Chapter 1
Lifting the Veil of Complexity, Demanding for Convergence: An Introduction to the Book "Planetary Health and Climate Change"

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Abstract Human-induced alterations to the Earth's climate, primarily through the release of greenhouse gases, have far-reaching implications for ecosystems and both human and non-human health. However, treating climate change exclusively as an external force continues to limit human potential to effectively address it. This

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introductory chapter to the book "Planetary Health and Climate Change" explores concepts aimed at bridging the chasm created by this separation, while addressing the socio-ecological hurdles humanity currently face. Despite these efforts, there remains a lack of imagination, a vital aspect to envisioning alternative scenarios and solutions. Among these complexities, the concept of planetary health emerges as a holistic framework that goes beyond conventional public health paradigms. This chapter also delves into the idea of convergence, i.e., a combination of perspectives, disciplines, and approaches to navigate through complex socioecological challenges. It highlights the importance of moving beyond binary thinking and embracing varied worldviews to tackle compounded crises. Through convergence with the lens of planetary health, we can redefine health, prioritize cooperation over competition, and empower ourselves to address the challenges posed by a changing climate.

Introduction

> "We gathered around the Survivor Tree [September 11, 2001] … we looked up, toward the strong branches reaching for the sky… We stood in silence and prayed for peace on Earth… for a renewed respect for animals and nature. I looked around at the young faces, the faces of those who will inherit the planet deteriorated by countless generations of humans. It was then that I saw: the careful perfection of a small bird's nest… And the Resurrected Survivor Tree, having grown new leaves, was also nurturing the lives of other beings… Do you now understand why I dare to have hope?"
>
> Jane Goodall on the resilience of Nature in "The Book of Hope" (2021, pp. 143–144)

In the twenty-first century, we find ourselves confronted with an unprecedented challenge that undermines the very foundation of our existence: climate change. Human activities, such as the release of greenhouse gases into the atmosphere, are swiftly altering the Earth's climate. This global phenomenon has far-reaching consequences for the environment, as well as both human and non-human health. However, we have routinely regarded climate change as external to us, an occurrence transpiring beyond our immediate spheres. This perspective is somewhat entwined with the Cartesian nature-culture dualism, which has been widely propagated by Western societies (Aldeia and Alves 2019). Several concepts have been proposed to mend this abyssal, impenetrable, and uncommunicative separation, which has propelled us into confronting significant socio-ecological challenges in the present for which solutions still elude us. In fact, we barely had time to comprehend and adapt to these challenges.

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One such concept is the notion of "One Health" (The Health Arts Research Centre 2023), which emphatically underscores interdependence. Nevertheless, the "One Health" approach is not without limitations. Its predominant emphasis on zoonotic diseases could unintentionally cast a shadow over other health issues linked to the environment, like non-communicable diseases and environmental pollution (Johnson et al. 2018; Lencastre et al. 2023a). Furthermore, there exists a potential for this approach to overly prioritize the biomedical health aspects, possibly overlooking the social and cultural factors that profoundly influence well-being. On the other hand, the "Eco-Health" approach offers a broader viewpoint on health, encompassing social, economic, and environmental elements that influence health results (Harrison et al. 2019). This approach highlights the importance of involving and engaging the community in identifying and addressing health concerns (Harrison et al. 2019; Lencastre et al. 2023a). Nevertheless, putting this approach into practice can pose difficulties given its complexity. It necessitates the incorporation of various disciplines and perspectives, along with significant resource allocation and coordination.

