



Citation: D. Bergandi, F. Galangau-Quérat, H. Lelièvre (2020) Coronavirus and the Heterogenesis of Ends: Underpinning the Ecological and Health Catastrophe is a Political Crisis. Substantia 4(1) Suppl. 1: 911. doi: 10.13128/Substantia-911

Received: Apr 17, 2020

Revised: Apr 21, 2020

Just Accepted Online: Apr 22, 2020

Published: Apr 22, 2020

Copyright: © 2020 D. Bergandi, F. Galangau-Quérat, H. Lelièvre. This is an open access, peer-reviewed article published by Firenze University Press (http://www. fupress.com/substantia) and distributed under the terms of the Creative Com- mons Attribution License, which per- mits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Data Availability Statement: All relevant data are within the paper and its Supporting Information files.

Competing Interests: The Author(s) declare(s) no conflict of interest.

Feature Article

Coronavirus and the Heterogenesis of Ends: Underpinning the Ecological and Health Catastrophe is a Political Crisis

Donato Bergandi, 1* Fabienne Galangau-Quérat, 2 Hervé Lelièvre 3

- ¹ Dept. Origines et Évolution, Muséum National d'Histoire Naturelle, Paris, France
- ² Dept. Homme et Environnement, Muséum National d'Histoire Naturelle, Paris, France
- ³ Dept. Histoire de la Terre, Muséum National d'Histoire Naturelle, Paris, France
- *Corresponding author: donato.bergandi@mnhn.fr

Abstract. The coronavirus catastrophe that we are experiencing is first of all the result of an ecological catastrophe, but its underlying fundamental cause is the political crisis that our democracies are living. The sustainable development model is a smokescreen that will lead not to making deepgoing changes to the economic paradigm but to continuing with business as usual. The betrayal of the elites, both political and economic, supported by a system that is no longer democratic, has exposed the population to this type of sanitary problem. A deep transformation of our political system is urgently needed. The people must take part in a true democracy, a direct democracy, that initiates a new democratic revolution capable of countering the *sinister interests* of the elites, of the caste in power.

Keywords. Coronavirus, sustainable development, direct democracy, ecological catastrophe, health catastrophe, political crisis.

1. Is Development Sustainable?

The dystopic ecological catastrophe that we are living is preparing us for other catastrophes that are coming. Everyone on the planet knows the name of this sanitary catastrophe: coronavirus and covid-19, referring to "severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)" and the disease it causes. Unfortunately, far fewer people are aware that the proximate cause of this sanitary catastrophe is ecological. And, assuming the virus is not a military product or bioweapon, its animal source will be confirmed, sooner or later. It seems likely that this will be a bat or a pangolin. By the way, in 2017 the US military had already predicted, with a certain clairvoyance, that a respiratory disease was the "enemy to fight".

Numerous international treaties, declarations and conferences have affirmed ad nauseam that the erosion of biodiversity must be stopped – essentially because humanity depends on this. The Stockholm Declaration (The *United Nations Conference on the Human Environment*) affirmed back in 1972 that, "Of all things in the world, people are the most precious (§ 5)."

Substantia. An International Journal of the History of Chemistry 4(1) Suppl. 1: 911, 2020 ISSN 2532-3997 (online) | DOI: 10.13128/Substantia-911

The Brundtland Report, the Report of the World Commission on Environment and Development: Our Common Future (1987) underlines, yet again, the instrumental value of biodiversity: "53. The diversity of species is necessary for the normal functioning of ecosystems and the biosphere as a whole. The genetic material in wild species contributes billions of dollars yearly to the world economy in the form of improved crop species, new drugs and medicines, and raw materials for industry. But utility aside, there are also moral, ethical, cultural, aesthetic, and purely scientific reasons for conserving wild beings."

And the *United Nations Conference on Environment* and Development (UNCED, 1992) adopted the Rio Declaration on Environment and Development, which affirms that: "Human beings are at the centre of concerns for sustainable development" (principle 1).

Ten years later, at the World Summit on Sustainable Development (WSSD, 2002), it is once again stated: "24. Human activities are having an increasing impact on the integrity of ecosystems that provide essential resources and services for human well-being and economic activities."

