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Contextualising coronavirus geographically

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This editorial introduces a special virtual issue aimed at providing online access to articles that can contribute to the work of coming to geographical terms with the COVID-19 pandemic. It outlines seven sub-themes of enquiry and analysis that are especially useful for contextualising coronavirus geographically. These are explored in turn as geographies of: (1) infection, (2) vulnerability, (3) resilience, (4) blame, (5) immunisation, (6) interdependence, and (7) care. In each case, connections are made between publications that are included in the special virtual issue and other more recent writings related specifically to COVID-19. In an effort to make these connections as useful as possible to geographers who have been drafted into online teaching in and about the pandemic, hyperlinks are used throughout to highlight additional online resources and reports.

KEYWORDS
care, COVID-19, geographies of blame, global health, globalisation, resilience, vulnerability

As we come to terms with the impact of the COVID-19 pandemic in our own lives and communities, the global crisis it has caused also prompts responses from geographers as educators seeking to contextualize "coronavirus" for students and the wider public. With this editorial we seek to point to some of the geographical lines of enquiry and analysis that can support such educational efforts. With so much teaching suddenly moving online, it is designed to introduce and complement a special virtual issue of *RGS-IBG publications*[1] aimed at providing online links to articles that can contribute to the work of coming to geographical terms with the pandemic. We have used hyperlinks throughout to expand our reference to as many instructional resources and reports as possible, but we also acknowledge at the outset that our introductory survey here cannot be fully inclusive, nor adequately anticipatory of where geographical research on the crisis is most likely to contribute in the future. There are many other online geographical recommendations, crowdsourced syllabi and reading lists that can help with providing academically-informed analyses, including from non-anglophone geographers as well as from fields as diverse as anthropology, global health, medicine, security studies, sociology and urban studies. Nevertheless, we want to add this primer on geographical research that seems salient and accessible for all those now suddenly drafted into online education in and about the crisis.

There are seven sub-themes of enquiry and analysis that we would like to suggest are especially useful for contextualizing coronavirus geographically. Across all of these, a concern with the factors shaping varied local experiences and embodiments of disease represents an enduring contribution of geographical research. Just as in global health geography more generally, it will be critical to examine in this way what gets to count as representable "local" experience, in whose "local" bodies, all the while other spaces of exception and biological sub-citizenship go ignored, uncounted or devalued (Brown et al., 2012; Herrick, 2014; 2017; Hirsch, 2019; Ingram, 2010; Laurie, 2015; Neely & Nading, 2017; Pallister-Wilkins, 2016; Patchin, 2020; Sparke, 2017a; Taylor, 2019). But to contextualize the coronavirus crisis further, we can also point to (1) geographical work on the emergence of infection, along with research that helps explain the uneven geographies of (2) vulnerability, (3) resilience, (4) blame, (5) immunisation, (6) interdependence and (7) care exposed by the pandemic. It is to each of these seven sub-themes that we now turn.

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1 | GEOGRAPHIES OF INFECTION

One of the main ways in which people around the world have been learning about the spread of COVID-19 (the disease caused by severe acute respiratory syndrome coronavirus 2 or SARS-CoV-2) is through online maps of infection and case fatality rates by country and region. Johns Hopkins University researchers developed one such map that is widely referenced in this way, and there are also diverse health data geo-visualization sites such as HealthMap that illustrate how non-state and non-conventional data sources (such as mobile phone geodata and crowdsourcing) are being used to augment ongoing public health surveillance work by national and global agencies (Hay et al., 2013). All these online maps demon strate how global disease mapping can serve to enframe a global community of infection, thereby working like other global health geo-visualization tools to scale-up the "social shell" of health citizenship (or at least of health data governmentality) from the inaugural epidemiological mappings of infection at the spatial scales of the "salubrious city," "bacteriological city" and "biopolitical" nation-state (Craddock & Gunn, 2006; Gandy, 2006; Kearns, 2006; Koch, 2011). Critical lessons from past pandemics are still all too pertinent, including about how their historical geographies reflect the partialities of the "look of surveillance" and thus the political geographies of disease maps that appear objective and authoritative (Giles-Vernick et al., 2010; Smallman-Raynor & Cliff, 1999; Smallman-Raynor et al., 2002; Sparke, 2010; Wilmott, 2020). But the extraordinary globalization of the coronavrius pandemic, including our ability to track its impact globally through such upturned Anthropocene scenes as falling air pollution and lowered CO2 emissions, also illustrates innovations in the border-crossing body-counting technologies of 21st century "biological citizenship" (Braun, 2007; Parry et al., 2016; Shaw & Sugden, 2018). One example of what we might therefore describe as "pandemicene biopolitics" is the way the easy zooming from global to local scales in online disease mapping has now been taken down to an even more micro scale by genomics researchers who have made it possible to map the spatio-temporal genomic evolution of SARS-CoV-2 at a molecular level.

