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Pandemics

Social contagion - Microbiological class war in China

- Features -

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Wuhan is known colloquially as one of the "four furnaces" (火坑) of China for its oppressively hot humid summer, shared with Chongqing, Nanjing and alternately Nanchang or Changsha, all bustling cities with long histories along or near the Yangtze river valley. Of the four, Wuhan, however, is also sprinkled with literal furnaces: the massive urban complex acts as a sort of nucleus for the steel, concrete and other construction-related industries of China, its landscape dotted with the slowly-cooling blast furnaces of the remnant state-owned iron and steel foundries, now plagued by [overproduction](#) and forced into a contentious [new round of downsizing](#), privatization and general restructuring itself resulting in several large strikes and protests in the last five years. The city is essentially the construction capital of China, which means it has played a particularly important role in the period after the global economic crisis, since these were the years in which Chinese growth was buoyed by the funneling of investment funds into infrastructure and real estate projects. Wuhan not only fed this bubble with its oversupply of building materials and civil engineers but also, in so doing, became a real estate boomtown of its own. According to our own calculations, in 2018-2019 the total area dedicated to construction sites in Wuhan was equivalent to the size of Hong Kong island as a whole.

But now this furnace driving the post-crisis Chinese economy seems, much like those found in its iron and steel foundries, to be cooling. Though this process was already well underway, the metaphor is now no longer simply economic, either, as the once-bustling city has been sealed off for over a month, its streets emptied by government mandate: "The greatest contribution you can make is: don't gather together, don't cause chaos," read a [headline](#) in the Guangming Daily, run by the Chinese Communist Party's propaganda department. Today the Wuhan's broad new avenues and the glittering steel and glass buildings that crown them are all cold and hollow, as winter dwindles through the Lunar New Year and the city stagnates under the constriction of the wide-ranging quarantine. Isolating oneself is sound advice for anyone in China, where the outbreak of the novel coronavirus (recently renamed "SARS-CoV-2" and its disease "COVID-19") has killed more than two thousand people more than its predecessor, the SARS epidemic of 2003. The entire country is on lockdown, as it was during SARS. Schools are closed, and people are cooped up in their homes nationwide. Nearly all economic activity stopped for the Lunar New Year holiday on January 25th, but the pause was extended for a month to curb the spread of the epidemic. The furnaces of China seem to have stopped burning, or at least to have been reduced to gently glowing coals. In a way, though, the city has become another type of furnace, as the coronavirus burns through its massive population like a fever writ large.

The outbreak has been incorrectly blamed on everything from the [conspiratorial and/or accidental release of a virus strain](#) from the Wuhan Institute of Virology a dubious claim spread by social media, particularly via paranoid Hong Kong and Taiwan Facebook posts, but now buoyed by [conservative press outlets and military interests in the West](#) to the propensity of Chinese people to consume "dirty" or "strange" types of food, since the virus outbreak [is linked](#) to either bats or snakes sold in a semi-illegal 'wet market' specializing in wildlife and other rare animals (though this [was not the ultimate source](#)). Both major themes exhibit the obvious warmongering and orientalism common to reporting on China, and a number of [articles have pointed out this basic fact](#). But even these responses tend to focus only on questions of how the virus is perceived in the cultural sphere, spending far less time digging into the much more brutal dynamics that lie obscured beneath the media frenzy.

A slightly more complex variant at least understands the economic consequences, even while it exaggerates the potential political repercussions for rhetorical effect. Here we find the usual suspects, ranging from standard warhawk dragon-slaying politicians to the spilled-latte pearl clutching of haute-liberalism: press agencies from the [National Review](#) to the [New York Times](#) have already implied that the outbreak may bring a "crisis of legitimacy" to the CCP, despite the fact that there is barely a whiff of an uprising in the air. But the kernel of truth to these predictions lies in their grasp of the economic dimensions of the quarantine something that could hardly be lost on journalists with stock

portfolios thicker than their skulls. Because the fact is that, despite the government's call to isolate oneself, people may soon be forced to "gather together" to tend to the needs of production. According to the latest initial estimates, the epidemic will already cause China's GDP slow to 5 percent in this year, below its already flagging growth rate of 6 percent last year, the lowest in three decades. Some analysts have said Q1 growth could sink 4 percent or lower, and that this may risk triggering a global recession of some sort. A previously unthinkable question has been posed: what actually happens to the global economy when the Chinese furnace begins to grow cold?

Within China itself, the ultimate trajectory of this event is difficult to predict, but the moment has already brought about a rare, collective process of questioning and learning about society. The epidemic has directly infected nearly 80,000 people (at the most conservative estimate), but it has delivered a shock to everyday life under capitalism for 1.4 billion, trapped in a moment of precarious self-reflection. This moment, while full of fear, has caused everyone to simultaneously ask some deep questions: What will happen to me? My children, family and friends? Will we have enough food? Will I get paid? Will I make rent? Who is responsible for all this? In a strange way, the subjective experience is somewhat like that of a mass strike but one which, in its non-spontaneous, top-down character and, especially in its involuntary hyper-atomization, illustrates the basic conundrums of our own strangled political present as clearly as the true mass strikes of the previous century elucidated the contradictions of their era. The quarantine, then, is like a strike hollowed of its communal features but nonetheless capable of delivering a deep shock to both psyche and economy. This fact alone makes it worthy of reflection.

Of course, speculation on the imminent downfall of the CCP is predictable nonsense, one of the favorite pastimes of *The New Yorker* and *The Economist*. Meanwhile, the normal media suppression protocols are underway, in which overtly racist mass-media op-eds published in legacy outlets are countered by a swarm of web-platform thinkpieces polemicizing against orientalism and other facets of ideology. But almost the entirety of this discussion remains at the level of *portrayal* or, at best, the politics of containment and the economic consequences of the epidemic without delving into the questions of how such diseases get *produced* in the first place, much less distributed. Even this, however, is not quite enough. Now is not the time for a simple "Scooby-Doo Marxist" exercise of pulling the mask off the villain to reveal that, yes, indeed, it was capitalism that caused coronavirus all along! That would be no more subtle than foreign commentators sniffing about for regime change. Of course capitalism is culpable but how, exactly, does the social-economic sphere interface with the biological, and what kind of deeper lessons might be drawn from the entire experience?

