions of people were expected to travel around the country for holidays and to visit their families for the Chinese New Year. Nevertheless, restrictions implemented during *Chunyun* were limited and did not restrict movement within or between cities (Pan et al. 2020). Following confirmation of human-to-human transmission, and facing medical shortages and patient crowding in hospitals, more forceful response policies were put in place (ibid.). On 24 January, Wuhan and the whole of Hubei province went into lockdown, with airports, public transportation and non-essential shops closing (AlTakarli 2020). It may now seem that China delayed responding to the emergence of COVID-19; considerable controversy has emerged on this point and the lack of initial transparency in the response (He et al. 2020). Nevertheless, while hindsight may confirm that stricter measures should have been introduced sooner, China was dealing with a new, unknown disease. Any intrusive response such as a lockdown carries a high burden of proof, and responses must be proportionate and evidence-based (Nuffield Council on Bioethics 2020).

A suite of responses to COVID-19 were implemented in China with great success; focusing on those implemented in Hubei allows them to be described at greater depth. The introduction of a cordon sanitaire in Hubei on 23 January was accompanied by compulsory mask-wearing in public places and a ban on all social gatherings. From 2 February a universal and compulsory stay-at-home policy was implemented throughout Hubei (Pan et al. 2020). These policies were enforced by half a million Chinese Communist Party volunteer community enforcers, who also provided material support to vulnerable groups such as the elderly and disabled (He et al. 2020). Lockdown measures in Hubei included a centrally enforced quarantine policy, with treatment of all presumed and confirmed cases and their close contacts in designated hospitals and facilities. Further, from 16 to 18 February the government initiated door-to-door symptom-screening of all Hubei residents, allowing it to identify any additional cases (Pan et al. 2020). The components of the COVID-19 response in Hubei described here illustrate the comprehensive, well-enforced responses implemented in China. These measures were successful in curtailing the local spread of the virus, with large-scale domestic SARS-CoV-2 transmission coming to an end on 31 March and Wuhan's lockdown being eased on 8 April. SARS-CoV-2 cases in China have remained remarkably low since then (He et al. 2020).

United Kingdom

The first transmission of COVID-19 within the UK was documented on 28 February 2020. By this time, the devastating effects of COVID-19 in China were clear, and the outbreak had been classed as a Public Health Event of International Concern by the WHO for almost a month. Nevertheless, meaningful official action was not taken in the UK until mid-March (Drury et al. 2020). The initial response to the COVID-19 pandemic in the UK, and arguably the response throughout, has been characterized by underestimates of the risk and an unenthusiastic response, resulting in a mortality rate that was disproportionately higher in the UK than in most other European countries (Drury et al. 2020). In the UK, health is a devolved matter, and the four nations' responses have to the COVID-19 pandemic have consequently differed. However, in the initial response to the pandemic that is discussed in this essay, only minor differences arose (Sargeant and Nice, 2021). As such, this essay considers the overall UK approach.

The UK response to COVID-19 began with public-health messaging encouraging better hygiene practices, including hand-washing. Nevertheless, the national response did not begin in earnest until mid-March, after COVID-19 had been declared a global pandemic. The public was *requested* (not *compelled*) to avoid all unnecessary social contact and travel, to work from home if possible and to avoid pubs, restaurants and other venues (Nuffield Council on Bioethics 2020). Following this limited response, cases continued to rise, prompting a national lockdown that began on 23 March (Drury et al. 2020). Legislation was introduced to allow the authorities to isolate or quarantine people infected with SARS-CoV-2 forcibly, though very limited enforcement was carried out, and instead the response focused on voluntary action (Nuffield Council on Bioethics 2020). A successful response was also hindered by unclear public-health messaging that initially failed to communicate in collectivist terms (Drury et. al. 2020). In contrast to China, the UK has not managed to control SARS-CoV-2 transmission (Pollock et al. 2020). Following the first nationwide lockdown, public-health messaging remained confusing, and contact-tracing efforts were beset by failures. To date (July 2021), implementation of new measures has continued to be characterized by delay. Over a year since the emergence of SARS-CoV-2, the UK is nowhere near the end of Act III. While the country is slowly emerging from its third national lockdown with the support of a successful vaccination campaign, it faces continued threats from new variants of the SARS-CoV-2 virus at home and abroad.

Act IV. The End

According to Rosenberg (1992), Act IV sees the inevitable end to the epidemic; it fades away with a whimper as the biosocial incidence gradually declines. Unfortunately, the global community is

currently (July 2021) stalled in Act III, with no end to this crisis in sight. Although cases of SARS-CoV-2 remain low in China and have rapidly declined in the UK, we will not see Act IV of this pandemic until cases decline in every country. In recent months, this has been laid bare by the massive global inequalities in vaccine distribution and the emergence of new SARS-CoV-2 variants with the potential to evade vaccine-acquired immunity. According to the WHO, the best way to end this pandemic and stop the emergence of new variants is to limit the spread of the virus through vaccinating quickly and equitably. Nevertheless, as rich countries hoard vaccines, many low- and middle-income countries continue in crisis and without access to any vaccines (WHO, 2021). Such inequalities create the conditions for the emergence of additional SARS-CoV-2 variants, posing a continued threat to all, even the vaccinated. Due to the globalized, interconnected nature of our world, every country is put at risk by the persistence of SARS-CoV-2 elsewhere.

Conclusion

Rosenberg's model of the dramaturgical form of epidemics provides a useful lens for comparing the emergence of COVID-19 and the response to it of different countries. It has been applied in this essay to the examples of China and the UK. In Act I, recognition of the epidemic in China eventually became inevitable, followed by a much-delayed recognition in the UK months later. Act II saw the conceptualization of COVID-19, where the common belief in scientific frameworks brought countries onstage together, albeit briefly. In Act III, China and the UK diverged even more significantly than before: China's forceful response efficiently addressed the epidemic and has maintained low case numbers ever since, while the UK has managed its response poorly, resulting in very high case numbers more than a year after the emergence of COVID-19. In accordance with Rosenberg's model (1992), the comparison of China and the UK presented in this essay has demonstrated that even global epidemics are experienced and responded to locally. Nevertheless, due to the global character of this crisis, we will not reach Act IV, the end, until cases are controlled everywhere. The persistence of SARS-CoV-2 in any country poses an enduring threat to the rest of the world.

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II. Policies and predispositions

DATA SURVEILLANCE AS AN IDEOLOGICAL PRIORITY?

AYA AHMAD, ZIHAN XU AND YIBING LIU

To what extent can protecting people's privacy be allowed to come at the cost of protecting public health? In several parts of East Asia, data surveillance in connection with COVID-19 was prioritized over individual privacy on the assumption that collective transparency was for the greater good. In the Western world, such as in England, individual freedom and privacy were prioritized above nearly everything else. We have coined the term 'ideological prioritizations' to describe the values and cultural predispositions that are prioritized among one people rather than another. During the COVID-19 crisis, ideological prioritizations have been situated in a complex web of ecological, historical, political and other factors, opening up spaces in which to embrace culturally meaningful ways of understanding the different policy responses to COVID-19. By juxtaposing the ideological prioritization of data transparency in the interests of collective health with the right to privacy by an individual, we hope to open up new ways of thinking about policy-making.

Beginning with mainland China, big data (digital technology) has been widely utilized in the face of COVID-19, for example, being applied in tracking disease activity in real time while screening individuals for the virus (Whitelaw et al. 2020). In mainland China, there are two widely used mobile apps: WeChat and AliPay. These applications generate Health Codes based on their system and database, in which all outgoing residents are required to fill out and update a symptom survey. Additionally, individuals are required to allow the authorities to monitor their health status and share their migration data with government platforms.

Subsequently, residents are assigned a colour code by the Health Codes system, with different colours representing 'low', 'medium' or 'high' risk. This code translates into a health-status certificate and travel pass. In practical terms, residents must scan the Health Code when entering any public place. This visual footprint keeps track of where code-holders go and notifies them if they have been in an infected or high-risk area. Thus, the two functions of the Health Codes ensure public safety by individual contact-tracing (Bao et al. 2020).

Mainland China's policies are aligned with a relational concept of the self as part of the collective. In a culture where personal well-being is deeply intertwined with social obligations,

obeying the data transparency rules is an expression of sacrificing one's temporary freedom for collective well-being.

While South Korea shares its cultural roots with Mainland China, it differed in its COVID-19 response by not enforcing a countrywide lockdown. Instead, widespread testing and tracing were utilized. The government used GPS records from smartphone data and credit cards to trace the movement of patients and identify their close contacts (Her 2020). This required enforcing a law that provided the government with the necessary authority to access data. In addition to the earlier social trauma connected with SARS, which prompted the government to take responsibility for COVID-19, it must be realized that Confucian and collectivist cultural predispositions also influence Korean notions of the self. Compared to a lockdown for everyone that brings society and the economy to a standstill, extensive use of surveillance technology on a small proportion of the population might ultimately save more lives in the collective. The surveillance is a trade-off between Confucian values concerning collective well-being, which are historically given, and the individualistic pursuit of freedom.

In Taiwan we also see the transparent utilization of data surveillance. Realizing that COVID-19 was occurring just prior to the Lunar New Year, when millions of Chinese and Taiwanese were expected to travel, Taiwan integrated its National Health Insurance database with its immigration and customs database to set up a large data centre to perform analytics (Wang et al. 2020). The Taiwanese Infectious Disease Control Act of 2007 allowed officials to access this information as a means to control and contain the virus (ibid.). Any close contacts of confirmed cases or travellers from high-risk countries were required to quarantine for two weeks, during which time they would be monitored via personal or government-dispatched phones or in-person checks (ibid.). All hospitals, clinics and pharmacies in Taiwan had access to their patients' travel histories (ibid.). Though the monitoring measures appeared draconian, the way in which they were implemented was done with respect for individuals, maintaining crucial ethical standards (Nuffield 2020). Data surveillance was prioritized over privacy, the collective cultural assumption being that transparency in this form would allow other freedoms and lead to safety and improved community health. Furthermore, by de-stigmatizing the virus and quarantining, an environment that permitted open, honest communication was established. The aim was to form a partnership between the people and the government, rather than the latter imposing a top-down approach.

This precedent of open communication was also exhibited via 'vTaiwan', a virtual democracy platform that invited open conversations in order to create unity and consensus over policy decisions (Bardi and Bollyky 2020). Through vTaiwan, a face-mask application was developed to provide information on mask stock availability. This was achieved in collaboration between

Taiwan's Digital Ministry, entrepreneurs and computer scientists (Bardi and Bollyky 2020). The Minister of Health and Welfare received approval ratings of above 80% for the handling of COVID-19, and the president and prime minister approval ratings of nearly 70% according to a poll conducted by the Taiwan Public Opinion Foundation, which interviewed 1,079 randomly selected people on 17 and 18 February 2020 (Wang et al. 2020).

Rather than reducing data surveillance measures to a lack of autonomy and privacy, countries would do better to appreciate this approach by viewing it as, in itself, a form of collective transparency for the sake of the community as a whole. As the Nuffield Council on Bioethics stresses regarding ethical considerations in responding to COVID-19, this solidarity is critical in 'recognizing what we owe each other as fellow, equal human beings' (Nuffield 2020: 5). What appears to be a crucial factor in data-use is the reciprocation of transparency and ensured consent by the people in order to maintain trust in the government.

Juxtaposing East Asian COVID-19 approaches to those of England unveils England's ideological prioritization of autonomy, privacy and 'liberal' values. As Drury et al. (2020: 6) state:

> fearing public 'panic' leads the authorities to withhold information about an emergency. But lack of information in an emergency increases public anxiety. And when the public perceives that information is being withheld from them, this damages their relationship with the authority. Consequently, when the authorities do release correct information, the public may mistrust and fail to act upon it.

The presumption of public panic and the lack of adherence by the people led the UK government to issue ambiguous, contradictory and incoherent policies.

Though individuals in Taiwan suffered a loss of privacy through intensive monitoring and data collection, they were not only told that they were being fully informed along the way but were also treated as valued contributors to the decision-making process. In England, by late April, only 12% of hospital doctors felt fully protected from the virus: 'the broken promises on testing were matched by those on PPE' (Calvert 2020: online). On 29 October Taiwan marked two hundred days without any domestically transmitted cases of COVID-19 (Graham-Harrison 2020). On 30 October, by contrast, with numbers rising again, the UK announced another month-long national lockdown. Though people in South Korea and Taiwan were denied data privacy and subjected to more monitoring, they reaped the rewards that the UK population were denied.

There are lessons here for policy-makers to learn. The above comparisons demonstrated which ideological priorities led to which types of response, and no doubt a stronger transnational dialogue can help strengthen individual nations' infectious disease strategies. In reality government and public responses are situated in a complex web of ecological, historical, political and cultural

factors. In a highly globalized world, policy decisions demand the same collaborative, dynamic thought as the context in which they inevitably exist with a virus that knows no borders.

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MASK-WEARING AS A CULTURAL PRACTICE

AYA AHMAD, ZIHAN XU and YIBING LIU

At an early stage in the COVID-19 outbreak, various and sometimes conflicting perceptions of mask-wearing among scientists, policy-makers and the wider public in different regions raised

problems regarding whether this precautionary measure should be applied. Given that initially the scientific evidence was not strong enough to support the widespread use of facemasks against COVID-19, the World Health Organization (WHO) first suggested mask-wearing only for those with symptoms suggestive of COVID-19, rather than the general public (WHO 2020; also Greenhalgh et al. 2020). However, the Chinese government introduced the compulsory wearing of face masks in public places on 23 January 2020, long before the WHO acknowledged that masks can provide protection for oneself (Pan et al. 2020). Mask-wearing was deemed a protective practice for the majority of people in East Asia, but it raised concerns regarding personal liberty and discrimination in the West. Why did East Asian policy-makers apply mask-wearing measures despite disagreement over their protective benefits? Why would people in East Asia readily adopt this practice at an early stage? And why was this not the case in the West, say, in the United Kingdom?

The previous article, 'Data surveillance as ideological prioritization?' introduced 'ideological prioritization' as a new term for explaining the prioritization of certain values and cultural ideas among some peoples rather than others. This can help us understand why, in some cultural macro-regions, such as Mainland China, South Korea, Japan and Taiwan, people readily adopted mask-wearing, while in others, like the United Kingdom, they were late in doing so.

In East Asia, mask-wearing reflects social identities that emphasize collective solidarity and personal responsibility in combating infectious disease (Tsang and Prost 2021). When people are sick, they wear masks to prevent onward transmission and thereby protect both others and themselves. In China, the use of face masks is associated with the idea of the self showing consideration for the collective. Despite the post-Mao era witnessing a shift in Chinese culture towards individualization, the interdependent and relational notion of the self is still dominant in China today (Fei [1947] 1992; Yan 2010). For the Chinese, personal well-being is not only concerned with the individual will, it is also deeply entangled with the social body and the more than human season- and place-sensitive 'body ecologic' (Hsu 1999: 78-83; Rittersmith 2009).

In the case of COVID-19, mask-wearing was considered to benefit both individual health and collective well-being. The high frequency of wearing masks, regardless of the presence or absence of symptoms, was found to be associated with lower levels of depression and anxiety among the Chinese (Wang et al. 2020). This might have been reinforced by the collective memory of previous pandemics. For the middle-aged and young, not to mention the elderly, experiences of wearing masks during the SARS outbreak of 2003 were still vivid. Mask-wearing became a *social habit* demonstrating the collective effort involved in combating pandemics. Thus, for the general public

in China, long-ingrained *practices reinforcing* the relational self, as well as the *living* memory of the SARS epidemic, turned mask-wearing into a source of confidence, ease and collective control.

This ideological prioritization in which the self is viewed in relation to and as protective of others was also evident in Japan. Here, mask-wearing symbolized civic responsibility and moral obligations as a rule of conduct. Individuals were also motivated to wear masks due to a collective ethical commitment to care for others. In 2007 the 'cough etiquette', which entailed covering the mouth with tissue paper or a handkerchief when coughing (PIEAC 2007), became a collective practice out of respect for others. Thus, masks could be regarded as a symbolic means whereby people communicated their sense of responsibility against a common threat to the society to which they belonged. A study by Betsch et al. (2020) showed how, during COVID-19, individuals wearing masks were perceived to be 'prosocial'. These findings demonstrated how mask-wearing could *engender a sociality* in which compliant people perceived each other more positively. Solidarity in calibrating the self in relation to others could create communal respect and unity amidst uncertainty.

The relational aspects of mask-wearing and one's relationship with inhabited space embed mask-wearing in an ecological context. Local disease patterns reside in ecosystem imbalances (McElroy 2018). Correspondingly, public health responses involve dynamic negotiation between eco-biological networks and the historical, cultural, economic and political forces in human society. To protect themselves from urban pollution or combat atmospheric haze, people in contemporary East Asia have had to get used to wearing masks. It is because of concerns over pollution haze that China has seen an increase in mask-wearing in the past decade. The dust-haze seems to be an accumulated result of both 'natural' factors in an age of rapid climate change and unhealthy economic growth against the backdrop of individualization and urbanization in China (Li and Zhang 2014). Originally designed for filtering out 'yellow dust', the certified 'Korean Filter 94' mask became popular in South Korea: those who wore masks protected themselves from the residual sand of the Mongolian steppes and China's north-western deserts that blew into South Korea. During the COVID-19 pandemic, the booming mask industry of the previous decade informed and facilitated the government's and other public responses. The Korean government actively intervened in and boosted the production and distribution of masks to deal with the shortage of supplies and the high demand during the epidemic (Her 2020). Air pollution and haze have a direct impact on the individual. This is further demonstrated by Japan's nuclear disaster of 2011, with individuals still today suffering the respiratory effects of Fukushima. After this disastrous incident, masks sold out very quickly in stores as far away as in Tokyo (Nagano 2011, cited in Horii, 2014). The city is part of a dynamic and at times hazardous, even transnational,

ecological situation. Air pollution has proved to be an educator, as its sensory perception directly affects each individual.

Mask-wearing has been far less ideologically prioritized in the West, especially in the UK. Data from YouGov, a market research firm, indicated that the UK had among the lowest percentage of people wearing face-masks throughout the pandemic. In early July 2020, only 38% of Britons said they wore masks in public, as opposed to 88% in Spain and 83% in Italy ('Personal measures taken to avoid COVID-19 Yougov', 2021). Eventually, an increase in newly infected cases and deaths, the policy of compulsory mask-wearing indoors, the overwhelming of hospitals and the lockdowns had the effect of increasing the 38% to about 75% in the autumn and winter months of 2020-2021. Conversely, Taiwan's mask-wearing percentage from March 2020 to February 2021 remained steady at 80-86% (ibid.). The term 'ideological prioritizations' helps analyse the UK's response better: why was the UK so hesitant in adopting mask-wearing and delayed doing so?

Analysis of the government's official statements and a survey of 1,615 adults in the UK demonstrated the ideological prioritization placed on needing scientific evidence for the efficacy of proposed measures before they could be implemented. Furthermore, British people expressed the expectation that only a unified, compulsory policy and a strong government stance would force them to wear masks. The government was sceptical about mask-wearing and did not emphasize its importance early on, scepticism that was readily mirrored in the population.

On 3 April 2020, the Deputy Chief Medical Officer stated, 'there is no evidence that general wearing of face masks by the public who are well affects the spread of the disease in our society' (Peston 2020). The UK was not alone in distrusting masks: the Western world in general was resistant at the beginning of the pandemic due to a lack of evidence regarding their efficacy. Policies based on evidence-based biomedical statistics were ideologically prioritized over following a widely affordable precautionary principle. Face masks were perceived as 'technologies containing threats to individual, national, and transnational identities and health' and were considered to have a 'connotation of danger and crime' (Greenhalgh et al. 2020). Entanglements with the prioritization of 'evidence first' and 'liberty first' gave the virus ample time to infect, spread and evolve (Tsang and Prost 2021). In the UK, a novel virus was met with a government unprepared for the manufacturing of masks and unwilling to move beyond the need for scientific evidence, creating an environment of scepticism and leaving a people unsure who or what to trust.

Our ideological prioritizations can at times act as biases that endanger us. In times of uncertainty, embodied experiences and the ordinary person's perceptions of risk serve as crucial information bites. Though not necessarily scientific, these experiences are embodied, and there is

a value in this sociocultural efficacy in itself which has been consistently underestimated in modern times. By juxtaposing mask-wearing as a cultural practice in East Asian regions to potential ideological explanations of mask hesitancy in the United Kingdom, we obtain a greater understanding of how certain ideological prioritizations are manifested in different pandemic responses.

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POLICIES AND PREDISPOSITIONS:
REFLECTIONS ON THE LIMITATIONS OF CULTURALISM

ELISABETH HSU

The previous two essays argue very compellingly for taking 'ideological prioritization' into account when formulating policies, and they do so in a nuanced way. They compare government policies and measures that affected the public and individual protective practices in different countries of East Asia with those in Western countries, in particular the UK. The essays oppose the individualistic predispositions found in the West to the collectivist ones that occur in East Asia, although they also aim to prevent a purely dualist reading by, for instance, highlighting diversity in East Asia and comparing Mainland China, Japan, South Korea and Taiwan with each other. The authors demonstrate their awareness that several issues are too subtle and complex to be raised

here, the lesson to be learned from this being that there is a great variety of different case studies, which deserve to be appreciated in their entirety.