Novel disease mappings can also usefully inform other geographical approaches to infection that put the fast-evolving political ecologies of zoonosis into relation with so-called "One Health" concerns about the socio-natural underpinnings of "Planetary Health" and ill-health (Halliday et al., 2017; Hinchliffe et al., 2017; Jackson & Neely, 2015; Wallace et al., 2015). In turn, such political ecological approaches make it possible to denaturalize disease without devaluing the vital lessons of natural science about its biology, serology and epidemiology. This means coming to terms with how capitalist globalization, planetary urbanization and the neoliberalization of nature (including the wholesale privatization, marketization and financialization of the natural world) have co-created the breeding grounds for all sorts of new pathogens, including other coronaviruses, thereby also making COVID-19 a familiar "monster at the door" (Connolly et al., 2020; Davis, 2006; Keil & Ali, 2011; Keil & Ali, 2006; Sparke & Anguelov, 2012; Wallace, 2016; Wallace et al., 2020). As David Harvey highlighted in an inspirational early outline, contextualizing coronavirus in this radical geographical way also illustrates spiralling contradictions in the global reproduction of capitalism. Far from being reductionist or economistic, such open-ended political ecologies can also enable post-colonial cautions against arrogant and absolutist disease containment projects, reminding us of their ties to imperial ideas about managing bioinsecurities (Ahuja, 2016). In place of divide and rule disease geopolitics, they urge us to think in terms of what Steve Hinchliffe and colleagues suggest should be more relational approaches to infection that can map "the multiple spaces, or spatialities, of disease, the meeting up and formatting of economic, technical, biological and political pressures that can amplify or indeed mitigate a disease emergency" (Hinchliffe et al., 2017, p. 16; see also Hinchliffe et al., 2013).

2 | GEOGRAPHIES OF VULNERABILITY

Another way in which geographical work can help denaturalize disease is by challenging accounts of disease victims simply being unlucky or irresponsible individuals being in the wrong place at the wrong time (Craddock, 2000; Loyd, 2014). Careful contextualization can instead support counter-arguments about how illness and disease vulnerability are themselves produced by socio-economic inequalities and insecurities (Farmer, 1999; Smith & Easterlow, 2005). It is clear in this respect that while we are all vulnerable as human beings to COVID-19, our unequal contexts and conditions of being human make for vast variations in vulnerability. Poverty, war, precarious livelihoods, poor access to health care and basic services, and pre-existing medical conditions connected to social deprivation and dispossession are all being laid bare as contexts of vulnerability in the pandemic, as well as particular "petri-dish" spaces such as cruise ships, care-homes, prisons and refugee camps. Some significant COVID-19 vulnerabilities that illustrate this include: the extreme precarity of slum dwellers globally and with it the limits of informal social infrastructures across the global south (Desai et al., 2015; Gandy, 2008; McFarlane & Silver, 2017, p. 465); the dangers posed to those inhabiting conflict zones and the many insecurities created in the name of security in the colonial present (Gregory, 2004; Puar, 2017); the compounding impacts of

racism and economic insecurity in African American neighborhoods indexed in initial US reports of inequalities produced by racialized dispossession in America (Dymski, 2009; Pulido, 2016; Roy, 2017); and the convergence of crises of health governance, economic austerity, and refugee rejectionism in the European context, crises that continue to co-generate geopolitical risk through biopolitical actions and necropolitical inactions that undermine geosocial efforts to reduce vulnerability (Aradau & Tazzioli, 2020; Davies et al., 2017; Mitchell & Sparke, 2018). To be sure, some other heightened vulnerabilities to COVID-19 — such as the higher case fatality rates faced by the elderly and men – are not tied to geographical conditions. But the most notable pre-existing medical conditions that increase COVID-19 fatality rates – diabetes, hypertension, and respiratory diseases ranging from asthma to TB – are themselves all closely associated with with living in countries and communities made vulnerable by economic inequality, racialized dispossession and what Paul Farmer describes more generally as the "pathologies of power" (Farmer, 2003). Following Farmer's work, and the many other scholars researching such structural pathogenesis, all sorts of other non-medical pre-existing conditions come into view as geographies of vulnerability at once exploited and exposed by COVID-19.

