

Communication

Is It Time to Shift Our Environmental Thinking? A Perspective on Barriers and Opportunities to Change

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Abstract: In 2015, the United Nations General Assembly unanimously adopted the 2030 Agenda for Sustainable Development and Sustainable Development Goals. In 2019, the release of the global assessment report of the United Nations' Intergovernmental Platform on Biodiversity and Ecosystem Services unfortunately demonstrated that our planet may be in more trouble than expected. The main drivers have been identified for many years and relate to human activities such as over-exploitation of natural resources leading to land degradation, deforestation, ocean and atmospheric pollution, and climate change. Despite international agreements and conventions, we are gradually reaching the planet's boundaries. In this commentary, we present an analysis of the current worldview, discuss the humanist roots of this view, and the barriers to be able to move forward with the transformative changes that are needed for sustainability. We suggest that for these transformative changes to happen, there is a need to reconnect humans with nature, and we propose that some solutions could be devised in areas like education and social media. Changing our mindsets and worldviews are the most urgent courses of action we must undertake to avoid the inevitable.

Keywords: posthumanist worldview; anthropocene; humanist worldview; transformative changes; planetary boundaries; human-nature connection

1. Introduction

The environmental crisis has been at the forefront of our growing concerns with contemporary life. Every day brings new headlines about one issue or another impacting species, ecosystems, and the Earth and its climate—from natural disasters such as hurricanes and tornadoes to human triggered threats such as the overexploitation of resources, armed conflicts, and rapid deforestation for agriculture. As is evidenced by the latest report of the United Nations' Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) issued on 6 May 2019, most of nature's contributions—namely, the natural resources available for the benefit of humans—have been declining since 1970 [1]. These include, for example, a decline in soil organic carbon and pollinator diversity, leading to a reduction in food productivity and a loss of coastal habitats and coral reefs, reducing coastal protection and thus increasing risks of storms. By the time of the report, 75% of land, 85% of wetlands, and 66% of our oceans have been impacted by human activity [2]. Each detail of the report is daunting and provided the media with strong headlines, such as: “One million species at risk of extinction” [3]. This is certainly an impressive number, one bound to capture the attention of the viewers and readers of news. However, beyond achieving that intended effect, did this number generate a genuine desire to change our ways of living and initiate concrete action? It is safe to say that most people probably reacted to the news but have implemented very little, if any, changes in their lifestyles to reduce their

impact on the environment and simply went back to their daily routines (Vasseur, Convention on Biological Diversity meeting in Montreal, 2019, pers. comm.). The expediency governing everyday life is such that daunting news, such as that conveyed by the report and its mediatic coverage, is quickly forgotten once read or heard.

The human (or also called *Anthropos*), as a single species, has left a negative mark on its environment in a way that is radically unmatched by any other species—so much so that we have had the hubris to name a new geological epoch after ourselves: the Anthropocene [4]. Although the Anthropocene has yet to be accepted as a new geological epoch by the International Commission on Stratigraphy or the International Union of Geological Sciences, its emergence as a term and concept has triggered new actions and reflections on the manner in which humans have impacted the planet in a way that no other species has done, and when exactly they started having such a negative impact. This reflection, along with its admission of the human's negative impact, has led independent groups, political parties, governments, and international agencies to put forward various proposals to curb pollution, lighten the human footprint, and develop more sustainable ways of existing in the world. Green plans and international conventions and agreements abound and compete against each other—for funds, actions by countries, and publicity, for example—as they stem from various ideological positions. The major reason for the proliferation of these plans is that we do not have magic solutions to fix the damage caused by humans. These conundrums are referred to as “wicked problems” because they “defy complete definition and easy or complete solutions due to the inherent and constantly evolving complexity of the system at stake” [5] (p. 52).

There is, however, one thing that these seemingly very different positions have in common: They all ultimately originate in an understanding of the human as an exceptional being with distinct qualities, separate from other beings and the environment, in charge of and with a right to exploit all other beings (animate, inanimate, organic, and inorganic) for its own benefit. This Humanist worldview—elaborated since the inception of Western philosophy and exacerbated by Christian views and Renaissance and Enlightenment thinking that established dualisms, such as the mind/body, self/other, and human/nonhuman divides—drives all approaches to environmental issues in current debates since it places the human in the position of command.

