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ENVIRONMENTALISM AND CRITICISM OF MECHANICAL MODERNITY

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Opposing positions about the ecological transition are part of a long tradition. They pit those who espouse the age-old movement championing modernity against those who contest it, based on the movement sparked by modernity itself. There is no likelihood of these conflicting interpretations suddenly disappearing. The points of disagreement that led to the emergence of ecological thinking in the 19th century are still very much present, reflected in contemporary opposition between the “solutions” offered by green growth and eco-modernism and the partisans of degrowth in terms of material wealth. The outcome of the transition currently underway, commensurate with the obstacles it seeks to overcome, is profoundly uncertain. Ecological transition demands, at the very least, deep-reaching changes in how we live our lives, changes that go beyond purely technical solutions, as it invites us to engage in an in-depth reassessment of our relationship with ecosystems and the living world in general.

INTRODUCTION

There is no consensus on what the ecological transition of our societies might mean; there never has been and never will be. The fault line of the past which, starting in the 1990s in the context of sustainable development, opposed strong sustainability versus weak sustainability, remains, all things being equal, unchanged today. This fault line can be traced back much further, all the way to the 19th century and the foundation of ecological thinking, as we will briefly demonstrate. There can be no consensus because ecological damage results from the very success of our modern mechanistic civilization; it is the necessary consequence of its triumph. It is for this reason that the possible interpretations cannot be consensual. We will also quickly touch on the reasons for the current damage to the planet’s livability and will show that they center on this same fault line.



The lack of consensus applies not only to what green transition of modern societies might mean, but also to the advisability of such a transformation. Denials of ecological problems do not disappear even as they grow in severity and visibility. Reactions to the publication, on August 9 2021, of the physical science basis of the Sixth Assessment Report by the Intergovernmental Panel on Climate Change, amid a summer of extreme climate events, are enough to remind us of this. We were treated to a flurry of articles by climate skeptics and countless reactions from politicians in denial. Republicans in the US, in thrall to Trump and his baroque penchant for denialism – covering everything from his electoral defeat to the climate – remain firm climate skeptics. And ecological denial is not limited to the climate; it is also gaining ground in issues relating to damage to biodiversity and wildlife populations.¹ And if we look further than these two first environmental battlegrounds, the climate and living beings, to examine a third, the availability of vital resources for our economic activities, we find that denialists are present there too. All you have to do is go in search of them beneath the oceans, on asteroids, on the moon, or even on Mars. In addition to outright denials there is another, more sophisticated, form of denialism, centering on space and planet B. The idea of fleeing to Mars has been popularized by billionaires like Musk and Bezos, who are to ecology what Nero was to wisdom and compassion. We should not overlook the limitations of human physiology, tailored as it is to earth's gravity and little-suited to a seven-month weightless

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journey in a cramped capsule that would, on arrival, transform passengers into inert lumps incapable of moving unaided.

There is, clearly, nothing more absurd than the idea of terraforming Mars. Even if it were possible, and in under a billion years, Mars does not have the mass to maintain an atmosphere similar to Earth's.² Yet hundreds of millions of people probably believe this nonsense, and much more besides.

Nor is there consensus on what must be done to make our societies greener. There is very little new under the sun when it comes to this topic. The points of disagreement that led to the emergence of ecological thinking in the 19th century remain present.³ As part of a school of thought that was initially very much in the minority, a twofold idea has gradually come to dominate: first is mistrust of the capacity of our technologies to overcome any difficulty, to surmount whatever resistance nature may offer them; second is an aspiration to reboot our relationships with nature, starting with a shift away from anthropocentrism. These two related ideas came increasingly to the fore in the years after the Second World War, ultimately forming a specific school of thought distinct from other major forms of modern thought such as

¹ See Stéphane Foucart, « L'aube du biodiversité-scepticisme » [*The emergence of biodiversity skepticism*], *Le Monde*, May 23-25, 2021.

