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| RESEARCH ARTICLE

A New Lexicon for the Anthropocene: The Words of the Pandemic

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| ABSTRACT
The term "Anthropocene", introduced by Crutzen and Stoermer in 2000, describes the massive impact of human activities able to influence geological processes: humans are a force of nature in a geological sense. The recognition of a close interdependence between man and nature has been consciously elaborated only since the late 1960s and early 1970s, thanks to publications in scientific environmentalism. It is indeed valuable to note that literary texts discuss these issues much earlier. Henry David Thoreau (1817–1862), in his essay Walking back in 1861 introduces the idea of preserving nature when it was unknown and unpredictable. A few years later, another author, John Muir (1838–1914), supports the interpretation of nature as worthy of intrinsic value and contributes to the creation of the Yosemite Park in California. What these texts have in common is that they belong to the genre "nature writing", which is capable of putting itself at the service of the natural environment and to which Spillover: Animal Infections and the Next Human Pandemic (2012) by American nature writer, David Quammen, also belongs. Spillover fits perfectly into this literary tradition, embodying the main characteristics of the genre. Moreover, it shows some optimism towards the future, offering the possibility of redemption to our species. The redemption of literature in the context of environmental narration is solidified not only through nature writing. Spillover proves to be prophetic like its classical ancestors, also through the introduction of a new terminology that contributes to developing a new lexicon, that of the Anthropocene.

| KEYWORDS

Anthropocene, pandemic, nature writing, ecoliterature, spillover, lexicon, zoocracy

| ARTICLE INFORMATION

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1. Introduction

The term "Anthropocene" was first coined by Paul J. Crutzen and Eugene F. Stoermer in 2000, when they stated that "it seems appropriate to assign the Anthropocene to the present… human-dominated, geological epoch, supplementing the Holocene – the warm period of the past 10-12 millennia" (Crutzen and Stoermer 2002: 23). Indeed, human activities are exerting an increasing impact on the environment at all scales, often surpassing natural processes. They have grown to become substantial geological forces, for example, through land use changes, deforestation, and the use of fossil fuels. Crutzen and Stoermer believe that this epoch began about two centuries ago, coinciding with James Watt's design of the steam engine in 1784.

The enormous impact of human activities has led to changes capable of affecting geological processes, comparable to the movement of tectonic plates during volcanic eruptions. We were used to thinking of geological history operating on extraordinarily extended time scales and human history acting on a very contracted time scale. In the Anthropocene, humans are no longer just biological agents interacting with the environment, but also geological agents. The dramatic nature of this shift is that this is not a sign of human supremacy, but rather it determines an extreme vulnerability of humans increasingly tied to the natural environment and its changes. In other words:

For it is no longer a question of man having an interactive relationship with nature, that humans have always had, or at least that is how man has been imagined in a large part of what is generally called the Western tradition. Now it is being claimed that humans are a force of nature in a geological sense. (Chakrabarry 2009: 207).

The recognition of the close interdependence between man and nature has been consciously discussed only since the late 1960s and early 1970s, thanks to texts that inaugurated a new field of study, scientific environmentalism. Notable works include: Kenneth E. Boulding, *The Economics of the Coming Spaceship Earth*, 1966; Paul R. Ehrlich, *The Population Bomb*, 1968; Barry Commoner, *The Closing Circle*, 1971; Club of Rome, *The Limits to Growth*, 1972. These writings are complemented by the proclamation of the first Earth Day on April 22, 1970, and the first UN conference, titled "United Nations Conference on the Human Environment", held in 1972 in Stockholm.