In 2012, the *United Nations Conference* Sustainable Development Rio+20 reaffirmed importance of the *Universal Declaration of Human Rights*, in particular that:

"6. We recognise that people are at the centre of sustainable development, and in this regard, we strive for a world that is just, equitable and inclusive, and we commit to work together to promote sustained and inclusive economic growth, social development and environmental protection and thereby to benefit all.".

At the UN Sustainable Development Summit (2015), Transforming Our World: 2030 Agenda for Sustainable Development proposed: "9. We envisage a world ... [o]ne in which development and the application of technology are climate-sensitive, respect biodiversity and are resilient. One purpose was to identify some remarkable places: in which humanity lives in harmony with nature and in which wildlife and other living species are protected."

up to now... meagre at best. Some recent analyses consider had as much right there as we did" (Pinchot, 1946, p. 103). that humanity is even creating the conditions for a "biological annihilation" (Ceballos, Ehrlich and Dirzo 2017).

misinterpreted humanism (Ehrenfeld 1978) anthropocentric, resourcist, and economicist (the intrusion of cause.

economics into everything else). It is a kind of smokescreen that fails to make any substantive change in the economic model while permitting the continuation of business as usual.

Even if formally it stigmatises the erosion of biodiversity, in reality, productivism goes unquestioned. In an oxymoronic way, between "development" and "protection", when development takes place, it annihilates the protection of biodiversity (Bergandi, 2018). Sustainable development is one clear filiation of the "conservationism" of Gifford Pinchot (1865-1946), an American forester and politician, the first head of the United States Forest Service and the 28th Governor of Pennsylvania. Pinchot along with John Muir (1838-1914) and George Perkins Marsh are the people who started the first forms of environmentalism.

In his philosophical manifesto (1910), Gifford Pinchot supported the development of natural resources, which are equated to capital that you need to increase and save, together with the prevention of waste. The third principle of this manifesto declared that all other interests were to be subordinated to the "public good". For Pinchot, nature was nothing more than a resource to be exploited.

With John Muir, Pinchot started a war against the irrationalism of woodworking industrialists, but at one point the differences between their visions of the world emerged into broad daylight. After the great earthquake of San Francisco in 1906, the city's mayor wanted to bring in water, using the nearby resources of Yosemite National Park. John Muir stood in defence of Hetch Hetchy Valley in the National Park, but in the end Pinchot and the mayor won the battle, allowing the utilisation of part of the Park. This definitively confirmed Pinchot's dastardly pact with economic interest groups, and the separation between the two souls of the environmentalist movement. To give a more concrete idea of the divergences between the two, we can quote Pinchot's account of an episode that clearly reveals two universes of sensibility and action, at antipodes. Pinchot tells us, during a journey with Muir and the members of a Commission whose

"While the others drove through the woods to a 'scenic point' Given all this, it is hardly surprising to see that a large and back again, with John Muir I spent an unforgettable day majority of major corporations declare that they support the on the rim of the prodigious chasm, letting it soak in. I sustainable development paradigm and its implementation! remember that at first we mistook for rocks the waves of the Yet the dreamworld of the international treaties is going rapids in mud-laden Colorado, a mile below us. And when we against reality, which is shown not least of all by the results came across a tarantula he wouldn't let me kill it. He said it

But why speak about sustainable development and the Already back in the 19th century George Perkins Marsh environment in a paper that is supposed to be about (1801–1882), the environmentalist, enlightened catastrophist coronavirus and the health catastrophe we're experiencing? forward-thinking in his encyclopaedic work, noting the Why? Because the proximate cause of this pandemic is the irrational behaviour of humankind and warning of a "war ecological catastrophe that we are living; because it is against nature" (1864). In short, sustainable development is determined in turn by the political crisis that our democracies are undergoing – and that is the primary and fundamental

2. The Coronavirus Pandemic Reveals the Political **Crisis and Incompetence of our Governments?**

catastrophe results, in turn, from a political crisis that at allow humanity to survive. The objective alliance of the mass "testing" of the population at large. political and economic elites is not only draining the wealth liberal programmes.

public sector in favour of the private sector.

These programmes started a policy of austerity, which gloves, respirators, etc.).

only have they left us tragically unprepared for the onset of (Hall, 2011). the virus, because of the lack of protective material that the disease using masks, mass testing AND confinement.

Korea, the Occidentals privileged more "passive" strategies like human economic activities). confinement, as in Italy, Spain and France, among others. Then to an infectious disease such that it stops the disease from humans originate in the bodies of other animals. spreading.

