

COVID-19: The Political Economy of a Global Pandemic

C. Sathyamala

ABSTRACT

It is two years since a microbe, SARS-CoV-2, a ‘novel’ coronavirus, travelled through the world to wreak havoc on the lives of humans across the globe. Although the total number of global COVID-19 deaths, currently estimated at 6 million, comes nowhere near the 50 million deaths of the Spanish flu pandemic of 1918–19 to which it has been compared, the impact of COVID-19 and the measures to control it have been far more devastating to humans and economies. This virtual issue gleans insights from selected papers in previous issues of *Development and Change* to contribute to the ongoing debate on the COVID-19 pandemic by touching upon its political economy aspects. The articles put together in this virtual issue try to demonstrate that pandemics are not a ‘fact of life’. They are very much rooted in the processes of capital accumulation and the ensuing destruction of the global ecosystems that makes zoonoses a recurring imminent threat. In the context of a hyper-connected globalized world, regional and global pandemics could well become the norm. Meanwhile, neoliberal reforms and restructuring have left the health sector unable to handle the public health crisis caused by COVID-19. At the same time, with the waiving and dilution of well-established norms of regulation for testing and marketing of vaccines and drugs, the pandemic has created opportunities for accumulation in the healthcare technology industry, specifically the pharmaceutical sector. It is hoped that this virtual issue will contribute to the ongoing debate on the emergence of ‘novel’ diseases and pandemics by shifting the current focus from the disease agent (the virus) and broadening the concern to include the larger social determinants which are rooted in the global political economy.

INTRODUCTION

It is now two years since a microbe, a ‘novel’ Coronavirus, allegedly mutating in the wild, moved from its ecological niche¹ and, within two months

The author gratefully acknowledges the members of the Editorial Board of *Development and Change* for the opportunity to curate this virtual issue and for their extensive and thoughtful feedback on previous drafts of this article.

1. The wildlife origin theory of SARS-CoV-2 — that it passed from horseshoe bats through the Malayan pangolins sold in the Chinese wet market in Wuhan — is yet to be proven unequivocally (WHO, 2021a).

of the reported outbreak in China, travelled through the world to wreak havoc on the lives of humans across the globe. Currently estimated at approximately 6 million,² the total number of global COVID-19 deaths comes nowhere near the 50 million deaths of the Spanish flu pandemic of 1918–19, to which it has been compared. Nevertheless, COVID-19 mortality is significant, and the global impact of this pandemic has been devastating to humans and economies (Congressional Research Service, 2021).

It has been argued that the worldwide escalation was largely due to the inordinate delay by the World Health Organization (WHO) in declaring COVID-19 a pandemic (Sathyamala, 2020). It was only on 11 March 2020 that the WHO made the declaration, by which time the geographical spread had increased considerably (*ibid.*). Moreover, the Director-General of the WHO stated that this was the ‘first’ pandemic caused by a coronavirus (WHO, 2020a).³ Others (e.g. Kelly, 2011; Sathyamala, 2020) would disagree, for COVID-19 had been preceded by two other coronavirus pandemics: SARS (severe acute respiratory syndrome) in 2002–03 and MERS (Middle East respiratory syndrome) in 2014. In the wake of the SARS pandemic, it was argued that, due to their high mutation rates, coronaviruses were likely candidates for generating new disease epidemics in humans and domestic mammals (Wang et al., 2006: 1839).

Of the coronaviruses identified thus far, only seven are known to infect humans. Of these seven, only three (SARS-CoV, MERS-CoV and SARS-CoV-2) have caused serious outbreaks (Andersen et al., 2020) and pandemics.⁴ All three are zoonoses⁵ that are transmitted from animals to humans, but while the link to animal reservoirs has been confirmed in the case of SARS and MERS, the origin of transmission of COVID-19 (SARS-CoV-2) is still mired in controversy. A joint WHO–China study, carried out between 14 January and 21 February 2021 and published in April 2021, was meant to settle this issue (WHO, 2021a). After examining ‘four scenarios for introduction’ the study team considered introduction of the virus through an intermediate host to be a ‘likely-to-very-likely pathway’ and introduction through direct spillover to be a ‘possible-to-likely pathway’

2. According to the World Health Organization Coronavirus (COVID-19) Dashboard, as of 5.18 pm CET, 4 March 2022, there were 5,978,096 reported deaths worldwide (<https://covid19.who.int/>; accessed 7 March 2022). Even if there is an underestimation of deaths by as much as 35 per cent (Kung et al., 2021), the numbers are relatively small compared with the Spanish flu pandemic.

3. On 11 March 2020, the WHO Director-General stated in a press conference: ‘We have never before seen a pandemic sparked by a coronavirus. This is the first pandemic caused by a coronavirus’ (WHO, 2020a).

4. Although the former SARS and MERS pandemics caused higher case fatality rates, their spread was limited to fewer countries precisely because of that (see footnote 7). In contrast, SARS-CoV-2 which has a lower virulence has spread to become a global pandemic.

5. A zoonotic disease is defined as ‘any disease or infection that is naturally transmissible from vertebrate or invertebrate animals to humans and vice versa’ (Bueno-Mari et al., 2015: 1).

(ibid.: 9).⁶ Without contesting the conclusions of the WHO–China study, the following sections of this article proceed from the assumption of the wildlife origin and explore the pathways a zoonotic disease takes as it spills over from non-human populations to humans, and the processes that transform a local outbreak into a global pandemic.

The mere existence of a microbe in an animal population, or its propensity to mutate, do not in themselves cause the emergence of a new (or re-emergence of an old) zoonotic disease or an epidemic in humans. First, the microbe would need to have an opportunity to spill over from the non-human to the human population, either through direct contact or through an intermediary. For the microbe to attain the character of a pathogen, the human population should be immunologically susceptible, and the microbe should be capable of causing damage to host tissues. For the disease to evolve as an outbreak or epidemic, person-to-person transmission would need to set in and there would have to be a critical density of a population (i.e. threshold population for invasion) for transmission to root and continue/propagate.⁷ The speed of spread would also depend on the mode of transmission within the human population (for instance, airborne or through body fluids). In order for an epidemic to become a pandemic, it would need to be transported across national boundaries and spread to other countries. Were any link in the chain of transmission to be missing, the existence of a potential pathogen would not result in outbreaks, epidemics or pandemics.⁸ Finally, its further evolution would depend on how quickly and effectively strategies for treatment and control are put in place to deal with the disease at the individual and population level.

