

What's in a Pandemic? COVID-19 and the Anthropocene.

Manuel Arias-Maldonado
University of Málaga, Spain
marias@uma.es

The coronavirus pandemic that has taken the world by surprise, putting a brake on globalization and disrupting the ordinary functioning of societies across the planet, has not failed to capture the interest of political theorists. Among them, environmental political theorists are naturally concerned about this dramatic episode in the history of socionatural relations. However, a pandemic is not the kind of planetary event that usually falls under the radar of thinkers engaged with EPT. And yet it is a danger originated in the natural world, which is in turn communicated to humans and propagated in the social world. The pandemic seems to have been originated in a zoonotic spillover, namely the leap of a pathogen from one animal species to another —the latter being, of course, the human one. Admittedly, this is not the first pandemic in human history and COVID-19 is not a particularly lethal disease — both Spanish Flu and AIDS were in their time vastly more lethal. Still, the virus has spread at an unprecedented speed, catching human societies by surprise despite a number of warnings about the possibility of a pandemic, most of them located however in obscure scientific journals. As Higgins et al. (2020) point out:

«Although this disease has not rendered humans powerless, it certainly seems to have shifted the balance of power. The "Coronacene" might well be as worthy of attention as the "Anthropocene"».

Does this mean that the pandemic and the Anthropocene are separate things? The reception of the pandemic within EPT suggests otherwise. Most participants in the debate have underlined the *connection* between the pandemic and the Anthropocene — a causal link suggesting that COVID-19 is a disease of the Anthropocene, perhaps even the first one that merits the designation. Others have pointed to climate change as a key factor in the increase of emergent viruses. Finally, there is the suggestion that the pandemic *resembles* the Anthropocene, making the social *response* to the former a blueprint for climate action and other Anthropocene-related policies.

My aim in this paper is to discuss and problematize the nexus between the pandemic and the Anthropocene. How does the pandemic relate to environmental issues? What does it say about socionatural relations? Why should it matter to environmental political theory? Does it make sense to relate the coronavirus pandemic to the Anthropocene, as an epoch or as a new epistemic framework? Are there any lessons to extract from it?

My argument will be that the pandemic should not be primarily seen as an event of the Anthropocene, but as a typical risk of the Holocene that manifests itself in the Anthropocene. In doing so, it cannot help but reflect some structural features of the latter. In turn, this is not to suggest that the pandemic does not hold interesting lessons for EPT or that it does not provide insights for better understanding socionatural relations in the Anthropocene. In fact, corona may reinforce the Anthropocene frame — for reasons other than causation.

This paper is organized as follows. In the first section, I will present the arguments in favour of a causal connection between the corona-pandemic and the Anthropocene. The second section challenges this claim and defend the view that the pandemic is rather a danger of the Holocene that remains in the Anthropocene. The third section discuss the notion that the pandemic offers a blueprint for dealing with climate change and other crises of the Anthropocene. The last section is however dedicated to explain why the pandemic reinforces the Anthropocene as a new epistemic framework and as an accurate depiction of the current state of socionatural relations and the planet. Finally, a brief conclusion wraps up the paper.

1. COVID-19 and the Anthropocene.

Is the coronavirus pandemic an effect of the Anthropocene? The latter should not be narrowly understood as a new geological epoch, of course, but also as a particular state of the Earth system that is characterized by the extent of the anthropogenic impact on planetary natural systems (see Ellis 2018). The question is thus whether the pandemic is an event *of* the Anthropocene or an event that takes place *in* the Anthropocene. The answer matters: if Covid-19 is a byproduct of the Anthropocene, the threat of further infectious diseases greatly adds to the dangerousness of this new epoch.

For many observers, there is no doubt that the current pandemic *belongs* to the Anthropocene. According to this view, COVID-19 is just one of the side-effects of an «ongoing, irreversible ecological mutation» (Latour 2020). An accelerated pace of economic extraction breaks down ecosystems and releases new viral agents that threaten biological integrity (Carvalho and Velicu, 2020). A metaphor employed to describe the pandemic actually suggests a peculiar symbolic displacement: instead of focusing on the virus that may kill us, humans are presented as the virus that kills the planet. The human being, so the meme goes, is the real virus. On another account, human activity disrupts natural habitats and alters the patterns of interaction between species, it facilitates the transmission of infectious diseases both across species and to humans (see Myers et al. 2013, Patz et al. 2005). For O'Callaghan Gordo & Antó (2020), COVID-19 is a «paradigmatic example of an Anthropocene disease». In order to explain it, almost everything goes:

«The destruction of natural habitats and the extinction of species, the poorly regulated capture, marketing and consumption of non-human animals, the influence of lobbies to nullify or delay measures to protect natural and social systems, the limitation of current scientific knowledge and the contempt by governments and companies of the available evidence, have all worked in an orchestrated sequence to facilitate the current COVID-19 pandemic».