What is interesting to note in this context is that literature addressed these issues much earlier. "In wildness is the preservation of the world" (Emerson and Thoreau 1991: 95) is one of the most famous statements in the history of environmentalism, and was conceived by Henry David Thoreau (1817–1862) in his essay *Walking* in 1861, where he also declares:

I wish to speak a word for Nature, for absolute freedom and wildness, as contrasted with a freedom and culture merely civil--to regard man as an inhabitant, or a part and parcel of Nature, rather than a member of society. I wish to make an extreme statement, if so I may make an emphatic one, for there are enough champions of civilization: the minister and the school committee and every one of you will take care of that. (71)

All this was written in a historical moment characterized by the industrial revolution and the idea that the use of nature to favor human activities and purposes was a right and a tool for the growth of civilization, and in an era when the concept of environmental preservation was unthinkable. Thoreau was a revolutionary thinker, and in his writing, the conservation of nature is constantly present: *A Week on the Concord and Merrimack Rivers* (1849), *Walden, or Life in the Woods* (1854), *The Maine Woods* (1864), *Cape Cod* (1865), and his *Journal* (posthumously published in 1906) are examples of a relentless commitment. A few years later, another author, John Muir (1838–1914), with volumes such as *The Mountains of California* (1894), *Our National Parks* (1901), *My First Summer in the Sierra* (1911), *The Yosemite* (1912), supported the interpretation of nature as worthy of intrinsic value and contributed to the creation of Yosemite Park in California. John Elder (1991) aptly highlights this connection: "On his mantel in Martinez, California, John Muir displays two portraits – those of Ralph Waldo Emerson and Henry David Thoreau. Acknowledging his own debt to the authors from Concord, Massachusetts, this defender of the Sierra wilderness also reflected their influence across the entire, diverse terrain of American nature writing" (VII). What these texts have in common is belonging to a genre, nature writing, capable of intercepting and profitably serving the natural environment, and to which *Spillover* – the text I will analyze – also belongs.

Spillover fits precisely into this literary experience, fully embodying the characteristics of the genre: it is a non-fiction work, recounting a personal experience through attention to detail and the use of stories that activate emotions – the *experiential system* (Epstein 1994: 709-724). It also draws on science from which it acquires content, which is to be shared in simple and understandable language. It reflects an ecocentric vision: the human being is represented as one of the many inhabitants of the planet, its only primacy perhaps being that of the most dangerous species. It also shows a certain optimism towards the future, offering possibilities for redemption for our species (Cfr. Re 2009: 21-26).
The redemption of literature in the context of environmental narrative is solidified not only through nature writing. **Spillover**, for example, besides being an exemplary model of the genre, proves prophetic like its classic predecessors, with the introduction of terminology that can contribute to developing a new lexicon, that of the Anthropocene, that will be examined in the following sections of the paper.

2. Virus, Outbreak, and Zoonoses

The word that dominates in *Spillover* is undoubtedly "virus." The book recounts a series of encounters the author has had with hunters and victims of viruses, scientists, and individuals who studied or experienced the most impactful epidemics of recent decades – Ebola, Marburg, HIV, SARS-CoV, etc. – with some references to the past (the Spanish flu). In a list whose length could compete with the number of entries in an encyclopedia, Quammen analyzes the history of some virulent realities originating from animals that have, in various ways, disrupted our planet. The list includes lesser-known diseases that have had a relatively limited impact, such as psittacosis (whose spillover dates back to 1880 in Europe), Lyme disease (which probably appeared in Sweden as early as the beginning of the 20th century), Q fever (spread during World War I in Europe), herpes B (which caught the attention of the U.S. scientific community around the 1930s), Marburg hemorrhagic fever (first documented in the 1960s in Germany), Hendra virus disease, and Nipah virus encephalitis (emerging only in the 1990s in Australia and Malaysia, respectively). The author also examines much more familiar viruses, some of which are of animal origins, such as malaria (much older than the other infections discussed here, as it probably made the spillover more than a million years ago), HIV (which jumped to humans

in 1908 in Cameroon), the five strains of Ebola (appearing between the 1970s and 1980s in Africa and the Philippines), and the SARS viruses (manifesting in China in the new millennium), which fall into the same category as the viruses of bubonic plague, rabies, and influenza, including the Spanish flu, avian flu, and swine flu. Quammen (2012) emphasizes the danger of viruses, which can become one of the most serious threats on the planet. He states:

Viruses are the most problematic. They evolve quickly, they are unaffected by antibiotics, they can be elusive, they can be versatile, they can inflict extremely high rates of fatality, and they are fiendishly simple, at least relative to other living or quasi-living creatures. (24)

Furthermore, viruses cannot be attributed to any malevolence, as all living beings "naturally" aspire to survival:

Viruses can only replicate inside the living cells of some other organism. Commonly they inhabit one kind of animal or plant, with whom their relations are intimate, ancient, and often (but not always) commensal. … A parasitic microbe, thus jostled, evicted, deprived of its habitual host, has two options – to find a new host, a new kind of host … or to go extinct. It's not that they target us especially. It's that we are so obtrusively, abundantly available. "If you look at the world from the point of view of a hungry virus," the historian William H. McNeill has noted, "or even a bacterium – we offer a magnificent feeding ground with all our billions of human bodies, where, in the very recent past, there were only half as many people. In some 25 or 27 years, we have doubled in number. A marvelous target for any organism that can adapt itself to invading us." Viruses, especially those of a certain sort – those whose genomes consist of RNA rather than DNA, leaving them more prone to mutation – are highly and rapidly adaptive. (41)

To explain the behavior of viruses, Quammen (2012) uses a firsthand experience: the encounter with *Malacosoma disstria* belonging to the *Nucleopolyhedrovirus* (NPV). The virus enters the author's daily life in an unusual and terrifying way:

The caterpillar story begins back in 1993. That year, in the tree-shaded town where I live, it seemed that autumn had come early – earlier even than usual for a valley in western Montana … [It] was June. It seemed like autumn because the leaves were gone from the trees. … They hadn't turned yellow, fallen, piled up in gutters as aromatic autumnal mulch. They had been eaten. A pestilential abundance of small, hairy larvae had materialized like a plague out of Exodus, stripping the trees of their foliage. … It was awesome, in an ugly way. … Eventually they finished eating. (493-494-495)

Sometimes, this happens gradually, sometimes suddenly, in some cases, it starts again and ends again. What was the cause of the larvae invasion? The answer is quite simple: the cause was a virus. Quammen (2012) explains that such a situation has been defined as an outbreak, another ominous term to be included in our dictionary of the Anthropocene:

Ecologists have a label for such an event. They call it an outbreak. This use of the word is more general than what's meant by an outbreak of disease. You could think of disease outbreaks as a subset. Outbreak in the broader sense applies to any vast, sudden population increase by any single species. (495)

The evolution of the caterpillar story as an outbreak is very similar to that of the human species, as the author explains:

An entomologist named Alan A. Berryman addressed it some years ago in a paper titled "The Theory and Classification of Outbreaks." He began with basics: "From the ecological point of view, an outbreak can be defined as an explosive increase in the abundance of a particular species that occurs over a relatively short period of time." Then, in the same bland tone, he noted: "From this perspective, the most serious outbreak on the planet Earth is that of the *Homo sapiens*." Berryman was alluding, of course, to the rate and the magnitude of human population growth, especially within the last couple of centuries. (496)

From our beginning as a species (about 200.000 years ago) until 1804, the human population rose to a billion. Between 1804 and 1927, it rose to another billion. We reached 3 billion in 1960. In 1987, the world population was around 5 billion. Each addition of a billion people has taken about 13 years. In 2011, we were 7 billion (Quammen 2012: 496; Berryman 1987). Today, we are more than 8 billion (www.worldmeters.info).