This introduction to the virtual issue of *Development and Change* argues that the destruction of ecosystems — a consequence of the imperial project of accumulation that was set into motion in the 15th century — encouraged conditions for the emergence of zoonoses. These processes have accelerated, continuing into the present century as part of the globalization agenda. Moreover, neoliberal reforms since the 1970s have led to skewed priorities in the health sector resulting in the grossly inadequate response to the public health crisis posed by COVID-19. Drawing on insights from selected papers

6. In addition, the study reported that: ‘introduction through cold/food chain products is considered a possible pathway; introduction through a laboratory incident was considered to be an extremely unlikely pathway’ (WHO, 2021a: 9).

7. Additionally, the basic reproduction number (R_0) would need to be 1 or more because an R_0 less than that would lead to the microbe’s extinction from the host population. Lethality or virulence is also an important factor for its survival because a highly virulent pathogen causing high fatality rates would wipe out the host population. These chains of events hold true for pathogenesis in both human and non-human populations.

8. A case in point is the avian flu caused by H5N1 influenza virus which remains a serious and important enzootic disease within the bird population but which has caused only sporadic cases among humans. However, that cases have occurred at all among humans makes it a potential candidate for an epidemic, were the equilibrium to shift.

published in previous issues of *Development and Change*, this article contributes to the ongoing COVID-19 debate by focusing particularly upon its political economy aspects.

OF ZONONOSES AND PANDEMICS

Zoonotic diseases are not new entities and history is replete with their devastating consequences, one infamous example being the bubonic plague in the 14th century. Referred to as the ‘Black Death’, it is estimated to have killed more than 50 million people in Europe alone, in addition to 25 million in Asia and North Africa (Kiger, 2020). The disease is said to have first erupted among marmots, a type of rodent native to central Asia, whose fur was an important article of trade. Fleas from the infected dead animals, bundled up in their skinned pelts, travelled along the silk route by caravans and ships to reach different destinations, decimating populations of rodents (rats) and vulnerable humans, disrupting commerce and economy along the way (McEvedy, 1988). The 18th and 19th centuries witnessed the emergence of new zoonotic disease epidemics as a result of the unprecedented onslaught on nature and disruption of ecosystems that were unleashed by the imperialist agenda for capital accumulation. ‘Tropical’ medicine developed to discipline the tropics that had become the ‘white man’s grave’. In the context of the germ theory of disease that was then beginning to gain dominance, the focus was narrowed to an agent (pathogen) and host (human), minimizing the importance of the environment — the third arm of the epidemiological triad depicting disease causation. Control programmes could then be formulated to deal with the immediate causal agents of these new disease epidemics, allowing for the continued violation of nature that had initiated the chain of events in the first place.

The end of colonial rule did not bring an end to the colonization of nature. In fact, the post-colonial world witnessed an acceleration of these destructive processes spearheaded by both national governments and transnational capital. The increasing contact between human and non-human populations, particularly wildlife, led to the emergence of new and re-emergence of old infectious diseases that were either present as episodic or endemic in a population. Industrial modes of animal farming, particularly in poultry and meat production, pose additional risks of zoonotic disease to both workers in the industry and consumers of these products. The first viral disease identified in humans was yellow fever in 1901 and, since then, new species have been identified at a rate of three to four per year, with viruses making up over two-thirds of all new human pathogens (Woolhouse et al., 2012). Between 1940 and 2004, 335 emerging infectious diseases were reported. Two-thirds of these were due to zoonotic pathogens, of which 71.8 per cent were caused by pathogens with wildlife origins (Jones et al., 2008).

In 2002, participants in a workshop on the impact of globalization on infectious diseases termed the emergence and spread of infectious diseases in the late 20th and early 21st centuries the ‘epitome of globalization’ (Knobler et al., 2006: 2), observing that:

the current era of globalization is more properly viewed as an intensification of trends that have occurred throughout history. Never before have so many people moved so quickly throughout the world, whether by choice or force. Never before has the population density been higher, with more people living in urban areas. Never before have food, animals, commodities, and capital been transported so freely and quickly across political boundaries. And never before have pathogens had such ample opportunity to hitch global rides on airplanes, people, and products. (ibid.: 3)

In 2002–03, barely three months after the deliberations at this workshop, SARS emerged as a novel zoonotic disease and evolved into a pandemic. Despite that, and even though the SARS pandemic was illustrative of the very concerns that the participants had raised in the workshop, in the report of the proceedings published in 2006, SARS was mentioned just once in a footnote without elaboration: ‘[a]lthough SARS did not emerge until after this workshop was held, it is mentioned here as a timely example’ (ibid.: 4).

The SARS pandemic was traced to a coronavirus that had been transmitted to humans from the horseshoe bat, its natural reservoir, via the masked palm civet, an intermediary (Wang et al., 2006). However, what was remarkable about SARS was that the spillover and transmission from wildlife did not occur in some remote forest fringe habitat, but right in the heart of commerce, demonstrating a merging of boundaries between humans and wildlife in urban spaces. The first transmission was reported to have taken place in a wet market in China where, along with regular meat, animals from the wild, both live and dead, are sold. The SARS pandemic raised issues of consumption of wild meat as exotic cuisine, its overexploitation, its association with illegal trafficking, as well as the biodiversity crisis caused by the destruction of natural habitats, as underlying causes of novel zoonotic diseases (Bell et al., 2004). Yet, the subsequent emergence of SARS-CoV-2 virus and the COVID-19 pandemic has demonstrated that the warning sounded by SARS had gone unheeded.⁹ One compelling political economy reason for this is that, increasingly, instead of calling for an end to uncontrolled ecosystem interference, a newer form of entanglement of environment and capital is emerging in which market mechanisms are being posited as the answer to the very environmental problems they create.