We hold the belief that what we require is convergence, a confluence of distinct perspectives, disciplines, knowledges and approaches to more effectively tackle complex social, environmental, and health challenges. It involves discovering common ground and synergies among diverse frameworks such as the "One Health" and "Eco-Health" approaches, fostering a more comprehensive and integrated understanding. Yet, this implies the power of imagination, a characteristic that appears to be lacking. Upon reading the book "From What Is to What If: Unleashing the Power of Imagination to Create the Future We Want" by Hopkins (2019), we agree with the author's argument that a significant decline of genuine creative positive thinking, attributed to global inequalities and divisions, has been pronounced over time. Factors such as loneliness, anxiety, and mental health issues, especially prevalent among the younger generation, are identified as major explanations for this decline. In a recent study conducted amid the COVID-19 pandemic, it was discovered that 63 % of young individuals are contending with significant indications of anxiety or depression (Czeisler et al. 2020). Together, these factors have contributed to a reduced focus on reimagining the future, a process described as "the ability to look at things as if they could be otherwise" (Dewey 1980). But we also believe that information overload in the digital age, the short-term thinking that modern society often prioritizes, the detachment from Nature, the emergence of risk aversion in the face of uncertainty and potential transformative solutions, the societal conditioning influenced by norms, beliefs and traditional systems, the lack of diversity and inclusion, and the erosion of creativity in education, all lead to a decreased capacity to envision alternative scenarios and solutions. In fact, the complexity of our world and the nuances of the socio-ecological challenges, where technoscience alone is insufficient to deal with it (Lencastre et al. 2023b; Vidal et al. 2023), necessitate envisioning a positive future, with imagination at the core of achieving this goal. By fostering imagination, we can create better lives and strive for a brighter, more hopeful future.

Climate change has significant and diverse impacts on human health, affecting various aspects of well-being. Some of these impacts are heat-related illnesses,

vector-borne diseases, air quality and respiratory issues, waterborne and foodborne diseases, and, also, mental health impacts. It is important to note that these impacts are interconnected and can create a complex web of health challenges. Vulnerable populations, including low-income communities, indigenous groups, and marginalised individuals, tend to bear a disproportionate burden of these health effects, and this adds to the complexity of the problem. Adapting to and mitigating climate change are crucial strategies for protecting human health and well-being. In this context, a whole approach is needed, which goes beyond the health of individuals and animals (one health) and also encompasses the health of ecosystems, as advocated by planetary health.

This chapter aims to introduce this book, proposing a profound reflection on the concept of planetary health. It encourages deep contemplation about the challenges inherent in this concept, while also highlighting its potential in fostering the necessary convergence to effectively tackle the complex socio-ecological challenges that define our contemporary era.

Lifting the Veil of Complexity

As we embark on a journey to understand the effects of climate change on the well-being of our planet (Leal Filho et al. 2023), we must also recognize the concept of planetary health, an emerging field that explores the interconnections between human health, ecosystems, and the overall health of our planet. Can this concept help to achieve the convergence that we need? We want to believe so. However, such a discussion requires a transdisciplinary approach and a thoughtful exploration of the multifaceted challenges arising from the increase of objects and algorithms that may surpass human intelligence. It is essential to thoroughly assess, deliberate, and scrutinize artificial intelligence from various perspectives, including philosophy, ethics, politics, science fiction, and the visual arts. Science fiction and the visual arts uniquely envision future scenarios, engaging our imaginations. By blending ethics with fictional narratives, we can redefine human boundaries and construct compelling arguments for techno-social choices. To avoid being supplanted by machines, we must reconnect with human essence, embracing qualities nurtured through arts and humanities education, such as cooperative learning, creativity, critical thinking, empathy, and authenticity (Lencastre et al. 2023a).

So, what can planetary health offer to this discussion? This concept embodies a holistic perspective, surpassing traditional notions of public health. It recognizes that human well-being is intricately linked to the health of the ecosystems supporting us (WBGU 2021). Through acknowledging this complex relationship, planetary health becomes a critical framework for understanding and addressing the challenges posed by climate change (Whitmee et al. 2015). Equally important is ensuring that the actions and strategies defined are equitable and fair for all (Costello et al. 2011; Watts et al. 2017).