Heyd (2020) also believes that the pandemic is one of the more obvious manifestations of the so-called «human epoch», as it stands out among other past pandemics by the speed at which it has become global. In fact, it fits a pattern that seems to be typical of the Anthropocene:

«*human mediation and amplification* of certain, initially local, natural givens, their very rapid *transmission* across great distances, thereby making them *global*, and important disruptions of *vulnerable* human and other systems by their consequences».

The hyper-globalisation of human travel would thus be a key factor in the unfolding of the pandemic, as it explains how a virus that might otherwise remained local turns into a global event (Asayama et al. 2021). In their search for broad-scale ecological patterns that may explain the occurrence of the pandemic, Skorka et al. (2020) point out that there is a clear positive correlation between the virus spreading and the mobility —rather than density— of population, as well as the level of urbanisation and gross domestic product, so that COVID-19 is perhaps «a new civilisation disease affecting rich economies». In sum, the coronavirus pandemic should be conceptualized as a disease of the Anthropocene because human beings now enter into contact with wild animals more frequently as they penetrate ever deeply into their habitats *and* a successful virus is able to spread at unprecedented speed thanks to the high mobility of humans around the globe.

The virus has certainly a local origin that quickly becomes transcended by a rapid diffusion, so that a «situated» phenomenon is rapidly turned into a planetary event: zoonosis infections begin *somewhere* but ends up happening *everywhere*. According to Paul Virilio, that is what an «integral accident» looks like: one which is «capable of integrating a whole heap of incidents and disasters through chain reactions» (Virilio 2006: 24). It could be argued that modernity began like this: the Columbian exchange that put into contact the European and the American biota caused the death of millions due to the pathogens carried by the invaders (see Crosby 2003). This could lend credence

to the view that imperialism just repeats itself: Andreas Malm has explained the coronavirus pandemic as a consequence of a capitalistic oil-fuelled economy that intrudes in the wild and forces pathogens to leap towards us (Malm 2020). From this viewpoint, COVID-19 would be less the product of the Anthropocene than that of the «Capitalocene» (see Moore 2015).

Arguably, zoonotic diseases —those that are communicated from animals to humans— seems to be on the rise. As much as 335 emergent diseases have been identified between 1960 and 2004, of which 60% come from non-human animals (Jones et al 2008). According to the literature, an emergent disease is that which has experienced a recent evolutive change, has trespassed the species barrier for the first time or has just been discovered. Following this criteria, the number and diversity of zoonotic infections have increased overall, but the number of cases *per capita* (prior to COVID-19) is declining thanks to the positive effect of prevention campaigns and health policies (Smith et al. 2014). It is thus not wrong to say that disease emergence is largely the product of anthropogenic and demographic changes and hence a «hidden» cost of human economic development (Jones et al 2008: 991). Yet this also a banal statement, since there is no such thing as a virus that can spread in the absence of dense human populations — a general rule that also applies to SARS-CoV-2 (Stier, Berman & Bettencourt 2020).

The role of biodiversity in facilitating pandemic outbreaks is also worth discussing. The ongoing loss of biodiversity is one of the greater risks of the Anthropocene and, as Edward Wilson (1993: 241) has suggested, a major threat for the future of the human species. Yet is it related to the coronavirus pandemic? Admittedly, a certain degree of natural biodiversity is *required* for zoonotic infection to take place — otherwise there would not be bats colonies that could serve as reservoirs of potentially infectious viruses. If the human colonization of natural habitats were complete, that particular risk would be conjured up: the less biodiversity, the less likely it is that a virus can make a zoonotic leap. And vice versa! For all the key role that social mobility plays in spreading a disease, the latter originates in the contact between an animal carrier and a soon-to-be-host human being. Zoonotic infection thus requires a degree of biodiversity that *produces* new viruses in wild habitats, while human invasion of the latter in turn facilitates the spillover by putting humans into contact with animal carriers (Vidal 2020).