As previous pandemics such as Ebola and H1N1 have made clear, many countries and regions impacted by decades of neoliberalism are especially vulnerable thanks to structural adjustment conditionalities and public sector cutbacks compounding the socio-natural pathologies of uneven development and extractivism (Kentikelenis et al., 2015; Sparke & Anguelov, 2012; Wallace et al., 2016). Other contexts of neoliberalization have a long and lethal track record of reducing life expectancy while increasing chronic disease, disability and "deaths of despair" among those reduced to "biological sub-citizenship" (Bosire et al., 2018; Sparke, 2017a, 2017b; Whittle et al., 2017). The resulting syndemics of structural violence are typically conceptualized as unintended outcomes of pro-market reform, but amidst COVID-19, as pro-market policy-makers repeatedly resist public health advice in the name of economic freedom, critical social commentators and popular comics alike have suggested that market worship is turning into a kind of disaster capitalism death cult in which ideologists of liberty freely associate their calls for economic freedom with an acceptance of mortality. Meanwhile, the actual risks of infection and death due to the virus are laying bare the vulnerabilities produced by privatized, for-profit health "industries" and unequal health in neoliberal society more generally (Dorling, 2019). The inequalities include the notably geographical gaps between privileged professionals and contingent but "essential" workers in abilities to social distance, endure quarantines and employ digital solutions (Manderson & Levine, 2020; Strauss, 2018). Thus hyper-mobile "kinetic elites" use private jets, private yachts and private islands or luxury enclaves for social distancing, secure in the knowledge that they can still access concierge medicine and get tested first, all the while homeless people endure the cruel ironies of being told to go into "lockdown" and "shelter in place" when they have no doors to lock and either precarious shelter or no shelter at all. And while vulnerable children and women suffer domestic abuse due to being trapped in intimate spaces of violence with abusers, socially-isolated individuals experience further isolation and loneliness, stigmatized communities face further stigmatization, and marginalized communities such as refugees and migrants are further marginalized (see also Mcdowell et al., 2009).

3 | GEOGRAPHIES OF RESILIENCE

Other inequalities exposed by COVID-19 involve vast variations in risk management capacity or resilience. Adapted by both business and planners out of systems theories of the 1970's, resilience thinking has been studied by geographers as it has moved more recently into post-Washington Consensus development agendas, environmental governance, and urban planning in ways that tend to be associated with neoliberal managerialism, political quiescence, and an emphasis on adaptation instead of mitigating or preventing underlying problems (Leitner et al., 2018; MacKinnon & Derickson, 2013; Swyngedouw & Ernstson, 2018; Watts, 2015). It is notable in this regard that global variations in resilience amidst the coronavirus crisis indicate a wide range of *liberal* and neo-*illiberal* departures from the depoliticizing tendencies typical of resilience thinking, as well as devastating neoliberal legacy effects too. Illustrative of the legacy effects, many of the disease mappings noted in section 1 lack fine-grained regional data on the extent of the pandemic in poorer countries, an indicator in part of poor disease surveillance and testing capacity in health systems undermined by decades of debt, austerity and structural adjustment in the global south. By contrast, wealthier countries with robust public health systems have shown significant successes in keeping death rates due to COVID-19 down through the use of testing, contact tracing and social distancing. This kind of government-organized resilience has happened in both liberal democracies such as Germany and one-party states such as China, as well as in pandemic-prepared global cities such as Hong Kong (Füller, 2016). But as the US and UK examples make clear, some wealthier countries (and cities) have fallen far behind others in coordinated government resilience planning, and thus in making their moving averages of deaths per day move downwards. As a result, their hospitals have been more strained, their per capita fatality rates have spiked, and the overall public health challenge of

risk management has been reconstituted (albeit unevenly and incompletely) in trademark neoliberal fashion as a personal responsibility – wash your hands and wear a home-made mask!