However, we believe that a deeper reflection is needed. Climate change impacts are no longer unpredictable. They are tangible and present. Scientific knowledge on climate change from all fields of science and those coming from daily routine are unquestionable valuable and we have more information than never before. Continuing to perpetuate this discourse is a deliberate strategy to evade our immediate responsibility. It is essential to recognize that climate change's complexity may not require complete understanding. Rather, we should develop critical thinking by grasping the incomprehensible, as stated by Albert Einstein, Jane Goodall and Carl Sagan (Ferguson 2022). Addressing climate change demands not only adaptation and mitigation, but also transformative changes in our values towards both humans (Dias et al. 2020) and non-humans (Svoboda and Haqq-Misra 2018). This does not mean that these challenges are insurmountable.

It is necessary to consider that we live scary times, that there is no guaranteed safe place to be, that real dangers, like fires, floods, drought, lack of clean water, loss of biodiversity, pollution, toxicity, mass shootings, war, displacement, poverty and homelessness are all happen simultaneously, everywhere, but at different scales. What we are doing to change this? Despite the enormity of these challenges, and instead of uniting to confront them, we find ourselves deeply divided. This is rooted in the western culture, which is the basis of the duality epistemology and ontological separation between nature and society, the dream of individuality, the individual comfort discussed by Marcuse (1964) that we have such a hard time giving up. If we look at the basis of ecology we will find that nothing survives alone, that we live in a complex web of relations (Moore 2015), and that a sense of empathy and responsibility towards the greater good are crucial ingredients to sustain life in all its forms. Bauman's (2000) concept of liquid society complicates this, leading to exclusions of objects. But Bauman theory have evolved to a different sphere, more complex to deal with. We are excluding other possibilities, discarding not only objects but also people, with different perspectives and modes of living that does not meet our standards. Everything and everyone are treated as expendable.

At this point, what should we do? What has history taught humanity about actions rooted in this principle of individuality? Nothing. It takes a collective, united, and genuinely supportive movement that acknowledges both its own identity and the identities of others to alter the course of history and its events. Only by coming together and embracing our interconnectedness can we forge a pathway towards a more compassionate and resilient future.

Considering the above, planetary health may offer a solution to this complexity. By recognising interconnectedness and including all elements, either human and non-humans, in a collective action for foreseeing a convergent future, we can address the complexity of our times.

Demanding for Convergence, Equity and Equivalence

In his most recent book, "Ethnographies des mondes à venir" (2022), Philippe Descola is challenged to reimagine the world, a truly daunting task. According to this author, the solution to the ongoing socio-ecological crises requires a profound shift in our relationship with nature, living environments, and non-human beings at every level. This is already known, although things have almost not changed. Descola now proposes envisioning social projects that align with this transformation, which, in his perspective, can only be accomplished through a hybrid society where state structures and autonomous territories blend in a heterogeneous proliferation of social organizational modes and ways of coexistence. This is what we call convergence.

We understand convergence as a quantum leap in how we perceive the world and our place within it. Beck (2016) suggests that societies are currently at the forefront of a "world metamorphosis" aimed at finding responses to the imminent threats facing our world. These societies fit into the logic of "cosmopolitan risk communities", whereas, instead of sharing common norms and values as in traditional communities, communities now share crises, risks, and threats. In other words, the societal "ills". Their shared purpose revolves around the anticipation of catastrophe. The need for convergence is very close, although not limited to, with the transformative learning proposed by Mezirow (2000), which involves expanding and transforming worldviews. By venturing beyond our comfort zones and engaging with individuals holding different beliefs, we acknowledge the validity of worldviews other than our own. This prompts self-reflection on our assumptions and gradually transforms the ability to engage with diverse perspectives. While our core values remain intact, our ability to navigate and collaborate across different worldviews is enhanced.