9. As noted, the wildlife origin theory of SARS-CoV-2, that it passed from the horseshoe bat through Malayan pangolins that are sold in the Chinese wet market in Wuhan, is yet to be proven. The main competing theory is that the virus ‘escaped’ from the high-security Wuhan Institute of Virology which holds coronaviruses related to the SARS-CoV-2 virus (Cyranski, 2020). But as Cyranski notes, it could take many years before the controversy can be resolved, if ever. In the SARS outbreak of 2002, the virus link to bats could be confirmed only after 13 years.

CAPITALIZING NATURE: NATURE™ INC

In a conference entitled ‘Nature™ Inc.? Questioning the Market Panacea in Environmental Policy and Conservation’, organized in 2011 by the International Institute of Social Studies, the central theme was the unpacking of environmental and conservation policies in the context of neoliberal capitalism. The Debate section of the Forum 2012 issue of *Development and Change*, curated by Murat Arsel and Bram Büscher, featured selected papers from this conference. In their introductory essay, Arsel and Büscher focus on ‘change and continuity’ by ‘delving into the evolving world of Nature™ Inc., specifically in order to tease out changing ideas about nature and its ongoing and trademarked incorporation into global capitalism’ (Arsel and Büscher, 2012: 56). They argue that capitalism’s quest for expansion to conquer newer frontiers converts nature into a form of capital, thereby ‘establishing the supremacy of the logic of capital accumulation over society’s relationship with nature’ (ibid.: 58), and that the death of nature — that is, ‘the reduction of nature to an inanimate, technocratically manipulable object — is a *necessary* precondition for the production of Nature™ Inc.’ (ibid.: 62; italics in the original). Furthermore, even though it has become clear since the 1970s that nature has ‘refused to play dead’, the concept of ‘sustainable development’ was promulgated, the ‘main accomplishment [of which] has been to paper over the growing cracks of the capitalist growth engine’ (ibid.: 63). All the papers in this Forum 2012 Debate are of relevance in one way or another to the current COVID-19 pandemic, the roots of which are firmly situated in the capitalist modes of production and accumulation (Fidalgo, 2020). Two articles in particular, the first by Clausen and Longo (2012), on genetically modified salmon, and the second by Münster and Münster (2012), on wildlife tourism, resonate directly with the theme of this virtual issue.

AquAdvantage Salmon®

In both SARS and COVID-19 pandemics, wildlife farming has been indicted as the location of spillover of the virus into the human population. The invention and promotion of the AquAdvantage Salmon®, discussed by Clausen and Longo (2012), is in keeping with the market strategy to increase food supply, particularly protein foods. AquAdvantage Salmon is genetically engineered to grow faster than its natural counterpart and is also being considered as a solution to the depleting stocks in the wild. Tracing historical developments within the salmon industry in the global North, the authors reject ‘the tragedy of commons’ framework for the depletion of wild salmon stocks. Instead, they propose an alternative ‘tragedy of commodity’ framework and argue that ‘the failure to preserve and restore wild fisheries is rooted in the commodity valorization process of capitalist markets’ (Clausen

and Longo, 2012: 230). The authors label the laboratory-created, genetically manipulated fish ‘salmon without souls’ and ‘the ultimate step in the tragedy of commodity’ (ibid.: 243). They explain how the assumed ecological benefits of the dematerialization of the production process are offset by market dynamics operating with increased efficiency under commodity production. For instance, they show that the ecological footprint of farming these genetically engineered species far outweighs the reduction in energy consumption it purports to realize. Another major concern they point out is that, were the transgenic salmon to escape into the ocean, there is a possibility that they could outcompete the wild salmon for food and introduce new genes into the wild salmon genetic pool, potentially changing not only the salmon population but also the ecology of the oceans in unpredictable ways. That the authors’ concern regarding the intermixing of wild and farm-bred salmon reflects a real possibility has been demonstrated by several incidents with Atlantic salmon farming.¹⁰ Others have shown that the impact of escaped farmed Atlantic salmon on wild populations is mostly negative (O’Sullivan et al., 2020; Thorstad et al., 2008). In 2015, three years after the publication of Clausen and Longo’s paper, the United States Food and Drug Administration (USFDA) approved AquAdvantage Salmon as safe for consumption and as nutritious as any non-genetically engineered species (USFDA, 2015). However, in November 2020, the US District Court for the Northern District of California ruled that the FDA had violated environmental laws by approving AquAdvantage Salmon without adequate assessment as to whether the genetic salmon endanger the wild populations in the ocean.¹¹

Tourism: Mobilizing a Global Pandemic

Münster and Münster (2012), the third article from the Forum 2012 issue of *Development and Change* included in this virtual issue, discusses nature and wildlife tourism in Wayanad district of Kerala in India, which, the authors argue, emerged ‘when agrarian capitalism reached its ecological limits and entered a crisis of accumulation’ (Münster and Münster, 2012: 205). This forced the opening of newer frontiers for accumulation, and nature tourism was one such. With less than 10 per cent of the pre-colonial forest cover left intact, but still teeming with wildlife, Wayanad district is now being offered largely for domestic tourist consumption. A promotional slogan from one of the tourist websites quoted in the article, ‘The Great Adventure at Wayanad: Where Jungle Meets Country’, could apply equally well to other

10. In August 2017, for instance, thousands of fish reportedly escaped due to damage to nets during high tide in the Pacific Ocean (Flatt and Ryan, 2017).

11. See: www.centerforfoodsafety.org/files/2020-10-05-ecf-285-order-granting-in-part-and-denying-msj_03835.pdf

places in the world where nature and wildlife are commoditized for the entertainment of humans. Globally, ‘wildlife watching tourism’¹² is being promoted as a ‘non-consumptive’ activity of economic importance and as a way to deal with illegal poaching (World Tourism Organization, 2015: 2). While labelling wildlife tourism a non-consumptive activity is debatable, what is clear is that such human–wildlife contact and interactions are invasive and create opportunities for spillover of old and new pathogens from one to the other¹³ in novel ways.¹⁴

Aside from wildlife tourism, tourism in general generates vast numbers of people moving back and forth across territorial boundaries throughout the year. In 2011, it was estimated that by 2030 there would be 1.8 billion international tourist arrivals, 58 per cent of which will be in emerging economies (World Tourism Organization, 2011). In the last decade, by positioning ecotourism as contributing to poverty eradication and environmental protection, the tourism industry has quite inexplicably received an added boost ‘as one of the ten key sectors to evolve towards a Green Economy’ (World Tourism Organization, 2015: 6).