On the other hand, it is unclear whether the biotic and genetic homogenization that is associated to the Anthropocene increase the dangerousness of pandemics. In the 15th century, it was the genetic *difference* between Europeans and Americans that made the latter vulnerable to the germs carried by the former. If globalization neutralizes biotic differences, humanity may become more vulnerable to an hypothetical supervirus, as there will be no significant disparities in the genetic equipment of their members and they all would be equally affected by such monstrous germ. Such viruses, however, do not communicate easily, since their carriers just die before the virus can jump on to other human being. On the other hand, biotic homogenization across the globe makes it less likely that a given population can pass a highly lethal virus to others. That said, a densely interconnected world can suffer many deaths just because a moderately lethal virus that mostly affect elderly people infects hundreds of millions across the planet (see Liu et al 2020). The total numbers of deaths in the case of corona is not a result of its lethality but a consequence of the high number of infected people.

2. The Old in the New: Pandemics as Reminders of Premodernity.

Yet the urge to connect the pandemic to the Anthropocene may be misleading — the question merits further thought. Greater research seems necessary before definitive claims can be made about the connection between global environmental change and successful zoonotic pathogens (see Ali 2020). It may be the case that behind the «nebulous Anthropocene anxiety» lurks an anti-modern sentiment that is often present within environmentalism (De Kirby 2020). The main reason for questioning the causal link between the pandemic and the Anthropocene is the fact that pathogens have impacted

human beings throughout history, even when humans themselves had a mild impact on natural systems. That is also why a pandemic cannot be convincingly presented as an *effect* of modernity. COVID-19 belongs to the category of «crowd diseases» that are associated to human sedentariness rather than to late-modern conditions *per se* (see McNeill 1998). By appearing in late modernity, corona can be expected to reproduce some of the latter's features — among them the reach and speed of social connections. Yet for *any* epidemic to take place, people must be living sedentarily in large populations.

Viruses should then be more aptly described as *remainders* of premodernity — a primitive threat that is related to the animal side of human beings and thus to a biological condition that cannot possibly be suppressed. Admittedly, pandemics might become more frequent in the Anthropocene as they are facilitated by the ever-deeper penetration of humans in wild habitats and by the social conditions that facilitate their spread across the globe (see Patz et al. 2005). Yet viruses are old dwellers in the planet and the existing amount of them is just staggering. This is to say that they were already dangerous for human beings during the Holocene: Black Death, the most fatal pandemic ever recorded, annihilated Europeans in the 14th century, long before the Anthropocene started — unless the Holocene is eliminated from the records and the Anthropocene replaces it altogether. Moreover, pandemics were a *far greater* danger in the Holocene, as modern virology did not exist yet and they were often seen as a divine punishment against the sins of humans.

Therefore, the potentially infectious contact between humans and animals is a natural circumstance that is not inaugurated by modernity or the Anthropocene. This is not to deny that the modern organization of socionatural relations may *facilitate* the original spillover and then *accelerate* the global communication of disease. The rapid spread of the coronavirus cannot be explained without resorting to globalization, as the latter increases mobility and connects parts of the planet that used to be isolated from each other. The corona-pandemic is thus better explained as a combination of the old and the new — the product of a zoonotic spillover that reproduces a well-known human vulnerability in a contemporary context. The same goes for other phenomena of the Anthropocene, such as hurricanes: they have always existed, but their current intensity seems related to anthropogenic climate change (Kossin et al. 2020). At the same time, both patterns of animal migration as disrupted by global warming and habitat invasion may significantly affect how zoonosis takes place in the future. It has been argued that we are just at the beginning of a «microbial insurgency» induced by global environmental change (see Hirschfeld 2020, Mills, Gage & Khan 2010). Yet the COVID-19 pandemic does not seem reason enough to speak on such terms. Human history is full of pandemics, most of them brought by a zoonotic spillover: coronaviruses have been around for thousands, if not millions, of years. Insofar as the sedentary organization of human populations is a condition for the occurrence of epidemics and pandemics, the latter should be described as *dangers of the Holocene* rather than *risks of the Anthropocene* (if we take *risks* to be typically modern).