This framework can be very useful in an era marked by compounding crises. The urgency to unite and form resilient coalitions and communities compels us to fundamentally redefine the essence of belonging, to each another and to our Earth, and planetary health may benefit from it. While both the "One Health" and "Eco-Health" approaches emphasize community involvement in addressing health and environmental issues, convergence, when combined with planetary health, underscores community engagement as vital, recognizing that local knowledge and participation are essential in identifying and implementing sustainable solutions at global level. That allows to ensure that interventions are culturally relevant, acceptable, and successful in improving health outcomes. Also, in a time where resources of all types are lacking, struggling to find solutions with reduced costs (Pattanayak and Haines 2017), convergence encourages collaboration and sharing of resources among different stakeholders, including governments, researchers, non-governmental organizations, and communities. This pooling of resources allows for a more coordinated and effective response to the interdependent challenges at the intersection of nature, health, and well-being.

Another aspect that makes convergence so unique and necessary is that it helps break the blockade of binary thinking that renders any possibility of life impossible, rendering it more fragile. Embracing a logic of convergence and considering all

potentialities within the realm of life, we can view the world and climatic phenomena as not fixed within closed frameworks. Just as Goodall's illustrates in "Seeds of Hope" (2015), where interconnected systems guide tree roots, and planetary health enables us to transcend singular life forms and understand the significance of context. Additionally, through the lens of planetary health, convergence introduces a new way of conceiving and defining health, rejecting competitiveness and adopting cooperation as a manifestation of intelligence, resilience, and the ability to react and rally in the face of climate change (Ferguson 2022).

Convergence holds significant relevance in understanding the interconnectedness between health and the community, proving indispensable for matters of equality for both humans and non-humans, and their relationship with the environment. Environmental philosophers argue that the term "person" is often used with the intention of marginalizing other living beings that also experience illness, such as zoonotic diseases, physical harm, or compromised mental conditions (Capps 2022). If we are capable of discerning animals' material interests, we should not disregard their rights, particularly within the context of climate change (Have 2022; Mubareka et al. 2023).

For us, humans, access to clean drinking water is a fundamental and essential necessity within the realm of public health. However, when considering the rights of a dolphin, it's crucial to remember that the preservation of an unpolluted ocean should be ensured. Likewise, an elephant's right to freely roam to watering locations should be acknowledged (Capps 2022). In reality, different species compete for ecosystem services, often resulting in conflicting claims over resources. Nonetheless, environmental health stands as a shared public good, accessible equitably to both humans and non-humans.

Final Remarks

This introductory chapter was not crafted to review the literature pertinent to the book's discussed topic or to present and deliberate upon empirical data. Instead, its purpose is to provide a canvas for contemplation and reflection on the complex dimensions woven into the need of going beyond a fragmented look to climate change causes and impacts. Often, these interdependencies are overlooked or deliberately avoided, part of the human ingenuity strategy to evade recognition.

By lifting the veil of the complexity within planetary health and climate change, while also highlighting the limitations of fragmented approaches, we purpose the concept of convergence. Convergence represents the articulation of diverse perspectives, disciplines, knowledges and strategies to craft nuanced solutions for multidimensional socioecological challenges. In this context, planetary health emerges as an integrative lens that reframes our understanding of well-being by interlinking human health, ecosystems, and the vitality of our planet.

The call for a new narrative for humanity transcends the exclusion of alternatives and the embrace of disposability. Our survival hinges on collective cooperation. Although we acknowledge the complexity of embracing such alternative, accepting uncertainty, transcending binaries, and fostering a cooperative spirit, we firmly believe that only through cooperation can we effectively tackle climate change.

In essence, the greater the number of actors within the natural system, the more vibrant and resilient these actors become. This principle extends to both human and non-human communities, shaping the potential for novel modes of coexistence and emerging futures, echoing the challenge proposed to Descola. Perhaps this paradigm stands as the sole approach to address the socio-ecological challenges intertwined with climate change. It entails acknowledging that individual efforts may falter, yet through collaborative endeavours and the myriad existing interconnections, we can emerge stronger and more robust, cultivating both health and resilience.

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