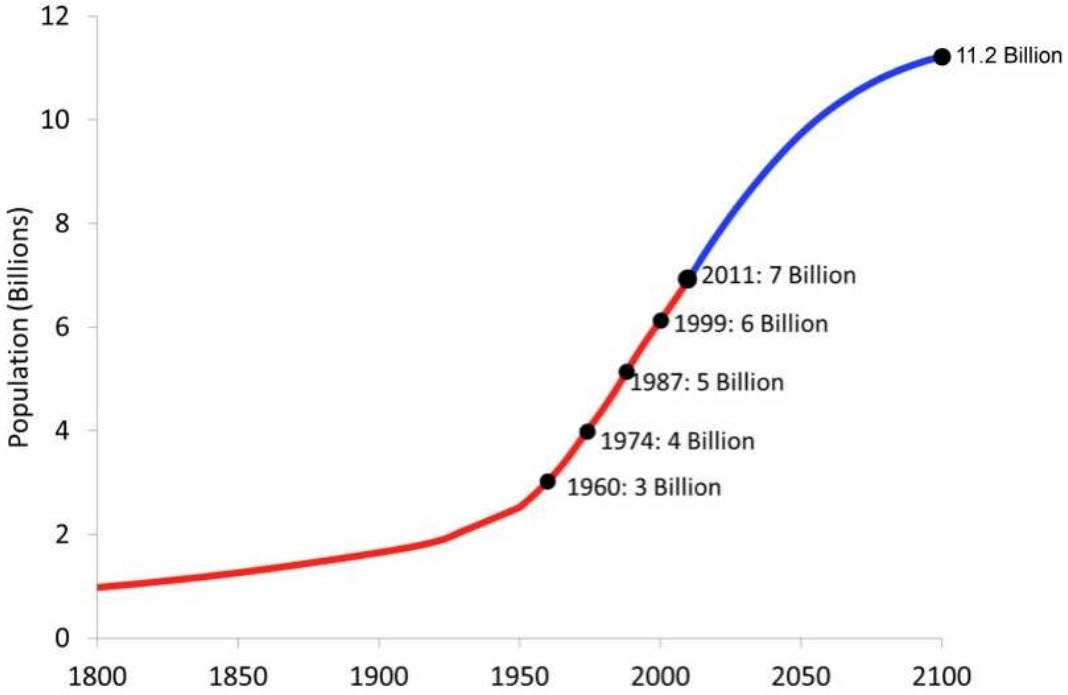

Figure 1. United Nations Projections on World Population until 2100
Source: Various sources before 1950 and from 2015: UN World Population Prospects: 2015 revision

Moreover, Quammen (2012) emphasizes that humans are hungry consumers, at unprecedented levels. No other primate has weighed so heavily on the planet, not even remotely. He gets more and more provocative, and referring to the impact of human beings on planet Earth, he states:

We're big: big in body size, big in numbers, and big in collective weight. … In ecological terms, we are almost paradoxical: large-bodied and long-lived animals, but grotesquely abundant numerous. We are an outbreak." (497)
Associating the virus outbreak with the population outbreak is an effective and at the same time cruel narrative strategy, confronting us with a reality we may never have had the courage to see.

A similar reasoning can be applied when analyzing the curve of COVID-19, which followed the trend of the exponential model, starting quietly and then booming into an outbreak. Then it gradually declined. The graphical representation of the virus's trend in Italy during the first and second waves shows a behavior similar to that of Quammen's virus. These two COVID-19 waves were chosen because Italy was the first country in Europe to experience this phenomenon and because it was quite cruel there. After exponential growth, it reaches a peak and then descends. This last phase of the curve has not yet manifested in relation to the growth of the human population. But it is an inevitable fate, for which Quammen, once again prophetically, prepares us.
It can be said that the caterpillar invasion, the growth of the human population and the COVID-19 curves worked in the same way, that of an outbreak. So yes, as Quammen states, we are an outbreak.

