
Degrowth in discussion with Buen Vivir

Drawing positive futures



Cyprien Brabant
cyprien@student.chalmers.se
+33658852948



Abstract

There is a need for rapid, far-reaching, and unprecedented transformation of the thermos-industrialised civilisation endorsed in the Global North (IPCC, 2018). Knowledge of the necessity to change (*why?*) and transformation of complex systems (*what?*) exist. Yet, societies in the Global North are not changing fast enough at a macroscopic scale. In this article, I will explore Degrowth as a meaningful way to shape positive and desirable futures. By drawing a parallel with the Buen Vivir, this article underlines the need for transcendence of paradigms. Abandoning the myth of *development* and the pursue of economic growth is unequivocally needed to draw positive ecosocial futures. are to be designed in the pluriverse, accepting differences but showing oneness in de-colonial approaches.

Acronyms

SDGs – Sustainable Development Goals

GDP – Gross Domestic Product

WEIRD – Wealthy, Educated, Industrialised, Rich, and Democratic

IPCC – International Panel on Climate Change

ABSTRACT	2
ACRONYMS	3
1. INTRODUCTION.....	5
1.1. WHAT TO ADDRESS?.....	5
1.2. WHERE ARE WE NOW?	5
1.3. OUTLINE OF THE RESEARCH.....	6
2. PERSONAL MOTIVATION AND DEFINITION OF THE TERMS	7
2.1. MY LENSES: EPISTEMIC & ONTOLOGIC APPROACH.....	7
2.2. DEFINING THE IMPORTANT TERMS	8
3. TRANSFORMING THE WEIRD PARADIGM: BLUEPRINT AND LIMITATIONS.....	11
3.1. SOME OF THE CURRENT FAILURES	11
4. RE-ENTERING THE WICKED PROBLEMS (OR PREDICAMENTS) FOR RADICAL DIFFERENT PARADIGMS.....	17
4.2. A CIVILISATION TO DEGROW, WILLINGLY OR NOT.....	19
5. THEORETICAL ANALYSIS	22
5.1. CAPITALIST DEVELOPMENT	22
5.2. DEGROWTH	25
5.3. BUEN VIVIR	32
5.4. A MEANINGFUL DUET	34
6. DISCUSSION	39
6.1. POLARISATION.....	39
6.2. OTHER ALTERNATIVE PARADIGMS	39
6.3. FEASIBILITY OF SUCH A TRANSFORMATION.....	41
6.4. LIMITATIONS OF THE PRESENT RESEARCH	41
7. CONCLUSION AND OUTLOOK	42
REFERENCES	43

1. Introduction

1.1. What to address?

The multiple current challenges faced by human civilizations led to a context of polycrisis (Lawrence, et al., 2022). Social and ecological struggles perpetually stress the need to radically change the dominating patterns of societies, especially in the Global North where most of the harm has been caused. The dominating economic and political paradigm has driven wealthy nations to fetish economic growth to progress and develop. Nevertheless, the social and ecological outputs of capitalism show hazardous damages to life, and struggle to improve the social situation in countries where the basic needs of the most are fulfilled. Evidence and pieces of solutions are to be found in the abundant literature about socio-ecological concerns, yet implementation is lacking at macro-scale, and especially under the auspices of the United-Nations. Changing the dominating paradigms that steer societies is a tough work, and deep trends seem to pursue unsustainable business as usual.

The dominating economic and political system endorsed by the Global North operates similarly as a vacuum, obediently sucking up people in a winner takes-it-all game named capitalism. Nonetheless, a vast range of realities is to be found around the world. As diverse as cultures, landscapes, climates, or people are, it is reasonable to talk about a pluriverse. Arturo Escobar describes the pluriverse as “a world where many worlds fit” (Escobar, 2015), displaying the commonality of our planet and the plurality of realities within it. This is why the possibilities for positive and desirable futures are to be found in wide range of realms. Beyond competition and categorisation, addressing the polycrisis probably require transcending paradigms and seeking solutions out-of-the-box. Degrowth and Buen Vivir emerged as possible responses to these struggles.

1.2. Where are we now?

To address the struggles faced by the thermo-industrialised civilisation, induction shows political and economic weak attempts to reorientate societies in sustainable pathways. Nevertheless, most of the proposed solutions advocate for adjustments within current structures, rarely questioning the deep foundations of it. On the other hand, grassroot movements promoting alternatives often lack visibility, or suffer from competition from organisations favoured by the political and economic situation. Researchers try to find solutions, displaying a wide range of possibilities within, on the edge or apart from societies.

Considering the pluriverse, we cannot pretend that every element of a desirable future is to be entirely invented. Initiatives, projects, communities, lifestyles around the world show alternatives for life of humans and non-humans to thrive on Earth. The research has expended the horizons, showing different possibilities to operate politically or economically, when empiricism reveals fruitful examples of alternative paths. Degrowth has grown in the Global North as a slogan for alternative convivial societies, when Buen Vivir is a philosophy inherited from indigenous people rejecting the mainstream capitalist development.