Whatever the controversy about the origins of COVID-19, what is not in doubt is the route of spread which, within two months, transformed it from a local outbreak in Wuhan to a global pandemic as it crossed territorial boundaries with an ease and speed that exemplifies the interconnectedness of the present-day globalized world. The COVID-19 virus was primarily spread by air travel, as it moved around the world ‘bundled’ within the bodies of humans. In early 2020, in the weeks following the Wuhan outbreak, although countries geographically closer to China were the first to report confirmed cases, the first major outbreak outside of China was experienced in far-away Europe, with Italy and Spain registering an exponential increase in cases and fatalities within a brief span of time. This was not without reason, as these countries had an immunologically naïve population and a demographic profile with a large proportion in the older age groups. Moreover, not only was this the middle of the yearly influenza season, but it was also a time of heavy tourist traffic from China on account of the Chinese holiday season. In recent years, Italy has become a preferred destination for Chinese tourists, with Lazio, Lombardy, Tuscany and Veneto as favoured regions (Xinhua, 2020). These were the same regions that saw

12. ‘Wildlife watching tourism is a type of tourism that is organized and undertaken in order to watch or encounter wildlife. Wildlife watching tourism exclusively relates to non-consumptive forms of wildlife-based activities as observing and sometimes touching or feeding of animals, in contrast to consumptive forms like hunting and fishing’ (World Tourism Organization, 2015: 9).

13. See Lainé (2018) on the transmission of tuberculosis from humans to elephants as a case of reverse zoonosis.

14. In 2016, when a Zika virus alert was sounded for Kerala, potential travellers expressed their concern. For a conversation thread in Tripadvisor on Kerala see: www.tripadvisor.ca/ShowTopic-g297631-i5501-k10134649-Zika_virus-Kerala.html

the first wave of the COVID-19 outbreak in Italy. In 2019, Chinese visitors to Italy had spent over € 650 million, which was almost 40 per cent higher than the previous year (ibid.), indicating the increasing importance of the industry and the contribution of Chinese tourists to the Italian economy.

It is surmised that from early January 2020, COVID-19 was in circulation in several countries including those in the global North, without the infected persons being identified as ‘cases’ (Ferguson et al., 2020: 4; Lourenço et al., 2020: 1). During this early period of silent transmission, China curtailed domestic flights, but opposed travel bans or advisories by other countries (Sen, 2020). In a joint statement on 27 February 2020, the WHO and the World Tourism Organization appear to have concurred and cautioned against interfering with international travel to prevent negative repercussions for the tourism sector (WHO and UNWTO, 2020). Hence, by March 2020, when the lockdown strategy and curtailment of international travel was enforced, the virus was already well seeded in several countries beyond China, establishing local transmission.¹⁵

WHEN IS A CRISIS A CRISIS?

The early phase of the COVID-19 pandemic was marked by caution and denial (Sathyamala, 2020), a response that is not specific to COVID-19 alone. Luisa Enria’s (2019) paper on Ebola in *Development and Change* could not have been more timely. She poses the question: ‘when does a crisis *become* a crisis?’ (Enria, 2019: 1604; emphasis in the original), pointing out that Ebola was not declared an emergency by the WHO until eight months after the index case in Guinea, by which time it had already spread to two other countries. Ebola is also a zoonotic disease with fruit bats as natural reservoir hosts. It is highly virulent, with a case fatality rate (CFR)¹⁶ ranging from 25 per cent to 90 per cent (WHO, 2020c). Transmission is through direct contact with bodily fluids of the infected person. Hence, although its fatality rate is far higher than that of COVID-19, the pandemic spread across territorial boundaries was limited. In contrast to Ebola, community spread with SARS-CoV-2 virus takes place more easily, as it is airborne, and silently because of asymptomatic transmission (Gandhi et al., 2020). Consequently, although COVID-19 is less lethal with an infection fatality ratio (IFR) of 1–3 per cent for countries that experienced severe outbreaks (Thomas and Marks, 2021), it has proved far more difficult to contain.

15. This is not to say that restriction on international travel even at this late stage was of no value as it was important to reduce the probability of further transmission. Nevertheless, the almost two months’ delay in imposing restrictions or checks at places of disembarkation allowed for the emergence of a global pandemic.

16. CFR is the proportion of people defined as cases who die and is expressed as a percentage. Sometimes used interchangeably with case fatality ratio.

The first outbreaks of Ebola in West Africa were in 1976 and the disease received its name from the Ebola River (Gholipour, 2014). Since then, countries in West Africa have suffered small outbreaks, but in 2014–16 there was a major outbreak in Guinea which spread to Liberia and Sierra Leone (WHO, 2020c). The WHO has continued to term this an ‘epidemic’ even though, were the classical epidemiological definition to be applied, it should be termed a pandemic. Enria’s paper, based on ethnographic fieldwork between 2015 and 2017 in Sierra Leone, explores ‘how different ways of understanding Ebola as a crisis, its nature, causes and consequences, collided to give rise to seemingly contradictory types of interventions within communities: on the one hand, a militarized state of emergency, and on the other, efforts to foster local engagement and ownership’ (Enria, 2019: 1603) — all very familiar in the strategies to contain the COVID-19 pandemic. The author cites Carlo Caduff’s (2015) book that gives an account of a prediction of a catastrophic influenza virus pandemic that never occurred. She draws parallels with the case of Ebola in which the US Centers of Disease Control and Prevention (CDC) whipped up fear by predicting a million infections in the absence of intervention (ibid.).¹⁷ The final count at the end of the pandemic was a total of 28,616 cases with 11,310 deaths in Guinea, Liberia and Sierra Leone and an additional 36 cases and 15 deaths outside of these three countries.¹⁸

Similarly unfounded speculations fuelled the COVID-19 panic. Five days after the pandemic declaration by the WHO, a non-peer-reviewed working paper was published on the website of Imperial College London (Ferguson et al., 2020), triggering worldwide alarm.¹⁹ Authored by the Imperial College Covid-19 Response Team (henceforth the Imperial team), the paper compared the COVID-19 pandemic, which at the time had recorded only 6,470 deaths globally, to the 1918–19 Spanish influenza pandemic which had killed at least 50 million, and predicted approximately 510,000 COVID-19 deaths for the UK and 2.2 million deaths for the USA (ibid.). The mathematical modelling on which this prediction was based was critiqued by several scholars (Aiyar, 2020; Sagar, 2020; Sathyamala, 2020; Shen et al., 2020). What to include and what to exclude in a simulation model for policy making is not a purely scientific decision but is grounded in political economy considerations. For instance, the Imperial team did not include testing and contact tracing in their model. The WHO, one of the co-authors of the study, had mandated these as vital elements in the control strategy, so the failure to include them in the model could not have been due to an

17. See also *Spiegel* (2009) for an ‘Interview with Epidemiologist Tom Jefferson: A Whole Industry Is Waiting for a Pandemic’.