The remaking of resilience as personal responsibility is by no means the end of its contextual variegation. Recent geographical research into neoliberal responsibilization suggests that it too can be studied situationally in order to come to terms with ties to diverse patriarchal and illiberal power relations as well as its re-coding as social responsibility (Deuchar & Dyson, 2019; Lim & Sziarto, 2020; Patchin, 2020). Some response abilities organized against COVID-19 by governments such as Kerala's in the global south indicate in turn that social responsibility can be socialist and socializing, even as administrators rigorously enforce emergency social distancing, testing and contact tracing. But elsewhere around the world there are other big divergences between so-called "laissez-faire" and illiberal approaches, reflecting differences in social trust and social contracts as much as the left-right divisions over the role of government indexed in the uneven geographies of lockdown orders in the UK and US. Beyond this kind of variegation, the US also illustrates how illiberalism in national governance can transform neoliberal resilience altogether. Even before the pandemic, President Trump's xenophobic ultranationalism, anti-immigrant border-building and denial of climate change science were replacing the resilience plans of the Obama years and Washington Consensus institutions with a deeply reactionary and authoritarian approach of government *by* (rather than *of*) crisis (Sparke & Bessner, 2019). It is the chaos created by this same neo-*illiberal* approach that has now contributed to such disastrous damage to public health resilience in America and, as a result, to a non-fake epidemiology of infection that has proved too fast and too deadly to dissemble as a "hoax". More traditional market-mediated Washington Consensus crisis management has still continued under the auspices of the World Bank and IMF, with both institutions enforcing the usual neoliberal conditionalities with their emergency loan packages. Meanwhile, the Bank's catastrophe bonds and pandemic bonds are rewarding investors for their bets on infectious disease and climate disasters while doing little to help poor countries develop real resilience – highlighting shortcomings in social impact investing already noted by geographers, but still often depicted as the future of humanitarianism (Anguelov et al., 2018; Mawdsley, 2018; Mitchell, 2017). Similarly consultancies such as Deloitte, KPMG, and BCG have provided extensive COVID-19 resilience plans for investors and corporations. There have also been efforts by the Gates Foundation to support vaccine development using partnerships that are typical of New Washington Consensus commitments to investing in health with public-private-philanthropic collaboration (Mitchell & Sparke, 2016). But the reactionary rebooting of resilience in Trump's "America First" terms has undermined any last remnants of traditional Washington Consensus globalism, the attacks on Bill Gates by anti-globalist, anti-government, anti-vaxxers being an especially egregious example of this assault. Thus even as the Federal Reserve and US Treasury have extended extraordinary monetary easing in efforts to restore global market confidence, Trump's tirades against the WHO, his trade war with China, and his eagerness to blame China and foreigners for the pandemic look set to undermine any new efforts to restore resilience planning in international relations.

4 | GEOGRAPHIES OF BLAME

The effort to blame China for COVID-19 and to call it the "China virus" or "Wuhan virus" is a classic example of what Farmer and other scholars of contagion discourse have critiqued as a "geography of blame" (Farmer, 2006; Wald, 2008). The same happened with the H1N1 epidemic which was widely labeled a "Mexican flu," with Mexican immigrants in the US being blamed as super-spreaders (Sparke & Anguelov, 2012). Typically these geographies of blame involve the unequal attribution of disease threats to foreign countries or exoticized locales and bodies that are thereby abstracted representationally from the global economic, ecological and social interdependencies that create the conditions for disease emergence in the first place. For the same reasons, attention to these interdependencies of contagion – mapping them across spatial scale from their globalized "aeromobility" through and to intimate "tactile topologies" (Bowen & Laroe, 2006; Budd et al., 2011; Dixon & Jones, 2015) – can better place local sites of emergence (such as a Wuhan wet-market) in their larger geographical contexts of rapid urbanization, ecological transformation and capitalist globalization. Critics of the cruelties and dangers of meat production globally have made such arguments with polemical power amid the pandemic, arguments that can themselves be contextualized in terms of wider animal geographies (Lopez & Gillespie, 2015). Nevertheless, the blame-shifting to particular places and bodies continues. Thus as Roy Porter famously illustrated with the historical case of syphilis, it remains important to trace the way geographies of blame repeatedly turn globalized human vulnerability into localized targets for geopolitical scapegoating and the reciprocal exchange of xenophobic misinformation (Porter, 1997). COVID-19 has already led to an outbreak of such scapegoating, with Trump's "China virus" discourse and US conspiracy theories (about the virus being developed in a Wuhan lab) reciprocated by Chinese accusations that the disease was introduced to China by the CIA (despite both conspiracies lacking scientific evidence). Other COVID-19 conspiracy theories have ranged from Islamophobic speculations about Ramadan accelerating infection in the UK, to Iranian accusations of American and Zionist