In this sense, the outbreak presents two opportunities for reflection: First, it is an instructive opening in which we might review substantial questions about how capitalist production relates to the non-human world at a more fundamental level how, in short, the "natural world," including its microbiological substrata, cannot be understood without reference to how society organizes production (because the two are not, in fact, separate). At the same time, this is a reminder that the only communism worth the name is one that includes the potential of a fully politicized naturalism. Second, we can also use this moment of isolation for our own sort of reflection on the present state of Chinese society. Some things only become clear when everything grinds to an unexpected halt, and a slowdown of this sort cannot help but make previously obscured tensions visible. Below, then, we'll explore both these questions, showing not only how capitalist accumulation produces such plagues, but also how the moment of pandemic is itself a contradictory instance of political crisis, making visible to people the unseen potentials and dependencies of the world around them, while also offering yet another excuse for the extension of systems of control even further into everyday life.

Beneath the four furnaces, then, lies a more fundamental furnace undergirding the industrial hubs of the world: the evolutionary pressure cooker of capitalist agriculture and urbanization. This provides the ideal medium through which ever-more-devastating plagues are born, transformed, induced to zoonotic leaps, and then aggressively vectored through the human population.

The Production of Plagues

The virus behind the present epidemic (SARS-CoV-2), was, like its 2003 predecessor SARS-CoV, as well as the avian flu and swine flu before it, gestated at the nexus of economics and epidemiology. It's not coincidental that so many of these viruses have taken on the names of animals: The spread of new diseases to the human population is almost always the product of what's called zoonotic transfer, which is a technical way of saying that such infections jump from animals to humans. This leap from one species to another is conditioned by things like proximity and the regularity of contact, all of which construct the environment in which the disease is forced to evolve. When this interface between humans and animals changes, it also changes the conditions within which such diseases evolve. Beneath the four furnaces, then, lies a more fundamental furnace undergirding the industrial hubs of the world: the evolutionary pressure cooker of capitalist agriculture and urbanization. This provides the ideal medium through which ever-more-devastating plagues are born, transformed, induced to zoonotic leaps, and then aggressively vectored through the human population. To this is added similarly intensive processes occurring at the economy's fringes, where "wild" strains are encountered by people pushed to ever-more extensive agro-economic incursions into local ecosystems. The most recent coronavirus, in its "wild" origins and its sudden spread through a heavily industrialized and urbanized core of the global economy, represents both dimensions of our new era of political-economic plagues.

The basic idea here is developed most thoroughly by left-wing biologists like Robert G. Wallace, whose [2016 book *Big Farms Make Big Flu*](#) makes an exhaustive case for the connection between capitalist agribusiness and the etiology of recent epidemics ranging from SARS to Ebola. [1] These epidemics can be loosely grouped into two categories, the first originating at the core of agro-economic production, and the second in its hinterland. In tracing out the spread of H5N1, also known as the avian flu, he summarizes several key factors of geography for those epidemics that originate in the productive core:

Rural landscapes of many of the poorest countries are now characterized by unregulated agribusiness pressed against periurban slums. Unchecked transmission in vulnerable areas increases the genetic variation with which H5N1 can evolve human-specific characteristics. In spreading over three continents, fast-evolving H5N1 also contacts an increasing variety of socioecological environments, including locale-specific combinations of prevalent host types, modes of poultry farming, and animal health measures. [2]

This spread is, of course, driven by global commodity circuits and the regular labor migrations that define capitalist economic geography. The result is "a type of escalating demic selection" via which the virus is posed with a greater number of evolutionary pathways in a shorter time, enabling the most fit variants to outcompete the others.

But this is an easy point to make, and one already common in the mainstream press: the fact that "globalization" enables the spread of such diseases more quickly albeit here with an important addition, noting how this very process of circulation also stimulates the virus to mutate more rapidly. The real question, though, comes earlier: prior to circulation enhancing the resilience of such diseases, the basic logic of capital helps to take previously isolated or harmless viral strains and place them in hyper-competitive environments that favor the specific traits which cause epidemics, such as rapid viral lifecycles, the capacity for zoonotic jumping between carrier species, and the capacity to quickly evolve new transmission vectors. These strains tend to stand out precisely because of their virulence. In absolute terms, it seems like developing more virulent strains would have the opposite effect, since killing the host sooner provides less time for the virus to spread. The common cold is a good example of this principle, generally maintaining low levels of intensity that facilitate its widespread distribution through the population. But in certain environments, the opposite logic makes much more sense: when a virus has numerous hosts of the same species in close proximity, and especially when these hosts may already have shortened lifecycles, increased virulence becomes an evolutionary advantage.

Again, the avian flu example is a salient one. Wallace points out that studies have shown "no endemic highly

pathogenic strains [of influenza] in wild bird populations, the ultimate source reservoir of nearly all influenza subtypes." [3] Instead, domesticated populations packed together on industrial farms seems to display a clear relationship with such outbreaks, for obvious reasons:

Growing genetic monocultures of domestic animals removes whatever immune firebreaks may be available to slow down transmission. Larger population sizes and densities facilitate greater rates of transmission. Such crowded conditions depress immune response. High throughput, a part of any industrial production, provides a continually renewed supply of susceptibles, the fuel for the evolution of virulence. [4]

And, of course, each of these characteristics is an outgrowth of the logic of industrial competition. In particular, the rapid rate of "throughput" in such contexts has a starkly biological dimension: "As soon as industrial animals reach the right bulk they are killed. Resident influenza infections must reach their transmission threshold quickly in any given animal [...] The quicker viruses are produced, the greater the damage to the animal." [5] Ironically, the attempt to suppress such outbreaks through mass culling as in the recent cases of African swine fever which [resulted in the loss of almost a quarter of the world's pork supply](#) can have the unintended effect of increasing this selection pressure even more, thereby inducing the evolution of hyper-virulent strains. Though such outbreaks have historically occurred in domesticated species, often following periods of warfare or environmental catastrophe that place enhanced pressure on livestock populations, increases in the intensity and virulence of such diseases have undeniably followed the spread of capitalist production.