The result: Boris Johnson, Prime Minister of the United Kingdom, caught covid-19, and the Americans are now top of the class in terms of disease spread and mortality. But the Even fewer people are conscious that the coronavirus reality of "facts" (thousands of dead), including the lack of protective equipment, led them to row back to confinement. least in the democratic countries has lasted for three or four The US has now surpassed even the Italians, who at least decades and has concretised itself in the "tacit" alliance of faced the difficulty of a population who were older than the political and economic castes "against" the (human) average. In contrast, Taiwan and South Korea, and to a lesser populations and the other species and environments that degree Germany, have chosen a more "active" strategy, doing

Not only were our governments unprepared for the of countries, but regardless of the political programme on pandemic's arrival, but their cacophony of rules that changed display, they have "married" on the basis of liberal and neo-quasi-daily showed how they have clumsily sought to hide the lack of tests, masks, gloves and other protective material. It is For the record, the neoliberal programmes propose an this lack that has largely dictated the strategies of our extreme form of liberal objectives, policies that 1) promote governments. Earlier, the masks were said to be useless, the market economy, 2) oppose increased public except for caregivers. Later, they became useful for everyone. intervention in the economy; 3) support the deregulation of The endless changes in policy seek to conceal that there is not markets; and 4) encourage the gradual disappearance of the enough protective equipment, including the masks and above all the tests. C'est la vie...

We must change the model of civilisation. As ecocentric was vehicled and imposed by the European Commission environmental ethics proposes (Muir, 1916; Leopold, 1949; along with all the multilateral organisations at many levels. Taylor, 1986; Callicott, 1989; Callicott, 2013; Bergandi, Among other objectives, they targeted health care systems. 2013; Bergandi and Blandin 2012), we must recognise that Hospitals followed new laws (that put entrepreneurs in nature has intrinsic value; nature is not there for "our interest" charge of constituting the stocks of protective materials) or "our good". Nature is not there as a "means" to our ends; and were headed by the "cautious" figure of a so-called its value depends solely on the intrinsic properties of the manager-director (a political figure: in general, someone (natural) entity, not on our evaluation of it. These are different not competent in the domain where the decision-maker ways of saying that nature must be respected, just as humans works). The hospitals were not able to maintain stocks of are respected, simply because ... they are human (Universal protective materials in the event of a pandemic (masks, Declaration of Human Rights). We must go beyond a hierarchicalistic worldview in which "persons are more In such circumstances, the negligence and incompetence valuable than things" (Geisler, 1971). Animals and even plant of the caste governing us was dramatically revealed. Not species must cease to be "things", and become "persons"

But sometimes history deals us unforeseen cards ... hospitals could not constitute or reconstitute, in an effort to sometimes, the heterogenesis of ends (Vico [1744] 1948; save money, as was demanded by the European Wundt 1886) becomes an actor in human life. That is, "an Commission. But the governments have also used only intentional action can produce unintentional consequences". confinement as a strategy to respond to the coronavirus In other words, "the destroyers of nature" (of the ecosystems), attack, and systematically lied, particularly the French that is, the productivistic model of our economy and the government, denying the clear evidence and insulting our "uninhibited" entrepreneurs who disrupt the ecosystems and intelligence: "Masks are useless", they solemnly intoned, "exploit" them with ever-increasing efficiency "to reap more whereas Taiwan and South Korea have jugulated the money", thereby create the conditions for the "passage" of the virus, adapted to secular ecosystems, in the human species -In contrast to Oriental populations like in Taiwan and South because their original environment is being destroyed (by

A word that we will hear more frequently in coming years there's the laissez-faire of the English and Americans, who is "zoonosis", that is, "an infectious disease caused by initially privileged a misunderstood Darwinian principle bacteria, viruses, or parasites that spread from non-human ("survival of the fittest"), "herd immunity", which develops animals (usually vertebrates) to humans" (see Quammen, when a sufficient percentage of a community become immune 2012, 2014). Between 60% and 75% of infectious diseases in

(Badariotti, F. et al., "Eviter les prochaines crises en them to act. changeant de modèle alimentaire", Libération, 30 March because this is dangerous (zoonosis), but also for ethical reasons, to enlarge the "moral community" to the point of including non-human animals. Eating meat will then be considered as committing an act of "cannibalism". Long ago, in 1894, Henry Stephens Salt (1851-1939) proposed an enlargement of the moral community based on the extension of the idea of "humanity" to all other animals. We are long overdue.