Searching for a novel explanation to COVID-19 thus runs the risk of overlooking all that is not new at all in the propagation of infectious diseases. Properly speaking, the novelty lies in how fast the disease has spread globally — and yet this is a relative novelty, since the Spanish Flu was also considerably fast. The corona-pandemic is better understood as a hybrid: a pre-modern threat that shares some features with modern risk, as well as a danger of the Holocene that is amplified in the Anthropocene. Yet it is not a manufactured risk, as those highlighted by Beck's risk society theory (1986), neither one to be explained as a side-effect of the modern relation between humans and nature — as there is nothing particularly modern about been infected by a bat or a pangolin captured in the wild or purchased in a wet market. It is hard to deny that such markets — in which unfortunate wild animals are killed and butchered for human consumption — are a major risk for the transmission of infectious diseases (Woo, Lau & Yuen 2006). The outbreak of avian flu caused by the H7N9 virus, which is mainly communicated from poultry to humans, was stopped in April 2013 when the wet markets in Shanghai, Hangzhou, Huzhou and Nanjing were closed for precautionary reasons: daily infections decreased an average of 98% in the following days (Yu et al. 2014). If the virus had originated in the meat industry, the Anthropocene framework would be more apposite for

making sense of it. That is perhaps why Kirksey endorses —rather speculatively— the alternate theory according to which «domestic companion animals, such as dogs and cats, or farm animals that live in industrial conditions, including pigs and cows, may have played an important role in the emergence of the viral pandemic» (Kirksey 2020: 14). Domestication is hardly new, for that matter. And for all we know, the ultimate source of the coronavirus pandemic is a Chinese wet market where the relation between humans and animals is anything but modern.

A more nuanced position is that of Horn (2020), who dismisses the causal or metonymic relationships between COVID-19 and the Anthropocene and argues instead that what the two crises have in common is the existence of a tipping point — as they combine slow latency periods with sudden rapid escalations. As she points out, at tipping points «a small quantitative increase leads to drastic qualitative change in the entire system, or to the emergence of unpredictable new phenomena». Yet is this the case? Should we not rather describe a pandemic as a sudden event that does not hold any relation with its conditions of possibility? In a zoonotic spillover, there is no such thing as a «small quantitative increase» that leads to a new phenomenon, but just the event in which *one* of the many viruses that could cross the species barriers manages to do so. Again: the amount of virus and germs that exists in this world is overwhelming. Now, if there were no friction at all between human and animals, zoonotic infections would not exist — but how could such thing be possible? Besides, the analogy is also misleading because all pandemics come *naturally* to an end, while the Anthropocene is better described as a condition to be managed in the very long term.

To claim that COVID-19 is «the disease of the Anthropocene» seems then unwarranted. The surprise caused worldwide by the pandemic actually suggests that the risk of pandemics had been carelessly forgotten in the face of different global risks. But they never disappeared, as the past century comes to show: there was the Spanish Flu, smallpox (not eradicated until 1980), polio, malaria, AIDS, the global influenzas of 1957 and 1968 and, already into the 21st century, the first coronavirus. It makes sense: human adaptation to the environment, which is an aggressive adaptation in that it involves the transformation of the environment to satisfy human needs, is hardly a novelty. What has changed in the last two centuries is the magnitude of that transformation. In that regard, Horn is right in suggesting that the Anthropocene is a framework that facilitates the course of the crisis, suggesting that the pandemic is neither a purely natural disaster nor a purely social one. Yet, again, all pandemics are hybrids since they could not happen without crowded populations that allow a given virus to circulate. It would then be more precise to say that the Anthropocene is the socionatural context in which this particular virus has emerged. As a result, its unfolding expresses the features of a populous and globalized world. Hence a phenomenon that is typical *of* the Holocene appears *in* the Anthropocene — but hardly defines it.

3. A Blueprint for Emergency?

A different reading of the pandemic suggests that the latter is an eye-opening event that may turn public attention to other crises, such as the climatic one, while providing a blueprint for its handling — showing that taking radical action in the face of catastrophe *is* feasible and cannot be postponed any longer. From this viewpoint, the pandemic is either *like* the Anthropocene or a *lesson* on how to deal with the Anthropocene. This latter option has been aptly summarized by Horn (2020) in the form of a question about the pandemic:

«does it offer, albeit by force of circumstances, an experimental space in which to test out how things might be done differently – proof that it is possible after all to limit travel and transportation, to reorganize work and communication, and to reduce the consumption of fossil fuels?»