Both movements, albeit recent in their internationalisation, have been discussed and compared in the scientific literature. Analytical analysis focused on their differences when attempts to find synergies sometimes lead to neo-colonial approaches. In the present article, I will attempt to transcend Degrowth and Buen Vivir to meaningfully help the debate on positive and desirable futures.

1.3. Outline of the research

Buen Vivir (roughly translated in English as Living Well) is a philosophy coming from Latin America, specifically rooted in the Andean indigenous people. Buen Vivir is built on the opposition to the mainstream capitalist development, proposing alternative organisations where communities of humans and non-humans prevail. On the other hand, the Global North often assumes the current world to be a one-world world, put another way, a universe, but the Buen Vivir movement expresses the pluriversality of our common but shared world. Initially expressed in indigenous languages, Buen Vivir emerged in Spanish, quickly finding a significant echo in Latin America, especially Ecuador and Bolivia. In both countries, the term Buen Vivir is written in the constitution. This extensive use comes with different levels of fundamentalism demanding a deeper understanding of the original philosophy. On the other hand, capitalist development is entrenched in the Global North paradigms, making it difficult for alternatives to take the ground. The Degrowth movement is one of these alternatives initially proposed by scholars and activists revolting against the idea of development. Largely discussed in the scientific literature but lacking extensive empirical evidence, degrowth stands for a shrinking of the economy to operate within the ecological limits while ensuring positive social outputs. Nonetheless, we will see that Degrowth is built on philosophical ideas that go beyond a mere economic perspective.

The first chapter of the article will shortly present background motivations of the present work. Chapter 3 & 4 are hints on possible solutions. The chapter 5 theoretically review Buen Vivir and Degrowth movements. This will help the discussion held in chapter 6. Finally, the sixth chapter is a conclusion of the article and elaborate and further possible research.

Note for the reader

You, reading this article, will notice the use of personal pronouns in this work. As a way to protest against the neutrality of science, as a way to acknowledge my pain in the current ultra-violent world, this work comes from my heart as much as my head. I actually believe that the distinction between head and heart is a myth told to establish human authority on non-humans.

2. Personal motivation and definition of the terms

2.1. My lenses: epistemic & ontologic approach

The lenses we use to look at reality are the umbrella term for the perception and filter we use to process the overwhelming flow of information reaching us (Lockton & Candy, 2019). Lockton & Candy describe lenses as "the modular collection and deployment of approaches to examining, thinking about, and acting in various situations" (Lockton & Candy, 2019). Thus, these lenses impact how we see things and, therefore, how we act accordingly. By seeing, I mean the result of the five body senses because I can see or picture something I hear, touch, smell, or taste. My cognitive senses help me to "see" a bird singing, the door handle in the dark, or the bread that I can smell from the backyard of a bakery. Therefore, I will proceed by describing my background to help the reader, you, to understand better where some of my opinions might come from. I do not intend to flaunt my life but rather help you to make your criticism of my work regarding the environment I develop in. I studied engineering in my home country but eventually realised that my tuition did not match our finite planet's reality. I have been trained with old-fashioned knowledge taught mainly by people like me (description as mentioned above), and it took me a few years to realise that this was not the contribution I wanted to give to our world. Therefore, I shifted my curriculum toward more sustainability through various short professional experiences and an Industrial Ecology master's degree in Sweden.

2.1.1. A WEIRD journey

Since 2019, I have been trying to change my personal and professional orientations to align with the alarming ecological condition of our planet. I realized how much Climate Change and many other ecological disturbances jeopardize humanity's survival on planet Earth. Ever since I have been trying to change myself but also impact my surroundings to make them realize what I have been frightened of. For 2 years, I talked, argued, and even fought with my close surroundings to change their lifestyle. Overall, it did not work. I felt powerless. I felt lonely and often angry.

One year, I went abroad to study a topic of interest: ecology. I dedicated this year to myself and stopped "fighting" the harsh world of violence towards humans and non-humans. I went on incredible journeys, living a great and fairly sustainable life, and concluded this year with a bike tour of several weeks. When biking, I was happy. I was happier camping in a field than in a fancy hotel. But then, when returning to my known surroundings, I noticed something unexpected: people around me showed interest in this trip, and some even went on a bike tour themselves. It took me a few months to question what created that. What set some people in motion towards this unconventional way of travelling? By discussing and reflecting, I found an answer. During this trip and after, I was happy! People saw it and were interested in it. What a surprise. Without trying to convince people to travel sufficiently, it created a dynamic. So there I was, realising that alternative simple trips and lifestyles make me happier than the ideal lifestyle depicted in TV advertisements. How to explain that? How to explain that we could be happy beyond the classic definition of a successful life with less artificial means? I am convinced that alternative paradigms are possible for better futures. Ecologically viable, meaningful and respecting social needs, the future realities could be largely different.