3. Representative Democracy Is Not Democracy

Representative democracy cannot be considered as being a true democracy. In Athens, the source of our democracies, democracy was direct and not indirect (Osborne, 2010). This means that all the people participate in the elaboration of the laws, and not only an elite of professional decision-makers. Paradoxically, in representative democracy, at the very moment voting arose, the sovereignty of the voter was irrevocably denied (Rousseau, [1762] 2002). In reality, our so-called democratic societies are pseudo-democracies, which act, in reality, like oligarchies. The caste in power can be predominantly political (when the decision-makers belong to the class of professional politicians) or economic (when the entrepreneurs descend into politics), or both. When the political mandate comes from the party and not from the people, we should more correctly speak of a partitocracy, and not of democracy, i.e. a party, an (political) elite that has taken power. The totalitarian states (for example, Russia and China) do not find themselves in a better position. Only the procedures for the selection of the elite change, but always one or another elite/caste is in power (Pareto, 1935; Mosca, 1896; Mills, 2000).

Furthermore, the transnational lobbies can and must be thwarted with a system of direct democracy that increases the ecological "sense of place", because people take greater care of the place where they live than disembodied elites that program an economic activity from the other side of the planet ever will.

Finally, we can speak of human sinister interests. Sinister to the interests of the community (Bentham, 1815; Mill, 1865). In this case, by community is meant the entire community of humans-animals-plants. But in reality, today only a small part of humanity is responsible: the political- Bergandi, D. (2013). Ecology, Evolution, Ethics: In Search of economic caste. In evaluating the consequences of its acts, when evaluating the human-nature relationship, these acts are ascribed to the whole of humanity, whereas a large part of the "criminal" activity (pollution, mass murder in the "concentration camps" around the globe that are the slaughterhouses, etc.) are the responsibility of the large

We must change our dietary model structured on meat corporations and the politicians (men and women) who allow

So we need a direct democracy that finally allows the 2020). We must stop eating meat, not only because a large people to "make" history and not to suffer it. A direct majority of pandemic diseases originate in animals, i.e. democracy characterised by some new institutions and rules, for example:

- mandates must be "imperative", in the sense that "delegates" cannot change the programme during the time in which they are elected;
- the choice of the candidate must be by "lot", and "officials" cannot present themselves more than two (non-consecutive) times in their lifetimes;
- the function of the candidate at the election is a "service" and not a "profession"; their salary is the average salary of the population;
- blank ballots must be counted, and candidates cannot present themself another consecutive time if the blanks constitute a majority:
- a Citizens' Initiative Referendum must allow the people to propose a law directly;
- a repealing referendum can rescind a law;
- a delegate may be recalled from their elective function if they fail to respect their mandate.

The coronavirus catastrophe confronts us with the opportunity and the necessity to start a new civilisation, a new society structured around (a utopian) democratic revolution (Bergandi, 2018, 2017). A society where the people and not some pre-selected elite are the "motor" of democracy. A society where the people are not a subject, submissive to the goodwill of an elite, but themselves actively create the conditions of development of the society.

REFERENCES

Badariotti, F. et al. (2020). Eviter les prochaines crises en changeant de modèle alimentaire, Libération, 30 mars. interests (or perverse interests) are interests that run counter Bentham, J. ([1815] 1983). A Table of the Springs of Action. In: Goldworth A. (ed.), Deontology; Together with a Table of the Springs of Action; and the Article on Utilitarianism. Oxford: Clarendon Press.

> a Meta-paradigm – An Introduction In: Bergandi, D. (ed.) The Structural Links between Ecology, Evolution and Ethics: The Virtuous Epistemic Circle. (pp. 1-27). Boston Studies in the Philosophy and History of Science, 296. Dordrecht: Springer.