Bruno Latour (2020) has argued that the pandemic is the «dress rehearsal» for the climate collapse, while climate scientist John Schellnhuber (2020) sees a parallel between global warming and the way in which COVID-19 has evolved — although it is hard to see a reason why the similarities in the curves that show the evolution of each of them should be significant. Heyd (2020) has presented a more thorough defence of the proposition that the pandemic and the Anthropocene are similar

phenomena, as they exhibit «relatively similar patterns in causal factors and effects». In particular, certain local activities that seem harmless turn out to have unexpected, problematic and unequally distributed global effects. COVID-19 and anthropogenic climate change are similar, so Heyd, in that their origin is natural but becomes anthropogenically mediated and amplified, as well as transmitted across great distances and actually globalized. He also argues that «when reaching *vulnerable* populations, [COVID-19] generates widespread *morbidity* and significant numbers of *fatalities*» — although this is not necessarily the case, since the lethality of the pandemic seems also influenced by geographical factors that are not well understood, as the relatively low mortality in a poor country like India comes to show.

However, it is unclear whether the patterns pointed out by Heyd have a strong analytical significance. The massive emission of CO₂ in an industrialized world does not particularly resemble a zoonotic spillover that happens to be successful. Having close contact with wild animals and habitats is not a particularly modern activity, nor is one associated —as opposed to emitting major amounts of CO₂— with rich societies. The effects are certainly global and are unevenly distributed, although there is a case to be made for the *similar* distribution of the negative effects of the pandemic, since rich societies are not being particularly able to avoid them.

Although climate change does not seem to have played any role in the outbreak of the pandemic, it remains to be seen whether global warming will increase the number and severity of infectious disease in the future or not (Worland 2020). And yet the fact that one of the most severe symptom of COVID-19 is respiratory failure, usually pneumonia, has been related to the insalubrious effects of industrialization — the most spectacular of which is certainly climate change. No other than French President Emmanuel Macron has done so when suggesting that the fear to die by suffocation is an expression of the fear to breath polluted air in a polluted city (see Financial Times 2020). No wonder that the face mask that protects us from infection and prevents us from infecting others has operated as the universal symbol of the pandemic. It is an ambiguous sign: on the one hand, it points to the partial suspension of individual autonomy; on the other, it symbolizes a communitarian feeling that equates us all above cultural differences. Some anthropologists anticipate a normalization of the face mask, as the consequences of climate change are exacerbated and the air in our cities decrease in quality (Laco 2020). In this regard, the pandemic may be seen as a *warning* about such consequences as well as an *opportunity* for bringing about policies that mitigate it (Wyns 2020).

Moreover, the pandemic is said to have had the unexpected merit of *showing* that radical action against climate change is feasible. Initially, there was a dramatic reduction of pollutants and greenhouse emissions as industrial activity and human mobility significantly decreased (see Le Quéré 2020), even though the overall effect was finally imperceptible at the atmospheric level as global emissions picked up in the second half of 2020 (Tollefson 2021). Nevertheless, have we not accepted restrictions to our liberties in the name of survival? Why not follow a similar path invoking the need to prevent further global warming? If a disease could stop globalization, why not the need to prevent catastrophic climate change?

From this viewpoint, the pandemic might be seen as one of the products of an *accelerated* modern society that ends up being abruptly *decelerated*. German sociologist Hartmut Rosa, an specialist in the study of acceleration, has discussed the pandemic:

«It is as if gigantic brakes have been applied to the accelerating society. But what I find crucial is that these brakes are social in nature: It's not the virus itself that would bring down planes, shut down factories and cancel soccer games. It is ourselves, acting politically. That is why I would like to say: we are currently experiencing ourselves as being very well able to act politically and control the world and our society».

Rosa anticipates that coming back to normality will not be easy. In his eyes, the crisis is a «historical bifurcation point» that allows us to change the direction of modernity. It is hardly surprising that this is the expectation of a thinker who has argued that the acceleration of the different social spheres in modernity has had a depressing effect on individual lives. Oppressed by a «totalitarianism

of acceleration», the individual feels trapped by social structures that are beyond his reach (Rosa 2017). The pandemic would have shown that we can live differently: less hurriedly, more harmoniously, less aggressively.

However, the argument that the pandemic has *demonstrated* that a decelerated society is feasible is ultimately flawed. It is simply not true that a successful rehearsal of a different world has been performed, nor that governments across the world have shown a capacity to give shape to —and effectively control— a different social system. We have gone through a *temporary interruption* of socioeconomic activity, followed by a *temporary restriction* of socioeconomic activity — the effects of which have been limited so far precisely because societies have not been completely shut off and it is expected that they will be back to full capacity sooner or later. We can certainly live differently, and it is understandable that those who wish to do so have tried to take advantage of the pandemic to advance their arguments. It is hard to claim, though, that this crisis has provided a durable and consistent alternative model of socioeconomic organization.