Notwithstanding the successful implementation and effects of surveillance systems, if we look at them in more detail, we note not only variations but also limitations. Perhaps the effectiveness of data surveillance may have been overdrawn by those who implemented it? Mainland China introduced population-wide surveillance systems and lockdowns in some regions and cities, to good effect. This was followed up with a long-term monitoring system of health status and migration data to prevent future outbreaks, which has been successful, though in the beginning it was fairly slow in ringing the alarm bells. In South Korea, by contrast, a track and trace surveillance system was put in place. This also happened in Taiwan, where the government also found a legal way to access databases on immigration that it could merge with data on national health insurance. In fact, it is not socialist China but capitalist Taiwan that tends to be praised for most effectively controlling the proliferation of the virus.

Incidentally, we note that, in addition to surveillance, Taiwan imposed (1) travel restrictions and (2) quarantine rules, and that all this happened (3) very early on, in fact, before COVID-19 had been named as such, and before the epidemic became a pandemic (Wang 2020). Would these three measures alone, aimed at containing an air-borne epidemic at a very early stage, have sufficed? They require no data surveillance at all!

Surveillance instantly brings to mind apprehensions regarding the destruction of the juridical and moral person, and ultimately also of the individuality of the person. It conjures up Hannah Arendt's *The origins of totalitarianism* (1951), and with it the threats of the Third Reich. Furthermore, it re-instantiates the Orientalist trope of despotic rulers in the East, against which the polis in classical Greece defined itself as democratic. However, if anyone ever thought that surveillance systems were only advocated in East Asia, Shoshana Zuboff's (2019) *An age of surveillance capitalism* provides a sobering antidote. The automated information flows about everyone that tech giants like Google and Facebook have generated are being used today in ways that enable social engineering far beyond any dreams of the behaviourist B.F. Skinner. In surveillance capitalism, commercially driven data analytics, business strategies and Skinnerian experimentation with human behaviour, algorithmically adapted and multiplied by Artificial Intelligence, are combined, ultimately being geared towards a 'rendition of all aspects of human experience into behavioural data … [that] guarantee behavioural outcomes' (ibid.: 339, cited in Williamson 2019). Globally, governments are making use of this commercialized e-industry. Computation and statistics have long been the basis of governance. There is nothing new about that, yet coupled with surveillance capitalism, they are geared towards undermining public debate,

as well as social and political life. So, even though data surveillance policies have been implemented more systematically by governments in East Asia, with evident success and general acceptance by the collectivities affected, Zuboff reminds us that 'data surveillance' is not specific to that region.

In a similar vein, 'individual privacy' may not be specific to the supposedly individualistic West. Although one reason against wearing face-masks was that they had a de-individualizing effect, the above essay on face masks makes clear that there were many other reasons too. The ecology of 'yellow dust' being blown from the Inner Asian steppes into South Korea not only engendered mask-wearing as a protective practice, it also curbed the economy of industrial mask production. People had been habituated into wearing 'designer masks' as status markers. Air pollution, due to its smell and often tangible stickiness, tends to have instantly sensed effects. Mask-wearing can accordingly be optimized by the individual, directly, immediately, autonomously. Mask-wearing is thus easy to appropriate into one's individualistic repertoire of health-preserving body techniques, in East Asia as in the Western world.

Every epidemic instigates make-believe, and white-coated professionals combatted fear by saying 'We are well-prepared', 'Do not wear masks' or 'Masks cause fear in people', reminding people unduly of the epidemic's presence or of hooded robbers and criminals; masks could also cause a false sense of security and claustrophobia in their wearers. Then, a month later, the same spokesman for the Swiss Ministry of Health declared the opposite: wear face masks, they do protect you, they reduce the infection rate to 30% and protect others, pro-socially. So, when two people meet, they are likely to have reduced the infection rate to 60% (this was before vaccines were available, cf. Hung 2021). When the spokesman said this on Swiss TV, it transpired through the newspapers and on the ever more active grapevine that there had not been sufficient masks in stock! Meanwhile, some companies had been quick to produce face masks; within weeks they had flexibly adapted their production line to the acute demand, as did a family-owned firm in a little township in central Switzerland. Government regulators thereupon appeared standardizing materials and supply chains, and imposing newly invented control procedures, which sometimes stifled individual initiatives. Money-making was exclusively reserved for the giants, the supermarkets, Amazon or DPD, requiring masses of unskilled, temporary and poorly paid labour. Meanwhile, the artisan, the resourceful petty entrepreneur and members of the hospitality and well-being sectors, many of them individualists working in a fragile social ecology, were sent into lockdown or put on furlough schemes. These policies did nothing to cultivate the ideal of the autonomous individual. Conversely, when Ohnuki-Tierney (1984: 21-50) speaks of Japanese germs, she points to public–private distinctions in the Western world comparable to the Japanese

opposition between *mi-uchi* (within my body) and *ta-nin* (other persons). Social intimacy happens in the *uchiwa*, the inner circle: for instance, when one is invited to eat food with the family's chopsticks and not those reserved for guests. She highlights how the spatial boundary between the outside world, which is by definition dirty and full of germs, and the inside of the house is maintained by a long list of body techniques, such as changing from street shoes into house shoes, washing one's hands, sometimes even gargling, or sprinkling some cleansing salt on to oneself after a funeral. In this context, we learn about the face mask: 'The Japanese use it to prevent themselves from inhaling someone else's germs, whereas American surgeons and patients use it to avoid transmitting their own germs to others' (ibid.: 26). Ohnuki-Tierney thereby treats the biomedical regime of mask-wearing as on a par with another cultural belief system, no less real, the Japanese belief in germs. Yet this is precisely a relativizing stance that more recent medical anthropological research directed at policy-makers has queried.

Two years before the COVID-19 pandemic, and ten years after SARS, Lynteris (2018) published most insightful medical anthropological research on mask-wearing. His publication is an exemplary anthropological-*cum*-historical overview that pulls together information that is hugely relevant for policy-makers, yet, like most anthropological research, it has simply been ignored. If policy-makers had read this article, they could have saved many lives, as it addresses head-on the claims that policy-makers expressed at the beginning of the pandemic throughout the Western world, namely that wearing masks was a 'cultural' practice, and hence impossible to value as a 'scientific' one. It would appear that simple prophylactic devices, like mask-wearing in the case of any airborne infectious disease, should always be advocated by policy-makers, even if their benefits are not always proved by randomized controlled trials (RCTs) (Greenhalgh et al. 2020).

Lynteris's historical research shows that the 'anti-epidemic face-mask', which broke through into global medical history during the 1910–11 Manchurian plague, was not just a symbol of biomedical rationality: importantly, it worked as a catalyst for the 'hygienic modernity' that followed, not only in China, but globally. Even if people made use of more than ten different makes of masks of variable quality, mask-wearing 'both stopped germs from entering the human body and … transformed the public from being "superstitious" and "ignorant" people into an enlightened hygienic-minded population: a population that accepted the contagious nature of the disease'. (ibid.: 451).

The low-tech protective devices advocated in this pandemic include physical distancing, reducing contact with human beings outside an inner circle generally called a 'bubble', frequently washing one's hands and clothes, wearing gloves, etc. However, there are many more self-protective and fortifying practices that could have been promoted on a large scale, such as

fortification through vitamins C and D in particular (vitamin D is essential for the immune system's basic functioning, regardless of its debated specific effects on combatting COVID-19), lots of sleep, and vigorous walking in the fresh air that strengthens the lungs, boosts blood circulation and brightens the mind. In East Asia, where populations have no doubt had a long history of being exposed to other coronavirus-induced epidemics, the culinary preparation of foodstuffs with garlic, onions and the like has been developed into a medical art, so-called food therapy (Hsu et al. 2020). Furthermore, the seasonality of viral diseases has long been recognized: warmth factor disorders are known to spike in the spring (Hanson 2011), as is currently the case in India and Brazil (as of April 2021). Porkert (1976: 67), discussing the 'strengths of Chinese medicine', coined a Latin word to do justice to Chinese medical expertise: *chrono-demic* disease. He explained that 'A number of diseases, which flare up simultaneously over vast territories are, according to Western medicine, probably caused by a virus. But they are explained in Chinese theory as deficiencies or redundancies of energy in certain orbs, conditioned by the momentary immunological situation.' Japanese common sense reinforces this (Ohnuki-Tierney 1984: 33): 'In particular, *konome doki* (bud time; the time when leaves are budding in early spring) is the transitional time from the cold to the warm season and the time when people are considered susceptible to sickness; sick people and old people must be particularly careful.' While there are ample prohibitions on eating specific wildlife delicacies, lest one risks succumbing to various forms of dis-ease, there is little evidence in the historical record so far of the zoonotic origins of epidemics.

Alongside individual effort, the ethnographic record highlights that, most importantly, epidemic crises require coordinated community responses. In a multiply interconnected globality, this begs the question of what makes up a community. During the Manchurian plague, as is evident from early photographs, the self-protecting white-masked 'plague fighters' visually formed a unity against the dark quarters in the background, in which lurked the 'black death'. The 'spectacle of masked unity' sufficed, says Lynteris, to instil a sense of social solidarity. The problems of a pandemic are wide-ranging, and bio-technology alone cannot solve them. Creating community involves paying attention to individualities.

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III. Efficacious Metaphors?

THE MILITARIZATION OF COVID-19 AS A DISEASE AND A SICKNESS

YASMYNN CHOWDHURY

The body and body politic 'at war' with COVID-19

Conceptualizations of the COVID-19 disease, the SARS-CoV-2 virus and their interactions with individuals and social groups have assumed various forms. The very rendering of COVID-19 as a pandemic in public and political discourse is an artifact of definition. One particularly dominant account of COVID-19, echoing historical patterns, relies heavily on the use of militaristic metaphors and on the invocation of a demonized 'Other' (Walker 2020).

Since the announcement of the COVID-19 pandemic in March 2019, militarized language and war rhetoric have permeated the speech of political leaders globally: Boris Johnson has mentioned the need to respond to the pandemic just like 'any wartime government', and Donald Trump referred to himself as a 'wartime president' called on to fight an 'invisible enemy' (Tharoor 2020). Such semantics enable the social construction of COVID-19 as not merely a health disaster, but more evocatively and polarisingly as a 'war.' Through these accounts, the virus is transformed from a collection of nucleic acids and proteins occupying an ontologically ambiguous space between life and nonlife (Gibbon et al. 2020) into an insidious autonomous agent waging a war on the citizens of our societies: our 'invisible enemy'.

Generally, military messaging is effective in imparting a sense of urgency and risk, mobilizing individuals and resources, preparing the public for trying times, and justifying exceptional socially and economically costly measures which may curtail civil liberties. It thus persuades the public to make sacrifices and accept collateral damage in accordance with these changes (Seixas 2021). To improve understanding of these proclivities to use military metaphors in portrayals of COVID-19, it is useful to mobilize Mary Douglas's (1966, 1970, 1992) symbolic/cultural approach to risk, danger, purity and containment. Seen through this framework, it can be argued that the construction of risk in Western societies supports the preservation of selfhood and social order by laying the groundwork for the (re)production of clear boundaries between the 'self' and the polluting, risky and dangerous 'other'.

Douglas (1970) emphasizes symbolic parallels between the physical body and the social body, advancing an understanding that both sorts of body are defined by boundaries that separate the inside from the outside, linking constructions of otherness at the social level with those at the bodily level. In the case of COVID-19, at the level of the human body (the physical body being 'self/us'), the enemy 'other' may be seen as the SARS-CoV-2 coronavirus. At the level of society, conversely, the concept of the enemy 'other' may extend beyond the bounds of the virus itself, taking the form of either *outsiders to* or *victims within* the social group and body politic.

Following on from this, it is possible that the prevalence of military metaphors in representations of COVID-19 may stem from their utility in reproducing social boundaries for the maintenance of the status quo as based on social stratification, therefore ensuring the maintenance of privileges for certain members of society. This inevitably involves a 'sacrifice' for those at the bottom of the social pyramid, who become the shock absorbers of the crisis. As Sarah Spellman argues in her contribution to this volume, health-care workers are described as 'soldiers' or as being on the 'frontline', and their immeasurable personal sacrifices become normalized and even expected (Khan et al. 2020). Military rhetoric may be related to a wide acceptance of material boundary-making as well. It is not surprising that, in the midst of the COVID-19 outbreak, new legislation has been passed by the UK government which puts restrictions on the right of assembly, including protests and marches (e.g. the Policing, Crime, Sentencing, and Courts Bill currently being debated in Parliament). Lockdowns, restrictions on outdoor movement, the closure of national borders and the cessation of traffic across wards, townships, cities, countries and continents have all been implemented within a year of the announcement of the pandemic.

In addition to this re-shaping of socio-institutional boundaries, a parallel process contributing to the maintenance of social cohesion and unity through the mobilization of risk consists in placing blame, as understood through Douglas's framework (1992). As Douglas states (ibid.), both victim-blaming and outsider-blaming share the purpose of preserving social cohesion and facilitating social coercion where necessary. Victim-blaming does this by creating a need for measures of social control. The monitoring and quarantining of those who are sick becomes justified not necessarily because we wish to protect our neighbours, but because we ourselves fear the carrier (Fotherby 2020). Outsider-blaming works by bolstering loyalty and acting to absolve those in power, including our governments, from responsibility and accountability for COVID-19's extraordinary death toll. Blame is shifted on to a common, malignant enemy we might collectively rally against (Fotherby 2020). This decontextualizes the pandemic and facilitates ignorance of the broader socio-political and environmental conditions that made its global emergence possible in

the first place, namely equipment shortages, failed emergency preparedness protocols, and health and social inequalities.

Importantly, blame may intersect with other facets of identity, including race, ethnicity, nationality and social class, with adverse consequences. The 'othering' of those who are perceived to be carriers of the virus (whether asymptomatic or visibly sick) may create a distinction between the healthy 'us' and the at-fault 'other' along racial and national lines. The reported vulnerability of BAME communities to COVID-19 constitutes one potential source of discrimination of this sort, in which the 'victims' are reconstituted as 'dangerous' based on their being more 'at risk'. This rhetoric has gained particular salience in a country torn by years of dispute over Brexit. 'Links between imagining disease and imagining foreignness' (Sontag 1989: 119) are not historically unprecedented: for example, cholera was blamed on Irish immigrants, and tuberculosis was labelled the 'Jewish disease' in the US in the nineteenth century (Kraut 2010; Markel and Stern 2002). At the present day, associations between the existential threats of infectious diseases and alterity have continued to be perpetuated through militarized language. We are all too familiar with the scapegoating of China as the 'Other' place from which SARS-CoV-2 emerged before 'infiltrating' the West. This narrative was played out in an especially insidious way in the United States under the Trump administration, whose use of the phrases 'war against the Chinese virus' and 'Kung flu' has allowed dangerous ethno-nationalist sentiments and xenophobia to circulate within the media and public discourse, often under the guise of a seemingly harmless appeal to patriotic solidarity.

Such militaristic narratives fulfil the dual function of both Othering and/or blaming those who may already be marginalized, while simultaneously producing a distraction from some of the starker injustices of the pandemic, such as the disproportionately heavy impact of COVID-19 within these very communities. In addition to those who are ethnically and racially 'othered', socio-economically 'othered' communities emerge as well, such as workers who lack the privilege of working from home and are forced to take public transport to get to work, or temporary non-British staff catering to tourists. These dynamics exemplify how the sociality of COVID-19, COVID-19 as sickness and its discursive domain are dominated by the state and the elite. The latter are still able to defy or circumvent restrictive policies with minimal or no consequences, like a senior advisor to the Tory government in the UK (Clarke 2021).

Language denoting military activity and an invading 'other' has embedded itself not only in 'sickness' narratives that pervade social interactions with COVID-19 as a socially visible phenomenon, but even in 'disease' accounts of the material, pathophysiological interactions of SARS-CoV-2 with our cells and organs. One *Science* publication describing the pathogenesis of

the SARS-CoV-2 invokes notions of the virus 'hijacking' cell mechanisms, 'march[ing]' down the windpipe towards the lungs and starting a 'battle' that disrupts optimal lung function (Wadman et al. 2020). Although many interpretations of the pathogenesis of SARS-COV-2 exist, this portrayal illuminates how our socio-political conditionings and agendas may unwittingly penetrate even our most sincere attempts to construct a neutral biomedical account of our plight with the virus, impelling the construction of an insidious 'other.'

Of course, framings of 'self' versus 'non-self' and militarized cells are not unique to COVID-19 but are deeply embedded in the language of biomedical understandings of general cellular and molecular interactions between components of our bodies' immune systems and non-native microbes (Martin 1990). T-lymphocytes are referred to as 'killer cells', macrophages are likened to armoured units, and complement proteins (i.e. proteins involved in the rupturing of microbial cell membranes) to mines or bombs., They all work to defend the 'self' against 'non-self' intruders, making the body potential 'battlefield' (ibid.). The militarization of notions of body and health can be traced back as far as the seventeenth century to the work of Thomas Sydenham, a physician who described the challenges of his work: '[A] murderous array of disease has to be fought against, and the battle is not a battle for the sluggard' […] 'I steadily investigate the disease, I comprehend its character, and I proceed straight ahead, and in full confidence, towards its annihilation' (quoted in Fuks 2010: 59). The notion of and belief in a 'magic bullet' soon emerged within a similar ideological context (ibid.).

Through these frameworks, we are able to see what is gained through the militarization of COVID-19: fulfilment of the impetus to preserve social order and manage uncertainty as a paramount social function of modern society (Lupton, 2013). However, despite the utility, omnipresence and historical embeddedness of military metaphors in public, political and academic discourses surrounding disease and sickness, their use should give us some pause. We are implored to consider the following: what might be lost in this pursuit of social cohesion through constructions of otherness and the placing of blame? In the following section, light is shed on the ways in which militaristic language in discourses on COVID-19 as a disease and sickness may serve to alter lived experiences or obscure narratives of COVID-19 as a pandemic or illness, potentially plaguing us with additional and unnecessary sources of suffering beyond the work of the virus itself.

The demilitarization and reimagination of illness narratives

While militaristic narratives may serve a clear function at the level of society, what of their utility and impact with regard to the individual who is living amid COVID-19 and/or experiencing it as an illness? Below I consider the ways in which militarized social portrayals of COVID-19 as a sickness may be embodied in the form of the altered subjectivities, lived experiences and narratives of the individual, whether experiencing COVID-19 as an illness or contending with a world that has been transformed by the pandemic.

First, in attempting to minimize disorder and maintain cohesion within society, war rhetoric may have inadvertent emotional costs for the individual, perpetuating excess and prolonging fear, hypervigilance and anxiety, which may have already been present due to the biomedical threat to life and physiological functioning that are posed by the virus itself (Walker 2020; Kohlt 2020). Such language has led us into a 'security trap' in which the increased securitization and militarization of social problems might counter-productively serve to produce feelings of insecurity and panic. These feelings are manifested in visible phenomena such as the mass-panic purchases of toilet paper in several countries, including the UK, US and Australia (Rijal 2020), and even of guns and ammunition in the US (Beckett 2020), as well as in a rampant mental health crisis in the UK (Jia 2020).

Additionally, in all their effectiveness in reinforcing boundaries between 'inside' and 'outside' and their inculpation of the 'other', military metaphors inevitably enable and facilitate a medicalized prejudice against that outside 'other'. Such experiences may affect both the victim, by feeding into individual illness experiences through processes of internalization, and the outsider. As mentioned previously, such processes may exacerbate the marginalization, social rejection and psychosocial distress of already vulnerable communities. For instance, within the past year and a half, persons of Chinese descent, falsely perceived as embodying the virus, have become hyper-visible, suffering a surge in discrimination and verbal and physical violence that has persisted into the second year of the pandemic and has even intensified in recent months in the US (Gover et al. 2020).

Beyond stigma, another critical consequence of the 'battle' metaphor is the production of a false dichotomy of outcomes: 'victory' versus 'defeat', a binary which aligns poorly with both individual experiences of the illness and the ecological realities of human–microbe interactions within society. As seen in the context of other diseases, such as cancer and HIV/AIDS, which are surrounded by a militarized discourse of winners and losers, complications with recovery or continued struggling with the illness may be interpreted by the ill individual as defeat or personal failure (Hendricks et al. 2018). In another study, women with breast cancer who assigned negative

meanings to their illness with words such as 'enemy' or 'punishment' experienced higher levels of depression and a poorer quality of life relative to women who ascribed alternative interpretations such as 'challenge' or 'value' to their experience (Degner et al. 2003). In these ways, physiological interactions of the virus with the body may be amplified by the negative psychosocial experiences associated with having COVID-19 (or being perceived as a carrier), hence creating avoidable and unnecessary suffering. Beyond individual encounters with the virus, from an ecological perspective it is notable that military metaphors and binaries of victory and defeat also propagate the false and problematic notion that humans must constantly be engaged in a battle with our environment and our microbial enemy 'other', and that winning and eradication are feasible.