COVID-19 plots, to the scapegoating of Muslims in India, to Russian claims reported in a right-wing American magazine that the virus is a biological weapon invented by the Pentagon. Across this babel of blame one consistent thread around the world has been the relentless blaming of migrants by nationalists, using the old (and often sexistly feminized) trope of wanton foreigners spreading disease (Patchin, 2019). Trump's attempts to blame China clearly played into and out of his own xenophobia. But he and right-wing commentators in the US also found ways to blame others too, pivoting reactively from early denials of the seriousness of the threat (and even praise for China's draconian public health controls) to blaming the World Health Organization (WHO) for not being sufficiently suspicious of China.

5 | GEOGRAPHIES OF IMMUNIZATION

Trump's attacks on the WHO led to his announcement on April 14 2020 that his administration would halt US funding for the organization. Called "a crime against humanity" by the editor of *The Lancet*, this withdrawal of support in the middle of the pandemic was widely condemned by world leaders as an attack on humanity's best defense mechanism against COVID-19 as well as many other diseases. In the face of the pandemic's own globalization, the associated appeals to and for a global approach to protection imagined immunization geographically as ultimately having to be global and universal. However, many other more limited geographies of immunization continue to conspire to curtail such global goals with deadly exclusions – a curtailment already anticipated in arguments about how the conjoining of immunity and community in biopolitics has long been haunted by the "thanatopolitics," or death politics, assumed since Hobbes in ideas about sovereignty and security (Esposito, 2011). One example of these more limited geographical imaginations have been the appeals to "herd immunity," including those made by British leaders during the damaging delays that preceded the introduction of social distancing measures in the UK. So much death has to be accepted to build immunity within a particular "herd" community that the immediate public costs and outcries quickly outweigh the elusive long-term benefits. Relatedly, historians remind us that there are also diverse geographies of exclusion and sacrifice implicated in schemes to create new classes of immunoprivilege, and anthropologists underline how new territories of biosecurity can co-create communities of vulnerability (Chen & Sharp, 2014).

Another longer term vision of immunization that promises to be more globally inclusive than regional or national "herd s" nevertheless also looks set to be compromised by deadly exclusions too. This is the vision of developing a universal vaccine for SARS-CoV-2. There are scientific concerns with the promise of universality based on the ongoing mutation of the virus as it spreads globally. But the even more concerning compromises with the biomedical breakthrough visions involve the challenge of providing universal access to a vaccine in the context of global capitalist relations that have a deadly track record of biomedical exclusion through the enforcement of intellectual property (IP) claims in trade rules (Löfgren & Williams, 2013). Due to these monopoly IP claims and our global dependence on pharmaceutical companies that have a corporate interest in patenting and privatizing the benefits of vaccines, the development and distribution of any biomedical breakthroughs will therefore likely have an uneven and exclusionary global health geography. Drawn-up by the economic geography of ability to pay monopoly prices, this a problem of exclusion that geographical research suggests will persist even if the pharmaceutical companies involved develop tiered pricing maps based on corporate social responsibility schemes (Christophers, 2014). As Susan Craddock has shown in relation to TB drug development, compound solutions to these problems of poor access for the poor can still be created through product development partnerships (PDPs) of the New Washington Consensus kind (Craddock, 2017). But these targeted market interventions still tend to come with the same limitations associated with the neoliberal reterritorialization of targeted global health interventions (GHIs) more generally (Joseph et al., 2019; Reid-Henry, 2016; Sparke, 2020). And such limitations are already evident in the COVID-19 response in the patent-restricted supplies of personal protective equipment (PPE), ventilators and testing tools. Even as leaders of global public-private partnerships argue that such limitations need to be overcome, and even as national politicians argue for "compulsory licensing" as a legal tool for overruling monopoly patent claims, our global dependency on pharmaceutical firms, combined with the ways their corporate rights and rentier rights are entrenched in global and national economic rules, means that universal vaccination remains an all too imaginary geographical imagination of immunity for the human herd as a whole (Christophers, 2019).