History and Etiology

Plagues are very much the shadow of capitalist industrialization, while also acting as its harbinger. The obvious cases of smallpox and other pandemics introduced to North America are too simple of an example, since their intensity was enhanced by the long-term separation of populations through physical geography and such diseases had, regardless, already gained their virulence via pre-capitalist mercantile networks and early urbanization in Asia and Europe. If we instead look to England, where capitalism arose first in the countryside via the mass clearing of peasants from the land to be replaced by monocultures of livestock, we see [the earliest examples of these distinctively capitalist plagues](#). Three different pandemics occurred in 18th century England, spanning 1709-1720, 1742-1760, and 1768-1786. The origin of each was imported cattle from Europe, infected by the normal pre-capitalist pandemics that followed bouts of warfare. But in England, cattle had begun to be concentrated in new ways, and the introduction of the infected stock would therefore rip through the population much more aggressively than it had in Europe. It's not coincidental, then, that the outbreaks were centered on the large London dairies, which provided ideal environments for the intensification of the virus.

Ultimately, the outbreaks were each contained through selective, smaller-scale early culling combined with the application of modern medical and scientific practices in essence similar to how such epidemics are quelled today. This is the first instance of what would become a clear pattern, mimicking that of economic crisis itself: ever more intense collapses that seem to place the entire system on a precipice, but which are ultimately overcome via a combination of mass sacrifice that clears the market/population and an intensification of technological advances in this case modern medical practices plus new vaccines, often arriving too little too late, but nonetheless helping to mop things up in the wake of devastation.

But this example from capitalism's homeland must also be paired with an explanation of the effects that capitalist agricultural practices had on its periphery. While the cattle pandemics of early capitalist England were contained, the results elsewhere were far more devastating. The example with the largest historical impact is probably that of [the rinderpest outbreak in Africa](#) that took place in the 1890s. The date itself is no coincidence: rinderpest had plagued Europe with an intensity that closely followed the growth of large-scale agriculture, only held in check by the advance

of modern science. But the late 19th century saw the height of European imperialism, epitomized by the colonization of Africa. Rinderpest was brought from Europe into East Africa with the Italians, who were seeking to catch up with other imperial powers by colonizing the Horn of Africa through a series of military campaigns. These campaigns mostly ended in failure, but the disease then spread through the indigenous cattle population and ultimately found its way into South Africa, where it devastated the early capitalist agricultural economy of the colony, even killing the herd on the estate of the infamous self-professed white supremacist Cecil Rhodes. The larger historical effect was undeniable: killing as many as 80-90% of all cattle, the plague resulted in an unprecedented famine across the predominantly pastoralist societies of Sub-Saharan Africa. This depopulation was then followed by the invasive colonization of the savannah by thornbush, which created a habitat for the tsetse fly which both carries sleeping sickness and prevents the grazing of livestock. This ensured that the repopulation of the region after the famine would be limited, and enabled the further spread of European colonial powers across the continent.

Aside from periodically inducing agricultural crises and producing the apocalyptic conditions that helped capitalism surge beyond its early borders, such plagues have also haunted the proletariat in the industrial core itself. Before returning to the many more recent examples, it's worth noting again that there is simply nothing uniquely Chinese about the coronavirus outbreak. The explanations for why so many epidemics seem to arise in China is not cultural, it's a matter of economic geography. This is abundantly clear if we compare China to the US or Europe when the latter were hubs of global production and mass industrial employment. [6] And the result is essentially identical, with all the same features. Livestock die-offs in the countryside were met in the city by poor sanitary practices and widespread contamination. This became the focus of early liberal-progressive efforts at reform in working class areas, epitomized by the reception of Upton Sinclair's novel *The Jungle*, originally written to document the suffering of immigrant workers in the meat-packing industry, but taken up by wealthier liberals concerned about health violations and the generally unsanitary conditions in which their own food was prepared.

This liberal outrage at "uncleanliness," with all its implied racism, still defines what we might think of as the automatic ideology of most people when confronted with the political dimensions of something like the coronavirus or SARS epidemics. But workers have little control over the conditions in which they work. More importantly, while unsanitary conditions do leak out of the factory through contamination of food supplies, this contamination is really just the tip of the iceberg. Such conditions are the ambient norm for those working in them or living in nearby proletarian settlements, and these conditions induce population-level declines in health that provide even better conditions for the spread of capitalism's many plagues. Take, for example, the case of the Spanish Flu, one of the deadliest epidemics in history. This was one of the earliest outbreaks of H1N1 influenza (related to more recent outbreaks of swine and avian flu), and it was long assumed to have somehow been qualitatively different from other variants of influenza, given its high death toll. While this appears to be true in part (due to the flu's ability to induce an overreaction of the immune system), later reviews of the literature and historical epidemiology research found that it may not have been that much more virulent than other strains. Instead, its high death rate was probably caused primarily by widespread malnourishment, urban overcrowding, and generally unsanitary living conditions in the affected areas, which encouraged not only the spread of the flu itself but also the cultivation of bacterial superinfections on top of the underlying viral one. [7]

In other words, the death toll of Spanish Flu, though portrayed as an unpredictable aberration in the character of the virus, was given an equivalent boost by social conditions. Meanwhile, the rapid spread of the flu was enabled by global trade and global warfare, at that time centered around the rapidly shifting imperialisms that survived the first world war. And we find yet again a now-familiar story of how such a deadly strain of influenza was produced in the first place: though the exact origin is still somewhat murky, it's now widely assumed to have originated in domesticated swine or poultry, likely in Kansas. The time and location are notable, since the years following the war were a sort of inflection point for American agriculture, which saw the widespread application of increasingly mechanized, factory-style methods of production. These trends only grew more intense through the 1920s, and the mass application of technologies like the combine harvester induced both gradual monopolization and ecological disaster, the combination of which resulted in the Dust Bowl crisis and the mass migration that followed. The intensive concentration of livestock that would mark later factory farms had not yet arisen, but the more basic forms

of concentration and intensive throughput that had already created livestock epidemics across Europe were now the norm. If the English cattle epidemics of the 18th century were the first case of a distinctly capitalist livestock plague, and the rinderpest outbreak of 1890s Africa the largest of imperialism's epidemiological holocausts, the Spanish flu can then be understood as the first of capitalism's plagues on the proletariat.

