On COVID-19: Food and/as Mutualism

Wild animals are not especially infested with deadly pathogens, poised to infect us. In fact, most of these microbes live harmlessly in these animals' bodies. The problem is the way that cutting down forests and expanding towns, cities, and industrial activities creates pathways for animal microbes to adapt to the human body.

—SHAH 2020

MAY 4, 2020: LOS ANGELES, CALIFORNIA (WITH LOMBARDY IN MIND)

In my family, February and March have proven the cruelest months—the beginnings of multiple viral waves spilling over into April and May across the globe. I write this from a shelter-in-place order in Los Angeles while my husband, a senior medical practitioner and surgical ward director in the quarantined city of Milan, works in one of the deadliest COVID-19 outbreaks in Europe. By mid-March their hospital reached maximum capacity, and Lombardy imposed checkpoints, road blockades, and stringent lockdown requiring extraordinary permission for any outside movement. At present (early May), facilities continue to be utilized solely for COVID-19 patients. Of the thirty-two available respirators, all are in use. Fifteen percent of staff have tested positive in this facility and in the nearby 'safe' hospital utilized to conduct non-COVID emergency procedures.

I draw from grief's wellspring to argue two time-sensitive points about food and COVID-19 from a feminist perspective. As a cross-species viral leap—mediated in part through ingestion networks like animal agriculture, wet markets, folk medicine, and poaching—COVID-19 reveals the need for an ecosystem-centric approach to food and environmental systems. This strategy is firmly rooted in the concept of mutualism and increased concern regarding the power of microorganisms to profoundly alter the planet. By mutualism, I intend instances of cross-species benefit, symbiosis, companionship, and/or multispecies entanglements as articulated by Donna Haraway and Anna Tsing (Mitman 2019; Tsing et al. 2017).

First, this virus is genetically traceable across humans and nonhumans (Jiumeng Sun et al. 2020; Kirksey 2020). This includes food-linked proximities to bats, pangolins, and other species, as well as broader, older, human-nonhuman entanglements *and* abuses through ecosystem disruption, as the epigraph asserts. Microbiologists confirm the connective loop: "Human activity that directly affects microorganisms … positively feeds back on climate change, pollution, agricultural practice, and the spread of disease" (Cavicchioli et al. 2019: 581). Cross-species viral leaps are hardly novel (Deutsch 2020; Shah 2016, 2020). Even though COVID-19 is not food-borne through ingestion but rather through conditions of proximity, it shows we are already genetically entangled across species, whether through symbiosis or potential infections. Food in the age of COVID-19 is fraught: the risk of viral leaps; the terrifying amplification of systemic racism, xenophobia, and classism; and even grocery hoarding and extreme panic purchasing that leave many community members more vulnerable to pandemic (Vaughn 2020). Food is likewise mutual aid–inducing, in that we have always lived with and depended upon viruses and microbes throughout our bodies: from guts, to blood, to skin. Even as the globe physically distances, many will hope for resilience by achieving viral intimacy through antibodies and vaccine development.

As a food scholar whose work analyzes the social politics of cleanliness, I know well the racist and xenophobic rhetoric that assigns subjective understandings of "dirt" to whole communities and/or to specific outcast ingestibles (Sehran and McLaughlin 2020; Shah 2001; Molina 2006; Yates 2011; Tracy and Vaughn 2019; Vaughn 2018). COVID-19 has especially brought this to the fore through criticisms of Chinese foods, medicines, and live market cultures (Shah 2020; Barry 2020; Daly 2020; Fickling 2020). Outrage and disgust over so-called "backwards" or "dirty" foodways are particularly imbued with anti-Chinese sentiment. Yet, as historian Christopher Deutsch (2020) reminds us, viral species leaps are not "an inevitability of Chinese culture" but are

GASTRONOMICA: THE JOURNAL FOR FOOD STUDIES, VOL. 20, NUMBER 3, PP. 108–110, ISSN 1529-3262, ELECTRONIC ISSN 1533-8622. DOI: HTTPS://DOI.ORG/10.1525/GFC.2020.20.3.108.

outcomes of (de)regulation (or lack thereof), as well as of broader global practices of urbanization, habitat loss, unbridled waste streams, and epidemic conditions of density, as the epigraph lays bare (Shah 2020; Fickling 2020).