18. See: www.cdc.gov/vhf/ebola/history/2014-2016-outbreak/index.html

19. The Imperial College Covid-19 Response Team comprised the WHO Collaborating Centre for Infectious Disease Modelling, MRC Centre for Global Infectious Disease Analysis, Abdul Latif Jameel Institute for Disease and Emergency Analytics, and Imperial College London (Ferguson et al., 2020).

oversight. Apparently imposing lockdown restrictions on people was found to be a more expedient strategy than old-fashioned shoe-leather epidemiology involved in contact tracing and testing.²⁰

DÉJÀ VU: THE PROPENSITY FOR HISTORY TO REPEAT ITSELF

Besides the paper on the Ebola pandemic, past issues of *Development and Change* include 17 articles on pandemics, all of which are on HIV, focusing on populations in Africa. While the attention to African countries is not unwarranted because of the high prevalence rates of HIV in these countries, the almost exclusive focus reflects a bias that views HIV as primarily a problem of the African continent. It is not that the disease does not concern the global North, but the problem is invisibilized there because it now affects the most marginalized of populations. In the US, for instance, the overall incidence rate (new infections) is low, but it is concentrated in the non-white population with the highest rates among black/African Americans (nine times higher), Hispanics/Latinos (four and half times higher), and ‘multiple races’ (four times higher), as compared with the white population (CDC, 2020). That far fewer studies are carried out in these populations reflects the general apathy of the state and donors.²¹

Contestations over evidence are not new in scientific discourses. In his assessment of three UNAIDS reports from 2005 and 2006, Hakan Seckinelgin (2007) raises critical questions about ‘evidence-based’ policies in HIV prevention and treatment. Seckinelgin points out that one of the key concerns in these reports was the need to formulate policies on how best to allocate funding in view of the constraints on resources, specifically at a time the HIV/AIDS pandemic was not showing any signs of slowing down. Resorting to ‘evidence-based’ policies was seen as a way of dealing with the thorny problem of combining ‘prevention, treatment and care as an integrated policy package’ (Seckinelgin, 2007: 1221). The author stresses the need ‘to understand what is meant by evidence, how it is used at present and what sort of evidence is required in relation to HIV/AIDS policy implementation in multiple country contexts’, which implies the need ‘to look at the politics

20. According to *Oxford Reference*, shoe-leather epidemiology is the ‘[c]ollection of epidemiological and other pertinent data relevant to an epidemiological investigation by painstaking direct inquiry among all or a representative sample of the affected people, for example by walking door to door (wearing out shoe leather in the process, hence the term) to ask direct questions’ (www.oxfordreference.com/view/10.1093/oi/authority.20110803100502769). On the application of shoe-leather epidemiology in Cuba during the COVID-19 pandemic, see Ashton (2020).

21. Although the US and the UK are the top producers of HIV/AIDS-related research (Analytical Services, 2019), much of it, such as clinical trials, is collaborative research with a focus on the populations of the global South (Wao et al., 2021) in what has been termed ‘helicopter research’ (Haelewaters et al., 2021).

of whose knowledge counts' (ibid.: 1222). As the author states, these questions pertain not only to HIV prevention and treatment but are 'relevant for many other international development-related issues, especially attempts to deal with global poverty' (ibid.: 1231) — to which I would add other infectious diseases of national and global concern as well. Emerging in the early 1980s, evidence-based medicine is lauded as 'one of modern medicine's greatest intellectual achievements'.²² Yet, as Seckinelgin concludes in his paper, it is both exclusionary and a 'process of "epistemological violence" in relation to the voices of people targeted or considered to be beneficiaries' (ibid.: 1232). Others have termed evidence-based medicine a good example of micro-fascism in the contemporary scientific arena (Holmes et al., 2006: 180).

What the COVID-19 global pandemic has demonstrated clearly is that policies on contagious diseases are not necessarily evidence-based but politically motivated and made acceptable by creating a discourse stoked by fear and/or the needs of capital. A week after the Imperial team study was published, another modelling study (Lourenço et al., 2020), later referred to as the 'Oxford study', also not peer reviewed, was published. The authors presented some startling conclusions. Their results suggested that 'the ongoing epidemics in the UK and Italy started at least a month before the first reported death and [had] already led to the accumulation of significant levels of herd immunity in both countries' (ibid.: 1). Infectious disease epidemiology tells us that it is highly likely that by the time the first 'case' of COVID-19 was noticed (hospitalized) and reported, community transmission would have already set in and, as a result, also the beginnings of herd immunity. However, Lourenço et al.'s assessment that approximately 68 per cent of the UK population would have been infected as early as 19 March 2020, barely three months after the Wuhan outbreak, was a grossly exaggerated estimation based on questionable science.