In addition to the potential exacerbation of suffering due to disease stemming from either stigmatization by others or self-blame, evidence regarding the use of militaristic language in medical contexts suggests that such symbolism may lack utility with regard to individual healing processes as well (Petticrew et al. 2002). Studies of illness narratives of other stigmatized diseases, such as HIV and cancer, have found that, while making meaning of illnesses through the use of metaphors can play an important role in healing and be helpful in fostering a sense of community through shared experience, the use of military metaphors within the illness experience may be ineffective at promoting healing and may not necessarily improve survival (Nie et al. 2016; Petticrew et al. 2002).

In addition to the lack of function and the potential harm of militaristic language for the individual experiencing COVID-19, the hegemony of such symbolism in accounts of COVID-19 as sickness and disease may disregard and diminish the visibility of individual and/or non-conforming narratives that characterize the experiences of those individuals who are living the interactions between SARS-CoV-2 and their bodies that sickness and disease accounts seek to describe. Though existing COVID-19 illness narratives are sparse, one account of COVID-19 patient experiences during hospitalization in Henan, China, by Sun et al. (2020) describes narratives that contrast starkly with the negative tone of the notion of 'fighting an enemy' that is 'at war' with our bodies. Sentiments of fear, denial, stigma and anger during earlier stages of the illness, often sparked by the perception that the patient had been an innocent bystander, gradually evolved into acceptance of the disease, ease and calm in later stages. Patients reported that a sense of harmony and adequate family and social support were critical to their recovery, above other factors. As one patient described it, 'friends are concerned about my health, government staff are also concerned about me, and I feel that the country attaches great importance to us' (Sun et al. 2020: 19). Similarly, a study of public framings of COVID-19 expressed on Twitter revealed that, although discussions of most pandemic-related topics on social media drew on military concepts,

the topics of community and social compassion, which involved words such as 'friends', 'share', 'trying', 'family' and 'time', and that therefore addressed 'intimate social relations and personal affective aspects related to COVID-19', were unrelated to this warlike frame (Wicke and Bolognesi 2020: 15).

As Gillian Chan argues (this volume), the construction of COVID-19 as 'mild', as something that is easy to recover from, contrasts starkly with the militarization of COVID-19 as a dangerous 'other', as something that must be fought against and defeated. As Chan argues, there is an inherent inconsistency in the ways in which biomedicine constructs COVID-19 alternatively as either deadly or mild in order to satisfy the twin agendas of maintaining social control while maximizing the extent to which individuals are held responsible for their conduct. The common enemy against which social groups had been so compellingly called on to battle seems to disappear when the narrative of mildness is applied. Yet individual experiences tell a different story, as Chan explores in her essay.

Conclusions

Whether through biological, psychosocial, economic or political mechanisms, COVID-19 has caused immense suffering worldwide. It is a disease, illness, and sickness to be taken seriously, and its risk and the potential for irreversible harm must be communicated effectively, but also carefully and responsibly. The same potency that grants militaristic language its pragmatic social utility serves to make it a dangerous tool capable of exacerbating suffering; it must therefore be wielded with a wariness that is presently absent from public discourse. As many have argued, it is an illusion that such messaging requires a construction of the enemy 'other' in order to maintain order effectively.

The main recommendation arising out of the foregoing is for a policy that demands the demilitarization of the metaphors we use to describe COVID-19 across public, political and scientific discourses and that engages on a journey of reimaginations. Semantics are critical. Pressure to remove militarized metaphors from general COVID-19 discourse should be created by public health, scientific and political leaders. An outpouring of support for de-militarizing narratives among both experts and non-experts alike, including the #ReframeCOVID initiative, has indicated that the 'war' rhetoric may be losing its resonance with the public. Elena Semino has recommended that the virus itself be likened to a 'fire' and essential workers compared to 'fire-fighters' (Semino 2021). Moreover, local and national governments can reframe the very necessary strategies to prevent COVID-19 transmission that involve punitive and anxiety-provoking terms such as 'lockdown' or 'quarantine', with alternative language such as 'physical distancing' (but

nevertheless maintaining social closeness), 'safe contact' or 'cocooning' (Walker 2020). Such framings might encourage physical distancing as a result of empathy and caring for the vulnerable rather than fear of COVID-19 infection. Furthermore, drawing on advice regarding the reframing of illness experiences of persons affected with HIV, it may be helpful to encourage envisaging the COVID-19 illness experience as a 'journey' rather than a 'battle' (Nie et al. 2016).

Beyond the individual, demilitarization may dispel the misleading notion that COVID-19 is something that can be necessarily 'defeated' by humans, which is inconsistent with the high likelihood of COVID-19 becoming endemic and with the probability that we may need to co-exist with SARS-CoV-2 as we do with other microbes, such as the influenza virus (Walker 2020). A new vocabulary may reframe our relationships with our microbial neighbours through tropes of co-existence, balance and entanglement (Nie et al. 2016). Perhaps we can harness Douglas's demonstration of the relativity of 'dirt', rethink the impermeable boundaries between self and non-self, and reimagine what 'out of place' means for certain types of matter. Along the same lines, Emily Martin (1990) offered alternative conceptualizations of human-microbe interactions, suggesting notions of a 'harmonious life unit' or 'holobionts', rather than plotting a self versus a non-self. Additional understandings of illness and general narratives need to be better understood if alternative framings of this pandemic and future health crises are to be generated.

In conclusion, we hope to see paradigmatic shifts in discourse which will allow us to emerge from this pandemic into an improved world. The demilitarization of popular and institutionalized discourses of COVID-19 as a disease, sickness and illness may remind us that the true 'triumph' will not be a victory over the virus. Instead it will be the renewed accountability of those in power who are meant to think with us and for us, a readiness to co-exist with our human and microbial neighbours, a heightened attention to the diverse narratives of individuals who have engaged with this pandemic with their bodies and minds, and a restructuring of our systems and institutions to improve the protection of our communities from the suffering and loss associated with pandemics.

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HOW MILD IS 'MILD' COVID-19?

GILLIAN CHAN

The term 'mild' COVID-19 first emerged in China's original descriptive report of February 2020, which defined 'mild' cases as those without pneumonia or with only mild pneumonia (Epidemiology Working Group for NCIP Epidemic Response, Chinese Center for Disease Control and Prevention 2020). Since then, the clinical characteristics, biomarkers and treatment pathways for 'mild' COVID-19 have been further elaborated in clinical research, guidelines and international health reports. As of 27 May 2020, the World Health Organization officially defines a case of 'mild' COVID-19 as any 'symptomatic patient meeting the case definition for COVID-19 without evidence of viral pneumonia or hypoxia' (WHO 2020: 13). This disease classification obscures the lived severity of 'mild' COVID-19. Its semantics have been co-opted by nation states in their rushed attempts to craft expedient pandemic responses. States eager to maintain legitimacy against the pathogenic anarchy of COVID-19 have privileged biological definitions of 'mild' COVID-19 as an individually manageable disease, thereby un-making 'mild' COVID-19 as sickness and removing it from the realm of social concern and governance. The result of this has been the effective social abandonment of many 'mild' COVID-19 patients, who are being left to manage their 'mild' COVID-19 with minimal health or welfare support.

In the case of 'mild' COVID-19, definitions of biomedical disease have been privileged in the socializing process, with clinical and diagnostic characteristics becoming socially accepted symptoms for understanding the condition. As the following section of this paper shows, such disease definitions of 'mild' COVID-19 tend to place it at the bottom of a universal hierarchy of severity based primarily on the clinically visible and physical aspects of the experience.

'Mild' COVID-19 as disease

Kim et al. (2020) produce a detailed tally of the various physical symptoms experienced by 'mild' COVID-19 patients in a South Korean community facility. They come to the conclusion that patients with 'mild' COVID-19 primarily suffer from coughing, followed by hyposmia and sputum, and suggest that these symptoms are useful markers of disease stratification (ibid.: 948.e2). Velavan and Meyer (2020) similarly identify key biomarkers predictive of disease severity based on the cumulative clinical data of COVID-19 patients across China. In addition to peripheral oxygen saturation and the presence of concurrent comorbidities (the most common risk

factors), they suggest 'low lymphocyte count as well as the serum levels of CRP, D-dimers, ferritin, cardiac troponin and IL-6' as parameters for triage (ibid.: 304).

The image of 'mild' COVID-19 that emerges from these articles is a decidedly pathological one, focused on the physical abnormalities that characterize the condition. This disease definition of 'mild' COVID-19 privileges not only the physical aspects of 'mild' COVID-19, but more narrowly the physical aspects that can be seen and reported by clinicians. Physical signs are reduced to what practitioners glean from patients verbally or through questionnaires, as in the symptom-taking conducted by Kim et al. (2020). Physical markers are also limited to biological measures that can be obtained in laboratory procedures, as in Velavan and Meyer (2020). Most commonly, physical signs are limited to what can be visualized using imaging tools, as in the common use of computerized tomography (CT) scans to confirm the absence of viral pneumonia – a widely-accepted standard for classifying a case as 'mild' COVID-19. Disease definitions of 'mild' COVID-19, rooted in a biomedical prism of understanding, thus take on the same disadvantages of medicine's epistemological approach, namely its overwhelming focus on the physical body and its reliance on 'objective' instruments for measurement. While this approach undoubtedly allows for quick and uniform treatment, it inadvertently ignores the significant diversity in physiological manifestations of COVID-19, as well as the varied affective and psychological aspects of patients' conditions and their own subjective accounts of the experience.

By focusing only on clinically observed physical markers, it is easy to think of 'mild' COVID-19 as truly mild and manageable since its physical symptoms point to common and seemingly benign signs such as coughing, sputum and the absence of blood inflammation markers or viral pneumonia. 'Mild' COVID-19 as a disease is characterized by the absence of clinically worrying markers and the presence of clinically common ones. Disease definitions of 'mild' COVID-19 as presented in clinical articles hence firmly implant 'mild' COVID-19 at the bottom of a universal hierarchy of severity, rendering it less deserving of concern and attention.

'Mild' COVID-19 as illness

While Kim et al. (2020) and Velavan and Meyer (2020) seek to establish 'mild' COVID-19 as manageable and benign, this is contradicted by contrasting patient accounts. The anthropologist Callard's (2020) article 'Very, very mild: COVID-19 symptoms and illness classification' effectively illustrates this disconnect by discussing a range of 'mild COVID-19' illness experiences. Callard notes that, while physical suffering is experienced and recognized as being mild by many 'mild' patients, many others have also reported long-term, debilitating physical symptoms, such as 'feeling as though one's lungs are in a vice, severe gastrointestinal discomfort

across many days, confusion, extreme and sudden fatigue' (ibid.: 2). Beyond the physical, Callard emphasizes the emotional distress produced by the spectre of severe COVID-19 and the anxiety surrounding the lack of institutional support. She writes that many 'mild' patients with whom she had been communicating felt 'largely abandoned, at home, by healthcare services; some wondering if, not when, they will recover from the virus; some gravely concerned that their employers will not recognize they are still ill' (Callard ibid.: 3-4). This intense affective suffering contrasts with the descriptor 'mild' and the relatively benign physical characteristics attached to it by Kim et al. (2020) and Velavan and Meyer (2020). Indeed, Callard notes the seeming insistence with which early 'mild' COVID-19 patients recount their experiences, perhaps as a pushback to the misleading notion of 'mildness' that is foisted upon them by disease classifications. One patient lamented:

> I have had 14 surgeries. I have had two children. And honestly, my mild case (of COVID-19), I would do any of those over. I can't imagine being any worse than I was. (Lang 2020: 1)

Physician Paul Garner's (2020) personal account of 'mild' COVID-19 provides us with a more intimate look into this illness experience. He recounts a 'roller coaster of ill health, extreme emotions, and utter exhaustion … frightening and long', which stretched far beyond the median two-week recovery window for mild cases described by an early WHO report (ibid.: 1). Although he noted that he 'had not had severe disease', his experience reveals markedly different psychological and affective suffering:

> I was mortified that I might have infected the staff I had worked with for over 20 years. I imagined their vulnerable relatives dying and never forgiving myself. My mind was a mess. My condition deteriorated. One afternoon I suddenly developed a tachycardia, tightness in the chest, and felt so unwell I thought I was dying. My mind became foggy. I tried to google fulminating myocarditis, but couldn't navigate the screen properly. There was nothing to do. I thought, if this is it so be it. (ibid.: 1)

In a highly visceral way, Garner's (2020) words demonstrate the gulf between chest tightness as experience and chest tightness as biological descriptor. In Garner's experience of tachycardia, intense feelings of chest tightness become intertwined with guilt, fear, disorientation and an overwhelming sense of mortality, of 'dying'. The lived physiological experience cannot be separated from its affective and psychological dimensions, which layer upon each other in the constitution of a severely felt illness. His account of his personal illness therefore makes clear the

subjectively felt severity of 'mild' COVID-19 in a way that disease definitions, with their focus on biomedical detachment, mind-body distinctions and objectivity, do not.

Moreover, Garner's account reveals the deep sense of alienation that he and fellow COVID-19 sufferers felt in having their experiences questioned. He recounts that 'the least helpful comments were from people who explained to me that I had post viral fatigue. I knew this was wrong' (ibid.: 2). Garner also spoke to others 'experiencing weird symptoms, which were often discounted by those around them as anxiety, making them doubt themselves' (ibid.). Indeed, self-doubt, alterity and isolation are equally felt aspects of the illness, which official disease definitions of mild COVID-19 both create and obscure. In privileging a specific set of common symptoms and median duration, 'mild' COVID-19 as disease erases diverse experiences of physical, psychological and affective severity, instead projecting an image of 'mild' COVID-19 as truly mild and manageable.

'Mild' COVID-19 as a sickness, pushed back to a biological disease

In advanced capitalist societies, as Frankenberg notes, 'making conflicts social is too threatening. Sickness is therefore pushed back through psychological illness to biological disease' (Frankenberg 1980: 200). This individualizing process is precisely observed in the reactions to 'mild' COVID-19 noted by Callard (2020) and Garner (2020).

Garner (2020: 2) describes how he encountered fellow sufferers of prolonged 'mild' COVID-19 whose illness experiences were met with disbelief by family members, employers and physicians:

> I joined a Facebook page (COVID-19 Support Group (have it/had it)) full of people with these stories, some from the UK, some from the US. People suffering from the disease, but not believing their symptoms were real; their families thinking the symptoms were anxiety; employers telling people they had to return to work, as the two weeks for the illness was up. And the posts reflect this: 'I thought I was going crazy for not getting better in their time frame' … 'the doctor said there is zero reason to believe it lasts this long'.

We thus see how normative definitions of 'mild' COVID-19 in the UK and US are rooted in biomedical conceptions of COVID-19, which set boundaries to the kinds of symptoms and duration that can legitimately be accepted. Experiences that fall outside this strict category are labelled 'crazy' or regarded as manifestations of 'anxiety'. The use of mental health terminology reveals how the fault is placed squarely in the minds of individual sufferers, pathologizing them rather than socializing with them. 'Mild' COVID-19 as sickness therefore appears to map on to

'mild' COVID-19 as disease, with the attendant individualizing effect of erasing illness experiences and denying sufferers access to adequate support. Callard's (2020) account of 'mild' patients in the UK corroborates this, many of them finding themselves largely abandoned by healthcare services and left to nurse themselves at home.

In Callard's (2020) article, the UK healthcare system is described as being faced with insufficient beds, necessitating stringent triage and the sidelining of 'mild' cases in favour of the survival of public health. This underlying social conflict, of an unmanageable pandemic characterized by severe public health inadequacies and poor government responses, reflects the 'perfect' threatening situation to which Frankenberg (1980: 200) referred – a situation ripe for individualization and the unmaking of 'mild' COVID-19 as sickness.

Indeed, Callard (2020) notes how this national exigency explains comments from the UK's Home Officer Deputy Science Advisor and Chief Scientific Advisor, which stressed the 'very, very mild symptoms' faced by most cases. The context of public-health failures and the related desire to minimize their social and political effects necessitated interpreting mild COVID-19 as a 'very, very mild' biological disease. The related effect of this is that COVID-19 as a pandemic whole is rendered more palatable, manageable and governable.

At the beginning of this unmaking of 'mild' COVID-19 stands China, which first coined the term 'mild' in its original February 2020 epidemic report (Epidemiology Working Group for NCIP Epidemic Response, Chinese Center for Disease Control and Prevention, 2020). While this terminology seems to serve purely practical purposes, China's subsequent reporting standards reveal clear political interests in the shaping of 'mild' COVID-19. Xie (2020) reports on this in a news article highlighting the Chinese government's failure to include 'mild' and asymptomatic patients in the official tally of confirmed COVID-19 cases. According to the National Health Commission's infection guidelines in March, mild and asymptomatic patients were classified as 'positive cases'. Although 'positive cases' were isolated, only confirmed cases were included in the Commission's official daily reports. This under-reporting reflects the Chinese government's attempts to erase 'mild' COVID-19 from the public consciousness and unmake 'mild' COVID-19 as sickness. In many ways, this benefits the current Chinese government, which has faced significant public criticism over COVID-19's catastrophic proliferation and what is seen as its failure to prevent it.

Therefore, in both Callard's (2020) spotlight on the UK and Xie's (2020) article on China, we see how nation states endorse disease classifications of 'mild' COVID-19 and accentuate it by attaching a greater sense of 'mildness' to it or obscuring the category altogether. According to Hobbes's (1985) theory of sovereign authority, political legitimacy depends on a government's

ability to protect the consenting governed from brutish anarchy. Epidemics such as COVID-19 present an extreme anarchy in that pathogens defy easy governance – they are rapidly evolving, elusive, multiple and highly international. The state's abject inability to order this pathogenic anarchy must therefore be minimized through the unmaking of 'mild' COVID-19 as sickness and making COVID-19 a governable disease and an individually manageable illness as its corollary. In this flurried exercise of governance, however, individual experiences of 'mild' COVID-19 are swept under the carpet, and the individuals suffering them are denied legitimate care.

Re-making 'mild' COVID-19

To resist the marginalizing process by which 'mild' COVID-19 is unmade, more illness experiences must be shared so that their diversity is not labelled anecdotal and insignificant but is treated as worthy of medical consideration, as it speaks loudly against the limiting confines of 'mild' biological symptoms. While ground-up collections are one way of achieving this, media coverage can also play an important role in focusing public and political attention on more inclusive and embodied configurations of COVID-19 as sickness. Here, medical anthropologists can also play a role in uncovering the variety of illness experiences across localities and the social relations that make or unmake 'mild' COVID-19 in oppressive and othering ways. More importantly, by placing a spotlight on the range of psychological and affective experiences, as well as the everyday concerns of 'mild' COVID-19 patients, medical anthropologists can aid in the remaking of 'mild' COVID-19 as an intense, jolting, perhaps life-changing and often ongoing sickness deserving collective and especially institutional attention.

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MULTIMODAL BIO-SOCIALITIES

PAOLA ESPOSITO

COVID-19-as-sickness is framed through the same belligerent metaphors that underlie COVID-19-as-disease, as Yasmynn Chowdhury says in her essay (this volume). Meanwhile, certain illness experiences of COVID-19 are renamed 'mild COVID-19', rather than being included in the category of COVID-19-as-sickness, thereby marginalizing 'mild COVID-19' sufferers and disenfranchising them from treatment, as Gillian Chan notes (this volume).

On one level, Chowdhury argues, these metaphors draw lines for the positive purpose of ensuring self-protection. On another level, however, they reproduce and reinforce separations and fractures along lines of race, ethnicity, nationality and social class, while for the individual body a state of war might be draining and counterproductive. Drawing on the illness narratives of people

affected by HIV and other chronic diseases, Chowdhury proposes a reframing of COVID-19 metaphors to make them less aggressive and confrontational. Thus, an illness experience may be rethought from a 'battle' into a 'journey'.

Healing involves reinstating and re-enacting our intrinsic connectedness to the world in ways that can be felt as safe and self-preserving, and metaphors can be instrumental to such processes. Anthropologist Michael Jackson (1989) argued that metaphors can help restore the interrelationships between what he called different 'domains' of self, society and nature (ibid.: 151). When the links between these domains are broken, as in a crisis, metaphors can help restore the lost sense of unity, transforming or healing one domain by acting on another (ibid.: 144-155). René Devisch (1993), in his ethnography of healing practices among the Yaka of Zaire, described ritual metaphors as 'praxeological' devices which cut through distinct semantic fields, enabling 'a blending and empowering of senses, bodies, and world', and effecting 'innovative interlinking' by disclosing and activating synesthetic forces (ibid.: 43). To this very extent, images such as the 'weave' (Devisch 1993) or, more recently, the 'meshwork' (Ingold 2011) can be understood as similar life- and health-affirming devices. Bringing these praxeological metaphors back into the picture might help nourish lives that at present feel fragmented and scattered.