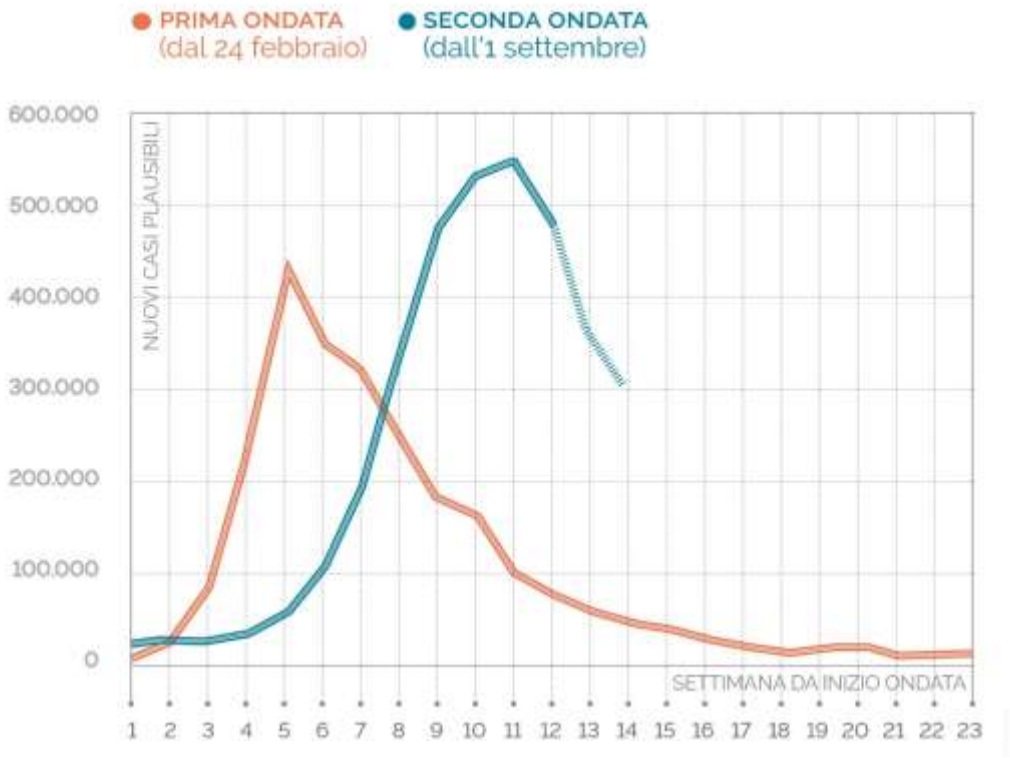

Figure 2. Covid-19 in Italy: First vs Second Wave (2020)
Source: ISPI elaborations on data from the Istituto Superiore di Sanità and Istat

But how can an outbreak trigger a pandemic? The spread of viruses is possible because their transmission to humans occurs through a simple mechanism, zoonosis, a word that COVID-19 has made dramatically familiar to us and that Quammen examines, asserting that its wild origin represents the most considerable and growing threat to the health of the world's population among all emerging diseases. It seems necessary to monitor global health and identify new pathogens in wildlife that are potentially transmissible to humans as a preventive measure against future emerging diseases. Quammen (2012) states:

That sounds reasonable: *Let's keep an eye on wild creatures. As we besiege them, as we corner them, as we exterminate them and eat them, we're getting their diseases*. It even sounds reassuringly doable. But to highlight the need for monitoring and forecasting is also to highlight the urgency of the problem and the discomfiting reality of how much remains unknown. (44)

Zoonosis is a mechanism that confirms the continuity between human and non-human life, between domesticated and wild, and that determines the now "geological" effects of the *anthropos*. In Quammen (2012) words:
Pondering [these diseases] as a group tends to reaffirm the old Darwinian truth (the darkest of his truths, well known and persistently forgotten) that humanity is a kind of animal, inextricably connected with other animals: in origin and in descent, in sickness and in health. (14)

Henry David Thoreau's statement in *Walking*, "In wildness is the preservation of the world," appears more appropriate than ever. The preservation of a portion of wild land is essential for the survival not only of humans but of the entire planet. Thoreau's intuition derives from the theory of correspondence, voiced in Ralph Waldo Emerson's *Nature*, according to which there is a symmetry between "the spiritual coherence of the cosmos and the mystical correspondence between the realms of nature and of the spirit" (Buell 2006: XXVII). Considering the human being also as a creation of God, transcendentalism calls for an inner and direct relation to the Universe when opening one's spirit to the mystical force of nature. There is a special bond between the object of observation and the observer. When retreating oneself in nature, the individual can experience them as parallel creations of the same omnipresent Spirit.