Thus, while the Imperial team pushed the panic button by greatly inflating the probable mortality rates, the Oxford team swung to the other extreme of complacency and in the process demonized the concept of herd immunity.²³ However, although the several limitations that critics pointed out in the Oxford study applied equally to the Imperial study, more disbelief was

22. See: www.bmj.com/campaign/ebm-history

23. A distinction needs to be made between the concepts 'herd immunity' and 'herd immunity threshold', which in popular writing and understanding are often conflated into one. The spread of an infectious disease agent in a population initiates herd immunity as part of the natural history of disease. A herd immunity *threshold* is the proportion of population that must be immune to ensure that the introduction of the disease agent will not cause an outbreak in the *population*. This is the principle on which vaccination strategies are based, i.e., the proportion of the population that needs to be covered with vaccination in order to protect those that are unvaccinated. Depending upon the epidemiological characteristics of a disease agent, herd immunity thresholds vary. In the case of COVID-19, the virus is still evolving which 'keeps moving the goal post' (McDermott, 2021: 4), with the result that the

expressed about the results of the Oxford study than those of the Imperial team. The fact of the matter is that they could each be considered as good or as bad as the other if similar scales were to apply.²⁴

The *New York Times* remarked that the impact of the Imperial study ‘wasn’t so much [the result of] the numbers themselves, frightening though they were, as who reported them: Imperial College London’ (Landler and Castle, 2020). Such reverence for the epistemic authority of the Imperial team meant that even a non-peer-reviewed report, published on the website of Imperial College London (by a member of the modelling team), was accepted by the scientific community without much demur. Finally, between the two reports, it was the Imperial team’s recommendation that became the blueprint for the strategy of lockdown to tackle COVID-19, not only in the UK and US, but also globally. Without getting into an in-depth discussion on the merits and demerits of these two positions, the point to consider is that dissent exists within the scientific community and the question of whose evidence counts or should count in policy formulation is not necessarily impartial. A cross-country comparison of mortality in 24 European countries in the first half of 2020 found no clear connection between lockdown policies and mortalities (Bjørnskov, 2021), raising questions as to the scientific validity of suppression strategies.

HEALTH SYSTEM REFORMS: STOKING INEQUALITIES

In the Debate of the Forum 2016 issue of *Development and Change*, curated by Bridget O’Laughlin, the central question that is posed is how ‘capital has come to appropriate the right of critique and to dominate the space of reform’ in health (O’Laughlin, 2016: 701). In her introductory essay, ‘Pragmatism, Structural Reform and the Politics of Inequality in Global Public Health’, O’Laughlin points out that while there is a more or less general consensus on the need to address inequalities in global health, there ‘are major differences as to why global health inequalities are considered to be important, on what the causes of health inequalities are, on what can and should be done to address them and who should do it’ (ibid.: 687). She further questions, ‘whether present patterns of globalization have spawned new inequalities of health that pose new threats and with them new kinds of politics’ (ibid.: 688).

herd immunity threshold is difficult to predict. The same applies to the formulation of a vaccine strategy.

24. See for instance, Sagar (2020) and Shen et al. (2020), for a critique of the Imperial team model. As the reproducibility of this model was increasingly questioned, *Nature* reported in their News column that it had been successfully ‘code tested’ which, although it did not assess the scientific accuracy of the simulation, was meant to dispel misapprehensions about the code (Chawla, 2020). See Ye (2020) for an analysis of the Oxford study.

According to O’Laughlin, with the West finding itself no longer immune to infectious diseases, and with the rapid and frequent movement of people and goods, there is a heightened sensitivity towards biosecurity concerns. She notes that following the Ebola pandemic, Bill Gates’s call to set up a global system modelled on NATO to issue warnings and coordinate responses to epidemics as proposals for “global health governance” could actually constitute “global health imperialism” (ibid.: 690). The conclusion she draws from the contributions to that Forum Debate is that ‘[u]nequal access to healthcare is only one of the structural determinants of inequalities in global health. Global capital is implicated in structural patterns of investment that have made jobs, wages and land-based livelihoods insecure and unhealthy, fouled air and water and profited from spiralling costs of drugs and treatment’ (ibid.: 686). Therefore, addressing the ‘social causes of health requires broadening the political basis of coalitions beyond health professionals to find common ground with groups working against gender and racial discrimination or for migrant rights, land rights, better working conditions and wages and accountable government’ (ibid.: 706). She ends on a hopeful note, observing that concerted efforts at national levels can lead to a change in the public health agenda of multilateral institutions such as the WHO.

The WHO plays a central role in guiding international policies on health, but it would be erroneous to perceive it as a neutral scientific organization, as it is governed by the World Health Assembly which comprises representatives from its member states and is increasingly funded by philanthrocapitalists such as Bill and Melinda Gates and their eponymous charitable foundation. In their assessment piece, Meri Koivusalo and Maureen Mackintosh (2008) analyse the shifts that have taken place in the role of the WHO with reference to *The World Health Report 2007. A Safer Future: Global Public Health Security in the 21st Century*. The authors trace the WHO’s policy turn in the wake of the World Bank’s 1993 prescription to reduce publicly provided healthcare to a basic minimum package of services. This led the WHO to shift away from the 1978 ‘ideologically motivated’ Alma Ata declaration which promised ‘Health for All’. The 2007 report reviewed by Koivusalo and Mackintosh took another turn: by focusing on health surveillance and biosecurity, it reflected concerns of the international community that followed the September 2001 attacks, the SARS pandemic, and the 2004 tsunami disaster. The SARS pandemic brought to the fore an additional concern regarding the inadequacy of secondary and tertiary healthcare services to deal with such emergencies, noting that these services were, by that time, largely privately funded as a consequence of cuts in public sector funding and privatization as part of the agenda of neoliberalization. The COVID-19 pandemic has become emblematic of both these concerns: one justification for the suppression strategy of the lockdown was biosecurity concerns, and another was the need to ‘flatten the curve’ to prevent overwhelming tertiary health facilities which are not accessible to large sections of the population.

In countries where private healthcare is the norm or provides the bulk of healthcare, the COVID-19 pandemic offered an opportunity to bring the private sector under state control to provide equitable access to healthcare and control measure — but tragically, there have been no takers.