In addition to religious and philosophical Humanist worldviews, industrialization and the advancement of technology and medicine—themselves also driven by this worldview—have reinforced the human sentiment of superiority, and this is where false notions of progress and infinite growth take root [6]. These notions rest on the belief that resources are infinite. This belief endures despite the early piece “The Tragedy of the Commons” by Garrett Hardin (1968), in which Hardin convincingly argues that resources are not infinite and that, indeed, the more a population grows, the fewer resources it has available for itself, both individually and collectively. This supports the claim that we should limit population growth [7]. The capitalist democracies that emerged have thrived on consumerism and the misguided view that we all have the capacity and liberty to pursue what we want, when and where we want it. These so-called democracies supported by corporations and “democratic” governments promote individualism over the social good.

Since the Humanist worldview is responsible for our environmental woes to start with [8], it will be impossible to devise a solution by framing it in Humanist terms. We need to challenge this worldview and offer new or renewed ways of conceiving ourselves that will allow for a more generative approach to deal with the present environmental catastrophic times and our wicked problems. In this perspective paper, we begin with briefly examining the current anthropocentric view of the world and then contrast it with alternative views. The last sections emphasize the current drivers of the crisis, question the status quo, and finally introduce a reflection on the types of transformations that will be required to effect meaningful and sustainable changes [9].

2. Our Anthropocentric View of the World

Naming the new geological epoch after humans is problematic. The “anthropos” of “Anthropocene” points to a responsibility shared equally by all humans. What the term conveys is that the development of the Earth’s system has been impacted by human activity on a global scale. However, the human impact greatly varies across the world and societies. Not all humans share this responsibility equally. It is safe to say that more developed societies built on capital gain and economic growth and development have a much larger share of responsibility than those closer to a more traditional mode of existence, where humans mainly use natural resources for their subsistence rather than for profit and economic growth. This is why some thinkers have toyed with alternative terms such as the Capitalocene to mark this distinction and because of the fact that not all humans are equally responsible for environmental deterioration [10,11].

Feminist thinkers offer a different twist by pointing to how, in fact, the conception of the human as first and foremost (white, cis, heterosexual, able) male at the heart of Western patriarchy has facilitated our oppressive and exploitative relationship to other beings and the environment. Scholars would want us to refer to the new epoch emerging from this as the Androcene [12]. Christophe Bonneuil and Jean-Baptiste Fressoz offer other terms to indicate more specific human activities as responsible for this shift, such as the “Thermocene”, with the increase in CO₂ production as a driver of change, the “Thanatocene”, which captures the environmental impact of conducting war, or the “Phagocene” that identifies consumerism as the fundamental issue [13].

We can approach the term “Anthropocene” differently and understand “anthropos” to stand for the way in which we have conceptualized ourselves. That “anthropos” is the human as conceived in a Humanist worldview. Anthropos comes from the Greek for human but also means “Son of Man” in the New Testament. For posthumanist thinkers who advocate a profound reconceptualization of ourselves and our relationship to all other beings, the problem lies with the Humanistic human, not the human itself as a living being that shares the Earth with a myriad of other creatures. Posthumanism decentres the human and thereby goes further than deep ecology and its focus on conservation for the sake of humans [8].

Critical posthumanist thinkers, including material feminists [14–16] and some sustainability researchers [17], argue that we are radically entangled with all other beings and that we have failed to acknowledge this connection. By conceiving ourselves as radically separate, we have denied our material being and the fact that we are always embodied and embedded in our environment [11]. Material feminist Stacy Alaimo [15] emphasizes our entanglement, claiming that we are exposed and permeated by the materiality surrounding us just as much as we permeate it. Because our environment is toxic due to pollution of all types, we are toxic bodies. Critical posthumanists want us to rethink ourselves and reject a humanist point of view because it is detrimental to us and all other beings. One may say that the agenda is to rediscover the being we always were but hid under the veil of a humanist conception that posited us as separate and in command.