In sum, perhaps the coronavirus has persuaded some people that it is advisable to find an alternative to the current socioeconomic model, yet this is no proof of its feasibility and let alone its popularity. Economist Branko Milanovic (2021) has argued that while degrowthers frequently resort to magical thinking, the pandemic has shown that there are areas of policy where a determined action can be taken on condition that there is enough clarity about the consequences of, say, setting a global limit for air travel. Yet he does not clarify how this policy could be made popular or democratically accepted. In the end, this can only happen if the public reaches the conclusion that the climate crisis is truly an emergency that has to be confronted. Whether the pandemic has contributed to this or not, it is just too soon to tell.

4. The Pandemic, Humanity, and Agency: Reinforcing the Anthropocene frame.

So far, I have argued that the Anthropocene is not a well-suited framework for explaining the coronavirus pandemic. Zoonotic spillovers have been routinely taking place ever since humans started to live sedentarily, the difference between pandemics thus lying in the rapidity with which infectious diseases are propagated in particular social contexts. A globalized society will thus experience a much faster communication of infectious diseases, while a populous humanity will have more frequent encounters with wild animals than a small one. At the same time, though, if the total number of pathogens and people are taken into account, pandemics are on average neither *that* frequent nor *so* dangerous. Modern medicine, health policies and food security see to that. Therefore, COVID-19 is to be seen as a danger *of* the Holocene that persists in the Anthropocene — one which is better understood as a result of an uneven modernization process in which different stages or temporalities of the latter coexist in a hyperconnected world.

However, the lack of a convincing causal connection between the pandemic and the Anthropocene does not exhaust the subject of their relation. The pandemic can actually reinforce the Anthropocene as frame for understanding and observing siconatural relations and the place of humanity within them, even though they are not causally related. In the end, the public may come to see the pandemic as a typical phenomenon of the Anthropocene — perhaps even one that is quintessential to it. Let me explain why.

1. The pandemic has reminded human beings that no matter how extensively they may have colonized or influenced the natural world, the latter retains *elements of autonomy* that cannot be easily managed. It is uncertain whether viruses are dead or alive, nor what kind of entities they are exactly (see Villareal 2004). But they have a *telos*, they follow a direction — propagation, replication, mutation. They are outside us, but also inside us: they perform a key function in our digestive processes and might also have an influence on our brains by producing chemical substances that are key for determining our moods (Dinan, Stanton & Cryan 2013). Socially speaking, they are a

primitive intrusion in a world that has undergone a process of modernization, thus destabilizing a narrative according to which humans are detached from the natural. As it happens, the pandemic is *like* the Anthropocene in that it brings to the fore the inconvenient fact that socionatural relations cannot be sanitized or cleansed altogether — frictions and accidents cannot simply be avoided. There is no end to that task, nor a moment in which such relations can be pacified. In a degrowth society, one that manages to be both slower and smaller, epidemics —if not pandemics— would still occur.

2. Viruses are telluric entities — they relate to an aspect of the natural world that is far larger than humans and which is connected to the functioning of the planet as a totality. Although there is the temptation to identify the Anthropocene with the increasing prominence of human beings, the concept does not only *centers* humans by recognizing their major role in planetary change — it also *decenters* them insofar as the larger, geological history of the Earth is reintroduced in the account of socionatural relations. After all, pathogens have been around from the beginning of the planet's history and will outlast the human species. There seems to be ten virus for each bacteria and, if all viruses formed a line, it would have a length of 10 million light years (see Suttle 2013). Viruses thus exist «almost like genetic background radiation, not very interesting until you begin to focus on it— in which case you might discover that it retains an echo of the Big Bang» (Cohen 2011: 18). They also play a role in natural and human evolution, although knowledge about this is still partial: they interact with genetic material and they travel from one organism to another, seemingly contributing to the global genetic reservoir (Rohwer & Thurber 2009). This means that *some* viruses are dangerous to human beings, but viruses themselves are far larger and older than human beings. They are what Timothy Morton (2013) has called «hyperobjects», namely, things that are massively distributed in time and space relative to humans — the biosphere, a black hole, the sum of all plastics. While they are hardly new, we might perceive them differently in the larger context of the Anthropocene.