I am a French man, ticking the boxes of a privileged person. White-skinned, cis, hetero, wealthy enough to have time to write this article. When looking at the multitude of cosmologies in the world, my background is somehow WEIRD (Wealthy, Educated, Industrialised, Rich, and Democratic). Weird because most people in our world experiment with different environments and grow different perceptions. Joseph Henrich studied the WEIRD people to discover that they are very peculiar regarding the pluriversality of our planet. Far from a duality of WEIRD/non-WEIRD, the major findings of his work show that WEIRD people often are one extreme on the scale of perception (Henrich, 2020). It is valid

regarding the self-focus vision of WEIRD people, driven by guilt over shame, with low conformity to traditions believing that a world truth exists. WEIRD people perform analytical over holistic work and show patience and the ability to focus on the main elements of a work, distinguished from their background. Relatives are important to WEIRD people, but universal laws are over the importance of kin-based advantages. As a WEIRD, I surely show such biases in this work and try to detect them to improve the reader's quality and understanding of the context. Yet, WEIRD people are overrepresented in scholarly works and often consider the WEIRD paradigm universal (Henrich, 2020). If you are reading this article, you might be WEIRD yourself.

I will regularly refer to the WEIRD paradigm in this work. You only need to remember that it is a Wealthy, Educated, Industrialised, Rich, and Democratic context.

2.2. Defining the important terms

2.2.1. Positive

Positive futures are possibilities for life on Earth to exist and thrive. By ensuring the wellbeing of humans and non-humans, unpredictable futures can be contemplated serenely.

Positive future stories are a good balance between hope and honesty. Accepting the negative emotions created by undesired events likely to happen, but using these negative emotions to start moving up and draw the lines between positive and possible futures. Nevertheless, Essebo calls for greater attention to the elements of stories, including fear. She recognizes that people tend to shy away from stories that challenge worldviews and instead prefer the security of echo chambers, where "fear can be faced through shared perceptions of good and evil" (Essebo, 2022).

A positive narrative is not a fairy tale made of illusionary, optimistic wishes. It is about being consciously optimistic that the situation can be a source of life, joy, and well-being despite the atrocities happening in the world. We can be gloomy and sceptical regarding the Earth's conditions but remain optimistic that some aspects of life can be saved and embraced to ensure happiness and well-being for the people and the planet (Servigne, et al., 2018). We need to be cautious with hope and optimism combined with denial, hence the need for a clear and tangible speech. Hope implies that there is meaning in the action. Beyond optimism, being hopeful gives a reason to act. Emotions such as hope, joy, or compassion must be redoubled to stress positivity.

"The essence of dramatic tragedy is not unhappiness. It resides in the solemnity of the remorseless working of things" (Lloyd, 1833)

2.2.2. Future

The future referred to in this article does not go far beyond the next few decades. The future I intend to talk about is the alternative future to the looming catastrophes stressed at various points of this article. It is a fuzzy timespan that could range from a few years to a few decades away. The current polycrisis could lead to a civilizational collapse (Servigne & Stevens, 2020) likely to happen numerically (i.e., step by step, one little thing at a time collapsing), threatening humanity's survival (IPCC, 2023). Therefore, humanity's future is already hypothetical, but I would like to focus on the alternative future, the positive and desirable one we can achieve through radical civilizational transformations. This future is within reach and can be considered to be already tomorrow or by 2030 like the current policies like to do. Therefore, the future of this research remains this fuzzy time laying between different realities and considered to different maturity upon the reader's sensibility.

2.2.3. Transformation

The process of paradigm transformation necessitates profound modifications in the existing frameworks within our societies. Extending beyond mere adjustments prompted by the term "transition", a transformation mandates the dismantling of certain established structures in order to pave the way for the emergence of novel, distinct ones. This entails a radical metamorphosis as the opportunity for a seamless transition towards sustainable societies has now dissipated; it is too late. Current wealthy societies live beyond the planetary means (Rockström, et al., 2009), and the degrowth of our ecological and material footprint will happen, driven by conscious choice or imposed by the Earth (this assumption is further developed later in this article). We overshoot the planetary boundaries, and human-constructed frameworks have to transform radically and rapidly (Parrique, 2022) (Meadows, et al., 1972).