Meanwhile, Chan (above) shows how the conceptualization of COVID-19 as a disease has highjacked its political and social management as a sickness, with profound implications for the ways in which individuals are experiencing and responding to the health crisis. COVID-19 is not only an acute epidemic that can be eliminated by a technocratic 'militaristic' campaign: there will be and already are many people suffering it long-term. For this reason, it is important to keep thinking of COVID-19 in the socializing terms of a 'sickness' that would grant its sufferers access to free health care. As Chan elaborates in her essay, the definition of 'mildness' in 'mild COVID-19' has been constructed against the characteristics of COVID-19-as-disease. Based on physical symptoms and biomarkers identified by medical practitioners and questionnaires, 'mild' COVID-19 is thus placed 'at the bottom of a universal hierarchy of severity', removed from the domain of governance, and conceptualized as manageable by individuals. However, lived experiences of 'mild COVID' contradict its biomedical conceptualization, with patients still experiencing physical and affective symptoms as severe. Chan theorizes this process as an 'un-making' of COVID-19 as a sickness, where 'mild COVID-19' becomes an outlier of diverse individual experiences of illness that are statistically too scattered and irrelevant, and hence easily marginalized or even erased, with sufferers being denied access to adequate and legitimate health-care and welfare support

Multimodal ways of cultivating resilience and creating community with people living with chronic conditions vis-à-vis the chronicity of 'mild COVID' and 'long COVID'

The above two contributions by Chowdhury and Chan highlight how, by using military metaphors for dealing with 'real' COVID-19 and by inventing a 'mild' COVID-19 that diminishes the severity of the illness experience, bioscientific frameworks have divested the state of responsibility and relegated the task of medical treatment to the domestic sphere. They both draw on the 'classical' medical anthropological distinctions between disease, sickness and illness, showing that this distinction continues to hold analytical force. Their work highlights how little is still known about COVID-19 *as an illness* and how it affects individuals. While this is important, we also need to think about how to reshape community in the face of disruption. Biosociality, which posits the organism and environment as interpenetrating (Ingold 2013: 11), has recently come centre-stage as a conceptual tool with which to understand the pandemic, as well as to craft responses to it (Gibbon et al. 2020; Williams et al. 2021). While arguing for the de-separation of the biological and the social, Jens et al. (2020) acknowledge that 'projections' in the space *between* the biological and the social 'constitute powerful means to establish discursive authority'. In this essay, I argue that sensory and multimodal techniques and devices can occupy such interstitial spaces productively by mobilizing the biologically grounded perceptual potential in the human body while attending to its socially oriented patterning. In addition to macro-scale, top-down strategies that spotlight individuals' conduct and adherence, more coordinated community and grassroot responses are necessary through which collective and individual subjectivities and moralities can surface and make themselves heard (Hadolt and Hardon 2017). In this section, I extend Chowdhury's and Chan's reflections to emphasize how sensory and multimodal approaches aligned with practice-based strategies can engender counter-hegemonic biosocial configurations for dealing with the pandemic and its long-term reverberations on individual and communal health.

While anchored in language, metaphor is known to inhabit the lived, moving body (Lakoff and Johnson [1980] 2003). Understood in this way, metaphors can be used as multimodal devices (cf. Varvantakis and Nolas 2019) to guide and shape sensory awareness and to re-direct the individual and social body as they project themselves and engage with the world as 'ensembles of biosocial relations' (Palsson 2013: 24).

One way of re-creating community in this fashion could be to reformulate social distancing as physical distancing. This, in turn, can be modulated through terms referring to the social morphology of seasonal movements such as the 'ebbing' or 'waning' of social contact, or evoking cyclical patterns of 'concentration' and 'dispersal' (cf. Mauss [1904] 1979, in Hsu 2017). Meanwhile, proxemic patterns (Hall 1990) could be rethought in terms of musical dynamics, or

aesthetic qualities such as 'intersperse', 'punctuate', 'counterpoint' (Ingold 2011), or alternating 'synchronicities' (cf. Hsu 2017). In this way, instead of being diminished by the 'distancing', the 'social' is being re-patterned and even enhanced through a materialist ontology of bodily movement applied to proxemic dynamics. This re-patterning would encompass the embodied perception of timing by drawing attention to bodily rhythms as 'a vital bridge between the biological and the social' and as intimately connected to our health and well-being (Williams et al. 2021). If, as Williams and colleagues have noted, the pandemic is 'an *arrhythmic biosocial event'* which has had more or less disruptive effects on life at different scales, an 'education of attention' (Ingold 2000, 2001) to bodily movement can support the reintegration of sustainable rhythms in people's lives.

Physical distancing and bodily rhythms can be ways of creating community and negotiating sociality. Using a dance-practice and choreographic approach, Elswit (2021) envisions 'new public choreographies' which revolve around the shape that breath takes around the individual in public spaces, thereby mobilizing a material conception of air as a dimension of space and of breath as a measure for that space. She refers to this as a 'coronasphere', a variation on the kinesphere as an embodied geometry devised by Rudolf Laban, but engaging specifically with the perception of breath as a sensuous dimension of bodily projection in space. The coronasphere is 'a way to imagine how breath extends the possible spaces occupied by the body and finds movement amid the radically altered sense of proximity that this produces' (ibid.: 70). Here we have an alternative narrative at work, one based on sensuous words or, better still, sensed imagery. More specifically, the tactile-kinesthetic image of the coronasphere mobilizes an embodied awareness of space that contrasts with the disembodied, optical representations of space imposed by metrics. The coronasphere is not a top-down narrative, but one that is enacted soma-aesthetically or 'from the body' (Farnell 1999). The image of 'public choreographies' can be efficacious in contrasting atomization and isolation, summoning up the sense of being part of a whole.

> New public choreographies—ones that let us feel the pleasure or passion of moving with others, while minimizing risk—will only emerge once more people hone their capacity to sense how breath forms expand beyond the skin, and to move attentively and ethically in proximity to other coronaspheres. Every person outside has a responsibility as a dancer, to train to better exist at this moment in which we are engaged in more communal movement, not less. This demands a shift toward moving with the space around us—instead of through it—and with all of the breathers that share it. It demands making physical choices in response to sensed imagery, and building kinesthetic connections to other moving bodies. (Elswit 2021: 71)

Creating community in this way thus involves a rethinking of what constitutes physical boundaries and thinking beyond the body-enveloped-by-skin (Hsu 2007). Elswit proposes a reformulation of bodily boundaries as not ending at the skin, but as extending to encompass one's breathing aura, which can expand and contract. Fixed measures of physical distance can be misleading, she argues, giving a false sense of security when in fact the distance that infective virus particles can travel varies depending on a range of factors 'from the level of ventilation to the violence of the respiratory event' (ibid.). Reliance on bodily sensitivities such as smell – e.g. so-called 'garlic-breath distance'– has recently been advocated as a better tool than metrics in assessing the risk of contagion (Marsh 2021). Elswit similarly proposes the adoption of 'experiential measurements of the extent of the body' as grounded in awareness of breath (ibid.: 71). Breath here figures as a material if invisible dimension of the body, a 'kind of touch' that can become crucial to negotiating safe sociality (ibid.: 69): '[O]nce breath becomes more material in this way, the points of contact between bodies themselves shift. The function of breath as a kind of touch calls for new skills, to understand the role of breath within that negotiation and to manage the intimacy that results' (ibid.: 70). As a 'kind of touch', breath becomes something that can be modulated. As our bodies are redefined by the range of our breath, this changes how we perceive and relate to the world and create community.

Sensuous technologies and movement sensitivities can be mobilized as low-tech, somatically grounded responses to the pandemic. These capacities have long been acknowledged in 'sensory medical anthropology' as taught at Oxford. Csordas (1993) theorized 'somatic modes of attention' as culturally patterned ways of attending to and with the body in an intersubjective milieu. Novellino (2009) spoke of 'sensory attunement' as a capacity by which things and living beings adjust to or 'tune in' the perceptual qualities of other things and living beings in an environment. Hughes-Freeland (2008) discussed the kinaesthetic enskilment the Javanese undergo as a process of embodying moral and social skills via kinaesthetically felt qualities, including rhythm, balance, posture, tension, presence and smooth, graceful movement through space. Selim (2020) described 'affective pedagogies' by which one can learn to modulate one's own affective responses to situations through 'teachable and learnable skills' (ibid.: 108) that include emotion-words. All of these techniques, skills and capacities can be engaged in for the sake of achieving particular 'transformative' effects, including regenerative and healing effects, and can be mobilized in the long-term process of dealing with the pandemic.

Techno-sensory interfaces

With digital and mobile technologies increasingly becoming part of communal and social living in the Western world, it is indeed the case that '[t]he virtual and the 'real' are not mutually exclusive dimensions of social life' (Masana 2017: 171) but become co-penetrated. As the boundaries between human and technology become permeable (Thomas 2021), our 'multimodal' lifeworld affords new types of bodily 'presences', both individual and social.

The web had already become a breeding ground for many forms of biosociality prior to the pandemic, with self-help groups and health-related networks allowing individuals to share knowledge, cultivate a sense of identity and sociality, and ease the isolation of those who are housebound with chronic conditions (Rabinow 1996; Masana 2017). During the pandemic, the potentialities of remote sociality and communication have been extended to include the social needs of healthy people in the Western world. Given to this dramatic expansion of web-based sociality, we can imagine that these touch-less, airtight social spaces will continue to play an important role in our future COVID-19-related health-care, especially for those struggling with 'long COVID' and/or with the mental health consequences.

However, if virtual biosocialities can compensate for human communication and staying in touch, they can hardly replace human co-presence, with many suffering especially the lack of human touch (Durkin et al. 2021). In response to this perceived crisis of tactility, practice-based researchers have been exploring ways to enhance the sensory experience of digital communication by activating the sense of touch by non-tactile means. Here the work of artistic explorations and medical anthropologists intersect. For instance, the artist van der Vlugt (2021: 86) asks, 'Is it possible to elicit a sense of material embodied relationality through the digital screen?' This is important particularly if we think of long-term chronic conditions, where sensory sociality needs to be actively reinforced. In ways that remind us of the pioneering work of the artist Thecla Schiphorst (2009) in the field of human–computer interactions, the work of van der Vlugt explores to what extent perceptual processes such as *transomatisation* (a bodily 'interpretation' and appropriation of non-bodily processes and events) or the 'haptic gaze' (where tactile perceptions and affects are summoned up by visual means) can be involved in this enhancing of sensory and digital online socialities (van der Vlugt 2021: 85).

Dance-researcher Thomas (2021) is exploring ways to summon up a sense of the 'presence' of touch and sensations of tactility through practices of remembering, recalling and imagining 'absent' or 'lost' touch. She too acknowledges that sensations of touch can extend to new dimensions, for instance, with the help of sound and audio-led experiences: '[W]e plan to use [binaural] technology to explore ways in which sound can invite a resonance of touch—of an

environment and between bodies (that are located remotely to one another) within it. Sound provides ways to connect bodies away from the "image," dropping visual identities[;] sound can offer a gateway into a more personal and intimate exchange' (ibid.: 95). Thomas lists different types of touch, ranging from somatically felt interoceptive sensing activated by and with one's own body-interior to non-direct 'environmental' touch, which would consist in 'attending to the way in which the environment touches us indirectly, the way in which the environment holds and contains the body within' (ibid.: 93).

With direct touch being demonized as one of the main sources of contagion in this pandemic, leading to the withdrawal of body-to-body, affective tactility as a form of care (Douglas 2021), these artistic explorations call for an extended understanding of touch as generating new forms of togetherness and 'presence' via multimodal articulations of tactility. Again, a sensory orientation in medical anthropology is key to explore healing and the therapeutic possibilities that are inherent in these articulations. Besides studies highlighting the transitivity of tactility and vision (Taussig 1993; Porath 2011), it is known that sensory perception works synergistically (Merleau-Ponty [1962] 2012; Ingold 2000: 268). This implies that particular sensory qualities can be summoned up by a range of sensory modes, with specific smells, for instance, triggering the 'enlivening' visual quality of 'greenness' (Young 2005; Hsu 2021). It has also been recognized that modulations of sound and colour can 'redeem' presence, reintegrating the sufferer into the social world (De Martino 2005 [1961]; Desjarlais 1994). Following a similar, aesthetic logic, we can also consider *ekphrastic* dialogues – where spoken words are conducive to summoning up aesthetic experiences – as another strategy for redeeming the 'lost' presence associated with sensory deprivation or impairment (Irving 2013).

Here, it is also worth considering Rapport's (2008) call for an anthropological re-evaluation of the field of 'interiority', the *terra incognita* (or *quasi-incognita*) of inner speech and unvoiced discourse that belong to the person only. While, as Rapport admits, it is utopian and impracticable for anthropologists to apprehend 'the infinitude of the personal and the private' (ibid.: 346), it is nonetheless important, from a critical medical anthropology perspective, to acknowledge the relationship between a person's 'subjectivity', mental health and bodily processes of movement and perception (Boldsen 2018). At a time when so many people have been forced to retreat into complete isolation, multimodal and bodily techniques can provide individuals and communities with affective 'scaffolding' (cf. Downey 2008) to support and nourish inner worlds. Selim's (2020) exploration of 'affective pedagogies' in contemporary Sufism in Germany is especially salient in this regard. She describes how breathwork, movement, sonic resonance and visual imagination can be mobilized for the intimate cultivation of an 'inner space' as a place of refuge,

acknowledgement of feelings and/or contact with an 'Elsewhere' that could be either secular or religious. Paying attention to the 'fleeting affects' that arise and disappear in the body as one engages in practice allows one to learn how to cultivate desirable (positive) emotions and tactics for dealing with undesirable (negative) emotions. 'These "fleeting affects" can … be taught and learned. In time, with repeated practice, the energies that move bodies become articulated emotions, sustained sentiments, and cultivated dispositions, and thus trigger and channel new affective responses' (ibid.: 108).

To conclude, multimodal devices and bodily techniques can be adopted in managing the long-term impact of the pandemic on the individual and social body. Aesthetic strategies mobilizing movement, rhythms and sensory utterances, both direct and mediated by technology, can be used to re-integrate the individual safely into the social world, creating community, and providing affective scaffolding in times of isolation and disorientation.

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IV. *Reproducing inequalities*

INEQUALITY SHAPING EPIDEMICS, EPIDEMICS REPRODUCING INEQUALITY:
INTERSECTIONALITY AND COVID-19

GILLIAN CHAN and LAN DUO

Since the first case of COVID-19 emerged in December 2019, infection levels and death rates from the virus have steadily risen across the globe. These sobering trends, however, have not been evenly distributed. Clear patterns of variation in population distribution, severity and medical complications have emerged. Internationally, both being older and being male are associated with higher levels of vulnerability, with a greater risk of both disease severity and mortality (Peckham et al. 2020). In the UK and US, it has also been found that ethnic minorities bear a disproportionate burden of disease incidence and severity; in the UK, as of July 2020, Black and South Asian (British Indians, Bangladeshis and Pakistanis) patients had a 48% and 45% higher chance of death respectively compared to White people after controlling for factors such as age, sex, underlying medical conditions and smoking status (Williamson et al. 2020). Similar patterns have been observed in the US, where African Americans and Hispanics/Latinos suffered triple and nearly double the mortality rates of whites respectively (Gross et al. 2020). Individuals suffering conditions of poverty also face greater risks of being infected and developing complications, with socioeconomic deprivation increasing both infection and mortality rates in multiple countries, including the US (Hawkins et al. 2020), Chile (Mena et al. 2021) and South Korea (Oh et al. 2021).

Furthermore, these risk categories frequently intersect with each other, rendering specific populations particularly vulnerable. Elderly ethnic minorities, especially those in care homes (Booth 2020; Care Quality Commission 2020; Comas-Herrera et al. 2020), and ethnic minorities in lower socioeconomic classes, especially those with frontline occupations (McLaren 2020; Williamson et al. 2020), are the two intersectional populations of vulnerability focused on in this essay. Therefore, as much as medical researchers strive to identify medical revelations to counter COVID-19, interdisciplinary researchers must pay equal heed to the socio-cultural underpinnings of COVID-19 and the intersectional populations of vulnerability that bear the greatest brunt of the pandemic.

Intersectionality is a conceptual framework for understanding and examining how the overlapping characteristics of an individual's perceived identity intersect, where privilege or discrimination may be based on traits such as age, gender, physical appearance, ethnicity or social

class (Hill Collins and Bilge 2020). Intersectionality was first described in the late 1980s by Kimberlé Crenshaw, a black feminist and activist, and the concept has attracted expansive use and gained great analytical power since then. It is an important concept for tackling inequalities in public health (Kapilashrami and Hankivisky 2018). We draw on this framework here to examine how a global pandemic, government structures and policies, and poverty collide to reproduce socioeconomic inequality. We focus in particular on the UK, but will also draw upon examples from the US and other developed and developing countries. There is a large body of empirical work illustrating how inequality is reproduced and exacerbated by public-health disasters such as the COVID-19 pandemic.

Early on, an unexpected observation emerged: young children who are usually vulnerable to disease were much less likely to contract COVID-19 or suffer severe symptoms from it than anyone else (Fischer 2020). It is still unclear why this is so. While our children were seemingly safe, our elderly were bearing a much larger burden of mortality than expected. Being over the age of 65 was the earliest predictable risk factor to be identified for COVID-19. Large-scale studies from Spain, England and a number of other European countries revealed that age was by far the strongest predictor of mortality risk (O'Driscoll et al. 2020; Pastor-Barriuso et al. 2020; Ward et al. 2020): as of April 2021, 80% of COVID-19 related deaths in the US occurred among people aged 65 or over (CDC 2021). Similar patterns have been observed globally, with the WHO's 5 October 2020 Epidemiological Update revealing that approximately 75% of deaths were occurring amongst those aged 65 years and above (WHO 2020). Increased age coincides not only with a greater likelihood of multiple comorbidities, but also with a greater reliance on polypharmacy, which may interact with the viral pathogenesis in harmful ways (Romero Starke et al. 2020). Furthermore, greater susceptibility and severity of the disease in the elderly can be attributed to compromised immunity, which is common in old age (Franceschi et al. 2000; Gruver et al. 2007).

Age as a risk factor for disease is not unexpected, and the mechanisms are quite well-understood: interferons play a critical role in the early stages of an infection by triggering an immediate, intense local response to viral invasion (Zhang et al. 2020). The surprising thing is the extent to which this risk is compounded by other factors. Being male also quickly emerged as a risk factor in the sense of a higher risk of both severe COVID-19 and death. Interferon response again provides a plausible explanation for this difference. Bastard et al. (2020) found that 94% of patients with interferon-attacking antibodies were male. Other immune differences, such as the presence of more robust T-cell activation and larger amounts of neutralizing antibodies in women, may also explain the gender differences.

As well as differences in immune function associated with age and gender, behavioural variation associated with gender norms play a part too. Men are more likely to engage in higher levels of alcohol consumption and smoking due in part to the socializing pressures of hegemonic masculinity, which tend to valorize the denial of pain, weakness and health concerns (Mahalik et al. 2007). For instance, 50% of men in China smoke compared to only 2% of women due to the greater acceptability of smoking according to dominant notions of Chinese masculinity (Abate et al. 2020). Similarly, in pre-pandemic Italy, women at the age of 43.3 (sample mean) were less likely than men to smoke or consume alcohol, apparently due to their greater valuation of fitness and bodily health (Oncini and Guetto 2018). Smoking clearly increased one's chances of adverse COVID-19 outcomes, with smokers being 1.4 times more likely to develop severe COVID-19 symptoms compared to non-smokers (Vardavas and Nikitara, 2020). Given the critical role of ACE-2 as the main receptor for SARS-CoV-2 cellular entry, this may be explained by the increased expression of ACE-2 receptors among smokers (Cai 2020). Similarly, alcohol consumption has been associated with increased cardiovascular risk, which is a predominant driver of cardiomyocyte-specific increased transcription of ACE2 (Tucker et al., 2020). Social and behavioural factors therefore intersect with the physiological in producing higher male risk of comorbidities and ACE-2 expression, which increases their chances of catching and/or dying from severe COVID-19.

Interactions linking the biology of COVID-19 with age and gender are further exacerbated when socioeconomic deprivation is a factor. A large body of empirical evidence has shown the stark inequalities in the incidence and severity of COVID-19 across the socioeconomic spectrum. For instance, Williamson et al.'s (2020) large-scale study of COVID-19 patients in the UK found a consistent pattern of increased mortality with greater deprivation measured in terms of income, employment, health, education and deprived living environments, as well as crime and barriers to housing. Compared to the least deprived quintile, the most deprived quintile of patients were 79% more likely to pass away from COVID-19 (ibid.). Similar patterns were observed in South Korea, where lower income levels were associated with an increased risk of COVID-19 infection – a reduction in income of 5% was associated with an increase of 1% in COVID-19 risk (Oh et al. 2021). In Chile too, infection fatality rates due to COVID-19 were significantly higher in low-income municipalities, with the socioeconomic status of municipalities being directly related to disease incidence and mortality (Mena et al. 2021).

Given that person-to-person transmission occurs primarily via contact with the mucosae or conjunctiva of infected individuals, decreasing social interaction and maintaining physical distance can significantly reduce infection rates (Matrajt 2020). However, the most deprived

members of society, who largely work in manual jobs and the service industry (Drury et al. 2020), are unable to participate fully in such distancing and thus benefit from it. This limits the work and life choices available to lower-income households. Although many in such categories are aware of the need for safe distancing, the ability to work from home and engage in tele-working is directly related to income level (Papageorge et al. 2020: 11). Lower-income individuals tend to work in high-contact jobs for which teleworking is not an option, placing them at a significantly greater risk of exposure and infection (Drury et al. 2020: 689).