Such narrow and xenophobic interpretations of this coronavirus leap likewise fail to note the near daily ways in which the agricultural and biotechnological practices of the industrialized Global North regularly result in food-borne outbreaks: *E. coli*, *listeria*, *salmonella*, *hepatitis A*, and swine flu (Carr 2020; Boyd 2001; Fiore 2004; Tack et al. 2019). Though some claim that Chinese practices are *the* epicenter for multiple food-borne outbreaks, "studies have suggested diverse origins relating to global movements of pigs and poultry between Europe, Asia, and North America" (Fickling 2020; Minter 2020). The historical examination of agriculture, outbreak, and antibiotics use stresses what Hannah Landecker (2019) pinpoints as the result of "extreme social and physical dislocation of people and animals, creating moments of intensified bacterial flourishing and killing: the moments of strong selection for rare genetic events that also foster their expansion in time and geographical space" (see also Kirchhelle 2018, 2020). The problem is not traditional markets per se, but the induction of "ideal" environmental circumstances for viruses to do what they do: evolve, mutate, flourish.

Outbreak conjures mutualism's potential. We have always lived with bacteria (Gould 1996), and the bacteria and microbes in foods like cheese are necessary, beneficial, misunderstood, and even reviled (Paxson 2014; Paxson and Helmreich 2019). As Roberta Raffaetá argues in her scholarship on food microbes in milk and cheese, and in her more recent reflections on COVID-19's effects in northern Italy, we are already living with multiple examples of "microbial antagonisms"—those that bring us harmonious engagement with the microorganisms all around us, within us, and in our foods, and those that do not. COVID-19 reveals we must learn "to maintain this co-habitation as peaceful" (Raffaetá 2019, 2020a). For as long as we "safeguard human health from disease and death [while] uncritically relating to other non-humans or exploiting them, pathological reactions may occur with increasing frequency" (Raffaetá 2020a/b). The study of food microbes, the role of good bacteria and viruses in the microbiome, even of the so-called "inedible"—all reveal "microbial antagonisms" that are not always already negative, toxic, deadly, but they are frequently underestimated (Raffaetá 2020a/b]; Paxson 2008, 2019; Paxson and Helmreich 2014; Vaughn 2019).

To someone with a partner working on the emergency medical frontlines of the pandemic in Milan, these insights are cold comfort. And yet, a paradigm shift concerning our long-term entanglements with the nonhuman world in antiracist ways, and the immediate need for social solidarity through physical distancing to flatten outbreak and fatality spikes, are not mutually exclusive options. Both invite mutualism, outlining paths forward through different timing and cadences.

I cannot yet fully articulate our shared familial grief—the ways in which family members may not touch their loved ones, mourn, and prepare their dead in all the diverse forms one's culture and grief requires. I cannot fully grasp how the body contorts under acute respiratory distress, what happens when ventilators are unavailable, or when lungs fill with fluid from incurable viral pneumonia. Balanced microbial communities can more effectively regulate pathogenic viral leaps, but this takes concerted investment in biodiversity, in environmental policy protecting humans *and* nonhumans, and in public literacy about microbial potency. As journalist Sonia Shah argues, we need to "disrupt our politics as readily as we disrupt nature and wildlife."

Acknowledgements

Thank you to the editors for their guidance and for making this issue possible. With gratitude to colleagues in the Coronavirus Multispecies Reading Group at Princeton and beyond. You are all an intellectual lifeline. To Michelle, for editorial feedback and cookie recipes in the wake of heartache. For my dad, who left. For Ale, who helps collapsed lungs to breath again.