6 | GEOGRAPHIES OF INTERDEPENDENCY

Dependencies on pharmaceutical corporations and global trade rules are just one example of the many other economic interdependencies that COVID-19 has exposed. More immediately consequential have been the huge shocks to global supply chains created by the pandemic, including critical drug supplies, and the massive global slowdown in all the economic

activities surrounding consumption. As a result of this devastating double-punch to global capitalism, the sorts of global production networks (GPN) conceptualized by economic geographers with attention to "value capture" have suddenly turned into networks of devaluation and deglobalization, another reminder of the need to theorise where value actually comes from in global value chains (Barnes & Christophers, 2018; Gidwani, 2015; Sparke, 2013). The negative effects of devaluation will no doubt be experienced unevenly across local, regional, and international scales, and, following critical geographical work on the uneven development processes of globalization itself, this looks likely to happen by concentrating damage and "anti-value" in communities and bodies made especially vulnerable by sexualization and racialization (Hackworth, 2019; MacFarlane, 2019; Wright, 2006). Already anticipating these devaluation processes, the contagion has fast spread across world financial markets with the prices of all sorts of "fictitious capital" suddenly being re-priced in the less fictional terms of the devalued value that is no longer in motion. It is in response to this that central banks are again injecting trillions of dollars, yen, euros and pounds to prop-up risky financial assets. Mapping the global financial geographies and geopolitics of these monetary policies – including the knock-on effects of/on dollar hegemony in emerging markets – will be key, just as it has been before (Aalbers, 2015; Green & Lavery, 2018; Mann, 2010). But, unlike in 2008 when the crisis began with the so-called "sub-prime" crash of mortgage-backed securities, the underlying processes of devaluation have begun this time in the primary circuits of production and consumption. For the same reason, monetary policy alone looks even more inadequate than before to the task of restarting economic growth, especially given the damage now being done to labor by the downturn.

Sidelined by the devaluation dynamics, and often ignored in the associated financial reporting, millions of workers have been laid off overnight, with contingent workers in flexible gig employment and zero-hours contracts being "let go" and zeroed out of employment altogether. This creates additional vulnerabilities and health burdens in contexts such as the US where there are few government supports for firms seeking to keep workers on payroll and where access to health insurance for most workers remains dependent on employment. But the wider loss of work and income in a world under lockdown is also creating vulnerability on a truly planetary and world-transforming scale as the possibility of a longer term global depression increases with every day of declining economic activity. A wide range of politicians highlight these costs as they make their case for re-opening economies, but each time they do, a ghoulish cost-benefit calculus of trade-offs is ventured in which the economic benefits of opening shops or factories or whole cities and states is either implicitly or explicitly weighed against the costs in new deaths. Such calculations can themselves be usefully contextualized with geographical work that has previously examined how disease burdens and deaths have been made calculable and even profitable in the past (Laurie, 2015; Tyner, 2019). In addition, though, it seems critical to come to terms with the ways in which these diverse cost-benefit calculations tend to obscure the work of actually caring for the vulnerable, including through attention to the vulnerabilities of all the care-workers globally who have themselves been so acutely exposed by COVID-19.

7 | GEOGRAPHIES OF CARE

Frontline health care workers (including porters and cleaners as well as nurses and doctors) have been hit especially hard in the pandemic. Deprived of reliable supplies of personal protective equipment, they have repeatedly put themselves at risk while helping others to mitigate risk, often with the knowledge that they will be seen – like MSF doctors fighting Ebola (Pallister-Wilkins, 2016) – as risky neighbors and family members back in their home communities. All this urgent care work has underlined anew both the vulnerability and indispensability of health care workers globally, and thus the salience of arguments about their central but often ignored role in the geography of health, including as what Emma Roe and colleagues call "microbial citizens" who take care of the micro-geographies of infection (Connell & Walton-Roberts, 2016; Enticott & Ward, 2020; Roe et al., 2019). As feminist geographers have underlined, such work is also often gendered as "women's work," and, as a sexist result, reproduces care geographies that are as globally devalued as they are personally and intimately taken-for-granted (Bartos, 2019; Lopez, 2019). Critical care geography research further highlights the need for intersectional analyses that can come to terms with the legacies of colonial history and the ongoing racialization and stigmatization of devalued care work, including in the context of infectious disease (Evans, 2011; Raghuram, 2019). This helps contextualize coronavirus care in a variety of ways, including by reminding us of how risk management in one place can be tied through uneven care geographies to risk exacerbation elsewhere. For example, Filipina nurses who comprise a common component of North American "care chains" are now also in greater demand in Europe to fight COVID-19, creating vulnerabilities in healthcare back in the Philippines.