Gilded Age

The parallels with the current Chinese case are salient. COVID-19 can't be understood without taking into account the ways in which China's last few decades of development in and through the global capitalist system has molded the country's health care system and the state of public health more generally. The epidemic, however novel, is therefore similar to other public health crises that came before it, which tend to be produced with nearly the same regularity as economic crises, and to be regarded in similar ways within the popular press as if they were random, "black swan" events, utterly unpredictable and unprecedented. The reality, however, is that these health crises follow their own chaotic, cyclical patterns of recurrence, made more probable by a series of structural contradictions built into the nature of production and proletarian life under capitalism. Much like the case of the Spanish Flu, the coronavirus was originally able to take hold and spread rapidly because of a general degradation of basic healthcare among the population at large. But precisely because this degradation has taken place in the midst of spectacular economic growth, it has been obscured behind the splendor of glittering cities and massive factories. The reality, however, is that expenditures on public goods like health care and education in China remain extremely low, while most public spending has been directed toward brick and mortar infrastructure bridges, roads, and cheap electricity for production.

Meanwhile, the quality of domestic-market products is often dangerously poor. For decades, Chinese industry has produced high quality, high value exports, made to the highest global standards for the world market, like iPhones and computer chips. But those goods left for consumption on the domestic market have abysmal standards, causing regular scandals and deep public distrust. The many cases have an undeniable echo of Sinclair's *The Jungle* and other tales of Gilded Age America. The largest case in recent memory, the melamine milk scandal of 2008, left a dozen infants dead and tens of thousands hospitalized (though perhaps hundreds of thousands were affected). Since then, a number of scandals have rocked the public with regularity: in 2011 when 'gutter oil' recycled from grease traps was found being used in restaurants across the country, or in 2018 when faulty vaccines killed several children, and then one year later when dozens were hospitalized when given [fake HPV vaccines](#). More mild stories are even more rampant, composing a familiar backdrop for anyone living in China: powdered instant soup mix cut with soap to keep costs down, entrepreneurs who sell pigs that died of mysterious causes to neighboring villages, detailed gossip about which street-side shops are most likely to get you sick.

Before the country's piece-by-piece incorporation into the global capitalist system, services like healthcare in China were once provided (largely in the cities) under the *danwei* system of enterprise-based benefits or (mostly but not exclusively in the countryside) by local healthcare clinics staffed by plentiful "[barefoot doctors](#)," all provided as a free service. [The successes of socialist-era healthcare](#), like its successes in the field of basic education and literacy, were substantial enough that even the country's harshest critics [had to acknowledge them](#). [Snail fever](#), plaguing the country for centuries, was essentially wiped out in much of its historical core, only to return in force once the socialist healthcare system began to be dismantled. Infant mortality plummeted and, even despite the famine that accompanied the Great Leap Forward, life expectancy jumped from 45 to 68 years between 1950 and the early 1980s. Immunization and general sanitary practices became widespread, and basic information on nutrition and public health, as well as access to rudimentary medicines, were free and available to all. Meanwhile, the barefoot doctor system helped to distribute fundamental, albeit limited, medical knowledge to a large portion of the population, helping to build a robust, bottom-up healthcare system in conditions of severe material poverty. It's worth remembering that all of this took place at a time when China was poorer, per capita, than your average Sub-Saharan African country today.

Since then, a combination of neglect and privatization has substantially degraded this system at the exact same time that rapid urbanization and unregulated industrial production of household goods and foodstuffs has made the need for widespread healthcare, not to mention food, drug and safety regulations, all the more necessary. Today, China's public spending on health is US\$323 per capita, according to [figures](#) from the World Health Organization. This figure is low even among other "upper-middle income" countries, and it's around half that spent by Brazil, Belarus and Bulgaria. Regulation is minimal to non-existent, resulting in numerous scandals of the type mentioned above. Meanwhile, the effects of all this are felt most strongly by the hundreds of millions of migrant workers, for whom any right to basic health care provisions completely evaporates when they leave their rural hometowns (where, under the *hukou* system, they are permanent residents regardless of their actual location, meaning that the remaining public resources can't be accessed elsewhere).

Ostensibly, public healthcare was supposed to have been [replaced](#) in the late 1990s by a more privatized system (albeit one managed through the state) in which a combination of employer and employee contributions would provide for medical care, pensions and housing insurance. But this social insurance scheme has suffered from systematic underpayment, to the extent that supposedly "required" contributions on the part of employers are often simply ignored, leaving the overwhelming majority of workers to pay out of pocket. According to the latest available national estimate, only 22 percent of migrant workers had basic medical insurance. Lack of contributions to the social insurance system is not, however, simply a spiteful act by individually corrupt bosses, but is instead accounted for largely by the fact that slim profit margins leave no room for social benefits. [In our own calculation](#), we found that coughing up unpaid social insurance in an industrial hub like Dongguan would cut industrial profits in half and push many firms to bankruptcy. To make up for the massive gaps, China has instituted a bare-bones supplementary medical scheme to cover retirees and the self-employed, which only pays out a few hundred yuan per person per year on average.

This beleaguered medical system produces its own terrifying social tensions. Several medical staff are killed each year and dozens are injured in attacks by angry patients or, more often, the family members of patients who die in their care. The most recent attack occurred on Christmas Eve, when a doctor in Beijing was [stabbed](#) to death by the son of a patient who believed his mother died from poor care at the hospital. One [survey](#) of doctors found that a staggering 85 percent had experienced workplace violence, and another, from 2015, [said](#) that 13 percent of doctors in China had been physically assaulted the previous year. Chinese doctors see [four times](#) the number of patients per year than US doctors, while being paid less than US\$15,000 per year for perspective, that's less than per capita income (US\$16,760), while in the US an average doctor's salary (about US\$300,000) is almost five times as much as per capita income (US\$60,200). Before it was shut down in 2016 and its creators arrested, the now defunct [unrest-tracking blog project of Lu Yuyu and Li Tingyu](#) recorded at least a few strikes and protests by medical workers every month. [8] In 2015, the last full year of their meticulously collected data, there were 43 such events. They also recorded dozens of "medical treatment [protest] incidents" each month, led by family members of patients, with 368 recorded in 2015.