3- Zoological bedlam and the Next Big One

A meaningful chapter for this analysis of *Spillover* is the fourth, titled "Dinner at the Rat Farm," where the author recounts the story of SARS-CoV-1, prophetically similar to SARS-CoV-2. Emerging in China in 2003 and characterized by high infectivity, it soon reached other Asian countries and Canada. After recording cases in some other countries (including Germany), the World Health Organization declared it a global health problem. The name is a synthesis of the acronym for "severe, acute respiratory syndrome" (Quammen 2012: 172) and the abbreviation for "coronavirus" (Quammen 2012: 185) (due to the spiky structure of the protein, resembling a crown). The number 1 was added to distinguish it from the infection we have come to know all very well. The SARS virus likely spread due to a trend among wealthy people in southern China: consuming dishes made from rare and expensive exotic wild species – believed to have healthy and invigorating properties – sold in unsanitary markets. When the government, after ordering the slaughter of various animal specimens, made their sale illegal, the trend did not cease but continued clandestinely in a condition described by Quammen as "zoological bedlam" (189). The author uses this expression to report a research conducted by a group of scholars based in Hong Kong who visited the Guangdong "wet markets" (188) between the end of 2000 and the beginning of 2003. He suggestively quote selections of their observations:

"The animals are packed in tiny spaces and often in close contact with other wild and/or domesticated animals such as dogs and cats," the survey team wrote. "Many are either sick or with open wounds and without basic care. Animals are often slaughtered inside the markets in several stalls specialising in this." Open wire cages, stacked vertically, allowed wastes from one animal to rain down onto another. It was zoological bedlam. "The markets also provide a conducive environment," the team noted, almost passingly, "for animal diseases to jump hosts and spread to humans." (189)

Many emerging diseases are linked to reckless human behaviors that can lead to catastrophes. The pinnacle of the prophetic essence of *Spillover* is the reference to the Next Big One, the next major event, understood as the emergence of a disease, a pandemic that would shake the planet. The fact that Quammen (2012) suggests it might explode in a market in southern China brings it close to a true premonition:

Some knowledgeable and gloomy prognosticators even speak of the Next Big One as an inevitability. (If you're a seismologist in California, the Next Big One is an earthquake that drops San Francisco into the sea, but in this realm of discourse it's a vastly lethal pandemic). Will the Next Big One be caused by a virus? Will the Next Big One kill 30 or 40 million people? The concept by now is so codified, in fact, that we could think of it as the NBO. (42)

Our NBO emerged in Wuhan, China, in the last months of 2019. Its origins are uncertain, but it is believed that the reservoir host is bats, and there are several reasons why this species is so favorable for this role in the context of zoonotic diseases. The virus likely hid for many years, reaching humans through an intermediate species leap. What might seem like Quammen's divinatory abilities are actually predictions driven by ecological awareness, which was shamefully lacking at the political level with the onset of this disease. SARS-CoV-1 was already a warning signal, as were scientific studies on the connections between humans, coronaviruses, and bats. But respiratory crises were initially underestimated, the pathogen causing them was mistakenly considered not dangerous, and every day that passed without serious government measures represented countless opportunities for the virus to jump from person to person.