REFERENCES

Barry, Michelle. 2020. "Doctor: As Coronavirus Cases Spike Worldwide, We Need Global Cooperation to Halt Spread." Interview on *Democracy Now*, March 20. www.democracynow.org/2020/3/20/coronavirus_dr_michele_barry.

Boyd, William. 2001. "Making Meat: Science, Technology, and American Poultry Production." *Technol Cult* 42(4): 631–631. https://doi.org/10.1353/tech.2001.0150.

Carr, Teresa. 2020. "In Food Safety Regulations, a Surprising Paucity of Research." *Salon.com*, February 8. Originally published on *Undark*, February 5, 2020. www.salon.com/2020/02/08/in-food-safety-regulations-a-surprising-paucity-of-research_partner/.

Cavicchioli, Ricardo, William J. Ripple, Kenneth N. Timmis, et al. 2019. "Scientists' Warning to Humanity: Microorganisms and Climate Change." *Nature Reviews Microbiology* 17: 569–86. https://doi.org/10.1038/s41579-019-0222-5.

Daly, Natasha. 2020. "Chinese Citizens Push to Abolish Wildlife Trade as Coronavirus Persists." *National Geographic*, January 30. www.nationalgeographic.com/animals/2020/01/china-bans-wildlife-trade-after-coronavirus-outbreak.

Deutsch, Christopher. 2020. "Bats and Snakes and Dogs and Things Like That." *Contingent Magazine*, March 19. https://contingentmagazine.org/2020/03/19/bats-and-snakes-and-dogs-and-things-like-that/.

Fickling, David. 2020. "Chinese Food Will Determine the Spread of Pandemics." *Washington Post*, January 28. www.washingtonpost.com/business/energy/chinese-food-will-determine-the-spread-of-pandemics/2020/01/22/a2b901fc-3d95-11ea-afe2-090eb37b60b1_story.html.