Under such conditions of massive public divestment from the healthcare system, it's no surprise that COVID-19 took hold so easily. Combined with the fact that new communicable diseases emerge in China at a rate of one every 1-2 years, conditions seem primed for such epidemics to continue. As in the case of the Spanish Flu, the generally poor conditions of public health among the proletarian population has helped the virus to both gain footing and, from there, to rapidly spread. But, again, it's not just a question of distribution. We have to also understand how the virus itself was produced.

There is No Wilderness

In the case of the most recent outbreak, the story is less straightforward than the cases of swine or avian influenza,

which are so clearly associated with the core of the agro-industrial system. On the one hand, the exact origins of the virus are not yet entirely clear. It [is possible](#) that it originated from pigs, which are one of many domesticated and wild animals trafficked at the Wuhan wet market that appears to be the epicenter of the outbreak, in which case the causation might be more similar to the above cases than might otherwise appear. The greater probability, however, seems to point toward the virus originating in bats or possibly snakes, both of which are usually harvested from the wild. Even here there is a relationship, however, since the decline in the availability and safety of pork due to the African Swine Fever outbreak has meant that increased meat demand has often been met by these wet markets selling "wild" game meat. But without the direct factory farming connection, can the same economic processes really be said to bear any complicity in this particular outbreak?

The answer is yes, but in a different way. Again, Wallace points to not one but two major routes by which capitalism helps to gestate and unleash ever more deadly epidemics: The first, outlined above, is the directly industrial case, in which viruses are gestated within industrial environments that have been fully subsumed within capitalist logic. But the second is the indirect case, which takes place via capitalist expansion and extraction in the hinterland, where previously unknown viruses are essentially harvested from wild populations and distributed along global capital circuits. The two are not entirely separate, of course, but it seems to be the second case that best describes the emergence of the current epidemic. [9] In this instance, the increased demand for the bodies of wild animals for consumption, medical use, or (as in the case of camels and MERS) a variety of culturally-significant functions builds new global commodity chains in "wild" goods. In others, pre-existing agro-ecological value chains simply extend into previously "wild" spheres, changing local ecologies and modifying the interface between the human and non-human.

Wallace is himself clear about this, [explaining](#) several dynamics that create worse diseases despite the viruses themselves already existing in "natural" environments. The expansion of industrial production itself "may push increasingly capitalized wild foods deeper into the last of the primary landscape, dredging out a wider variety of potentially protopandemic pathogens." In other words, as capital accumulation subsumes new territories, animals will be pushed into less accessible areas where they will come into contact with previously isolated disease strains, all while these animals themselves are becoming targets for commodification as "even the wildest subsistence species are being roped into ag value chains." Similarly, this expansion pushes humans closer to these animals and these environments, which "may increase the interface (and spillover) between wild nonhuman populations and newly urbanized rurality." This gives the virus more opportunity and resources to mutate in a way that allows it to infect humans, pushing up the probability of biological spillover. The geography of industry itself is never quite so cleanly urban or rural anyways, just as monopolized industrial agriculture makes use of both large-scale and smallholder farms: "on a [factory farm] contractor's smallholding along the forest edge, a food animal may catch a pathogen before being shipped back to a processing plant on the outer ring of a major city."

The fact is that the "natural" sphere is already subsumed under a fully global capitalist system that has succeeded in changing baseline climatic conditions and devastating so many pre-capitalist [10] ecosystems that the remainder no longer function as they might have in the past. Here lies yet another causative factor, since, according to Wallace, all these processes of ecological devastation reduce "the kind of environmental complexity with which the forest disrupts transmission chains." The reality, then, is that it's a misnomer to think of such areas as the natural "periphery" of a capitalist system. Capitalism is already global, and already totalizing. It no longer has an edge or border with some natural, non-capitalist sphere beyond it, and there is therefore no great chain of development in which "backward" countries follow those ahead of them on their way up the value chain, nor any true wilderness capable of being preserved in some sort of pure, untouched condition. Instead, capital merely has a subordinated hinterland, itself fully subsumed within global value chains. The resulting social systems including everything from supposed "tribalism" to renewals of anti-modern fundamentalist religions are wholly contemporary products, and are almost always *de facto* plugged into global markets, often quite directly. The same can be said of the resulting biological-ecological systems, since "wild" areas are actually immanent to this global economy in both the abstract sense of dependence on the climate and related ecosystems and in the direct sense of being plugged into those same global value chains.

This fact produces the conditions necessary for the transformation of "wild" viral strains into global pandemics. But COVID-19 is hardly the worst of these. An ideal illustration of the basic principle and the global danger can be found instead in Ebola. The Ebola virus [11] is a clear case of an existing viral reservoir spilling out into the human population. Current evidence suggests that its origin hosts are several species of bats native to West and Central Africa, which act as carriers but are not themselves affected by the virus. The same is not true for the other wild mammals, such as primates and duikers, which periodically contract the virus and suffer rapid, high-fatality outbreaks. Ebola has a particularly aggressive lifecycle beyond its reservoir species. Through contact with any of these wild hosts, humans can also be infected, with devastating results. Several major epidemics have occurred, and the fatality rate for the majority has been extremely high, almost always greater than 50%. The [largest recorded outbreak](#), which continued sporadically from 2013 to 2016 across several West African countries, saw 11,000 deaths. The fatality rate for patients hospitalized in this outbreak was in the range of 57-59%, and much higher for those with no access to hospitals. In recent years, several vaccines have been developed by private companies, but slow approval mechanisms and stringent intellectual property rights have combined with the widespread lack of a health infrastructure to produce a situation in which [vaccines have done little to stop the most recent epidemic](#), centered in the Democratic Republic of Congo (DRC) and now the longest lasting outbreak.