Viruses, zoonoses, emerging diseases, zoological bedlam, Next Big One, etc., are just some of the expressions introduced by Quammen. A more detailed reading of the volume highlights a terminology that was unfamiliar to most until the COVID-19 pandemic. Several words became of common usage and were associated with circumstances we have had to face firsthand, such as the initial shortage of safety devices and the related price increase, mandatory quarantine for suspected cases, and school closures (Quammen 2012: 179-180 on the widespread of SARS-CoV-1 in 2003). Here are some of the most significant examples, in brackets the occurrences in the text:

Virus (998)	Zoonosis (27)
Infection/s (632)	Protection/protect/protecting (26)
Bat(s) (425)	R0 (transmissibility rate) (25)
Outbreak(s) (280)	Fatality rate/s (23)
Viruses (227)	Virologist/s (22)
Infectious (213)	First case (21)
Transmissible (192)	Mutation rate (21)

Wild (152) SARS (139) Immunity/immune/immunization (104) Epidemic(s) (102) Isolation/isolate/isolating (95) Antibodies (91) Spillover (81) Zoonotic (79) Emergency emerging disease/s (74) RNA (74) Pandemic (73) Containment (72) Vaccine/s, vaccinating (69) Replicate(s) (68) Reservoir host (65) Wildlife (57) Mutation (55) Virulent (55) Mask (49) Susceptible (43) Respiratory (40) associated with syndrome (mainly), diseases, infection, distress, pathogens, swab, system, droplets, symptoms, illness. Gloves (39) Coronavirus (31) Amplifier (30) Contaminant/contamination (29)	Swab/s (21) Airborne (20) Variant/s (20) Superspreader(s), superspreading (20) Atypical pneumonia (18) SARS-CoV (severe, acute respiratory syndrome from coronavirus) (18) Quarantine (16) Amplification host(s) (15) Blood serum (13) Contagious (12) Reservoir species (11) Airborne transmission/transmissible (10) Spike/s (10) N95 (FFP2) (8) Intubated/intubation (7) Seroprevalence (7) Virus hunter (7) Wet market (7) Droplet(s) (6) Contagion (6) Gowns (6) Virosphere (4) Intensive care (3) Pangolin (3) Cytopathic effect (1)

Table 1. The words of the pandemic in *Spillover*

If all the terms that are included in the table have entered our vocabulary in the years of the pandemic, some were already regularly used but with different definitions and connotations. For example, words like "infection," "isolation," "mask," "respiratory," "droplet" are common in everyday language, but acquired a dramatic meaning in the context of COVID-19. Other words, such as, "SARS," "RNA," "reservoir host/species," "zoonosis," "superspreader," "amplification host," "airborne transmission," "spike," "virus hunter," "wet market" were almost unknown to the general public before the pandemic and arrived forcefully and quickly in our daily lives, defining the world that was changing and us with it. This terminological repertoire in *Spillover* anticipated issues we will have very likely to discuss in the future: the words of pandemic constitute a section of the emerging vocabulary of the Anthropocene.

4. Perspectives

A further step taken by Quammen (2012) in his narrative is to associate the emerging diseases described with the environmental crisis we are experiencing. With direct and sometimes harsh language, he provides his point of view:

Make no mistake, they are connected, these disease outbreaks coming one after another. And they are not simply *happening* to us; they represent the unintended results of things we are *doing*. They reflect the convergence of two forms of crisis on our planet. The first crisis is ecological. The second is medical. As the two intersect, their joint consequences appear as a pattern of weird and terrible new diseases, emerging from unexpected sources and raising deep concern deep foreboding, among the scientists who study them. How do such diseases leap from nonhuman animals into people and why do they seem to be leaping more frequently in recent years? To put the matter in its starkest form, Human-caused ecological pressures and disruptions are bringing animals pathogens ever more into contact with human populations, while human technology and behavior are spreading those pathogens ever more widely and quickly. (39-40)

The only way to stop a pandemic is to ensure that the number of at-risk individuals within a population decreases to below a certain threshold, an event possible only through the worldwide administration of a vaccine. We have seen that the time required to prepare, distribute, and administer vaccines to the entire human population can be relatively short. However, it is necessary for international political leaders to invest in scientific, health, and economic preparedness against future potential pandemics. It is also true that science alone is not enough. In the future, we may encounter viruses much more terrible than those we know, which could lead to the decimation of the human species before any kind of cure can be made available. To better illustrate, if HIV survived within the salivary apparatus of mosquitoes or—hypothetically, in an even more tragic scenario—if it were airborne, AIDS would be a more dramatic disease than it already is, likely becoming the most severe pandemic of all time. For this reason, the strategy to prevent Earth, our home, from becoming an inhospitable and unlivable place due to deadly pathogens requires addressing the root cause. Individual actions influence the transmission rate of a given pathogen. Our actions echo throughout the entire system and contribute to global change. Despite many believing that the environmental debate is irrelevant to real politics, and although the concrete effects of our work may seem like a grain of sand in the desert, we should always act as if our actions can truly change the fate of humanity.