² For more on the deluded idea of an exodus to Mars, see Sylvia Elkström and Javier G. Nombela, *Nous ne vivrons pas sur Mars, ni ailleurs* [*We won't live on Mars or anywhere else*] Paris, Éditions Favre, 2021, and Louis d'Hendecourt, « Avec sa faible gravité, Mars est incapable de retenir une atmosphère et personne, ni M. Musk ni le pape n'y pourra rien changer » [*Low-gravity Mars cannot maintain an atmosphere and nobody, neither M. Musk nor the Pope, can do anything about it*], *Le Monde*, August 8, 2021.

³ See Dominique Bourg & Augustin Fagnière, *La Pensée écologique. Une anthologie* [*Ecological thinking: an Anthology*], Paris, Puf, 2014.



socialism, liberalism, conservatism, and so on, and clearly identifiable for that reason. However, the opposition that lies within the sustainable development movement, between partisans of weak or strong development, is integral to ecological thinking and its foundations. Strong sustainability is characterized, in the first instance, by the idea that reproducible capital, our technologies, can in no way replace the natural capital that has been destroyed; furthermore, it is not simply human well-being that needs to be considered, the welfare of all living things also has to be taken into account.⁴ This is another illustration of the criticism of all-powerful technologies and anthropocentrism. Contemporary expressions of these fundamental oppositions take the form of green growth “solutions”, eco-modernism, espousing the same technical credo, standing against any degrowth in material wealth, linked to the desire for harmony with the natural environment.

This is not about purely technical measures to reabsorb our excessive emissions, and not about simply changing our lifestyles and behaviors, when what is needed is a far more deep-reaching shift in our values

These successive oppositions find their origin in the foundation of ecological thinking itself. Ecological thinking is as much a criticism of mechanistic modernity as it is the fruit of its self-overcoming. Time for a quick reminder. The late 16th century saw a new vision of the world emerge, notwithstanding its ancient forebears: a mechanistic view whereby the natural world is no more than an aggregation of inert material particles. Humanity, self-aware and inseparable from time’s arrow, thus appears, in essence and by destiny, a stranger to the natural world when seen through this prism. What was presented as progress would henceforth appear to be an endless separation from the natural world. The idea, consubstantial to the neoclassical economy, of open-ended destruction of natural capital is the expression of this metaphysic. That humanity is incrementally destroying the galaxy, as posited by Nikolaï Kardashev then Michio Kaku,⁵ is another similar idea.

Ecological thinking pertains as much to a critique of modernity as to its self-overcoming. The spread of knowledge, itself encouraged by the mechanistic approach, is increasingly leading to the disputing of modernity,

⁴ See Bryan G. Norton, *Sustainability: A Philosophy of Adaptive Ecosystem Management*, Chicago, University of Chicago Press, 2005.

⁵ See Michio Kaku, *Une brève histoire du futur [A Brief History of the Future]*, Paris, Champs-Flammarion, 2016.

particularly in terms of the humanity-nature dualism, from ethology and new ways of thinking about animals, far removed from the animal-as-machine, to the wealth of expressions of the living plant world.⁶ It is no more feasible to use algorithms to produce a mathematical theorem than a viable living molecule.⁷ To which must be added the practical consequences of a mechanistic civilization that results in the partially anthropic character of former natural disasters.

We thus remain trapped in an age-old conflict, indissoluble both from the external difficulties triggered by the development of our mechanistic civilization and its internal self-overcoming movement. Which means there is no reason for it to disappear, still less to do so quickly. Added to this is the fact that, through the centuries, modernity has instilled in our minds that nature is fundamentally stable and generous, that it cannot take us by surprise and would never resist our technologies in any real and lasting way.⁸ The 30 years of post-WW2 prosperity seared success into our cultural memories. Our failure is inaudible to the modern people we still are. The message we want to hear from the Anthropocene is that we have become the preeminent geological force on earth, but not that, due to the resulting boomerang effect, we are weakened and condemned to inhabit a planet whose livability is altered and impaired, a phenomenon that is already underway.