In times of public health crisis, the private health sector has rarely, if ever, covered itself in glory. Koivusalo and Mackintosh (2008) cite the case of the plague outbreak in 1994 in Surat, India, in which 76 per cent of private practitioners fled the city in the wake of the outbreak. It is public sector healthcare workers that are left to deal with infectious disease control and treatment and, in the process, face the highest risk of contagion and death. During the Ebola pandemic, there was high mortality among health workers, with Liberia, for instance, reporting an 8 per cent reduction in healthcare personnel in the country due to the epidemic.²⁵ In the case of COVID-19, high rates of infection and deaths have been reported among different levels of health workers. The WHO (Health Workforce Department, 2021) has estimated that, between January 2020 and May 2021, 80,000–180,000 health and care workers globally had died of COVID-19 with a central population-based estimate of 115,500 COVID-19 deaths. The workers also suffered from burnout and mental health issues, including post-traumatic stress disorder (Mehta et al., 2021).²⁶

PANDEMICS: OPPORTUNITIES FOR ACCUMULATION

In their paper ‘Deconstructing the Financialization of Healthcare’, Benjamin Hunter and Susan Murray (2019) discuss how the penetration of capital in the health sector creates new markets and opportunities for accumulation. The authors point out that the 1993 World Bank report *Investing in Health* initiated the privatization of the public sector by outsourcing of services and the institutionalization of ‘user-fees’. The additional financial burden of out-of-pocket healthcare expenditure has pushed some households into outright poverty, contributing to the ‘reproduction of poverty’ (Hunter and Murray, 2019: 1267). Previously, the private sector catered to high-income groups, but with the liberalization of the health sector, under the rubric of public–private partnerships, the private sector increasingly became involved in the provision of public services. The commercialization of healthcare and application of business models are creating healthcare markets with negative implications for health and equity. As private investment in healthcare is becoming the norm in global health, and healthcare is being transformed into saleable and tradeable assets for global investors, a

25. See: www.cdc.gov/vhf/ebola/history/2014-2016-outbreak/cost-of-ebola.html (accessed 15 October 2020).

26. See Ipe (2021) for a first-person account of what it means to be an anaesthesiologist in an Intensive Care Unit in India handling COVID-19 patients.

COVID-19 type of situation provides an unimagined opportunity for the creation of asset classes for further accumulation.

In ‘Just Global Health?’, Simon Reid-Henry (2016) argues that — akin to the approach which views public health as a way of doing justice — ‘global health, too, should be a way of doing global justice, by ameliorating the health inequalities that exclude many millions of people globally from enjoying a healthy life and from the benefits of a fuller inclusion in modern society’ (Reid-Henry, 2016: 713). The author provides a basic typology of global health policies and practices, dividing them into ‘market justice’ and ‘social justice’ models, where the former is concerned with ‘maximum utility’ and the latter with ‘inequality reduction’ (ibid.: 714). In a market-justice approach, it is the private sector that is seen ‘to be the appropriate custodian of social change, [whereas] social-justice approaches are more likely to put their faith in the public sector’. This, Reid-Henry argues, is the great weakness of the social-justice model because ‘there is as yet “no global public” per se’ (ibid.: 716).

He elaborates his argument by discussing three case studies pertaining to the production and supply of pharmaceutical products: Cuba’s “‘pharmaceutical nationalism’”; the public interest case filed in the Supreme Court of India against the transnational pharmaceutical company Novartis; and the “‘social market’ vision of global health equity’ of the Health Impact Fund (ibid.: 724). According to Reid-Henry, the Cuban example demonstrates ‘state-led strategies for decommodifying public health provision’ (ibid.: 725), whereas the litigation against Novartis brought the ‘principles of market justice and social justice up against one another in the court of law’ (ibid.: 727). Reid-Henry finds the case of the Health Impact Fund an interesting example whereby ‘markets can be taken up within a social-justice approach’ (ibid.: 728). Not favouring one strategy over the other, he argues that ‘markets, states and the law can each be the focus of global health strategies that conform more strongly to a social rather than a market-justice approach’, and that collectively they suggest a range of possible ways to reduce inequality and to realize ‘greater fairness before the accumulation of profit’ (ibid.: 730). He concludes that such a mixed-economy approach to global health which would involve both states and markets ‘can be ... workable ... *when markets are kept on a tighter leash*’ (ibid.; emphasis added). The author, however, does not elaborate who will keep the markets on a tighter leash or how. It is also important to note that his article was published at a time when the ‘pharmaceutical industry was not in rude health [and was] struggling to maintain a level of innovation and income’ (ibid.: 727). The situation for pharmaceutical innovation, production and profit accumulation has changed dramatically with COVID-19. As early as February 2021, disquiet had been expressed about the role of vaccine nationalism and market forces and calls were being made for ‘international cooperation’ (Burrow, 2021; Wrigley, 2021).

Koivusalo and Mackintosh (2008) also discuss the international treaty for sharing of viruses which is critical for vaccine development. They cite the reluctance of the Indonesian government to share the avian flu (H5N1) virus when the WHO decided to distribute the virus samples to the corporate sector. This decision had implications in terms of the privatization of research and there was a well-justified fear that the vaccine, once developed, would become inaccessible to the countries that shared the virus. In the case of COVID-19, although there were allegations that China had refused to share data on the virus (CNBC, 2020) the drug companies could circumvent such limitations by deploying novel technologies for vaccine development, yet to be proven safe. Additionally, new regulations for financing vaccine development were initiated. For instance, on 15 May 2020, the Trump administration, which was known for its vocal denial of the seriousness of the pandemic, launched Operation Warp Speed, allocating US\$ 18 billion for vaccine development. The objective was to ‘facilitate [development] at an unprecedented pace’ and scale up the production and stock piling of vaccine candidates while they were still in development, instead of waiting for approval or authorization, ‘as is the case with traditional development timelines’ (US Government, 2020). The funding for this programme came from money allocated to help hospitals and healthcare providers affected by COVID-19 (Cohrs, 2021). Moreover, the contracts with the private sector, which came to light only much later, excluded ‘almost all intellectual property rights, forgoing leverage to use if the company engages in price gouging down the road ... [setting] a dangerous precedent for future government contracts’ (Lupkin, 2020).