The limiting confines of socioeconomic structures and their interaction with transmission dynamics is especially evident in the poor living conditions of lower-income neighbourhoods, where high population densities, poor ventilation, inadequate sanitation and a limited water supply create the perfect conditions for 'super-spreading events' and secondary transmission (Nishiura et al. 2020). This 'slum effect' has been widely reported in existing epidemiological research on communicable diseases (Butala et al. 2010; Turley et al. 2013), and it can reasonably be applied to COVID-19, which has seen similar concentrations of infections in geographically bounded communities of poverty, such as the refugee camps of Idlib (Conway 2020), overcrowded migrant-worker dormitories in Singapore (Reuters 2020) and the urban *favelas* of Brazil (Reeves 2020).

In addition, it has been well-established that micronutrient deficiencies contribute to an increased risk of infection by dampening the body's immune response (Bourke et al. 2016) and that such nutrient deficiencies are widely apparent in low-income groups (Nikolić et al. 2014). This not only enhances susceptibility to COVID-19, it also increases disease severity, as elevated nutrition risks have been positively associated with adverse clinical outcomes in COVID-19 patients (Zhao et al. 2020). Chronic stress and pollution from environmental and endocrine-disrupting chemicals, both prevalent in impoverished neighbourhoods, have also been linked to mitochondrial damage that is potentially worsened by the cellular invasion of SARS-CoV-2, increasing the risk of complications such as organ failure due to sepsis (Yao and Lawrence 2020). In addition, people living in poverty face reduced access to healthcare, which can significantly impair the timeliness of their treatment. This is a known critical factor in combating disease progression and complications.

Conditions of poverty hence overlap and intersect with ethnicity in increasing the risk of COVID-19 incidence and severity. Age and gender also layer risk upon poverty and ethnic vulnerability, as the physiological and behavioural attributes of older men further increase the risks of immune impairment and comorbidities associated with higher fatalities. These syndemics of COVID-19 and obesity, diabetes and cardiovascular disease, among others, reveal the critical roles

of age, gender, ethnic and socioeconomic inequalities underlying ill-health at multiple intertwined levels.

Intersecting vulnerabilities

The evidence is clear that disease risks are compounded by multiple intersectional characteristics such as those discussed above. Although this is not new, what is particular to the COVID-19 pandemic is that global lockdowns have meant that essential, front-line workers bear the brunt of the risks and that these very workers are very often from minority and lower income groups. In his analysis of COVID-19 mortality rates, McLaren (2020) draws important links between occupation, ethnicity and socioeconomically linked modes of transportation. He notes a strong correlation between health-supporting occupations, such as home health aides, nursing assistants and hospital orderlies, and increased mortality rates, which account for a significant degree of the relationship between ethnicity and COVID-19 mortality amongst Hispanic, Latino and Asian American populations. A similar relationship is observed with personal care and support occupations, such as barbers, manicurists and fitness instructors. We therefore see how these minority communities tend to occupy essential occupations in both the service and health-care industry that place them at a greater risk of mortality given the higher risks of transmission in such high-contact settings. At the same time, McLaren notes how Hispanic, Latino and Asian Americans rely disproportionately upon public transportation for their daily commuting, which accounts for another significant proportion of the correlation between ethnicity and COVID-19 mortality. Ethnicity thus intersects with occupation and transport mode, which are both functions of and contributors to lower socioeconomic status, producing higher rates of COVID-19 mortality among minority essential workers in America.

A similar layering of risk is observed among care-home residents in the UK, where the density of transmission within institutional settings builds upon age and ethnicity in creating an intersectional population of extreme vulnerability. Indeed, recent reports from the Care Quality Commission (2020) in the UK reveal a worrying disparity in COVID-19 deaths between white and non-white care-home residents. While COVID-19 was responsible for 44% of the deaths among White residents living in care homes, highlighting the already high mortality rate among seniors, it accounted for 54% and 49% of deaths among their Black and Asian counterparts. Admittedly the causal links remain speculative, but such alarming statistics nonetheless point to the ways in which ethnicity and age intersect within the highly concentrated populations of care homes, creating death rates that should not and must not be perpetuated. In this way, COVID-19 has acted to increase social inequalities and, as described by Spellman (this collection), the media, the

authorities and the public have to some extent justified this by elevating front-line workers to hero status.

Conclusion

There is overwhelming evidence that the exigencies of the COVID-19 crisis cannot be separated from the ongoing structural inequalities within society. Socioeconomic, sex- and age-based and ethnic disparities that produced different levels of suffering in pre-COVID times are being perpetuated, reproduced and reinforced in the current crisis, manifesting themselves in different infection and mortality rates. These work together in producing particularly vulnerable intersectional populations, whose outsized burden of COVID-19 mortality begs further action in research, understanding and political action.

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CLAPPING FOR CARERS: REPRODUCING INEQUALITY DURING COVID-19

SARAH SPELLMAN

Introduction

As the COVID-19 pandemic rolls into its second calendar year, it seems an appropriate time to look at what COVID-era narratives can tell us about social values. A brief disruption to a society's way of conducting itself may easily be subsumed into the flow of collective life without much threat to existing structures, but what of an emergency of this scale and duration? What does it reveal about boundaries and stratifications of power, and how might it lead to their reinforcement, their destabilization, or elements of both?

One way to explore these questions is through ideas of risk and otherness, employed to contrast the discursive and economic treatments of 'essential' or 'key' workers in the UK. The socioeconomically marginalized status of many of these workers, which intersects with the way the UK has acted on notions of risk, lends itself to anthropologist Mary Douglas's work on risk theory, itself influenced by her writing on boundaries and the body (Lupton 2013). In what follows, I build on elements of Douglas's thinking to identify pandemic narratives that act as a form of positive or laudatory othering in reaction to risk. The dynamic I explore is one in which UK essential workers, including carers, supermarket workers and delivery drivers, many of whom are in low-wage, precarious roles, receive praise rather than the more negative forms of othering that are usually used in the reinforcement of marginalization (Lister 2004). As we have not seen significant signs of changes to the conditions leading to economic precarity, I argue that this appreciation of 'heroism' acts as a substitute for action against systemic disadvantage.

Risk and othering

Mary Douglas's cultural/symbolic perspective, Beck and Giddens' idea of the 'risk society' and Foucault's governmentality have provided the most significant scholarly theoretical frameworks for addressing social approaches to risk (Lupton 2013: 36). Douglas's work emphasizes the importance of the body, boundaries and otherness. Though this framework has been criticized as conservative (Datta, 2005) and static (Lupton 2013: 75), it can be useful in understanding how risk perceptions intersect with social and political realities, including marginalization through various forms of othering.

Socioeconomic othering is the creation of social distance through narratives of demarcation that hinge on power (Lister 2017). This othering process is 'imbued with negative value

judgements that diminish and construct "the poor" variously as a source of moral contamination, a threat to be feared, an "undeserving" economic burden, an object of pity or even as an exotic species to be explored' (ibid.: para 6). Qualitative empirical research carried out by Chase and Walker (2013) among UK adults in poverty has explored the sometimes complex ways in which shame linked to relative poverty and how it is co-constructed and internalized by those in poverty. One effect of othering rooted in economic status is the drawing of attention away from structural factors and towards perceived individual shortfalls in a way that helps to perpetuate socially stratified discourses of 'them' and 'us' such as the trope of the deserving and undeserving poor.

In liberal market economies with increasing inequalities of wealth, such as the UK's (McGovern et al. 2020), those in 'low-skilled' jobs are at a disadvantage both socially and financially. Alongside earning a low income, a body of research indicates that these workers face a social reality in which 'respondents hold more negative attitudes towards low-skilled than high-skilled workers regardless of respondents' own educational levels and income' (Fernández-Reino et al. 2020: S386). Access to social capital is also reduced due to restricted access to contacts who may be able to assist with job or educational opportunities (Leo et al. 2016). Workers who have become essential to the economy during the COVID-19 pandemic entered it already facing the linked disadvantages of social othering, relatively low wages and a lack of social capital.

It is therefore clear that in the COVID-19 era, the bodies we put at greatest risk are those that are already at risk of poorer life outcomes along the interrelated axes of wealth, health and social status. The identification of risk as part of a nexus incorporating power and boundary-making forms the basis for this analysis of the reproduction of inequalities through the laudatory othering of essential workers during the pandemic.

The challenges of essential work during COVID-19

In the UK, the Office for National Statistics (2020) defines essential workers as those in sectors including health and social care, education and childcare, utilities, food and necessary goods, transport and key public services. In this essay, the term is used to describe those carrying out roles that require them to be physically present outside their homes in order to work, with a particular emphasis on workers in low-paid and so-called low-skilled roles. These workers are unlikely to have the option of transferring to home working, nor the financial resources that allow them to stop working. Although many better-paid health-care workers like doctors, nurse-managers, dentists and hospital consultants fall into the essential worker category, they are not the main focus of this analysis. Here too, however, there is a disconnect between the narrative and material

realities, perhaps illustrated most sharply by concerns about supplies of potentially life-saving personal protective equipment (PPE) for health-care workers (*The Lancet* 2020).

Now that we know more about how COVID-19 infections spread, it is clear why those on lower incomes are at increased risk. These individuals are more likely to live in high-occupancy accommodation and to work in jobs requiring their physical presence, often including exposure to members of the public, and to travel to work on public transport as a necessity. These factors make it more difficult to socially distance and avoid infection. In the US, a country in which low-income workers face many of the same challenges as in the UK, one study found that social distancing is highly variable by income and that 'wealthier areas decreased mobility significantly more than poorer areas' (Weill et al. 2020: 19658).

The intersectional, compounding nature of economic disadvantage means that migrant workers and people of colour are more likely to be in low-paid work in the UK. In 2019 migrants were over-represented in health and social work, hospitality and transport (Fernández-Reino and Rienzo, 2021). In a data analysis exploring the effects of emergencies on migration policy, Fernández-Reino et al. (2020) consider the potential implications of the current pandemic for UK economic migration, pointing out that the UK has a long history of recruiting workers from abroad to fill roles now regarded as essential, particularly in the National Health Service (NHS). The uncertainties surrounding the UK's exit from the European Union have piled extra economic burdens on some essential migrant workers, which could further compound the intersectional load of disadvantage.

Circumstances leading to the deaths of some essential workers, such as that of UK railway employee Belly Mujinga, who eventually died from COVID-19 after reportedly being coughed or spat at deliberately by a passenger, have been highlighted in the press (Croxford 2020). However, this focus on a few individual cases may have inadvertently helped to obscure the scale of essential work in the national consciousness as employers adapt – or fail to adapt – their operations to COVID-19 infection risks. A *Financial Times* investigation (O'Connor 2020) found that the way the UK Health and Safety Executive approaches outbreaks in workplaces means that employers are unlikely to face consequences for not reporting COVID-19 clusters. The same investigation quotes a former staff member saying of a friend who was still working at a factory that had suffered multiple outbreaks, 'She's scared to go to work, but on the other hand, she needs to go to work' (O'Connor 2020), thus highlighting the disparities in COVID-19 risk-minimization opportunities among different segments of the working population.

Reproducing inequality through laudatory othering

In May 2020, Prime Minister Boris Johnson wrote of essential workers that 'They are the best of us, punctuating each day with a million acts of love and kindness' (Prime Minister's Office and Johnson 2020). The Clap for Carers initiative, launched by London resident Annemarie Plas in March 2020 and lasting for ten weeks with support from the Prime Minister and the royal family, was set to return in January 2021 under the new moniker of Clap for Heroes (BBC 2021). Weekly doorstep applause initially framed as an expression of support for NHS staff, Clap for Carers was expanded to include workers sustaining the economy's most vital functions. Though postponed due to the ongoing lockdown, in April 2020 Virgin Radio announced a 'Big Thank You Tour' of concerts, with free tickets to be offered to essential workers. Virgin Radio's content director Mike Cass framed the tour as thanking workers, 'from our brilliant bus drivers and posties to the amazing shop staff and delivery drivers' (Clarkson 2020).

These are just a few of many examples of the narrative of the heroic essential worker that have been constructed in UK society during COVID-19. The pandemic has not only made visible the risk of COVID-19 exposure among those doing work deemed economically essential, it has also exposed the often strenuous and precarious nature of this work and the other risks entailed by it. Additionally, rather than attracting negative characterizations – low-skilled, under-educated, expendable – the essential worker is valorized, drawing praise from the media, politicians, royalty and the general public. This phenomenon can be understood as a form of reverse othering, in this case laudatory, dominated by themes of gratitude and the attribution of virtue.

Despite this widespread rhetorical valorization, the UK has not (or not yet) seen significant discussions of structural changes – a higher living wage or further regulation of precarious 'gig economy' contracts, for example – emerging alongside the applause. That being so, I believe it is reasonable to ask whether one effect of laudatory othering is, in a sense, to facilitate a trade – temporary enhancement of social status in exchange for exposure to a degree of risk not faced by those in more secure economic conditions.

Examining this exchange through the lens of Mary Douglas's work on boundaries and the body can help illuminate the ways in which existing social hierarchies are maintained in times of increased risk. She argues in *Natural Symbols* that the body is 'always treated as an image of society and that there can be no natural way of considering the body that does not involve at the same time a social dimension' (Douglas [1970] 2003: 78). Cultural constructs of risk and otherness are expressions of the dominant social order, as she has shown in her ethnographic work on pollution rituals (Douglas [1966] 2013).

This order is reflected in the variation in exposure to acceptable risk we grant to bodies of correspondingly varying socioeconomic status. As the definition of 'essential' has been reshaped through the pandemic's foregrounding of the corporeal, material nature of human life, socially higher-status work has been shown to be less important than essential work to the immediate functions of the economy; at the same time, those in higher-status roles may work from home, shielded from risk. These workers have not only retained the privileges inherent in their status, they have in fact attained a new iteration of privilege – protection from COVID-19 risk through physical separation – which re-entrenches the dichotomy between secure and precarious labour.

Dissonance is also found in the tension between laudatory othering and interpretations that resist it: the founder of the Clap for Carers initiative has distanced herself from its 2021 reincarnation after negative comments on social media about the inadequacy of applause without accompanying action on pay or PPE provision. However, it appears the most visible strands of objection have been centred around health-care workers, with, in one example, Labour Party leader Keir Starmer tweeting 'Once again we took to our doorsteps to #ClapForOurCarers. But clapping isn't enough. They need to be paid properly and given the respect they deserve' (Starmer 2021).

Self-protective power structures

Why have we not seen significant signs of change in response to the inequalities, given the new emphases brought about by the conditions of the pandemic? Douglas's previously discussed work on the reproduction of the social order provides a window into social processes that contribute to the maintenance of a social status quo, one in the UK constituted in part by sharp socioeconomic stratification. However, her work also addresses the political dimensions of risk; in 'Risk and Blame', she writes (2002 [1992]: 53) that 'the political aspect of risk cannot be concealed any longer.' Within the Douglasonian risk-theory framework, which can be described as structuralist and critical realist (Lupton 2013), socioeconomically mediated variability in workers' exposure to risk demands an interrogation of the ways in which capitalist structures regulate flows of economic power.

On this theme, Navarro (1976) observes that in capitalist societies there is a tendency for bourgeois ideologies to promote the setting of parameters that subordinate health-care systems to the needs of capital accumulation. Systemic change that would threaten this aim is not considered. Instead, there is an emphasis on individual interventions in illnesses that may in fact be driven in large part by a society's economic structures (ibid.). Although Navarro is addressing the relationship between health-care and neoliberal capitalism, I suggest that the concept of hegemonic

social discourses acting to shift the focus towards individual behaviour and away from institutional power is relevant to any examination of the economic dimensions of laudatory othering.

Conclusion

During a time of great crisis, it is not surprising to find members of the public wanting to applaud carers and other essential workers sustaining key social functions. However, this impulse sits within a wider context of inequality that is reproduced in part through popular and institutional COVID-19 discourses informed by socially ordered risk calculations. Despite the heroic reception of essential workers by the public and the state, there have been no substantive moves toward changes to pay, conditions or precarity. Some have asked whether COVID-19's impact on UK society will serve as a spark for change in public attitudes to low-paid workers (*The Lancet* 2020). It is possible that this will come to pass, but if it does not, laudatory othering may merely have served to maintain social inertia and perpetuate pre-pandemic distributions of power. I give the last word to Mary Douglas:

> It may be a general trait of human society that fear of danger tends to strengthen the lines of division in a community. If that is so, the response to a major crisis digs more deeply the cleavages that have been there all the time.
> (Douglas 2002 [1992]: 34)

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The previous two essays, by Gillian Chan and Lan Duo, and by Sarah Spellman, deal with the vexing and uncomfortable issue of how the pandemic has exacerbated socioeconomic disparities in the UK. Chan and Duo describe how economic inequality is compounded by other facets of marginal status, and they use intersectionality as an explanatory framework to improve understanding of how minority groups working in low-paid jobs are disproportionately exposed to danger. Spellman focuses specifically on low-paid front-line workers and how 'clapping for carers' elevates these essential workers to hero status but nevertheless perpetuates a divide because 'othering', albeit laudatory othering, absolves the public, media and government from providing material compensation (e.g. adequate PPE and increased wages) for the increased danger they face.

Socioeconomic inequality has exacerbated the effects of the pandemic, which, with its lockdown restrictions and blanket vaccine distribution, has in turn widened the divide further. In the UK, Black Asian and Minority Ethnic communities (BAME) suffer the hardest consequences, partly because they make up the largest proportions of the most deprived. However, poverty only explains some of the BAME burden – racism is fundamentally detrimental to health. While poverty means increasingly overcrowded accommodation, poor-quality housing and reduced access to green spaces, all of which contribute to poor health, structural and cultural racism manifests itself in discrimination in health behaviour and opportunities (Razai et al. 2021). Barriers are reinforced when BAME individuals face culturally insensitive clinical experiences that impact on mental health and lessen the will to seek further help. BAME NHS health-care workers are also less likely than White staff to voice their anxieties about PPE and workplace testing.

So what to do?! A recent paper in the *British Medical Journal* (Razai et al. 2021) outlines the many complexities of the problem and provides more than a dozen guidelines for policy-makers and society in general to alleviate structural and cultural racism, as well as discrimination more broadly. These include increasing awareness, better data collection and dissemination, more financial support, improved access to health care, and increased diversity in jobs and education.

The UK vaccination programme is well underway, and this also provides an opportunity to mitigate the unequal impact of COVID-19 on higher risk groups. Indeed, the World Health Organization and National Academies have recommended targeting vaccine policy to prioritize BAME groups, the socioeconomically disadvantaged and the elderly in order to try and reduce the health inequalities gap (Osama et al. 2021). However, the UK has taken a 'colour-blind approach'

and rolled out vaccines to the general public by age group only. Part of the issue is that BAME communities are also more likely to be reluctant to have the vaccine, largely due to structural racism creating low trust in the government. This, along with the physical and administrative barriers to vaccine access in minority communities, can be addressed by means of a targeted vaccine policy that places ethnic minorities in high-priority groups along with front-line workers and care-home staff (Osama et al. 2021).

Current conversations about institutional racism and efforts to make up for Britain's colonial injustices are accentuated by the continued reproduction of inequality that is magnified by the pandemic. However, with commitment and vision, change is possible and indeed it is necessary and urgent.

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V. Outlook: coevolution and ecological public health

COEVOLUTION AND THE EMERGENCE OF DISEASE:
ECOLOGICAL THINKING IN PUBLIC HEALTH AND BEYOND

SONORA ENGLISH, STANLEY ULIJASZEK AND ANJA SELMER

Introduction

With respect to the present pandemic, ecology is the key to understanding both the emergence of the SARS-CoV-2 virus and the control of COVID-19 disease. Emergence and control are linked, the context in which the virus emerged providing a framework for addressing the pandemic. Ecological thinking prioritizes the complex relationships that exist between organisms and their environments, situating these within interdependent, integrated systems (McMichael 2001). Humans are inherently situated within their ecological contexts, with profound implications for health and the mitigation and management of risk (Rayner and Lang 2012). This paper examines how the complex ecological origins of SARS-CoV-2 underscore the importance of more holistic approaches to the containment of epidemics and pandemics more broadly. The increasing interconnectedness of human worlds with non-human ones and the complex interplay between them provides fertile ground for new and emerging infectious disease outbreaks among humans. Thus, emerging infectious disease and its control poses one of the most critical and pressing challenges to public health in the 21st century. 'Ecological public health' (ibid.) is underscored here as a framework for seeing the connections between diverse ecologies in a way that can promote improved outbreak prevention and containment strategies. Given the complex social and political contexts in which the spread and control of infectious disease are played out, we argue that ecological thinking needs to go beyond public health when considering epidemics and pandemics in the future.

Ecology of the emergence of coronavirus

The emergence of new viruses that can infect humans must be situated within the ecological relationships of and between different species, since the emergence of infectious disease in humans is predominantly zoonotic, that is, caused by pathogens of animal origin (Engering et. al. 2013). Such pathogens emerge through processes of coevolution, or the reciprocal adaptive change of two species in response to selective pressures from each other, affecting each other's evolution (Gluckman et. al. 2016). Coronaviruses are a family of single-stranded RNA viruses that have

infected animals for millennia (Ye et. al. 2020), their emergence in humans being the outcomes of such coevolutionary forces. Since the emergence of the SARS-CoV virus in 2002 and the ensuing Severe Acute Respiratory Syndrome epidemic, seven coronaviruses have been identified in humans, all of zoonotic origin in vertebrates, specifically domestic animals, mice and bats (ibid.). Bats are viewed as the evolutionary hosts of many of the coronaviruses identified in humans, suggesting that coronaviruses in bats are closely related ancestors to those found in humans and that bat-pathogen co-adaptation is strong (ibid.).