The disease is often presented as if it were something like a natural disaster at best random, at worst blamed on the "unclean" cultural practices of the forest-dwelling poor. But the timing of these two major outbreaks (2013-2016 in West Africa and 2018-present in the DRC) is not a coincidence. Both have occurred precisely when the expansion of primary industries has been further displacing forest-dwelling peoples and disrupting local ecosystems. In fact, this appears to be true for more than the most recent cases, since, as [Wallace explains](#), "every Ebola outbreak appears connected to capital-driven shifts in land use, including back to the first outbreak in Nzara, Sudan in 1976, where a British-financed factory spun and wove local cotton." Similarly, the outbreaks in 2013 in Guinea occurred right after a new government had begun to open the country to global markets and sell off large tracts of land to international agribusiness conglomerates. The palm oil industry, notorious for its role in deforestation and ecological destruction worldwide, seems to have been particularly culpable, since its monocultures both devastate the robust ecological redundancies that help to interrupt transmission chains and at the same time literally attract the bat species that serve as a natural reservoir for the virus. [12]

Meanwhile, the sale of large tracts of land to commercial agroforestry companies entails both the dispossession of forest-dwelling locals and the disruption of their ecosystem-dependent local forms of production and harvest. This often leaves the rural poor with no choice but to push further into the forest at the same time that their traditional relationship with that ecosystem has been disrupted. The result is that survival increasingly depends on the hunting of wild game or harvesting of local flora and timber for sale on global markets. Such populations then become the stand-ins for the ire of global environmentalist organizations, who decry them as "poachers" and "illegal loggers" responsible for the very deforestation and ecological destruction that pushed them to such trades in the first place. Often, the process then takes a much darker turn, as in Guatemala, where anti-communist paramilitaries leftover from the country's civil war were transformed into "green" security forces, tasked with "protecting" the forest from the illegal logging, hunting and narcotrafficking that were the only trades available to its indigenous residents who had been pushed to such activities precisely because of the violent repression they had faced from those same paramilitaries during the war. [13] The pattern has since been reproduced all over the world, cheered on by social media posts in high income countries celebrating the (often literally caught-on-camera) execution of "poachers" by supposedly "green" security forces. [14]

Containment as an Exercise in Statecraft

COVID-19 has gripped global attention with an unprecedented strength. Ebola, the avian flu and SARS, of course, all had their associated media frenzies. But something about this new epidemic has generated a different kind of staying power. In part, this is almost certainly due to the spectacular scale of the Chinese government's response, resulting

in equally spectacular images of emptied-out megacities that stand in stark contrast to the normal media image of China as over-crowded and over-polluted. This response has also been a fruitful source for the normal speculation about the country's imminent political or economic collapse, given an extra boost by the continuing tensions of the early-stage trade war with the US. This combines with the rapid spread of the virus to give it the character of an immediately global threat, despite [its low fatality rate](#). [15]

At a deeper level, though, what seems most fascinating about the state's response is the way in which it has been performed, via the media, as a sort of melodramatic dress rehearsal for the full mobilization of domestic counterinsurgency. This gives us real insights into the repressive capacity of the Chinese state, but it also emphasizes the deeper incapacity of that state, revealed by its need to rely so heavily on a combination of total propaganda measures deployed through every facet of the media and the goodwill mobilizations of locals otherwise under no material obligation to comply. Both Chinese and Western propaganda have emphasized the real repressive capacity of the quarantine, the former narrating it as a case of effective government intervention in an emergency and the latter as yet another case of totalitarian overreach on the part of the dystopian Chinese state. The unspoken truth, however, is that the very aggression of the clampdown signifies a deeper incapacity in the Chinese state, which is itself very much still under construction.

This itself gives us a window into the nature of the Chinese state, showing how it is developing new and innovative techniques of social control and crisis response capable of being deployed even in conditions where basic state machinery is sparse or non-existent. Such conditions, meanwhile, offer an even more interesting (albeit more speculative) picture of how the ruling class in any given country might respond when widespread crisis and active insurrection cause similar breakdowns in even the most robust states. The viral outbreak was in every respect assisted by poor connections between levels of the government: repression of "whistleblower" doctors by local officials contra the interests of the central government, ineffective hospital reporting mechanisms and extremely poor provision of basic healthcare are just a few examples. Meanwhile, different local governments have returned to normal at different paces, almost completely beyond the control of the central state (except in Hubei, the epicenter). At the moment of writing, it seems almost entirely random which ports are operational and which locales have restarted production. But this bricolage quarantine has meant that long-distance city-to-city logistics networks remain disrupted, since any local government appears able to simply prevent trains or freight trucks from passing through its borders. And this base level incapacity of the Chinese government has forced it to deal with the virus as if it were an insurgency, roleplaying civil war against an invisible enemy.

The national state machinery really started to roll on January 22nd, when authorities upgraded the emergency response measures in all of Hubei province, and told the [public](#) they had the legal authority to set up quarantine facilities, as well as to "collect" any personnel, vehicles, and facilities necessary to the containment of the disease, or to set up blockades and control traffic (thereby rubberstamping a phenomenon it knew would occur regardless). In other words, the full deployment of state resources actually began with a call for volunteer efforts on behalf of locals. On the one hand, such a massive disaster will strain any state's capacity (see, for instance, hurricane response in the US). But, on the other, this repeats a common pattern in Chinese statecraft whereby the central state, lacking efficient formal and enforceable command structures that extend all the way down to the local level, must instead rely on a combination of widely-publicized calls for local officials and local citizens to mobilize and a series of after-the-fact punishments meted out to the worst responders (framed as crackdowns on corruption). The only truly efficient response is to be found in specific areas where the central state focuses the bulk of its power and attention in this case, Hubei generally and Wuhan specifically. By the morning of January 24th, the city was already in an effective full lock down, with no trains in or out nearly one month after the new strain of the coronavirus was first detected. National health officials have declared that health authorities have the ability to examine and quarantine anyone at their discretion. Beyond the major cities of Hubei, [dozens](#) of other cities across China, including Beijing, Guangzhou, Nanjing and Shanghai, have launched lockdowns of varying severity on flows of people and goods in and out of their borders.