Let us not duck the truth. It is our material success and the comfort it brings, at least to those who feel its benefits, that are the root of the situation of near-collapse we now face. This is a form of civilizational double bind. The underlying causes of the alterations to the livability of the planet are clear to see and uncontested. Responsibility lies with the flows of materials and energy that underpin our growth, which are distributed extremely unevenly. The richest 1% are responsible for 15% of greenhouse gas emissions, the richest 10% for 52% of global emissions, while the poorest 50% are responsible for just 7% of these emissions.⁹ The distribution of material flows is just as poor.¹⁰ On the other hand, when it comes to damage to living systems, the fact that each human needs more or less the same surface area to regenerate its air and water and produce its essential food supply, responsibilities in this sphere are more evenly divided.

If, therefore, we renounce the absurd and, more importantly, dangerous attempt to endlessly perpetuate

modernity, the path ahead is clear. We simply need to bring a halt to the energy and material hubris we have allowed ourselves to be pulled into. Specifically, as a recent report by the European Environment Agency¹¹ points out, we need to drastically reduce the production of objects and creation of infrastructure. The report mentions that “maintaining this position does not have to depend on economic growth. Could the European Green Deal, for example, become a catalyst for EU citizens to create a society that consumes less and grows in other than material dimensions?”. The IPCC’s SSP1-1.9 scenario is rooted in extremely rapid energy, and therefore material degrowth.¹² It recommends lowering our emissions, halving them by 2030 and achieving carbon neutrality by 2050; based on 2017 data, this would avoid overshooting the target rise of 1.5 degrees – which makes no sense five years later at a rate of 50GT/year of emissions.

It goes without saying that, in both cases, this is not about purely technical measures to reabsorb our excessive emissions, and not about simply changing our lifestyles and behaviors, when what is needed is a far more deep-reaching shift in our values. The challenge facing us is to develop activities, modes of distinction and expression, with fewer material corollaries. In other words, ways to fulfill ourselves and our humanity that do not demand much in the way of energy and material flows – quite the reverse of the habits we have learned since the rise of industrial civilization. These goals are evidently part of a movement to radically remodel our relationship with ecosystems and the living world in general.¹³ Namely, we need to come up with a model for human development, on the background of demographic decline, that supports the blossoming of life on Earth rather than destroying it.

CONCLUSION

If we agree to overcome the denialism described above, the task of achieving ecological transition is enormous, and we can only proceed by trial and error. And by keeping three constraints in mind: first is the social and political opposition the task is bound to elicit; second is the time constraint when, after at least half a century of inaction, if we take the Club of Rome report and Stockholm Conference as the starting point, we need to dematerialize and partially transform our societies in a mere decade, while the third constraint arises from the extreme weather events that are set to become increasingly severe against the backdrop of the biodiversity crisis.

6 See the feature published by *La Pensée écologique, Repenser le statut des plantes [Rethinking the Status of Plants]*, Vo. 6, 2021, <https://www.cairn.info/revue-la-pensee-ecologique-2020-2.htm>.

7 See Nicolas Bouleau, *Ce que Nature sait. La révolution combinatoire de la biologie et ses dangers [What Nature knows. The combinatorial revolution of biology and its dangers]*, Paris, Puf, 2021. See also <https://lapenseeecologique.com/les-dangers-insoupconnes-de-la-biologie-de-synthese/>. See also N. Bouleau with D. Bourg, *Épistémologie et écologie [Epistemology and Ecology]*, to be published by PuF in 2022.

8 See Amitav Ghosh, *The Great Derangement. Climate Change and the Unthinkable*, University of Chicago Press, 2016.

9 <https://oxfamlibrary.openrepository.com/bitstream/handle/10546/621052/mb-confronting-carbon-inequality-210920-en.pdf>.

10 Heinz Schandl & al., *Global Material Flows and Resources Productivity: Assessment Report for the UNEP International Resource Panel*, Nairobi, UNEP, 2016.

11 <https://www.eea.europa.eu/themes/sustainability-transitions/drivers-of-change/growth-without-economic-growth>.

12 Initially published with Special Report 15 in 2018, republished in the Sixth IPCC Assessment Report, *Climate Change 2021. The Physical Science Basis. Summary for Policymakers*.

13 For a more general discussion of the paradigm shift currently underway, see Dominique Bourg & Sophie Swaton, *Primauté du vivant. Essai sur le pensable [Primacy of the Living World. Essay on the Thinkable]*, Paris, Puf, October 2021.