Rediscovering our connection with all other beings and the environment remains a daunting task. It does not matter that international conventions and declarations, including the UN 2030 Agenda and the Sustainable Development Goals, encourage social transformations since countries and corporations prefer to maintain the current status quo and its continued push for economic growth. We see two problems with this. First, transformation is more complex than usually understood. We typically consider single operations or changes as potentially having significant impacts. However, what is needed is a multipronged approach, such as system-thinking, that acknowledges the complexity of transformation. Transformation does not happen rapidly and is usually non-linear [18]. Second, while environmental and even social changes are often included as part of social corporate responsibilities, this is mostly done in order to boost corporate profits [19]. Consumers are more likely to give their money to corporations that appear to be socially and environmentally conscious, even if there is more appearance than substance to this awareness. How do we change such deeply ingrained, and often profitable, mindsets?

Indeed, it is only if we implement fundamental changes in how we see ourselves and other beings that we can hope to engage in reflections about the environment, ecosystems, sustainability, development, extinction, and so on in a generative way. We must ask: Sustainability for whom? Development for whom? Extinction for whom? Must we continue as a species when we are the most damaging creatures on the planet? Are we really superior and exceptional?

3. The Other View of the World

From a humanist point of view, we are at the top of the living pyramid. Medieval Christian scholars described a “Great Chain of Being,” a hierarchy of all living beings. Inspired by ancient concepts put forward by Plato, Aristotle, and Plotinus, for example, these scholars established a structure according to which the human was placed in a position superior to all other beings on Earth, but below divine agents, such as the angels and God, who reign supreme. This conceptualization served to justify the levels of power and authority among humans by distinguishing between kings, nobles, and commoners, and also between men and women. The contemporary concept of the living pyramid is a secular version of this. Removing the human from this chain of being will not lead to its collapse, but if we destroy each level that supports us, we will have nothing on which to stand. Our survival, then, is at stake. If, however, we were to consider all beings as equally worthy of living and thriving (as instances of life as well as assemblages, such as ecosystems) as equally valuable to a human—which is its own type of assemblage and ecosystem—what ought to take precedence in our environmental thinking and policy making? Adopting a posthumanist perspective will allow us—individually and collectively—to genuinely and fully embrace a system-thinking approach that will be more appropriate to solve our current woes. This line of thinking also yields the following questions: Would it be so bad if human civilization were to end before the rest of the pyramid collapses? What if we did not think of ecosystems as pyramidal at all? What if we were to fully realize that human history is but a tiny part of the Earth’s history?

Das Rad (2001) [20] is an animated film that illustrates the differences in timescales for humans, bugs, trees, rocks, and the Earth’s system. The film humorously explores those different timescales, focusing on the experience of two rock characters and their interactions with human civilization via the invention of the wheel. The human characters encounter the rocks as immobile and lifeless in the human world, while in the rock characters’ world, human action unfolds at lightning speed. The rock characters witness the rise and fall of human civilization within 5 min and 50 s of their existence. As buildings and highways spring up at an accelerated rate of growth, they get nearer the two rock characters. Everything then comes to a halt and suddenly collapses. A roadside ad sign claiming “Built to last” also falls and rots in seconds. “That was lucky,” concludes one of the rock characters. The original German is “Das ist ja nochmal gut gegangen.” A literal translation should, therefore, be “This turned out well once again”, implying that there have been previous rises and falls of civilizations in similar and different ways. It is lucky for both rock characters that everything collapsed before hitting them, but it was also lucky for the rocks’ environment, which quickly regrows and takes over again. This suggests that for the planet and its nonhuman inhabitants to be lucky, humans might have to go extinct. This animation conveys an important lesson about timescales: They are different from one being to another: rocks, plants, humans, and nonhuman animals (not featured but implied), all experience the world at a different temporal speed. This means that the actions of each being have impacts across and beyond these different temporalities. The actions of bees as pollinators, for example, far exceed their own lifetime and impact plants and consumers of plants (human and nonhuman animals, alike).

4. Are We Running (Faster and Faster) towards the Edge of the Cliff?

Human actions and their relationship to nature are technologized in response to the developed world’s capitalist drive for continuous economic growth. This is motivated by a short-term vision of the world and a misunderstanding of our interconnections with the natural world. Even the concern for

the well-being of future generations that we find expressed in sustainability narratives is problematic in this sense. When faced with problems and challenges, we tend to look for short-term solutions and have an undue faith in the powers of technology to fix everything. We operate with magical thinking, believing that if we do not have a solution now, greater scientific and technological developments are simply needed to devise it. This also fails to acknowledge that ecosystems, climate, and the Earth's system as a whole operate on other timescales. Our unsustainable methods might very well be unsustainable for us humans, but if it leads to our extinction and a renewal for the planet, these actions may be sustainable from the perspective of the Earth and its nonhuman inhabitants.