In response to the central state's call to mobilize, some localities have taken their own strange and severe initiatives. The most frightening of these are to be found in four cities in Zhejiang province, where thirty million people have been issued local [passports](#), allowing only one person per household to leave home once every two days. Cities like Shenzhen and Chengdu have ordered that each neighborhood be locked down, and allowed entire apartment buildings to be quarantined for 14 days if a single confirmed case of the virus is found within. Meanwhile, [hundreds](#) have been detained or fined for "spreading rumors" about the disease, and [some who have fled quarantine](#) have been arrested and sentenced to lengthy jail time and the jails themselves are [now experiencing a severe outbreak](#), due to officials' incapacity to isolate sick individuals even in an environment literally designed for easy isolation. These sorts of desperate, aggressive measures mirror those of extreme cases of counterinsurgency, most clearly recalling the actions of military-colonial occupation in places like Algeria, or, more recently, Palestine. Never before have they been conducted at this scale, nor in megacities of this kind that house much of the world's population. The conduct of the clampdown then offers a strange sort of lesson for those with a mind for global revolution, since it is, essentially, a dry run of state-led reaction.

Incapacity

This particular clampdown benefits from its seemingly humanitarian character, with the Chinese state able to mobilize greater numbers of locals to help in what is, essentially, the noble cause of strangling the spread of the virus. But, as is to be expected, such clampdowns always also backfire. Counterinsurgency is, after all, a desperate sort of war conducted only when more robust forms of conquest, appeasement and economic incorporation have become impossible. It is an expensive, inefficient and rearguard action, betraying the deeper incapacity of whatever power is tasked with deploying it be they French colonial interests, the waning American imperium, or others. The result of the clampdown is almost always a second insurgency, bloodied by the crushing of the first and made even more desperate. Here, the quarantine will hardly mirror the reality of civil war and counterinsurgency. But even in this case, the clampdown has backfired in its own ways. With so much of the state's effort focused on control of information and constant propaganda deployed via every possible media apparatus, unrest has expressed itself largely within the same platforms.

The [death](#) of Dr. Li Wenliang, an early whistleblower on the dangers of the virus, on February 7th shook citizens cooped up in their homes across the country. Li was one of eight doctors rounded up by police for spreading "false information" in early January, before later contracting the virus himself. His death triggered anger from netizens and a statement of [regret](#) from the Wuhan government. People are beginning to see that the state is made up of bumbling officials and bureaucrats who have no idea what to do but still put on a strong face. [16] This fact was essentially revealed when the mayor of Wuhan, Zhou Xianwang, was forced to admit on state television that his government had delayed releasing critical information about the virus after an outbreak had occurred. The very tension caused by the outbreak, combined with that induced by the state's total mobilization, has begun to reveal to the general populace the deep fissures that lie behind the paper-thin portrait that the government paints of itself. In other words, conditions such as these have exposed the fundamental incapacities of the Chinese state to growing numbers of people who previously would have taken the government's propaganda at face value.

If a single symbol could be found to express the basic character of the state's response, it would be something like the video above, shot by a local in Wuhan and shared with the Western internet via Twitter in Hong Kong. [17] Essentially, it shows a number of people who appear to be doctors or first-responders of some sort outfitted in full protective gear taking a picture with the Chinese flag. The person shooting the video explains that they're outside that building every day for various photo ops. The video then follows the men as they take off the protective gear and stand around chatting and smoking, even using one of the suits to clean off their car. Before driving off, one of the men unceremoniously dumps the protective suit into a nearby trash can, not even bothering to stuff it to the bottom where it won't be seen. Videos such as this one have spread rapidly before being censored small tears in the thin veil of the state-sanctioned spectacle.

At a more fundamental level, the quarantine has also begun to see the first wave of economic reverberations in people's personal lives. The macroeconomic side of this has been widely reported, with a massive decrease in Chinese growth risking a new global recession, especially when matched with [continuing stagnation in Europe](#) and a recent dip in one of the major economic health indexes in the US [showing a sudden decline in business activity](#). Across the globe, Chinese firms and those fundamentally dependent on Chinese production networks are now looking into their "[force majeure](#)" clauses, which allow for delays or cancellation of the responsibilities entailed by both parties in a business contract when that contract becomes "impossible" to perform. Though at the moment unlikely, the mere prospect has caused a cascade of demands for production to be restored across the country. Economic activity, however, has only revived in a patchwork pattern, everything already working smoothly in some areas while still indefinitely paused in others. Currently, March 1st has become the tentative date by which central authorities have called for all areas outside the epicenter of the outbreak to return to work.

But other effects have been less visible, though arguably far more important. Many migrant workers, including those who had stayed in their work cities for Spring Festival or were able to return prior to various lockdowns being implemented, are now stuck in a dangerous limbo. In Shenzhen, where the vast majority of the population are migrants, locals report that the number of homeless people has begun to climb. But the new people appearing on the streets are not long-term homeless, instead having the appearance of literally just being dumped there with nowhere else to go still wearing relatively nice clothes, unfamiliar with where best to sleep in the open or where to obtain food. Various buildings in the city have seen an increase in petty theft, mostly of food delivered to the doorstep of residents who are staying home for the quarantine. Across the board, workers are losing wages as production is stalled. The best case scenarios during work stoppages are dorm-quarantines like that imposed at the Shenzhen Foxconn plant, where new returnees are confined to their quarters for a week or two, paid about a third of their normal wages and then allowed to return to the production line. Poorer firms have no such option, and the government's attempt to [offer new lines of cheap credit](#) to smaller businesses will probably do little in the long run. In some cases, it seems like the virus will simply accelerate pre-existing trends in factory relocation, as firms like Foxconn [expand production](#) in Vietnam, India and Mexico to make up for the slowdown.

The Surreal War

Meanwhile, the clumsy early response to the virus, the state's reliance on particularly punitive and repressive measures to control it, and the central government's inability to effectively coordinate across localities to juggle production and quarantine simultaneously all indicate that a deep incapacity remains at the heart of the state machinery. If, as [our friend Lao Xie argues](#), the emphasis of the Xi administration has been on "state-building," it would appear that much work in that regard remains to be done. At the same time, if the campaign against COVID-19 can also be read as a dry run against insurgency, it is notable that the central government only has the capacity to provide effective coordination in the Hubei epicenter and that its responses in other provinces even wealthy and well-regarded places like Hangzhou remain largely uncoordinated and desperate. We can take this in two ways: first, as a lesson on the weakness underlying the hard edges of state power, and second as a caution on the threat that is still posed by uncoordinated and irrational local responses when the central state machinery is overwhelmed.