3. Pandemics are major social disruptions and the corona-pandemic has proven no exception. Although it is not as lethal as the Black Death or the Spanish Flu, let alone smallpox, COVID-19 is having a strong, extended impact on human societies. It is the kind of event that seems to validate the neomaterialist view that agency —understood as the capacity of an actor to produce changes in the world— is far from being an exclusive attribute of human beings (see Coole & Frost 2010). On the contrary, agentic capacities are widely distributed and they include the action of natural processes, non-human animals and objects. The corona-pandemic shows that the natural world cannot be described as a passive resource or an inert object — it is a participant in the «dance of agency» that erodes the conceptual distinction between nature and society (see Gabrielson 2016: 405). Following Latour's (2005) distinction between human *actors* and non-human *actants*, it seems apposite to identify viruses and bacteria as the most eventful actants in human history (placing asteroids and earthquakes in a special category). Human history itself should then be rewritten, following the assumption that natural environments and their different constituent parts have contributed to give shape to human beings and societies — and vice versa! Historian Timothy LeCain suggests that microorganisms should be included in our account of history

«we live in a time when our basic understanding of what means to be "human" is rapidly changing. Insights from across the spectrum of both the sciences and the humanities are telling us that the human body, mind, and culture are even more deeply embedded in our biological and material environments than we could have previously imagined» (LeCain 2017: 5).

Recognizing the role that environmental pressures and natural phenomena play in the unfolding of history must however be accompanied by the ascertainment that humans have an impact on the environment and natural phenomena as well. And that is what the Anthropocene is about. Alberro (2020) has emphasized how the action of «co-terrestrials» such as locust swarms, violent storms, wildfires and CO2 challenges human supremacy and our supposed monopoly on agency, although her emphasis on «repeated transgressions against natural systems» as the source of these turbulences goes too far in moralizing socionatural relations. The pandemic, much like climate

change and other manifestations of the Anthropocene, is a powerful reminder that we are not the only source of planetary events.

4. The pandemic can also reinforce the idea that a clear-cut distinction between the social and the natural is no longer tenable. If what exists out there is an «ecology of things» (Bennett 2010) in which humans and non-humans share the ability to transform the world, then the nature-society divide turns out to be a wrong way of depicting the world. The latter is rather made up of complex and dynamic assemblages of multiple entities of all kinds — viruses among them. As Danowski and Viveiros de Castro put it:

«Humanity and the world are *literally* on the same side; the distinction between the two terms is arbitrary and impalpable; if one starts from humanity (thought, culture, language, the "inside") one necessarily arrives at the world (being, matter, nature, the "Great Outdoors") *without crossing any border* and conversely» (Danowski & Viveiros de Castro 2017: 113).

And yet the fact that there is no such thing as an *ontological* distinction between humanity and nature does not exclude their *historical* differentiation — as humans proceed to create a social world, conceive themselves as separated from other animals and devise practices of biological immunization (see Arias-Maldonado 2015: 39-43). It is not a total differentiation, since humans cannot disentangle themselves from their biological condition. Actually, they are able to prevent a number of biological and ecological vulnerabilities — no virus has ever killed the whole human species, a final disaster that an asteroid or a glaciation might otherwise bring about. Be that as it may, the pandemic confirms one of the lessons of the Anthropocene: society and nature are irrevocably entangled.

5. The virus reinforces the turn to materiality that is also driven by the Anthropocene itself. Neither the virus nor the disease are social constructions or narratives — even though the pandemic is unavoidably perceived (but not experienced as a patient) through social categories. The virus is a physical reality. Moreover, nature is not exerting revenge, nor are we suffering for our neoliberal sins: viruses do not think, even less reach moral conclusions. Still, it makes sense to say that materiality *returns* to our cultural horizon after some decades in which the *constructed* aspect of reality has been paramount in the social sciences and the humanities. Arguably, the pandemic strengthens this trend and gives credit to those thinkers that have been demanding that modern solipsism is given up, giving instead credit to the assumption that there is a material reality independent from the human beings that —albeit imperfectly— observe it. Welsch (2012) has denounced the «anthropic principle of modernity» and argued instead for a distinction between the human *experience* of the world's contents and the *kind of being* featured by such contents. And the same goes for those who claim that an «irremediable realism» must be derived from the fact that geologists or paleontologists talk about phenomena that *precede* human life, thus formulating an «ancestral statement» (Meillassoux 2009: 16-17). Both pandemics *and* the Anthropocene attest to that. It would be a mistake to take this as to suggest that language, discourse or culture must be dispensed with — the claim is rather that they all ultimately refer to a reality that they do not create nor can ultimately control.