Fiore, Anthony E. 2004. "Hepatitis A Transmitted by Food." *Clinical Infectious Diseases* 38: 705–15.
Jiumeng Sun, Wan-Ting He, Lifang Wang, Alexander Lai, Xiang Ji, Xiaofeng Zhai, Gairu Li, Marc A. Suchard, Jin Tian, Jiyong Zhou, Michael Veit, and Shuo Su. 2020. "COVID-19: Epidemiology, Evolution, and Cross-Disciplinary Perspectives." *Trends in Molecular Medicine* 26(5). https://doi.org/10.1016/j.molmed.2020.02.008.
Kirchhelle, Claas. 2018. "Pharming Animals: A Global History of=Antibiotics in Food Production (1935–2017)." *Palgrave Communications* 4, no. 96. https://doi.org/10.1057/s41599-018-0152-2.
———. 2020. *Pyrrhic Progress: The History of Antibiotics in Anglo-American Food Production*. New Brunswick, NJ: Rutgers University Press.
Kirksey, Eben. "The Emergence of COVID-19: A Multispecies Story." *Anthropology Now*, 12:1, 11–16. www.doi.org/10.1080/19428200.2020.1760631.
Landecker, Hannah. 2019. "Antimicrobials before Antibiotics: War, Peace, and Disinfectants." *Palgrave Communications* 5, no. 45. https://doi.org/10.1057/s41599-019-0251-8.
Minter, Adam. 2020. "How to Stop the Next Global Outbreak at Its Source: China's Demand for Wildlife Needs to Be Treated as a Public Health Threat." *Bloomberg*, February 13. www.bloomberg.com/opinion/articles/2020-02-13/coronavirus-source-china-s-wildlife-demand-is-public-health-risk.
Mitman, Gregg. 2019. "Reflections on the Plantacionocene: A Conversation with Donna Haraway and Anna Tsing." *Edge Effects*, June 18. https://edgeeffects.net/haraway-tsing-plantationocene/.
Molina, Natalia. 2006. *Fit to Be Citizens? Public Health and Race in Los Angeles, 1879–1939*. Berkeley: University of California Press.
Paxson, Heather. 2008. "Post-Pasteurian Cultures: The Microbiopolitics of Raw-Milk Cheese in the United States." *Cultural Anthropology* 23(1): 15–15.
———. 2019. "'Don't Pack a Pest': Parts, Wholes, and the Porosity of Food Borders." *Food, Culture & Society* 22: 1–17. https://doi.org/10.1080/15528014.2019.1638136.
——— and Stefan Helmreich. 2014. "The Perils and Promises of Microbial Abundance: Novel Natures and Model Ecosystems, from Artisanal Cheese to Alien Seas." *Social Studies of Science* 44(2): 165–165. https://doi.org/10.1177/0306312713505003.
Raffaetà, Roberta. 2019. "Microbial Antagonism in Trentino Alps (Italy): Negotiating Spacetimes through the Fermentation of Mountain Raw Milk." Wenner Gren Workshop: Cultures of Fermentation, October 11–17, Sintra, Portugal.
———. 2020a. "From Italy: Anthropological Reflections on Coronavirus COVID 19." *Sonar Global*, March. www.sonar-global.eu/keyreadings/from-italy-anthropological-reflections-on-coronavirus-covid-19/.
———. 2020b. "Una Prospettiva Antropologica Sui Virus." *AspeniaOnline: International Analysis and Commentary*, March 23. https://aspeniaonline.it/una-prospettiva-antropologica-sui-virus/.
Serhan, Yasmeen, and Timothy McLaughlin. 2020. "The Other Problematic Outbreak: As the Coronavirus Spreads across the Globe, so Too Does Racism." *The Atlantic*, March 13. www.theatlantic.com/international/archive/2020/03/coronavirus-covid19-xenophobia-racism/607816/.
Shah, Nayan. 2001. *Contagious Divides: Epidemics and Race in San Francisco's Chinatown*. Berkeley: University of California Press.
Shah, Sonia. 2016. *PANDEMIC: Tracking Contagion from Cholera to Ebola and Beyond*. New York: Farrar, Straus & Giroux.
———. 2020. "Think Exotic Animals Are to Blame for the Coronavirus? Think Again." *The Nation*, February 18. www.thenation.com/article/environment/coronavirus-habitat-loss/.
Tack, Danielle M., Ellyn P. Marder, Patricia M. Griffin, et al. 2019. "Preliminary Incidence and Trends of Infections with Pathogens Transmitted Commonly Through Food—Foodborne Diseases Active Surveillance Network, 10 U.S. Sites, 2015–2018." *Morbidity and Mortality Weekly Report* 68(16): 369–369. doi.org/10.15585/mmwr.mm6816a2.
Tracy, Sarah, and Rachel Vaughn, Rachel. 2019. "Guest Editors' Introduction: On the Creative Destruction of Food as Science." *Food, Culture & Society* (July): 1–16. https://doi.org/10.1080/15528014.2019.1638104.
Tsing, Anna, Heather Swanson, Elaine Gan, and Nils Bubandt, eds. 2017. *Arts of Living on a Damaged Planet*. Minneapolis: University of Minnesota Press.
Vaughn, Rachel. 2018. "The Politics of Clean: Representing Food Salvage and Dumpster Diners." *American Studies* 57(1/2): 29–56. https://doi.org/10.1353/ams.2018.0024.
———. 2019. "Food, Blood, Nutrients: On Eating Placenta & Discard Commodification." *Food, Culture & Society: An International Journal of Multidisciplinary Research*. https://doi.org/10.1080/15528014.2019.1638127.
———. 2020. "On COVID-19: Practice Mutual Care, Don't Panic Hoard Food or Buy Guns." *La Giusta Distanza*, March. Public ethnography blog curated by Department of Anthropology, Universitá di Milano-Bicocca.
Yates, Michelle. 2011. "The Human-as-Waste, the Labor Theory of Value and Disposability in Contemporary Capitalism." *Antipode* 43(5): 1679–1679.