These are important lessons for an era when the destruction wrought by unending accumulation has extended both upward into the global climatic system and downward into the microbiological substrata of life on Earth. Such crises will only become more common. As the secular crisis of capitalism takes on a seemingly non-economic character, new epidemics, famines, floods and other "natural" disasters will be used as a justification for the extension of state control, and the response to these crises will increasingly function as an opportunity to exercise new and untested tools for counterinsurgency. A coherent communist politics must grasp both of these facts together. At a theoretical level, this means understanding that the critique of capitalism is impoverished whenever it is severed from the hard sciences. But at the practical level, it also implies that the only possible political project today is one able to orient itself within a terrain defined by widespread ecological and microbiological disaster, and to operate in this perpetual

state of crisis and atomization.

In a quarantined China, we begin to glimpse such a landscape, at least in its outlines: empty late-winter streets dusted by the slightest film of undisturbed snow, phone-lit faces peering out of windows, happenstance barricades staffed by a spare few nurses or police or volunteers or simply paid actors tasked with hoisting flags and telling you to put your mask on and go back home. The contagion is social. So, it should come as no real surprise that the only way to combat it at such a late stage is to wage a surreal sort of war on society itself. Don't gather together, don't cause chaos. But chaos can build in isolation, too. As the furnaces in all the foundries cool to softly crackling embers and then to snow-cold ash, the many minor desperations cannot help but leak out of that quarantine to gently cascade together into a greater chaos that might one day, like this social contagion, prove difficult to contain.

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[1] Much of what we will explain in this section is simply a more concise summary of Wallace's own arguments, geared toward a more general audience and without the necessity of "making the case" to other biologists through the exposition of rigorous argumentation and extensive evidence. For those who would challenge the basic evidence, we refer throughout to the work of Wallace and his compatriots

[2] Robert G Wallace, *Big Farms Make Big Flu: Dispatches on Infectious Disease, Agribusiness, and the Nature of Science*, Monthly Review Press, 2016. p.52

[3] *Ibid*, p.56

[4] *Ibid*, p.56-57

[5] *Ibid*, p.57

[6] This is not to say that comparisons of the US to China today are not also informative. Since the US has its own massive agro-industrial sector, it is itself a huge contributor to the production of dangerous new viruses, not to mention anti-biotic-resistant bacterial infections.

[7] See: Brundage JF, Shanks GD, "What really happened during the 1918 influenza pandemic? The importance of bacterial secondary infections". *The Journal of Infectious Diseases* Volume 196, Number 11, December 2007. pp. 1717-1718, author reply 1718-1719; and: Morens DM, Fauci AS, "The 1918 influenza pandemic: Insights for the 21st century". *The Journal of Infectious Diseases* Volume 195, Number 7, April 2007. pp 1018-1028

[8] See "Picking Quarrels" in the second issue of [Chuangcn](http://Chuangcn.org).

[9] In their own way, these two paths of pandemic production mirror what Marx calls "real" and "formal" subsumption in the sphere of production proper. In real subsumption, the actual process of production itself is modified via the introduction of new technologies capable of intensifying the pace and magnitude of output similar to how the industrial environment has changed the basic conditions of viral evolution such that new mutations are produced at a greater pace and with greater virility. In formal subsumption, which precedes real subsumption, these new technologies are not yet implemented. Instead, previously existing forms of production are simply brought together into new locations that have some interface with the global market, as in the case of hand-loom workers being placed into a workshop that sells their product for a profit and

this is similar to the way in which viruses produced in "natural" settings are brought out from the wild population and introduced into domestic populations via the global market.

[10] It's a mistake to equate these ecosystems with "pre-human" however. China is a perfect example, since many of its seemingly "primeval" natural landscapes were, in fact, the product of much older periods of human expansion which wiped out species that were previously common on the East Asian mainland, such as Elephants.

[11] Technically this is a blanket term for 5 or so distinct viruses, the most deadly of which is itself simply named Ebola virus, formerly Zaire virus

[12] For the West African case specifically, see: RG Wallace, R Kock, L Bergmann, M Gilbert, L Hogerwerf, C Pittiglio, Mattioli R and R Wallace, "Did Neoliberalizing West African Forests Produce a New Niche for Ebola," *International Journal of Health Services*, Volume 46, Number 1, 2016; And for a broader overview of the connection between economic conditions and Ebola as such, see: Robert G Wallace and Rodrick Wallace (Eds), *Neoliberal Ebola: Modelling Disease Emergence from Finance to Forest and Farm*, Springer, 2016; And for the most direct statement of the case, albeit a less scholarly one, see Wallace's article, linked above: "Neoliberal Ebola: the Agro-economic Origins of the Ebola Outbreak," [Counterpunch, 29 July 2015](#).

[13] See Megan Ybarra, *Green Wars: Conservation and Decolonization in the Maya Forest*, University of California Press, 2017.

[14] It is certainly incorrect to imply that all poaching is conducted by the local rural poor population, or that all ranger forces in different countries' national forests operate in the same fashion as former anti-communist paramilitaries, but the most violent confrontations and the most aggressive cases of forestland militarization all seem to essentially follow this pattern. For a wide-ranging overview of the phenomenon, see the special 2016 issue of *Geoforum* (69) devoted to the topic. The preface can be found here: Alice B. Kelly and Megan Ybarra, "Introduction to themed issue: '[Green security in protected areas](#)'", *Geoforum*, Volume 69, 2016. pp.171-175.

[15] By far the lowest of all the diseases mentioned here, its high death toll has largely been the result of its rapid spread to a large number of human hosts, resulting in an elevated absolute death toll despite having a very low fatality rate.

[16] In a podcast interview, Au Loong Yu, citing friends in the mainland, says that the Wuhan government is effectively paralyzed by the epidemic. Au suggests that the crisis is not only tearing apart the fabric of society, but also the bureaucratic machine of the CCP, which will only intensify as the virus spreads and becomes an intensifying crisis for other local governments across the country. The interview is by Daniel Denvir of [The Dig](#), [published 7 February](#).

[17] The video itself is authentic, but it is worth noting that Hong Kong has been a particular hotbed of racist attitudes and conspiracy theories directed toward mainlanders and the CCP, so much of what gets shared on social media by Hong Kongers about the virus should be carefully fact-checked.