6. Finally, the pandemic is like the Anthropocene in that it brings to the fore the biological aspect of human beings and suggests that there is such thing as an *anthropos* that is comprised by the members of the human animal species. Now, it has been argued that every disease can be associated to a particular «identity», which takes shape once it has acquired public visibility and is originated in a complex discursive process in which scientists, political leaders, journalists and citizens take place (see Taylor 2013). Let us think of the image of tuberculosis as a romantic illness (Sontag 1990) or the moral stigma attached to patients of AIDS (Tewksbury y Deanna McGaughy 1997). And for all the talk about the connection between the coronavirus and xenophobic feelings against minorities or vulnerable groups, COVID-19 has rather emerged as a global disease that potentially threatens all human beings regardless of their gender, class, or ethnicity. Needless to say, preexisting inequalities do not disappear — disadvantaged groups are more likely to be infected (as they cannot isolate

themselves so easily) or receive a poorer treatment (for lack of insurance or efficient public services). But the risk of infectious death does not spare anyone and could be felt strongly across the social body during the first lockdowns. Moreover, the disease has travelled fast around the planet and has been commented upon in social media at the same time by an emerging global public sphere. Clive Hamilton (2017: 77) has suggested that the Anthropocene provides an emergent narrative of humanity that can repair the shortcomings of modernity as far as the creation of a truly universal project is concerned. As much as «humanity» is invoked in connection to the challenges of the Anthropocene, the pandemic has produced a good deal of similar appeals (see Gates 2020, Diamond 2020). Most importantly, the virus has reminded us that we all share a common humanity — all members of the species are potential carriers and hosts of SARS-CoV-2. Biology thus provides an *elemental definition* of what does it mean to be human — a member of a particular animal species that happens to be a powerful environmental force. Yet talking about the species does not entail embracing essentialism (as culture ensures the production of difference), an unhistorical perspective (both humans and their environments change for evolutive and sociocultural reasons) or a depoliticizing approach (the emphasis on biology is not meant to neutralize politics). Unlike previous uses of biology, this is a *positive* one: all individuals are automatically included in this category.

5. Conclusion.

In this paper, I have dealt with the relation between the pandemic and the Anthropocene. Despite the popular view that the former is a consequence or at least a side-effect of the latter, I have argued that the coronavirus pandemic is just *facilitated* by the Anthropocene but not specifically *caused* by it. On the contrary, zoonotic spillovers have occurred throughout human history. In fact, they are originated in the Holocene as human beings started to live sedentarily in larger settlements. Tellingly, they have also taken place when human beings had a relatively moderate impact on the human environment. There is nothing inherently modern or global in a contagion that happens when a human being eats or enters into contact with a wild animal in a wild habitat or a wet market. Needless to say, globalization and mobility multiplies the velocity at which the virus spread across the planet, thus turning a local event into a global one — then again, that is what pandemics are about. As for the argument that the social and political response to the pandemic provides a blueprint for managing climate change, I have argued that this is not the case: a temporary halt to globalization and economic activity, plus a temporary restriction of individual liberties, proves nothing about the existence of a feasible alternative to the existing social organization and neither demonstrates that such alternative —call it degrowth or deceleration— is popular or can be democratically decided upon.

Nevertheless, I have also suggested that the pandemic can reinforce the verisimilitude of the Anthropocene — as a new epoch for humanity and as the epistemic framework through which socionatural relations should be observed. COVID-19 has shown that nature retains elements of autonomy *vis-à-vis* human beings and social forces, demonstrating how futile it is the attempt to avoid any friction between them: socionatural relations are bound to be inherently problematic. At the same time, the powerful agency of viruses gives credence to the neomaterialist argument about the distribution of agency and also suggests that nature and society are deeply entangled rather than neatly separated. From a philosophical viewpoint, the pandemic also confirms that a return to materiality is warranted after decades of emphasis on the «constructed» quality of reality. Finally, the repeated appeals to humanity in the face of the pandemic mirrors those that are made in relation to the Anthropocene — suggesting that the biological aspect of human beings may be the foundation for a new understanding of the *anthropos* and for the recognition that the human species is an emergent agent of politics.

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