By 18 February 2021, at least seven different vaccines across three platforms had been approved with more than 200 additional vaccine candidates still in development (WHO, n.d.). As of 22 February 2022, the WHO reported 195 vaccine candidates undergoing pre-clinical development and 145 in clinical development (WHO, 2022). In the race to reach the market, checks previously considered vital in vaccine trials, such as animal testing, were skipped (Boodman, 2020; Lanese, 2020). The WHO (2021b) admits that while in the past vaccines took many years to develop, ‘given the urgent need for COVID-19 vaccines, unprecedented financial investments and scientific collaborations are changing how vaccines are developed’. While this has meant ‘that some of the steps in the research and development process have been happening in parallel’ (ibid.), it is not clear how clinical and safety standards are being maintained. The WHO’s statement on efficacy is also not unequivocal: ‘Being vaccinated does not mean that we can throw caution to the wind and put ourselves and others at risk, particularly because *it is still not clear the degree to which the vaccines can protect not only against disease but also against infection and transmission*’ (WHO, n.d.; emphasis added). Furthermore, since the COVID-19 vaccine rollout started only in December 2020, despite the WHO’s unfounded assurances to the contrary that they are safe (ibid.), it is too early to comment on long-term

latent effects. COVID-19 has provided private sector pharmaceutical companies with an unlooked-for and unprecedented opportunity to lower the bar on clinical trials and safety regulations. Well-designed clinical trials as proof of safety and legitimacy have come to be replaced by images of world leaders and celebrities being vaccinated. It is the first time in modern drug development that pharmaceutical products are being marketed with so little concern for safety, particularly considering that the population that will potentially be exposed covers the entire globe. There is also the issue of durability of immunity (Li et al., 2021) and thus the need to administer repeated booster doses, while the evolution of new variants of the virus generate further opportunities to develop newer vaccine candidates. The pharmaceutical industry never had it so good.

SOCIAL DETERMINANTS OF EPIDEMICS AND PANDEMICS

Bridget O’Laughlin’s (2006) review of *AIDS and the Ecology of Poverty* by Eileen Stillwaggon (2005) is another contribution that is relevant to the current debate on COVID-19. Recommending it as a ‘book that should be read by anyone concerned with what to do about HIV/AIDS’ (O’Laughlin, 2006: 1158), O’Laughlin points out the key question that the book sheds light on, namely why AIDS has been so virulent in some places (particularly sub-Saharan Africa), and not in others. She suggests that, according to Stillwaggon, it is because ‘underlying social conditions, particularly poverty and inequality, shape the AIDS epidemic, as they have shaped other epidemics before it’ (ibid.). This is a question that is pertinent to the COVID-19 pandemic too; one of the intriguing but less investigated aspects of the COVID-19 pandemic is the uneven impact of the virus across nations. Why has coronavirus been so ‘virulent’ in some countries and not others? What are the class, gender and racial dimensions of this pandemic and how do they relate to current and future access to therapeutics including vaccines? Racial disparities in COVID-19 deaths have been recorded in the US: deaths among African Americans, indigenous people and Latinos were respectively 3.6, 3.4 and 3.2 times higher than among the white population (APM Research Lab, 2020). The excess mortality rate among the non-Hispanic black population was 208.4 deaths per 100,000, among the non-Hispanic white population 157.0 per 100,000 and among the Hispanic population 139.8 per 100,000 (Woolf et al., 2021).

The inequitable impact of the lockdown, particularly on those who live off their physical labour and form part of the informal economy, has also been noted (Cash and Patel, 2020; ILO, 2020). The Debate section of the 2014 Forum issue of *Development and Change*, curated by Amrita Chhachhi, deals with the “‘labour question’ in contemporary capitalism’ (Chhachhi, 2014). It includes an article by Jan Breman and Marcel van der Linden

(2014) who point out that, since the 1980s, flexibilization has become the organizing principle for labour policies in the West, further accelerated by the global economic crisis of 2007/08. The authors' main conclusion is that, increasingly, inequalities are more acute within than between nations and that 'in the 21st century "the development of underdevelopment" regression seems ... to be increasingly class- and not, as in the previous century, country-based' (Breman and van der Linden, 2014: 938). In early 2020, the World Bank (2020a: 1) reported the emergence of a class of 'new poor due to the COVID-19 pandemic', defined as 'those who were expected to be non-poor in 2020 prior to the COVID-19 outbreak but are now expected to be poor in 2020'. It further noted that the consequences of the pandemic strategies would plunge most countries into recession in 2020 with per capita income contracting globally (World Bank, 2020b: 3). The World Bank's end-of-year review in 2021 confirms its earlier predictions and finds that 'while people across all income groups experienced losses during the pandemic, the poorest 20 percent experienced the steepest decline in incomes' and that in 2021 their incomes declined further, accounting for approximately 100 million more people living in extreme poverty, with women being affected disproportionately (Gopalakrishnan et al., 2021).

CONCLUDING REMARKS

On 7 September 2020, the Director-General of the WHO warned: 'This will not be the last pandemic. History teaches us that outbreaks and pandemics are a fact of life' (WHO, 2020b). Economists have concurred (van Bergeijk, 2021). The articles brought together in this virtual issue have tried to demonstrate that zoonotic pandemics are not a 'fact of life'. They are very much rooted in the processes of capital accumulation and the ensuing destruction of global ecosystems that makes zoonoses a recurring imminent threat. In the context of a hyper-connected globalized world, global pandemics, in addition to regional ones, could well become the norm. Furthermore, neoliberal reforms and restructuring in the health sector have shown themselves unable to handle the public health crisis that COVID-19 has posed. Ultimately, with the waiving and dilution of well-established norms of regulation for testing and marketing of vaccines and drugs, the pandemic has created opportunities for accumulation in the healthcare technology industry, specifically the pharmaceutical sector. It is hoped that this virtual issue will contribute to the ongoing debate on the emergence of 'novel' infectious diseases and pandemics by shifting the current singular focus on the disease agent (the virus) and by broadening the concern to include the larger social determinants which are rooted in global political economy.

The Last Breath

*I cannot breathe
said the fish
oil pouring down its throat
I cannot breathe
said the sparrow
as cell towers rose up to the sky
I cannot breathe
said the Amazon
thick smoke bellowing out
I cannot breathe
said the human
as a microbe,
taking residence,
breathed into life.*

C. Sathyamala – May 2021

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C. Sathyamala (sathyamala@iss.nl) is a public health physician and epidemiologist with a PhD in Development Studies. She is a postdoctoral researcher currently affiliated with the International Institute of Social Studies, Erasmus University Rotterdam, The Netherlands. Her fields of research include food politics, reproductive rights, medical ethics, political economy of health and environmental justice.