Intersectional and decolonial approaches to care geographies also illuminate some of the more hopeful responses to coronavirus. Right around the world, the pandemic has presented scenes of social cooperation expressed and experienced through both personal and collective acts of care. Michele Lancione and Abdoumaliq Simone remind us that such solidarity

remains in tension with austerity and what they call "bioterity." But the hope and activism embodied in care continues nonetheless. *The Guardian* columnist George Monbiot has presented an especially impressive inventory of such care work, arguing that it represents an anti-neoliberal shift in power relations globally "from both market and state to another place altogether: the commons." Such a shift would also seem to portend possibilities of other changes too, including towards "solidarity economics" and away from the inadequate diagnoses and disease responses of liberal humanitarianism (Reid-Henry, 2014). It is certainly throwing into sharper relief the distinctions of Cuba's international approach, extending from its earlier Ebola response in 2014 to the aid work of its doctors fighting COVID-19, all underpinned by an alternative to Western brands of science-capitalism (Reid-Henry, 2010), a commitment to universal health, and a biotech industry that may yet contribute to a break-through anti-viral treatment for COVID-19 based on interferons. Such alternatives also draw attention to the challenges and possibilities for pandemic cooperation and care in contexts where local perceptions of and responses to Western care are shaped by colonial histories of medical violence and the still-ravaging racist wake of antiblackness (Hirsch, 2019; Raghuram, 2019). They also pose questions about local democratic participation in what Kezia Barker (2010) has called "bios-security," as well as the many borders and barriers facing efforts to scale such health citizenship up transnationally. More globally, we are seeing a growing chorus of calls for global cooperation based on care for our common vulnerability, a kind of care that might fashion a geography of global immunity through global community. But because of all the uneven development processes and inequalities listed in the preceding sections, the obstacles to achieving such global care remain formidable.

8 | CONCLUSION: RETHINKING EMERGENCY EDUCATIONALLY

"The current emergency is not so much about the emergence of infection, but of life that is deprived of qualities, lived as mere life, and lived at the biological threshold. Pathological lives are not the problem, but part of the solution. They are the threats to self-assurance that can force us to think again." (Hinchliffe et al., 2017, p. 221).

The need to turn the emergency of a pandemic into reasons to "think again" could not be more pressing today. Our aim in presenting ways of contextualizing coronavirus geographically has been to suggest research and writing which might be helpful in enabling such rethinking of the crisis, rethinking which the RGS-IBG blog *Geography Directions* will continue to support. To augment this work and the disciplinary archive of the special virtual issue, we have pointed along the way to diverse interdisciplinary interconnections as well as linking to reporting on COVID-19 that seems especially important for teaching. For geographers who want to teach in the pandemic about the pandemic, we hope that the actual online links we have provided can also be useful resources in online teaching; which is not to assume away the need to return to embodied in-person classrooms, nor to ignore ongoing struggles over the scope of distance education in the context of the crisis. Indeed, given that online teaching has been seen for some time as the cutting edge of academic corporatization and neoliberalization, it remains a knife edge of change that must be negotiated with care and sensitivity to the situated knowledge formations and deformations of cyborg learning (Sparke, 2017). It is already clear that the COVID-19 emergency will be used to impose more austerity on academia, and there is widespread concern that the pandemic push into distance education will be used to justify cuts and reconsolidation in universities and colleges around so-called "unbundled" online "delivery." But following older and freer "open university" models, distance learning can sometimes go in much more cooperative, coping and caring directions. Such educational cooperation and care in the time of coronavirus can also surely support thinking again, and in this way, lead somewhere else. In that same spirit, we want to conclude here with an especially evocative call to rethinking made from India by Arundhati Roy. "Historically," she reminds us, "pandemics have forced humans to break with the past and imagine their world anew. This one is no different. It is a portal, a gateway between one world and the next. We can choose to walk through it, dragging the carcasses of our prejudice and hatred, our avarice, our data banks and dead ideas, our dead rivers and smoky skies behind us. Or we can walk through lightly, with little luggage, ready to imagine another world. And ready to fight for it."

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ENDNOTE

[1] For any print readers the online link to the virtual issue is: https://onlinelibrary.wiley.com/doi/toc/10.1111/(ISSN)1475-4959.contextualizing-coronavirus-geographically

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