Before the current pandemic, Anthony et al. (2017) predicted that there are more than 3,000 types of coronavirus in 1,200 bat species and posited coevolution as a driving factor in producing this coronavirus diversity. Evidence to support the host–pathogen coevolution of bats and coronaviruses comes from the frequently limited virulence observed in co-evolved host-pathogen relationships; bats identified with coronavirus infections are either asymptomatic or present only mild symptoms of disease. Adaptations facilitating this include defects in the activation of pro-inflammatory responses in bats which efficiently reduce coronavirus pathology (Ye et. al. 2020). Bat–coronavirus coevolution has increased the genetic diversity of bat coronaviruses; geographically separated bat families have evolved distinctly and specifically in relation to their host coronavirus species (Joffrin et. al. 2020). The diversity of coronaviruses is also greater where there is a greater diversity of bats (Anthony et. al. 2017).

The epidemics of Severe Acute Respiratory Syndrome (SARS), Middle East Respiratory Syndrome (MERS) and the COVID-19 pandemic have shown how debilitating the emergence of coronaviruses in humans can be on health and on society at large. In addition to their role in increasing the diversity of coronaviruses, coevolutionary processes are involved in the emergence of coronavirus diseases in humans. This is due to the spill-over of pathogens from hosts, including bats, to humans. Pathogens can cross directly into humans from bats; although direct transmission is not confirmed in the case of coronaviruses, it is known to occur in the case of viruses such as rabies, Ebola and Nipah (Ye et. al. 2020). Upon transmission to humans, such viruses are likely to be very virulent and to reproduce very quickly (ibid.). Coronaviruses are thought to transfer into humans more often through intermediary hosts, as has been the case with MERS, whose ancestral host is known to be the bat. However, humans are thought to acquire the MERS coronavirus from dromedary camels, with which they have significantly more contact than bats, thus increasing the likelihood of spill-over. Are there similar effects in relation to SARS and the civet cat, or COVID-19 and the pangolin? Both are possible, and both possibilities are yet to be confirmed by research. Coevolutionary processes play a role in the emergence of disease, as with MERS when the pathogen transfers into the new camel host and is not well adapted to the new host environment

(Banerjee et. al. 2019). As a result, the pathogen reproduces more quickly and is more virulent, which in turn increases the likelihood of it being transferred into a human host (Ye et. al. 2020). Coevolution has an impact on the emergence of new diseases such as those caused by coronaviruses through increasing pathogen diversity and by modulating the virulence, replication and transmissibility of a virus in a new host. Coevolution also highlights the vulnerability of human society to diseases from diverse species due to human embeddedness within complex networks of interdependent relationships.

Coevolution and ecological change

Ecological thinking is an important framework for understanding the emergence of disease in the context of unprecedented anthropogenic environmental change. The genetic diversity of pathogens and the risks to human health posed by zoonotic diseases are both compounded by the complex effects of ecological change on coevolution. Zhody and colleagues (2019) have proposed the 'coevolution effect hypothesis' to account for the increase in the emergence of infectious diseases in the context of habitat fragmentation, which increasingly separates vertebrate hosts from other, usually non-vertebrate, potential pathogen hosts. As a result, pathogens and their hosts coevolve along trajectories that are separate from those of other species. This increase in isolated pathogen hosts and pathogens has the overarching impact of increasing the genetic diversity of pathogens due to mutation and genetic drift, consequently increasing the probability of the emergence of new pathogens that can cross the species barrier into humans (ibid.). This 'coevolution effect hypothesis' is consistent with studies of spatial patterns of coevolution that assume that different spatial subpopulations coevolve differently, resulting in spatial variation in both pathogens and hosts (Woolhouse et. al. 2002). The context of ecological change, including habitat fragmentation, additionally increases the range of habitats in which disease vectors can come into contact with humans, increasing the risk of zoonotic diseases crossing species barriers into humans (Zhody et. al., 2019). Thus, rapid (?) ecological changes compound the risk of the emergence of zoonotic diseases in humans through coevolutionary processes that both increase pathogen diversity and human contact with pathogens. Zhody et al.'s hypothesis (ibid.) highlights the necessity for ecological thinking in approaching coevolution due to the complex, system-wide effects of habitat fragmentation they describe.

Ways forward: ecological thinking in public health and beyond

The compounding effects of environmental change on coevolutionary processes present novel challenges to health globally. The unprecedented environmental change that humans are currently

facing is causing habitat fragmentation at increasing rates and is influencing patterns and rates of host-pathogen coevolution in ways that cannot be readily understood. This is largely because of the complexity of ecological systems, and also because of changing patterns of climatic seasonality, which in turn influence host–pathogen relationships. Changing patterns of human land-use and changing human relationships with the natural world further influence the rates and patterns of transmission of newly coevolved human pathogens. Simple awareness of such facts should provide an impetus to recalibrate public health systems to prepare for future outbreaks of infectious disease. It is imperative for public health discourse and practice to integrate ecological thinking to help build more resilient and robust health systems and responses for the containment of the present COVID-19 pandemic and for the future prevention and minimization of emerging infections that may infect humans in new and different ways.

The need for ecological thinking in public health is imperative. Along with the consideration of coevolutionary processes in the emergence of zoonotic disease, it offers a framework for the control of such diseases in human populations. Coevolutionary processes account for the genetic diversity of pathogens and their virulence in new host species. However, it is because of the complex ecological systems within which coevolutionary processes are situated that they pose risks to human health through the emergence of novel zoonotic diseases. There is a need for 'big thinking' beyond the public health arena, since the COVID-19 pandemic has exposed how deeply implicated political and economic systems are, especially with regard to the decisions they make to combat the spread of the virus. In the UK, the political inertia and simple prioritization of the economy that led to preventable disease and death have been termed 'failures of state' (Calvert and Arbuthnott 2021).

The case for 'ecological public health' (EPH) has been well-made by Lang and Rayner (2012), who, almost a decade before the emergence of Sars-CoV2 and COVID-19, advocated a rethink of the public health paradigm and the development of a 'new environmental conception of health' (ibid.: 52). The Ecological Public Health model acknowledges that human health is embedded in complex networks of relationships that are currently undergoing unprecedented anthropogenic change. Human health depends on the health of eco-systems, and while these may interact in myriad ways and sometimes exist in tension, they are ultimately inseparable (ibid.). For Rayner and Lang, 'big thinking' in public health should involve a move from single-dimensional thinking towards complex thinking, to enable 'people and societal systems to live within biological and natural processes and to fuse human and planetary health' (ibid.: 55). The scale and range of the structural issues that are driving the key challenges to health in the 21st century, several of which involve environmental and social vulnerabilities, are too vast and interconnected to rely any more

on one-dimensional thinking. These basic tenets render Ecological Public Health a useful framework for illuminating areas of understanding and intervention that may protect against and mitigate contemporary and future disease outbreaks. The COVID-19 pandemic has shown how a disease outbreak can spread globally through a 'web of causality', where the interfacing of biology and the environment, along with cultural and social factors, engenders outbreaks.

However, ecological thinking should go beyond public health, since the damning analysis of the political response to COVID-19 in the UK by Calvert and Arbuthnott (2021) shows how easy it is for a government to ignore public health advice while at the same time saying that it is 'following the science'. Public health, however good and however ecological, must be enacted by the politicians and the people if it is to have an impact on this pandemic and on the spread of emerging infectious diseases in the future. Adopting mask-wearing, social-distancing and isolation, the people of the UK largely acted appropriately, while the government often did not. In the early days, the UK government gambled greatly on the idea of 'herd immunity' without much understanding of what that might mean in terms of additional disease and deaths due to inaction. Much was also gambled on the development of a vaccine, which thus far has helped drive down the prevalence of infection and the number of deaths, but is not without controversy and debate.

Beyond health, politics and economics, COVID-19 has exposed the complex and interdependent systems of everyday life, where technology, the environment, education, policing, engineering, transport, food systems, communication and more all intersect with politics and economics in the form of complex expert systems (McLennan et al. 2020), and where any health intervention shapes, and is shaped by, other parts of these systems. Humans live in a nexus of ecosystems, collective interventions which will eventually stabilize as the 'new normal' that we will inhabit in the future. Ecological systems never go back to an 'old normal', and ecological thinking in public health and beyond offers a way of thinking which allows us to go beyond dealing with the COVID-19 pandemic to imagine post-COVID-19 futures in transformational ways. There will be new infectious disease challenges for humanity, and this will also be part of the 'new normal'.

Ecological Public Health helps to identify key challenges and related goals within the context of new and emerging infectious disease. The unfolding of COVID-19 does not eliminate the threat of Disease X. Rather, it poses a stark warning and offers a blueprint for analysis of the impacts of rapid, drastic environmental change that increase the risk of zoonotic diseases by driving ever more rapid coevolution and increasing the chances of a spill-over into humans. Ecological Public Health is vital, but it is equally vital that ecological thinking goes beyond public health into politics and economics especially, because the survival of the human species depends on it.

Ecological thinking is essential for understanding coevolutionary processes and the emergence of zoonotic diseases, especially in relation to epidemics present and future. It is just as important that ecological thinking extends beyond public health into politics and economics especially. It is necessary to deploy 'big thinking', that is, paying attention to complexity, to construct more robust public-health systems that can more easily absorb and resist future challenges to human health.

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ABIGAL A. DUMES, *Divided bodies: Lyme disease, contested illness, and evidence-based medicine*, Durham NC and London: Duke University Press 2020, 360 pp. eBook. ISBN 978-1-47800-739-5.

In *Divided bodies: Lyme disease, contested illness, and evidence-based medicine*, Abigail A. Dumes presents a compelling account of the controversy surrounding Lyme disease, from its diagnosis to its treatments, and from its epistemic production and practices to its lived realities. Prima facie, the controversy, according to Dumes, largely centres around whether or not Lyme disease persists after the usual standard of care (i.e., what is known as chronic Lyme disease), based on competing epistemologies. Dumes clearly states that her aim is not to resolve this debate, but rather to provide a more comprehensive understanding of how Lyme disease is lived and treated. What makes Dumes' exploration so compelling is her ethnographic method of 'quantum ethnography', a term inspired by Elizabeth Vann (1995). According to Dumes, quantum ethnography allows her to '*fully and simultaneously inhabit* every perspective' of the Lyme divide (13, emphasis in the original). Like genealogical approaches, this type of ethnographic method contextualizes the various, perhaps at times competing claims, embracing their tension in order to analyse the diverse meanings of Lyme disease. This not only has significance for the ways in which people make claims to truth, but, more importantly, for how to represent and bear witness to them.

Throughout the book, Dumes expertly weaves robust social and anthropological theory with rich ethnography. The book is broken down into five chapters. In Chapter 1, Dumes further unpacks and maps the polysemous and varied complexity of the Lyme disease controversy. To do this, she takes a rhizomatic approach showing that the controversy is not merely grounded in a simple disagreement over the appropriate diagnosis and treatment of Lyme disease. Rather, in addition to a dispute over diagnosis, testing and treatment, the controversy is a combination of other contestations too, such as the species and strains that cause Lyme disease, its geographical distribution, transmission mechanisms and vectors, co-infections, the tension between signs ('objective' and measurable manifestations of the disease by the practitioner) and symptoms ('subjective' experiences of the illness by the patient), and pathophysiology.

Chapter 2 explores Lyme disease prevention techniques through an 'epidemiology of affect', that is, how people's relations with the natural environment shape their engagement with it and the types of prevention techniques that are deployed (66). For those living in Lyme-endemic parts of the United States of America, Dumes uncovers an ambivalence towards nature,

simultaneously revered as a source of beauty and terror. People reside close to nature because of their adoration of it and desire to be close to it, yet there is an environmental risk of contracting Lyme disease that they must manage through preventative techniques. However, these techniques, which usually require another person, are less about the efficacy of preventing Lyme disease than about enacting intimacy and care in social relationships.

Chapter 3 provides insights into the lived realities of Lyme disease, offering five different portraits of how the experience of the illness is embodied and varied. Dumes humanizes a group that is often deprived of compassion. Each story is ethnographically rich and highlights the multiplicity of how Lyme disease manifests itself in these patients' lives: through 'irritability, rage, headaches, muscle and joint pain, neuropathy, dizziness, forgetfulness, and light sensitivity, among other symptoms' (155). It is here that Dumes masterfully depicts the divide within Lyme patients' bodies: the lived experiences of Lyme patients conflict with how the disease is perceived and treated within the framework of evidence-based medicine. Lyme patients, in particular chronic ones, struggle to have their pain recognized and legitimized. For this reason, many Lyme patients turn towards 'Lyme-literate' physicians and/or complementary alternative medicine (CAM) so they can feel validated and, perhaps most importantly, be offered the possibility of feeling better (although not cured).

Chapter 4 focuses on the disagreement over how to diagnose and treat Lyme disease, drawing on ethnographic data from two different approaches: mainstream physicians and Lyme-literate physicians. Mainstream physicians use a biomedical model to distinguish between bodily signs and symptoms, privileging the former over the latter for diagnostic criteria, whereas Lyme-literate physicians take a similar approach to CAM, which considers symptoms to be signs for making diagnoses. In this way, Dumes reveals how the concept of medically unexplained illnesses is contained within biomedicine itself: if bodily signs (i.e., symptoms) are what define a phenomenon as medically explainable, it then follows that the absence of these bodily signs (i.e., symptoms) renders a phenomenon medically unexplainable.

Chapter 5 turns towards the political underpinnings of the Lyme controversy by examining the hegemony of evidence-based medicine, which hierarchizes evidence by giving primacy towards more 'objective' forms of it. Dumes critically analyses what counts as evidence and in doing so demonstrates how evidence-based medicine both politicizes and legitimizes which bodily conditions matter. At the same time, evidence-based medicine paradoxically amplifies contestation rather than resolves disputes because it provides a platform for everyone – patients, practitioners, scientists, politicians – to make claims to medical truth.

In doing all the above, Dumes successfully shows where the tension lies and places the different interpretations of Lyme disease into dialogue with one another. Even though these interpretations may not be reconcilable, at least in the foreseeable future, what is important is that Dumes lays the groundwork for reconciliation by making these conflicting interpretations intelligible. Dumes's notion of divided bodies offers a new and useful framework for making sense of other forms of chronic illness that are medically unexplainable from the perspective of evidence-based medicine. This book makes a wonderful contribution not only to the field of medical anthropology, but also to public health, medical scholarship and anyone else interested in Lyme disease.

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NICHOLAS Q. EMLEN, *Language, coffee, and migration on an Andean-Amazonian frontier*, Tucson: University of Arizona Press, 2020, 273 pp. ISBN 9780816540709.

In *Language, coffee, and migration*, Nicholas Q. Emlen invites us to the agricultural frontier of the Alto Urubamba Valley of southern Peru to explore the interface between ethnic groups, languages, economies and environmental priorities. The book is ambitious in scope, covering not only the complex linguistic ecologies and practicalities of the region, but also the development of new regimes of agriculture and the incorporation of a remote and previously difficult to access region into global trade networks. In order to cover this expansive material, Emlen structures the book wisely, dividing it into two distinct halves. The first half, which provides a foundation for the remainder of the book, covers the socio-linguistic practices and histories of the region and one of its individual multi-ethnic and multi-lingual communities, the Matsigenka community of Yokiri, located at a key site of frontier expansion. The second half explores ethnographically how and in which languages and registers linguistic interaction occurs in relation to the increasing importance of coffee production in the region.

One of the book's most striking contributions emerges early on through Emlen's use of a cohesive blend of ethnography and fine-grained archival work to persuasively challenge a number of binary divisions which are prominent in existing scholarship on both the geography and

linguistics of the region. Emlen's work in complicating and updating the categories and boundaries drawn in previous academic studies is a fine example of applying the anthropological interest in human categorizing activities to our own discipline, field sites and methodologies.

Emlen situates his research within several geographical and academic nexuses, revealing points of continuity where previous research has emphasized more formal categorical divisions. First, the Alto Urubamba Valley sits where the highlands (Andes) and lowlands (Amazon) meet, effectively 'off the map for each group of scholars' (30);previous work within the valley has either focused on one end of it, characterized by Indigenous Matsigenka villages, or the other end, where *colonos* (Quechua-speakers who have migrated from the Andean highlands over several generations) predominantly reside. Working in this overlooked frontier in the middle of the valley, itself located in the middle of the Andean-Amazonian transition zone, Emlen calls on us to think *across* these borders and divisions and to use the trilingual cultural landscape to understand 'the day-to-day integration of these geographical regions rather than the emergence of a distinct, intermediate form at their intersection' (26). Deploying histories of movement both within and across the region, its languages and its socio-ethnic groups reveals not the context of binaries that are typical of the regional literature (Indigenous/settler; highland/lowland), but instead what is shared. Emlen's suggestion that '[a] view from the poles obscures what happens in between' should make us all reflect on where our own research and viewpoints lie (78).

In the second half of the book, the turn to the use of language as it relates to coffee cultivation activities—such as farming itself, but also workshops, the market place, and even transiting coffee [not very clear: transporting coffee?] shows how Matsigenka, Quechua and (Andean) Spanish are spoken in various combinations and indexed to different forms and moments of participation in the coffee economy. Spanish was used in the monthly workshops facilitated by agronomists sent by the Peruvian government. The highly technical register of the Spanish used in these workshops meant, more often than not, that native Matsigenka and Quechua speakers were unable to understand, and consequently practice, the techniques for improving coffee they were being presented with. This shared experience of workshop participation, however, brought the multiethnic group together as agrarian subjects whose common ground is coffee cultivation. On the other hand, Quechua is the primary language used between farmers and brokers, including when selling one's coffee; in this regard Matsigenka farmers are at a disadvantage, given that they are less familiar with operating in Quechua. The argument made here is that, although coffee production an area through which Matsigenka farmers integrate themselves socioeconomically into the wider agricultural society of the region, interactions between these three languages become

sites 'at which socioeconomic inequality [is] generated and reproduced' (175). Thus, Emlen shows how socioeconomic integration is, at best, uneven, even as new subjectivities are produced.

The environmental change that occurs on the frontier in the form of shifting patterns of land use are woven with the narrative throughout—we see it most notably as a feedback loop that occurs when changes already in process contribute to individuals' switching to coffee production, which exacerbates this environmental degradation. Given the wealth of Emlen's data, it comes as something of a surprise to the reader that there is little in the way of a standalone discussion of these changes or of the region's environmental future(s). This absence is to some degree understandable, given that this is a slim and tightly argued volume; however, drawing more concrete links with wider discourses on climate change and vulnerable populations would have given the book more resonance beyond its geographical and temporal foci (as the author notes several times, this is a record of a particular time, 2009-2012, on a particular agricultural frontier). Nevertheless, this book will be of immense value to scholars of the Andes and Amazonia (and all the spaces in between), as well as to scholars of agricultural transitions and environmental change, regardless of region.

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MICHAEL G. FLAHERTY, **LOTTE MEINERT** and **ANNE LINE DALSGÅRD** (eds.)
Time work: studies of temporal agency, New York and Oxford: Berghahn 2020, 234 pp. ISBN 9781789207040.

The publication of this volume was preceded by Michael G. Flaherty's year-long visiting professorship at the Aarhus Institute of Advanced Studies (AIAS) between 2016 and 2017, during which a symposium called *Time work: new research on temporal agency* was organized in collaboration with Anne Line Dalsgård and Lotte Meinert. What was not immediately evident to this reviewer was that both the interdisciplinary symposium and book that followed reference (or reverence) Flaherty's *Time work: customizing temporal experience* and the author's later expansions (2002, 2003, 2011, 2013 [full details in reference list at end or delete]) on the concept he has defined. Time Work, it is suggested, which integrates agency and temporality (Flaherty 2003 [ditto]) and is enacted to provoke or evade various kinds of temporal experience. Flaherty's opening chapter stands out not only as a conceptual sociological essay preceding ten largely

descriptive ethnographic contributions, but as a theoretical unifier that, unfortunately, reads as superimposed more than emergent.

The breadth and applicability of time work is at once its strength and weakness, as it seems that no human endeavour can evade it. Its enactment requires motivation, necessary skill and resources. Its outcomes can be uncertain, successes or failures. Yet in their introduction the editors state that unconscious and unintended forms also exist, as 'people in various settings often follow local practices for reasons that have little or nothing to do with temporal agency' though obviously (to external observers) influencing their temporal experience (4). Time work is often used interchangeably with 'temporal agency', and there is enthusiasm for the analysis of these concepts that might 'reverse the causal arrow' or correct 'misconceptions' that things happen *in* time, rather than *to* it (Robbin 2007 [ditto]). All the while, for Flaherty, time work is explicit in human interventions to modify trajectories of social interaction, often with an aim to solve 'anticipated problems with temporal experience' [give page reference for all quotes]; here, the inevitable recognition of causality and exteriority echo definitions anthropologists have previously made for technology and magic alike (e.g. Gell 1992 [ditto]). Linearity is a given, too, in sometimes simplistic portrayals of disorder, whereby dysfunctional time work could spell anxiety 'generated' by excessive anticipation of a future, or depression through 'clinging to a grief-inducing past' (18).