We continue to live under the false impression that there are no planetary boundaries, and, therefore, resources are limitless, but "a continuing trajectory away from the Holocene could lead, with an uncomfortably high probability, to a very different state of the Earth system, one that is likely to be much less hospitable to the development of human societies" [21] (pp. 1,259,855–1). We may be closer to the tipping point than expected. Who will suffer first? Clearly nonhumans have suffered thus far, and we stand next to lose our ways of living. Wealthy countries wrongly assume that they are protected against major environmental changes. However, many previous civilizations that have tried to base their development on technologies or other solutions that were disconnected from nature and did not understand that resources are limited and not indefinitely renewable have either disappeared, collapsed, transformed radically, or had great difficulty surviving [22]. This was the case even at a time when humans were far from exhausting planetary resources. Natural disasters, but mostly human greed, have caused the many issues faced by humans. In some cases, the vision of one leader may result in the collapse of a complete society, but the community's approach to growth for growth's sake may also play an important role.

We urgently need a radical change in our mindset. Quite bluntly: continuing to view ourselves and future generations of humans as exceptional and separate from the natural world (and thus as the sole beneficiaries of green action) is bound to fail. We need to expand the sphere of moral consideration to include all other beings on equal footing with humans or even give them greater importance. Some would even argue that we need to dismiss the human from the sphere of moral consideration as the one species that is the most destructive [8]. One thing is certain, an approach centered on the human as the administrator of the planet has not been working.

5. Do We Need a New Planet or a Transformational Change of Our World?

At the release of the IPBES Report [1], Director-General of UNESCO, Audrey Azoulay, is quoted as saying, "We must live on earth differently." Achim Steiner, Administrator of the United Nations Development Programme said, "Across cultures, humans inherently value nature. The magic of seeing fireflies flickering long into the night is immense. We draw energy and nutrients from nature. We find sources of food, medicine, livelihoods and innovation in nature. Our well-being fundamentally depends on nature" [2]. Living on earth differently, as called for by Azoulay, entails moving away from valuing nature for our aesthetic enjoyment or because we can use it for our profit. We must value nature differently, which means giving it intrinsic value, regardless of whether nature benefits us or not. While it is true that "We are eroding the very foundations of our economies, livelihoods, food security, health and quality of life worldwide," as Sir Robert Watson, IPBES Chair, claims, these issues can no longer be our sole preoccupation. Watson advocates for "transformative change," by which he means "a fundamental system-wide reorganization across technological, economic and social factors, including paradigms, goals and values." This, we argue, means shifting our environmental thinking from one centered on the human, the Humanist perspective, to one that intrinsically values all beings, humans, and non-humans, both living and non-living.

This report makes it very clear that humans and their impacts are the cause of global deterioration. However, a very interesting part of the report highlights how Indigenous peoples and local communities have had a much less significant negative impact on the environment: "Nature managed by Indigenous Peoples and Local Communities is under increasing pressure but is generally declining less rapidly

than in other lands—although 72% of local indicators developed and used by Indigenous Peoples and Local Communities show the deterioration of nature that underpins local livelihoods” [2]. It is also worth noting that Indigenous Peoples and Local Communities “lag behind on virtually every social and economic indicator addressed in the SDGs (Sustainable Development Goals as set by the United Nations), including health, education, employment, human rights, right to access lands and natural resources” [23] (p. 16). Without romanticizing the Indigenous approach to nature, we can assert that Indigenous ways of living, as well as the modes of existing of local communities, embrace more traditional and less modern technological means of exploiting resources and are generally less damaging. This exploitation is, consequently, on a much smaller, often local, scale and without, in most cases, the unique capitalist motivation of profit that drives the current over-extraction of resources, overproduction of goods, and their unequal distribution. Unless it is dramatically curtailed or quite literally eliminated, this capitalist motivation will continue to maintain poverty, hunger, and general environmental distress, especially in developing and marginalized regions of the world. This again raises the following question: sustainable development for whom?