- Bergandi, D. (2017). The Ecological Catastrophe: The Pinchot, G. (1910). The Fight for Conservation. New York: Political-Economic Caste as the Origin and Cause of Environmental Destruction and the Pre-Announced Pinchot, G. (1947). Breaking New Ground. New York: Democratic Disaster. In: The Role of Integrity in the G., Janice, G., Gottwald, F.-T. (Eds.) (pp. 179–189). Switzerland, Cham: Springer.
- Bergandi, D. (2018). A Utopian Democratic Revolution to Overcome Flawed Democracy and Ecological Governance. Edited by L. Westra, K. Bosselmann, Janice G., K. Gwiazdon. Oxon and New York: Routledge, Taylor & Francis Group.
- Bergandi D. and P. Blandin (2012). De la protection de la oxymore éthique et politique. Revue d'histoire des sciences, 65, (1), 103-142. DOI:10.3917/rhs.651.0103
- Bergin, T.G. & T.G. Fisch (translators) (1948). The New Science of Giambattista Vico. London: Cornell University Press.
- Callicott, J.B. (1989). In Defense of the Land Ethic: Essays in Environmental Philosophy. Albany: State University of New York Press.
- Callicott, J.B. (2013). Ecology and Moral Ontology. In: The Structural Links between Ecology, Evolution and Bergandi. Boston Studies in the Philosophy and History of Science, 296. Dordrecht: Springer.
- Ehrenfeld, D. (1978). The Arrogance of Humanism. New UN Conference on Sustainable Development (Rio+20) York: Oxford University Press.
- Geisler, N.L. (1971). Ethics: Alternatives and issues. Zondervan: Grand Rapids.
- Hall, M. (2011). Plants as Persons. New York: Suny Press, University of New York.
- Essays on Conservation from Round River. New York: Oxford University Press.
- Marsh, G.P. (1864). Man and Nature; or, Physical Geography as Modified by Human Action. New York: Charles Scribner.
- Mill, J.S. (1865). Considerations on Representative Government. 3rd edn., London: Longman, Green, Longman, Roberts & Green.
- Mills, C.W. (2000). The Power Elite. Oxford: Oxford University Press.
- Mosca, G. (1896). The Ruling Class. New York/London: McGraw-Hill Book Company.
- Muir, J. (1916). A Thousand-Mile Walk to the Gulf. Boston and New York: Houghton Mifflin Company, The Riverside Press Cambridge.
- Osborne, R. (2010). Athens and Athenian Democracy. Cambridge: Cambridge University Press.
- Pareto, V. (1935). The Mind and Society. vol 4, 1st edn. New York: Harcourt, Brace and Company.

- Doubleday, Page & Company.
- Harcourt, Brace & Company.
- Governance of the Commons. Edited by L. Westra, Quammen, D. (2012). Spillover. Animal Infections and the Next Human Pandemic. Traduit de l'anglais par Simone Arous Grasset, édition augmentée de Ebola. The Natural and Human History of a Deadly Virus (2014).
- Catastrophe. In: Ecological Integrity, Law and Rousseau, J.-J. ([1762] 2002). The Social Contract and the First and Second Discourses. Edited and with an Introduction by Susan Dunn; with essays by May, G., R.N. Bellah, D. Bromwich and C.C. O'Brien. New Haven/London: Yale University Press.
- nature au développement durable: Genèse d'un Salt, H.S. (1894). Animals' Rights Considered in Relation to Social Progress: With a Bibliographical Appendix. New York and London: Macmillan & Co.
 - Taylor, P.W. (1986). Respect for Nature: A Theory of Environmental Ethics. Princeton: Princeton University Press.
 - UN Declaration (1948). Universal Declaration of Human Right. General Assembly resolution (217 A), in Paris on 10 December.
 - UN Conference on the Human Environment (1972). Declaration of the United Nations Conference on the Human Environment. Stockholm from 5 to 16 June.
- Ethics: The Virtuous Epistemic Circle. Edited by D. UN Conference on Environment and Development (1992). Convention on Biological Diversity. Rio de Janeiro, Brazil, Adopted 5 June.
 - (2012). The future we want. Resolution 66/288 adopted by the General Assembly on 27 July.
 - UN Sustainable Development Summit (2015). Transforming Our World: The 2030 Agenda for Sustainable Development. 25 - 27 September.
- Leopold, A. (1949). A Sand County Amanac. With other Vico, G. (1744). Scienza Nuova. Napoli: nella Stamperia Muziana, a spese di Gaetano e Stefano Elia.
 - World Commission on Environment and Development (1987). Our Common Future. Oxford/New York: Oxford University Press.
 - Wundt, W. (1886). Ethik. Stuttgart: Enke.