While it would be excessive to demand a complete philosophy of time, the volume might have benefitted from authors stating which kind of conception of time they, or their informants, are working with. In Williams and Meinert's fieldwork at a church in northern Uganda, for example, a séance invites ghosts that 'beckon victims to go back in time, to live in the past', and in their discussion of trauma, traumatized persons 'involuntarily return to the past' (37). But is to recollect to relive? Are flashbacks not always experienced within a present against which it is 'untimely'? When a local man suggests that in becoming mad one is not 'really there' or 'there in the head', it is interpreted to mean 'in other words, you are somewhere else in time' – but does this follow? A nod to eternalism could organize some of the claims made here.

In a similar vein, in Christensen and Sandvik's work on infant death in Denmark, parents' performances of grief serve to 'invent a new form of time' [page reference] in which the dead baby is made present, but the argument by which imagination makes for ontologically alternative time remains thin. Some of the anthropologists in this volume refer to Husserl and Heidegger to avow that phenomenological time is 'fundamental to all lived experience' and that the past, present and future converge in living, except in moments of trauma where painful experiences become freeze-framed into an 'eternal present' (37). In the void of infant loss that Christensen and Sandvik describe, shock or catatonia make past, present and future meaningless, yet for

Ugandan churchgoers' trauma, in reciting rhythmic prayer, the 'work of repetition is to bring subjects back into present moment and contain them there' (38). Vaisman comes closest to elaborating on temporal structure, describing it as a loop and footnoting Hacking's 1996 Mobius Belt [if this is a reference, put in reference end list or delete] (80). Frederiksen in turn lists six authors' theories of time, from 'heterochrony' and 'temporal strands' to 'Siegfried Kracauer's 1969 [reference list or delete] cataracts of time' without explaining what is meant by any of them, or which is employed (163).

If 'we are doing time work when we talk to each other' (23) and perform in the yoke of temporal normativity and the constraint of choices – time work not being synonymous with boundless autonomy – to give in and get up or to punch the snooze button are equally work-like. It is unclear why 'work' was chosen to begin with, given that Flaherty suggests a subcategory, 'time play', such as through the ingestion of consciousness-altering drugs, and if time work is 'rooted in human desire' [rephrase: this clause does not hang together properly with the rest of the sentence] (14) – and would desire not itself be a temporal experience, a directed yearning or imagined future?

Indeed, one of the standout examples here is van den Scott's chapter based on fieldwork in Arviat, a small Inuit hamlet in Canada, where time work is, in a way, idleness. Inuit participants speak of time with intentionality that assures something emic, as 'Inuit time' and 'Qablunaaq [Western] time' are juxtaposed and behaved in differently. Nielsen's chapter on adults with ADHD in Denmark is a stellar example of writing on how time is experienced, rather than its more literal allocation, as synchronicity with others is the main concern and goal of the participants. In Vaisman's work on DNA testing of the 'living disappeared' in Argentina, however, identity seems the more obvious through line [not clear: rephrase]. Likewise, in Thorsen and Dalsgård's evocative depiction of a family fasting for Ramadan in Cairo, to treat gnawing hunger or thirst as 'the substrata of microtemporal embodied sociality' [page reference] may be an unnecessary obfuscation.

The most salient message in this volume is that we should recognize the opportunities the taken-for-granted can afford. Still, particularly as an anthropologist of the 'contemporary West', I take issue with excerpts that take for granted 'our quintessential modern ideals' of self-determinism (61), 'an environment characterised by acceleration' (217) or claims that, as a Western invention, the 'rational formality' of the workday threatens 'the openness and warmth of traditional culture' (90). The strawman is particularly flimsy when analysis of the Protestant work ethic or the idea of vocation are wholly absent; before learning that time work was not about work, I expected a discussion of the ideals by which the temporal boundary between leisure and work is

dissolved. I see Masquelier's description of life becoming dull and depleted when 'emptied of its forwardness' (189) as an interesting reversal of hugely influential contemporary trends of presencing in mindfulness, whereby existing in the past or future is pathologized as failure to stop and smell the roses. For future applications of temporality in ethnography, I propose a call for attention to be paid to subjective pace, as in Nielsen's work. Besides including how *Langweile* becomes lengthy and how flow-states fly by, what kinds of angles might a participant's age or previous experience offer?

Martins Lima's assessment of time work's value for anthropologists is likely the most forthcoming. She writes that this approach is retrospective, experimental and exploratory (105). In this review, I do not mean to discourage an anthropological emphasis on temporality or deny its merits. Yet when humanity is never atemporal, the writer must choose his or her battles.

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JACK GLAZIER, *Anthropology and radical humanism*, East Lansing MI: Michigan State University Press 2020, 258pp. ISBN 978-1611863505 (Kindle edition).

Jack Glazier's *Anthropology and Radical Humanism* frames Paul Radin's ethnographic work within the broader context of American anthropology and African-American culture. A former student of famed public intellectual Franz Boas and a lifelong critic of racial segregation, Radin was one of the first white anthropologists to treat marginalized communities as authoritative interpreters of their own experience. For 45 years he studied Native American societies, producing ground-breaking studies such as *The Winnebago tribe* (1915–16), *Crashing Thunder (*1926), *Primitive man as philosopher (1927), Primitive religion* (1938) and *The culture of the Winnebago: as described by themselves* (1949; Glazier p. 20). While less is known about Radin's research on African-Americans, he joined Andrew Polk Watson at Fisk University to create the first systematic record of slavery recounted by former slaves (1-5). Their work challenged false views of Africans and the diaspora with sound anthropological and historical findings (ibid.). While Radin never explicitly compared his studies of Winnebago and African-American communities, Glazier demonstrates why such comparisons are worthwhile (179).

Radin's scholarly commitment stemmed from his personal egalitarian views and professional discontent with an American academic system that he considered responsible for producing, disseminating and circulating 'unexamined racial stereotypes' (2) in social science and humanities

departments that nurtured inaccurate 'racial and nationalistic' myths and influenced racialized public policies (ibid.). For Radin, opposing academic racism meant identifying practices rooted in racial hierarchies and drawing on alternative practices. Radin criticized America's commitment to extinguishing Aryan ideologies and practices abroad while not addressing various forms of racial discrimination at home. The intention of Glazier's book is to acknowledge the humanistic principles that guided Radin's research and to compare the way these principles drove Radin's reflections on selfhood in different contexts (152-3).

So, how does Jack Glazier explore comparisons of the Winnebago and African American communities in *Anthropology and radical humanism*? Chapter 1 describes Radin's long-term career as an itinerant academic. The chapter communicates his concerns about the limitations of being bound to a single university. In addition, the chapter discloses personal rifts with his academic colleagues, which may have made his job security a challenge (50-5). Chapter 2 describes how humanist principles undergirded his resistance to practices and beliefs which opposed freedom and marginalized communities (62). Chapter 3 reveals the support Radin received from black social scientists such as W.E.B. Du Bois and Carter G. Woodson, who had long defended the ability of people of colour to define history and culture on their own terms (1-5, 111). In Chapter 4 the reader learns about the unique efforts of Radin and Watson's narrative project to give former slaves an opportunity to tell about slavery from their own perspective (111). Chapter 5 centres on Radin's research among the Winnebago, explaining the process whereby European invasions, military dominance and forced resettlement led to the undoing of many American Indian societies. These acts caused the marginalization of Winnebago culture and altered personal, political, religious and economic relationships (154-5). Radin therefore considered it vital to record an insider's account of traditional Winnebago life as well while the opportunity still presented itself. In doing so he discovered a religious complex which was quickly losing relevance but still had meaning for the Winnebago. Thus, Radin explored traditional and emerging rituals, ceremonies and ideologies such as the Medicine Dance and Peyotism (155).

For Radin, each religious experience or biography was an entry point into the life of an individual, whether in Nashville or on the Plains. Regardless of location, Radin's research revealed how those he studied had experienced inner turmoil until they encountered transcendence which brought them emotional and psychological stability, a more intimate relationship with God and a sense of liberation (179). Furthermore, they were granted a restored sense of agency in a world that was attempting to strip them of much of their dignity and culture. By collecting these stories, readers are given a more profound understanding of resilience in these two communities.

In conclusion, *Anthropology and radical humanism* contributes to a deeper understanding of two groups that have long been studied but seldom understood by mainstream anthropology. Glazier clearly articulates the way Radin's research served as a corrective in a discipline that often depicted African Americans and Native Americans as 'deservedly apart, separate and justifiably unequal' (180-5). Glazier also makes an excellent case for why Radin's scholarship faced resistance, noting both professional and personal influences. Despite these challenges, Radin's research among African Americans and Native Americans was in the vanguard of anti-racist scholarship in twentieth-century American anthropology (1-5, 111). Ultimately, this book is an ideal reference for postgraduate students of anthropology, various fields of history and any other fields that explore the value of indigenous narratives.

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A. GOLUBEV, *The things of life: materiality in late Soviet Russia*, Ithaca: Cornell University Press 2020, 240pp. ISBN 9781501752889.

Historical anthropology has been fashionable in the study of late Soviet society for some years, and Alexey Golubev's book, *The Things of Life: Materiality in Late Soviet Russia*, joins this productive canon. The book seeks answers to the puzzle of how so many different and often contradictory subjectivities could coexist in Soviet society: *apparatchiks* and dissidents, poltergeist hunters and materialists, Russian nationalists and committed internationalists. Stepping away from the conventional focus on discourse, Golubev suggests the key to this puzzle lies in the agency of objects used to craft people's selves through interaction with their bodies. He argues that people's 'selves are a result of material, in addition to linguistic, production' (12) and that the material world shaped and influenced Soviet citizens' choices, social trajectories and aspirations in surprising ways, allowing for the creation of alternative conceptions of history and social practices.

The book is based on a host of historical materials, including magazines, newspaper articles, citizens' letters to newspapers, interviews, films, books and official records. After an introduction setting out the research agenda and a chapter on the genealogy of the 'productivist' language of Soviet intellectuals emphasising the agency of objects and machines, the remaining chapters in Golubev's book revolve around particular material objects and spaces. The chapters can be read either as standalone pieces or as parts of a collection approaching the theme of

object-centred subject formation from different angles. Chapter two looks at the plastic models of aircrafts, ships and vehicles that Soviet schoolchildren and modelling enthusiasts constructed and collected, learning about nationally organized military history in the process. This alternative view of history emphasized continuities between the pre-revolutionary and Soviet state, contrasting with the official school curriculum that presented history in the Marxist-Leninist tradition as class struggle. The next chapter discusses wood in the form of heritage timber architecture and ships, which became objects of conservation efforts in the last Soviet decades. Engaging with these materialities produced yet other kinds of alternative historicities, this time Romantic rather than imperial-national.

Chapter four then takes a leap into a wholly different social context to examine the agency of the stairwells, landings and basements of Soviet apartment buildings, which came to provide a refuge for marginalized social groups and unruly teenagers. These spaces of transit ended up becoming sites of social conflicts through their capacity to accumulate the marginalized. The next chapter focuses on a similarly masculine sphere of activity through the materiality of iron – bodybuilding in self-organized basement gyms. Although derided by the Soviet press and excluded from the official sports system, in the minds of its practitioners bodybuilding constituted a mode of self-governance that was capable of creating modern, cultured bodies conforming to deeply Soviet ideas of health and social agency. The final chapter discusses the Soviet TV set and its power to transform the domestic space and Soviet selves. In this chapter, Golubev focuses particularly on the psychic séances broadcast on state channels in the late 1980s in order to showcase the affective potential of the TV set itself to arrange viewers' bodies spatially and temporally. The TV became an object of social conflicts between educated (male) urbanites who disparaged these shows as examples of obscurantism and their mainly female audiences, who believed in their healing power. Still, both groups took seriously the transformative power of television over Soviet bodies.

The first three chapters in Golubev's book thus reveal alternative approaches to time that existed in parallel with official discourses, whereas the last three chapters focus on alternative spaces. In this way, the book provides a glimpse into some of the 'material coordinates of the Soviet self,' demonstrating how material things helped 'Soviet people make sense of historical time and [the] social landscape of late socialism' (14). The human agents in each chapter change together with the specific materials being discussed, from educated specialists in the first half of the book to marginalized social groups in the second half. This represents a critical intervention in the historiography of late Soviet society, which, as Golubev points out, has tended to

extrapolate conclusions about the whole of Soviet society from the experiences of the educated class and urban intellectuals.

Golubev calls for learning from the diverse groups of people he cites, including Soviet officials, journalists and ordinary citizens who evoked the logics of materialism in their understandings of socioeconomic processes. This manner of taking analytical cues directly from the source materials produces occasionally significant overlaps between empirical concepts and the concepts of analysis, but Golubev synthesises the data in novel ways to reveal the contradictions that 'elemental materialism' at the heart of Soviet philosophy engendered. Despite the variety of sources and social groups Golubev covers, a potential shortcoming of the book is that it examines primarily male spheres of life, with only the chapter on the TV set explicitly considering women's relationship with this object. Golubev admits this imbalance in favour of the production of masculinities, reminding us that Soviet women's consumption habits and Soviet apartments as gendered spaces have been studied by such scholars as Susan Reid and Lynne Attwood. Still, given that the data on which Golubev draws is mainly archival, with contemporary interviews playing only a small part, the omission of women's spaces and materialities is not a question of limited access to these spaces, but a choice.

Nevertheless, Golubev's book contributes to a more nuanced understanding of late-Soviet everyday life. Golubev shows how material objects allowed late Soviet citizens to craft alternative ways of life to (or in addition to) outright resistance or acquiescence, and how this production of subjectivities was not simply a matter of discourse. Although written by a historian, this analytical intervention makes Golubev's book a valuable resource for anthropologists working with materialities and their interfaces with selves and bodies. The focus on materiality also helps explain why Soviet meanings have proved so resistant to change, even though the structures that created them are long gone.

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LESLEY GREEN, *Rock |Water | Life: ecology and humanities for a decolonial South Africa*, Durham NC: Duke University Press, 2020, 320 pp. ISBN 978-1478003991.

At the heart of South Africa's booming economy is a nation that continues to struggle, post-apartheid, to strike a balance between saving nature (and humans) and capitalism. In this book, Green argues for decolonizing shifts in science, governance and policy that emphasise *care*. Wildlife should be integrated into society, not as an afterthought, and not as something to be

'controlled' when tourism is a priority or when climate change causes drought extending to a nation-wide water emergency. In *Rock | Water | Life: ecology and humanities for a decolonial South Africa*, Lesley Green uncovers the intersection of inequality, racism, colonialism and environmental destruction in South Africa, crafting a compelling narrative through a history of racial oppression and environmental exploitation. She calls for new ways of seeing and thinking that connect indigenous knowledge, natural science and anthropology and for placing an "eco" in front of politics and policy. Science, she claims, has become scientism, an ethnocentric, authoritative version of science that has become gospel but is problematic because it complies with economic gain. Green believes that this 'god's-eye view' has separated humans from nature and appropriated knowledge production so that Cape Town has reached a point where extracting resources, conquering territory and exploiting indigenous people is devoid of the emotion and affect needed for humans and nature to coexist harmoniously. This is a journey through fraught debates over water access, gas-fracking, soil and land rights, baboon management and sewage in oceans.

The book's introduction suggests the need to ask different questions in order to produce different answers, or potential solutions. *Rock | Water | Life* is divided into three parts. The first, 'Pasts Present', addresses the way water has become a commodity, its sources of supply pushed far from the neighbourhoods that need it, bought out by multinational companies and measured by meters and electricity bills. When fracking in the Karoo desert, cement is a magical (destructive) substance that is used to create dams and drill for oil and gas, literally blocking the natural flows of both resources: it is a metaphor for human exceptionalism. In part two, 'Present Futures' discusses the #ScienceMustFall protests against the discipline's ethnocentricity, which leads to the Chinese, Arab and Hindu contributions to science being omitted. Soils damaged by climate change need saving, and the pervasive South African philosophy of *ubuntu* or 'personhood' and ontology are needed to unmake the ruins of colonial and neoliberal policies. Part three, 'Future Imperfect', highlights the issues behind baboon management, including the trajectory of the word 'baboon' from its god-like origins to becoming a national insult. Cape Town's proximity to the sea also means that its marine life, and by extension its human lives, are severely harmed when tonnes of sewage are dumped into the surrounding oceans. Finally, the conclusion presents five concrete proposals for transdisciplinary and transformative scholarship that can resolve these deeply rooted issues.

Green's book is highly readable, despite being a dense and well-researched compilation of the ways in which South Africa's colonialist underpinnings influence rock, water and life. The decision to use vertical bars, not commas, in the title symbolizes the clean separation between

each word, indicating the space between nature and society. The more distance the better for purposes of extraction or exploitation. Green cites Marisol de la Cadena, Donna Haraway, Anna Tsing, Mario Blaser and Eduardo Viveiros de Castro as inspirations, all anthropologists who address the interplay of capitalism and environmental justice in their work. She intersperses references to them with quotes from eminent intellectuals like Arundati Roy, Amitav Ghosh, Audre Lorde and Achille Mbembe in order to bolster her arguments.

Throughout *Rock | Water | Life,* the use of creative wordplay engages the reader. In the section entitled 'The Unbearable Whiteness of Green', paraphrasing Milan Kundera's *The unbearable lightness of being*, Green depicts the egregious ways in which white people co-opt environmentalism and 'save' wildlife from African poachers, who are charged with destroying both the animals and humanity. It is a textbook example of ethnocentric science delineating the good from what must be saved amid an extractive economy with roots in ecological and structural violence. Green jokes that she herself is 'Green', and in tackling green whiteness she confronts her own entanglements as a genealogical descendant of South African racism. Far from overpowering the text with personal anecdotes, she only uses them when the juxtapositions are relevant. For example, she describes biking through a beautiful nature reserve only to find, near the tour buses, baboon monitors with paintball guns—wildlife riot police ready to attack. She also presents the irony of kayakers encountering floating mounds of human excrement in the sea. In scrutinizing these fractured realities, Green comes across as a devoted environmentalist striving for substantial sustainable solutions.

Ultimately, South Africa's ecological governance is as complex as, and intertwined with, its history of racial oppression. Tucked away among humans' obvious damage to the earth from relentless extraction and exploitation, Green thinks through decolonizing ways to move forward to bridge the nature and society divide. She presents a beacon of hope, but it needs a collective alliance across disciplines and a commitment to going with the flow, so to speak, in the name of environmental justice.

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In his monograph *The invisibilization of suffering*, Benno Herzog explores suffering as an object of critical sociological theory. His overarching argument is that the experience of human suffering

is constructed through social and structural relations, which is then felt by the self. The goal of this monograph is not to end suffering, but rather to understand it as an object of analysis that occupies multiple spaces of invisibility and visibility.

The monograph is divided into three main chapters. The first is dedicated to defining the concept of social suffering *per se.* Herzog invokes the theories of Michel Foucault and Axel Honneth in a rich dissection of the personal, institutional and structural factors that define the universal language of suffering. He does not give a full account of Honneth's theory of recognition, as other scholars have already extensively done. Instead, he builds on Honneth's central idea that all people live under normative conditions of recognition, which then shape feelings of disrespect and subsequent suffering. Herzog claims that all suffering is produced through perceived disrespect of what a person feels they are socially guaranteed and ought to have. While this is a similar definition to Honneth's, Herzog differentiates himself from the latter's definition by focusing on how social suffering is linked to representational problems. He suggests that representing suffering is fraught with difficulty because suffering can be non-linguistic, embodied and painful to discuss. By representing suffering, Herzog claims that researchers risk creating a sense of 'double suffering' for their subjects. This point of double suffering is a meaningful theorization in response to the call for more reflexive research in sociology because it highlights the risk of researchers influencing their object of study through interaction.

Overall, the first chapter of Herzog's monograph constructively builds on Honneth's theory of recognition by analysing the role that representation can play in 'the moral grammar of disrespect'. The only notable shortcoming to this discussion seems to be the role of culture. Although Herzog does mention the moral and cultural codes that influence both Honneth and his theories, not much weight is given to them in the breakdown. He is more concerned with the ways in which institutional and social frameworks influence cognitive and emotional processes in an effort to take immanent criticism seriously. Without deeply thinking about cultural variation, this chapter omits any consideration of the lived experiences of heterogeneity that exist in the world.

The second chapter of Herzog's work explores the ideas of visible and invisible suffering, building on his prior discussion of representation in Chapter one. Within this thoughtful and diverse discussion, he makes the compelling argument that invisibility can be empowering and subversive, somewhat challenging the main tenets of Honneth's theory. Herzog's main example in this argument is that of illegal immigrants in the USA. He claims that these groups undermine state violence directed at a lack of documentation by adopting practices and livelihoods of covertness. This point is insightful because it complicates the usual understandings of visibility and invisibility in the literature on social invisibility. The literature on social invisibility often

suggests that invisibilization does violence to social groups and that attention and representation are two pathways towards equality. Herzog's work presents another way of thinking about empowerment and hegemony, one in which secrecy and self-invisibilization can be utilized by marginalized groups as forms of resistance. This alternative framework is valuable in respect of broader activist scholarships of injustice, which increasingly analyse trauma, oppression and inequality through the gaze of invisibility. Additionally, this type of theory is useful in postcolonial, capitalist and critical race analyses.