Traditional or Indigenous modes of living are closer to nature and more respectful of the needs of the ecosystems upon which we depend. They see the human as part of such ecosystems and interconnected with nature [1]. While they still see nature as a source of sustenance, their relationship is a much less exploitative one. Hunting or small-scale farming is far from being the equivalent of factory farming, for example. Because such communities do not exist separate from the environment, we have much to learn from the ways in which they approach it, and the IPBES report encourages us to include Indigenous peoples and local communities in deciding bodies in order to improve and possibly adopt new perspectives on the environment.

Interestingly, the vast majority of sustainability experts have mostly remained focused on the external world of socioeconomic structures, technological advancement, and/or policies [17]. Under such approaches, the connection with nature can remain vague or remote and, therefore, separate from what has been called the “inner dimensions of individuals” [17] (p. 360). The inner dimensions of the human include the worldviews, social values, attitudes, and beliefs that shape what we believe is right. It is at this level that changes need to occur for sustainable solutions to emerge. This “entails closer linkages between sustainability and the humanities (e.g., philosophy, theology, spirituality)” [17] (p. 360). Attitudes such as mindfulness, compassion, and respect for all components of our world have been neglected but are fundamental for changing our current worldview and overall social apathy in the face of environmental crises. This comes back to the posthumanist argument that without fundamental changes in how we see ourselves, we cannot devise new approaches to current wicked problems and environmental challenges. Not changing our worldview means conducting business as usual.

This, however, is not sustainable, at least for humans. How do we change our mindsets? How do we think of ourselves and our world without putting ourselves at the center of things in a position of mastery and privilege? As we have argued elsewhere [24], changes in curricula and educational approaches that incorporate direct experiences with nature and ecological education are essential. Since most children’s experience of nature is limited and often indirect and mediated (via television and other media), they do not grow up with a sensible understanding of ecosystems and how we are a part of them. Educating children from a very early age is key to introducing changes in value systems and beliefs and possibly raising generations of humans who will value other beings as much or more than they value themselves.

Educating adults through lifelong learning will also be essential, albeit more difficult, as habits and ways of life are deeply rooted in the fundamental beliefs and values adopted at an early age. All is not lost, however, since the adults who fill their green bins and dutifully recycle or drive a hybrid car do not all do so to avoid fines or high gas prices. Some have developed environmental consciousness and have realized that an individualistic consumerist approach will not win the day [25,26]. They came to this realization through educational campaigns and media reporting. This has been slow in

the making and is still only true of a minority of the population. The crisis is now, and we need to intensify educational programs and revise curricula to train humans to think differently. However, without radical political and transformative corporate changes, the efforts made by individuals or small groups will remain insignificant.

Media have had great influence on how people communicate information in their day to day life, as well as during crises. Media, and social media in particular, can, therefore, play an important role in the educational and transformative changes we advocate for. The news and facts we are exposed to on a daily basis through various media outlets modulate our beliefs about nature and environmental issues. Merchant et al. [27] argue that social media can be leveraged for communication before, during, and after disasters. While their analysis bears on emergency-preparedness specifically, we claim that leveraging social media is equally important for educational purposes and conveying new ways of conceiving the world. Likewise, faced with a global environmental crisis, we ought to make good use of social and traditional media to engage with a diverse public. Despite the pervasiveness of fake news, the benefits to be gained from such engagement makes it worth pursuing. In addition, the positive influence of media can be magnified once those in charge of content selection have been educated on these issues and have embraced the belief of the need for profound transformation.

Everyone is afraid of change. However, increased awareness and engagement of communities regarding sustainability challenges remain essential. Since every action taken by people to reduce their footprint is important, transformational changes will be required, and these changes will not be socially accepted unless people are mindful of these needs [25]. Those changes are possible if we trade our Humanist worldview for one that values all beings and their success. While this new stance may lead to the same policies, such as banning single-use plastic, these policies will be adopted more readily and with a better understanding of the interconnections between ecosystems and the Earth. Proposals for environmental policies that alter our way of life in major ways, and those that will have a significant positive impact, will be readily accepted rather than resisted or rejected once we fully grasp that our way of life and its underlying worldview has been the main driver behind the demise of the Earth and the ensuing inevitable collapse of human civilization as we know it. Changing our mindsets and worldviews is the most urgent course of action we must undertake to cease acting on the world in a destructive way. This is our most urgent task, and we all have a responsibility to pursue it.

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