5. Conclusions: Anthropocene and Zoocracy

The acronym NBO, used by Quammen in the absence of a name identifying the great pandemic that would cripple humanity, has been concretely replaced by the acronym SARS-CoV-2. However, *Spillover* still aspires to contribute to the development of an awareness that can change the fate of the next zoonotic infection. This could happen through a serious awareness of the interconnection between humans and non-humans ? and the fact that care and attention should be extended to all inhabitants of our planet. Biologist Edward O. Wilson, in *The Future of Life* (2003) believes that humanity has become a "planetary killer, concerned only with its short-term survival" (202). He argues that humans must think of themselves as a species among species and adopt an ecocentric view not only as an exercise in critical self-understanding, but as a means to ensure the planet's future (2002-203). For Rosy Braidotti (2013), this movement towards species awareness is a necessary step towards post-anthropocentric identity. Fundamental to this process is the decentering of the *anthropos*, as a "representative of hierarchical, hegemonic, and generally violent species whose centrality is now challenged by a combination of scientific advances and global economic concerns" (65). The new vision requires a notion of relationality and ontological equality that does not privilege one form of life over another. Nonetheless, the idea that the non-human is devoid of language and moral personality persists and is therefore excluded from substantial forms of participation, those in which decisions are made, and has no control over those that often threaten its very existence.

The doctrine of international law of permanent sovereignty (cfr. Zambrano 2009) over natural resources establishes that each state has the inalienable right to dispose of its wealth and natural resources in accordance with its national interests. The consequence of this legal-political ontology is that the non-human is understood and treated as mere property. The project of an ecological democracy, a "zoocracy," to introduce one last term in this brief lexicon of the Anthropocene, could be a way to respond to the crisis of political representation reflected in the catastrophic consequences of the global environmental crisis. The Holocene was characterized by liberal democracy. The Anthropocene should be represented by zoocracy (Inchingolo 2021).
Implicit in this ontology of inclusion is an ecological ideal of political communication in which the constituent groups, human and non-human, are mutually intelligible to enable a fairer mode of deliberation. Burke and Fishel (2020), echoing the insights of scholars in the field of biosemiotics, stated that non-human animals possess complex systems of exchange, solidarity, and communication between and across species, and that this communicative complexity requires an adequate response (33-52). Our task seems clear. We have to learn the language of the Earth and re-imagine politics in its idioms, to repair – at least in part – the damages of today and prevent future ones.

Anna Re's biography

Anna Re is Senior Researcher of English, Linguistics and Translation at IULM University, Milan. She graduated in Foreign Languages and Literature at IULM, she then obtained a Master in English with an Emphasis on Literature and the Environment at the University of Nevada, Reno (USA) and a PhD in Comparative Literature at IULM. Her scientific activity is structured around two main strands: the translation of environmental literature and its linguistic and literary analysis; and the study of various topics in the field of English Linguistics, with special regard to discourse analysis and ecolinguistics, as in her very recent volume *Discourse analysis and the environment: ecolinguistic perspectives* (Led Edizioni, 2024). She also published *Italian Environmental Literature: An Anthology* (Italica Press, 2003), the first work of translation and critical analysis dedicated to the study of literature and the environment in Italy, and still used in various Italian departments in the United States, and the anthology *Americana Verde* (Edizioni Ambiente, 2009) released in a new expanded online edition in 2017, the first publication in Italy dedicated to literature and the environment in the United States.

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