Herzog's work also contributes to the growing literature on social contextuality because his theories of suffering and visibility are contingent on the goals of specific groups, such as undocumented migrants in the USA. These ideas fit well within the scholarly paradigm of fluidity that is present in social research. The only complication in this idea of social contextuality is that most of his examples come from the Western world, in particular the USA (e.g. The Oprah Winfrey Show, Mark Zuckerberg, Civil Rights Movement). Therefore, this argument of contextuality is somewhat flattened by the homogeneity of social examples. Despite this, Chapter 2 makes the extremely important point that neither visibility nor invisibility is inherently good nor bad, and that the classic struggle to be 'recognized' is only one way of understanding empowerment.

The third chapter of Herzog's work returns to the discussion of representation in Chapter one. If suffering is elusive, personal and non-linguistic, how can the social researcher represent this without inflicting 'double suffering'? Herzog's main proposals champion the importance of body language, posture, action, empathy, art, aesthetics and non-verbal analyses. The avenue of art and aesthetics is particularly interesting because it thinks past traditional research methods such as interviews, surveys, content analysis and process-tracing. By considering the power of art within a sociological framework, Herzog contributes to discourses surrounding therapy, art and social linguistics. This point also provides a concrete solution to the discursive call for open ethical subjectivity, which is often non-representational.

The monograph as a whole makes apparent the difficulties in analyzing social suffering as a conceptual object because there are many intersecting forms of suffering to consider. This text is a useful handbook for understanding these complex linkages in terms of what they are like empirically, rather than of how they should be. In subsequent system analyses that prioritize holism, this work is indispensable. In all, Herzog's work clearly benefits from its strong attention to detail and its theoretical labour in the field of recognition theory. His blend of interdisciplinary concern and immanent critique is an impressive feat in critical suffering studies.

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The primary aim of *The Brutish Museums: The Benin bronzes, colonial violence, and cultural restitution* by Dan Hicks is to make the case that the decolonization of museums does not mean holding on to objects and 'telling the story better'. No matter how critically or self-reflexively museums attempt to be in this process, Hicks contends that new displays that re-tell the history of empires do not resolve the issues of the ongoing retention and curation of looted artifacts. On the contrary, in his view the display of these artifacts is not merely a consequence of past violence, but a continuously violent act in itself. Building on this idea, Hicks proceeds to demonstrate that, as long as museums continue to display objects that were looted during colonial massacres, they will continue to serve as monuments and memorials to the destructive white supremacist ideologies of colonialism.

The Brutish Museums constructs an innovative theoretical framework for this argument, which is based on two key concepts: necrology and chronopolitics. The first, necrology, refers to the knowledge that we gain by focusing on death and loss, specifically in the anthropology museum. To write a necrography of the Benin Bronzes, the central case study of this work, would mean writing histories of these looted objects in which their accession by museums facilitated a loss rather than an addition of layers of meaning. The emphasis on explicitly acknowledging loss rather than gain or change serves to highlight how museums have functioned to extend this act of violence both spatially and temporally. If the display of looted bronzes represents a loss of cultural meaning and knowledge, then every day that they are on display perpetuates that process.

This understanding is closely related to the second key concept that Hicks proposes: chronopolitics. Chronopolitics refers to the use of time, in addition to territory, as an arena of control, particularly in the colonial context. The effect of destroying Benin City and displaying the looted objects in museums was to present the Kingdom of Benin as if it were ancient ruins when in reality it had only recently been destroyed, having been until then a living culture. Hicks argues that this was not a peripheral effect of the punitive expedition, but a sinister strategy of dismantling the Kingdom's sovereignty. He claims that the destruction of Benin City was intended to put it into the past, and that the subsequent display of objects seized during the expedition was a message that reinforced the image of the victory of "progressive" European culture over "degenerative" African cultures. The chronopolitics of this era therefore constituted strategies to illustrate the geographical divide between Europe and Africa as if it were actually a temporal divide, with the effect of reducing a powerful sovereign kingdom to a culture of the past in order to subjugate it to "modern" European control.

If we accept the theoretical framework that Hicks constructs, we find that he presents a solid argument in support of cultural restitution. Assuming that the display of looted artifacts indeed constitutes an ongoing form of colonial violence, his subsequent claims in favor of large-scale restitution make eminent sense. Where *The Brutish Museums* is perhaps less successful is in its ability to sway sceptics. According to Hicks, colonial violence and restitution are not separate issues that are divided by time, one historical and one contemporary, but rather are both questions of modern justice that are closely related. As anyone familiar with the restitution debate knows, there are many who would argue the opposite, namely that it is unreasonable to expect cultural restitution to accomplish anything beyond symbolic gestures precisely because they reject the idea that the display of stolen objects is a modern injustice. This is certainly a difficult case for Hicks to make, and while his theory is elegantly crafted, the force of his argument ultimately rests on one's willingness to see displays of looted artifacts as a form of violence. Those sympathetic to the campaign for restitution will clearly see the connections Hicks draws between the violence of the 1897 punitive expedition and the violence of exhibiting the Benin Bronzes around the world. Unfortunately, however, anyone who is already less convinced of the need for restitution could easily perceive this link as an overstated attempt to conflate two different phenomena.

One of the strongest features of *The Brutish Museums* is the conclusion that anthropology museums are not at risk of being made obsolete by the growing momentum for cultural restitution. Despite his apparent condemnation of them as a tool of white supremacy, Hicks does not envision the wholesale abandonment of anthropology museums. He maintains that, because of their entanglement with this violent history, these museums are poised to become sites of reparation and reconciliation. To make this potential a reality, we must work to rebuild museum spaces in which it is not merely acknowledged that objects were stolen, but in which nothing has actually been stolen. This does not mean a future of museums emptied of all of their collections, but rather one in which museums display every object with the consent of all the relevant parties. Hicks argues that such collections will actually enable anthropology museums to enhance their educational roles. It is with this point that Hicks can potentially bridge the gap between the arguments for and against cultural restitution by broadening the scope of restitution beyond a single-minded focus on repatriation.

The Brutish Museums is well worth the read for anyone interested in the increasingly public calls for restitution. Scholars of these issues will find Hicks's theoretical framework thought-provoking, while those who are just arriving at this debate will benefit from his robust analysis of a prominent case study, which is based on an extremely rich set of archival materials on the 1897 punitive expedition to Benin. Though it may not change the minds of those for whom restitution

represents a threat to beloved institutions, most readers will nevertheless struggle to disagree with Hicks's powerful vision of restitution based on relationships of consensual collaboration and exchange between museums across the world.

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BRUNO LATOUR and **P. WEIBEL,** *Critical zones: the science and politics of landing on earth*, MIT Press and ZKM Centre for Art and Media 2020. 560 pp. ISBN 9780262044455.

Critical zones is the companion volume to an exhibition — the fourth co-convened by art director Peter Weibel and philosopher Bruno Latour — that is taking place at the *ZKM | Center for Art and Media Karlsruhe* between March 2020 and August 2021. *Critical zones: observatories for earthly politics* is a 'thought exhibition' that tries 'to solve through [a] show conceived as [a] scale model a key existential question that could not be solved in any other way' (8). Like the ZKM 'show', the book is special. Contrary to 'exhibition catalogues [that] are sometimes frustrating because they do not quite replace the experience of being in the physical space of the exhibition', the editors of the *Critical zones* volume have produced 'a *standalone book* which could be, through its original layout, a *demonstration of its own topic*' (9), making it a proper academic publication.

Concerned with the unfolding climate and ecological disasters, the book 'aims at changing the conversation [...] by literally *shifting the ground* on which it takes place' (8). The reader enters the book by witnessing 'the intrusion of an Earth with a surprising shape, size, contents, and activity' triggering 'a triple feeling of *disorientation*: first, in *space* [...] then, in *time* [...] finally, in *identity*' (13). This surprise demands '*aesthetics*, defined as what renders one sensitive to the existence of other ways of life' (19). For the authors, the term 'critical zones' — departing from the modern concept of 'nature' — allows a better localization in the Anthropocene. The word 'critical' reflects the fragility, importance and endangering of this ill-defined 'zone' in need of 'composition'. Now, if one desires 'to settle an issue', one cannot 'count on a unified "nature" to do the composition' for them. One will 'have to compose the Critical Zone, bit by bit, element by element. No shortcuts allowed' (14).

The edited volume is over four hundred large pages long and is generously illustrated. Seventy authors have contributed between one and three texts in a total of seventy-four entries.

The book is divided into eight sections — Disorientation, Disconnected, Critical Zones, Gaia, Terrestrial, Divided, Depiction, Suspended — which can be regrouped into three parts. First, 'we' experience *unsettlement* by revealing the complicated and disastrous situation 'we' find 'ourselves' in (Parts I, II). Second, 'we' are *exploring and learning* where and how to land before opting for 'Terrestrials' (Parts III, IV, V). Finally, because not all moderns wish to become terrestrials, 'we' are 'Divided' (Part VI). If 'we' are to work — away from war, towards peace — 'we' need renewed 'Depiction' (Part VII) to 'reconfigure the sensorium' (329). This reconfiguration leaves room for a final re-''Suspension' (Part VIII).

The vignette articles and essays recreate the experience of an art exhibition very well. The argument is convincing, and I, as a born and bred modern, desire to become terrestrial now. However, I did sometimes find the transitions between the different articles abrupt and wish the editors had included a guide to exploring the volume non-linearly. Besides the overall positive impression and this short comment on the book's reading experience, I will make three critical comments about it. First, there is an absence of scholarship by Black, indigenous voices and those of people of colour, both as contributors and in the voices channelled through the book's citations. Second, the paths opened up by the feminist authors in the collection are under-explored. Finally, I weave my surprise to be left 'Suspended' (Part VIII) with the problematic 'we' of the volume to testify to the book's lack of reflexivity. Because 'we' are moderns, the book seems to tell us that 'we' do not need to think with or cite works by scholars who are feminist, Black, indigenous or people of colour.

Despite the balanced gender representation — of the seventy authors I counted, thirty-six are men — and the inclusion of junior scholars, BIPOCs are few, and there are no Black scholars or artists. This observation resonates with interpellations made, by anthropologists Zoe Todd and Kim Fortun among others, in Bruno Latour's scholarship for largely ignoring the scholarship of those who are 'already on the forefront' of various crises. Many people have already lost their worlds, they remark. Although the volume is announced as being directed towards disoriented moderns, would they not have valuable ideas for those learning how and where to land?

In comparison, (white) female and feminist voices are present in the book. In the central part of the book's argument — 'Terrestrial' — the articles have a distinctive feminist orientation, and all except one are written by women. These articles propose a variety of practices in becoming terrestrial. Isabelle Stengers demands that scientists become 'situated' and 'stay with the trouble' of the Critical Zone's complexity, Emilie Hache proposes a 'new myth for earthbounds', and Jeanne Etelain enjoins us to caress this erogenous layer that is the Critical Zone. Yet, once the section 'Terrestrial' has come to an end, the rhetorical ground shifts again, and we are back in a

world dominated by masculine voices searching for new kinds of politics — or rather capital-P Politics. Shouldn't a renewal of 'politics' be grounded in the feminist thought and practice that appeared productively before?

Finally, I left the book with the impression of 'not having moved' much. The editors might retort that this is not a bug but a feature. The moderns who were initially '*suspended* over at least two different and incompatible definitions of the land' (74) are now left 'Suspended' (Part VIII title) to find their way to land independently. Despite being 'pointed in a different direction' (384), hasn't this high-flying thought-exhibition made readers take off even more, with an additional sense of dizziness? Here again, wouldn't the feminist, Black and indigenous thoughts of the past fifty years, which have been centrally interested in the practice of making change, provide some remedy for 'us' feverished moderns?

Overall, this interesting exhibition book will be of great interest to anthropologists and citizens concerned with the Anthropocene as a successful experiment in composition across art, the natural sciences and the humanities. It will hopefully inspire more diverse and inclusive works in the future.

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EUGENE RICHARDSON, *Epidemic illusions: on the coloniality of global public health*, Cambridge MA: MIT Press 2020, 232 pp. ISBN 9780262045605

Using mathematical notation, Eugene Richardson spells out the question that *Epidemic illusions* seeks to address: Pr [global health equity | coloniality] — i.e. what is the conditional probability of achieving global health equity, the field's accepted aim, in the setting of coloniality (Koplan et al. 2009)? Given the epistemic tools that inform global health praxis, the answer is an emphatic zero.

Richardson's thesis is epistemological and ideological: public health as 'an apparatus of coloniality…*manages* (as a profession) and *maintains* (as an academic enterprise) global health inequity' and operates in the service of 'protected affluence' (1). Epidemiologists protect the status quo by using ostensibly objective empirical tools – statistics, causal inference, mathematical modelling – which serve to 'occult' the continued extraction of capital, in the form of money, resources and academic outputs, from the Global South to the Global North (8).

The argument highlights a gnawing reality that haunts anyone working in global health — that no matter how committed its practitioners, whether clinician, activist or academic, deep historical and political structures undermine almost all efforts at achieving equity. Richardson disenchants our notion that 'global health' is somehow different — less patriarchal, less beholden to a Global North-South divide and more about equity and empowerment — than its predecessors, known as 'international health' and 'colonial' or 'tropical' medicine (Greeneet al. 2013).

Epidemic illusions is a *carnivalesque* 'pseudomonograph' (1), an ironic and satirical postmodern takedown of accumulated public health knowledge and assumptions, complete with references to Shakespeare, an update on Plato's cave allegory and a slew of pop-culture references from rock-and-roll to film. This style choice, like everything else in this efficient volume, is purposeful. Richardson operates from the premise that one cannot adequately critique public health using its own terms of reference. Further, as an exercise in rhetoric, Richardson contends that linear argument using conventional, empirical evidence combined with moral reason 'à la Paul Farmer' is preaching to the converted (12). The objective of the volume is therefore to convince the unconvinced — public health professionals, social scientists, and others who take epidemiological claims as objective representations of truth.

As a global health activist — that is, as one of the converted — I consider *Epidemic illusions* an important book – a manifesto, even – and one whose credibility is bolstered by the author's experience as an infectious disease physician on the frontlines of global crises from Ebola to Tuberculosis and HIV/AIDS. The book is a meaningful contribution to the growing discussion on the decolonization of global health. It is a timely entry for a world that has been unequally affected by, and is unequally emerging from, the COVID-19 pandemic across axes of race, class and nationality.

Particularly effective chapters include a fictional ethnography of the 'Primitive Tribes of Lake Geneva', in which Richardson flips the ethnographic gaze, directing it towards the international organizations charged with leading the response to the West African Ebola epidemic. This reversed gaze, signified by a mock epigraph from *Ikswonilam Walsinorb* (Bronislaw Malinowski backwards), identifies and unsettles the rituals and fetishes of these 'tribes', such as the privileging of cost-effectiveness and disease containment – paradigms with colonial provenance – over treatment. It is hard to disagree with Richardson's conclusion that the response was rooted in biosecurity (creating an African 'Ebola Virus Holding Unit' (34)) rather than human rights.

In my favourite chapter, Richardson creates a fake study in which race change is modelled against the provision of dapirivine antiretroviral vaginal rings, an HIV prophylactic. 'If Black women at high risk for HIV acquisition turned white and accrued the associated structural benefits, they could reduce their HIV incidence twelvefold' compared to dapirivine, the study concludes. The study is satirical and instructive. Richardson demonstrates how such imaginative use of alternative categories can change how we construct epidemic models and open up new possibilities of action.[1]

Some may lament Richardson's eschewing of conventional, evidence-based argument. However, part of the book's efficacy is that the author's arguments are grounded in the empirical reality of his experience as a global health practitioner. Furthermore, much of the more conventional ethnographic, historical and epidemiological analysis readers may desire is provided in Paul Farmer's recent book on the West African Ebola outbreak (Farmer 2020). While *Epidemic illusions* eminently stands on its own, it is best read as a companion to Farmer's and other critical renderings of the outbreak.[2]

Another issue is Richardson's vilification of epidemiologists, which I resist on two grounds. First, there are examples of 'good' epidemiological research that contribute meaningfully to our understanding of health inequity — indeed, Richardson presents some of these, and works on it himself, though, as he says, they are few and far between. Second, I believe many epidemiologists are motivated by justice and express this through their discipline. These are not, largely, Chicago School economists! Their training might thrust them unwittingly into the iron cage of academic public health, but critical reflexivity can allow methods to evolve that empower and amplify subaltern voices.[3] Richardson's accusations may muffle his (important) call for 'counterhegemonic knowledge' for the very people he aims to influence.

That said, given the justice orientation of many epidemiologists, *Epidemic Illusions* should become an important resource for public health training. At the very least, it will help epidemiologists consider the contingency of their 'truths' and their own role in a largely extractive academic economy. That alone is an important contribution.

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[1] Richardson and colleagues employ this technique more seriously in a recent article in *Social Science and Medicine* that convincingly shows how a program of reparations for American descendants of African slaves would have society-wide benefits in terms of the reduction of COVID-19 infections (Richardson et al. 2021). This is an example of what Richardson has termed anti-racist modelling, in contrast to much of the forecasting and modelling seen over the course of the pandemic, in which a racist status quo is the taken-for-granted norm those models would have us strive for (Kendi 2019; Richardson 2021).

[2] For example, see Abdullah and Rashid (2017).
[3] For an example of such an attempt, see Brar, Hedt-Gauthier and Hirschhorn (2021).

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CHARLES STAFFORD, *Economic life in the real world: logic, emotion and ethics*, Cambridge: Cambridge University Press 2020, 208pp. ISBN 9781108716550.

Clear, readable and succinct, *Economic Life in the Real World: Logic, Emotion and Ethics* by Charles Stafford excellently articulates the need for anthropology to engage with economics and psychology for a better understanding of economic discourses in everyday lives. Stafford situates his work in the day-to-day economic life of rural Taiwan and China, emphasising the psychological aspect of everyday economics. For his informants, money and economic activity are not just a matter of rational material accumulation driven by utility maximisation, but are shaped by cultural and moral values such as self-education or 'proper' conduct regarding ancestral veneration and

filial obedience. Stafford maintains that economic action is ethical and shaped by moral considerations. He illustrates this point through ethnographic accounts showing that religious beliefs are embedded with economic logic, such as the use of divination in a fishing village, where gods, spirits and ancestors inform what action is taken when venturing out to sea.

Stafford illuminates the general antagonism of social anthropologists in adopting and utilising formal economic and psychological approaches to examining economic agency. When anthropologists engage with economics, he argues, it is from a predominantly critical perspective, while the scholarship of psychology is usually completely ignored. Stafford highlights the need for 'humility' in remaining open to modes of analysis that are removed from anthropological sensibilities that value 'micro'-ethnographic details over 'macro'-generalizations. Stafford also mentions the benefits of the anthropological approach to economics and psychology, calling on both to engage with anthropological findings. This resultant blend of anthropology, economics and psychology, Stafford argues, results in a more grounded and broadly conceived understanding of social reality.

In mainly using psychological analyses of economic logic, Stafford rejects the centrality of the historical and cultural context in examinations of economics by social and cultural anthropologists. While social and historical contextualisation is important in economic analysis, Stafford argues that human cognitive faculties, such as memory, emotion, identity, moral judgement and cooperation, influence economic agency. Thus, culture alone cannot explain calculation.

Although supportive of substantivist logic and the idea that economic life is embedded, for Stafford human psychology is recognized as being at the heart of economic agency, elaborated through 'the psychology of attachment and of cooperation'. In this respect, he offers an interesting alternative anthropological approach to analysing economics. He argues that the psychological emphasis is not intrinsically individual but can be influenced by collective factors such as shared intent and moral or religious consciousness. This approach he labels 'substantivist economic psychology', where cultural-historical artefacts such as kinship and religion are analysed as manifestations of psychological mechanisms in which economic life is explained as driven by psychological and not just historical factors. Yet, Stafford by no means asserts a purely evolutionary-cognitivist logic, as he maintains the 'the economic psychology of humans in general is always heavily impacted by cultural-historical artefacts.'

He therefore argues that anthropologists must overcome the current orthodoxy which considers any rationalist modelling, quantification, hypothesis-driven experimentation or idea of evolutionary theorizing as negative. Concerned with micro-analyses which reject any

universalization of economics and psychology, Stafford is quick to mention that anthropologists' strong empirical tendencies might mean them failing to see the wood for the trees.

This book not only provides an excellent introduction to economic anthropology, it also offers a unique insight into it by bringing anthropological, economic and psychological approaches together. The multidisciplinary approach proposed by Stafford is reflective of the contemporary perspective in anthropology, which is more appreciative of eclectic and pluralistic means of analysis. His approach is rich in engagement with theoretical material across three disciplines, enabling a solid foundational understanding of basic economic, psychological and anthropological approaches to 'everyday' economic practice. Although written for specialists, the book is also suitable for readers who are unfamiliar with anthropological perspectives, serving as an excellent means of stimulating discussion within and without the field of anthropology. Despite its short length, it delivers a complex and rich perspective on economics, leaving the reader to ponder and reflect on the pluralism for which it makes such a compelling case.

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