2.2.3.1. Three stages of transformation

There is a consensus that transformation has a temporal and societal dimension often summarized in a three phases process. The so-called S-curve provides a framework of transformation for emerging systems (see Figure 1 - Three stages of transformation from the GSDR 2023). The S-curve includes feedback and different penetration stages into society (Sandén & Karlström, 2007). As described in the Global Sustainable Development Report 2023 (IGS, 2023), the S-curve comprises 3 phases: (1) the emergence phase, made of innovations that will disrupt the situation. It is made of deliberative processes to build shared narratives, visions, and missions collectively; (2) acceleration phase, observing a rapid increase and adoption of the innovation across sectors owing to market, policy, and social adoption; (3) stabilization phase, observing a deep adoption and penetration of the innovation into the market becoming anchored in infrastructure, regulations, user habits, and standards (IGS, 2023). But transformation does not happen in a vacuum. There is a whole environment connected and influencing the transformation process. When a new system emerges, we often observe a decline in another one (e.g., computers outshined typewriters). The GSDR 2023 stresses the converse of a declining system with the three following steps: (1) destabilization; (2) breakdown; (3) phase-out.

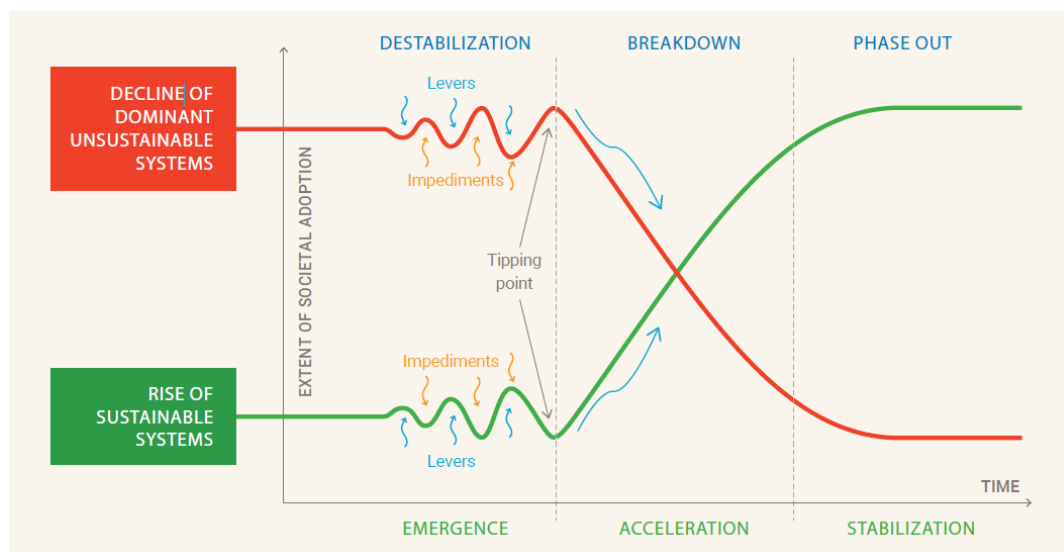


Figure 1 - Three stages of transformation from the GSDR 2023

A primary concern is the exponential acceleration conveyed in phase 2 of an emerging transformation. "The Great Acceleration" (Steffen, et al., 2015) emphasized the exponential growth of many societal indicators. Whilst some are physical factors (GHG emissions, ocean acidification, eutrophication,...) some are human-constructed, such as GDP, fertilizer consumption, telecommunications, or paper use. Such exponential growths are at high risk as they are not easy to spot until they go to the roof (Meadows, et al., 1972), and not all innovations are profitable for humanity. Thus, I voice my apprehension regarding the pursuit of transformation without a more profound consideration of the underlying motivations and benefits of such a transformation (e.g., is a much faster internet connection or three extra cameras needed on phones to feel better?).

2.2.3.2. *Transformation or transmutation?*

John Robinson argues the need to go beyond transformation by using metamorphosis and even transmutation (Robinson, 2022). I acknowledge the profound radicality needed for effecting such a paradigm shift; however, I opt to adhere to the term "transformation". "Transformation" conveys a pragmatic, mechanical change rather than a superior change implied by transmutation or metamorphosis. Thus, I presently employ the term hearable in the discussion arena. However, I imagine that transformation could be obsolete in the following years and replaced by metamorphosis or other meaningful words. Nevertheless, the transformation I advocate for entails profound changes in our roots, habits, and worldviews.

2.2.4. *Paradigm*

A paradigm is a set of widely accepted beliefs, values, practices, and assumptions that shape how individuals within a particular field of study, culture, or society understand and interpret reality. A paradigm offers a view of the reality we are living in. It provides visible and invisible frameworks to guide decision-making, problem-solving, and the development of theories or models within that context. I use the term paradigm because of its structural role in human behaviour. I believe that a paradigm change is inextricable from a profound transformation. According to Donella Meadows, paradigms are the strongest and deepest leverage points to change a system. It is sort of the "strongest" and "largest" value possible in system thinking (Meadows, 1999).

In this article, Degrowth, Buen Vivir and Capitalist Development are considered to be paradigms. These paradigms were briefly introduced in the introduction, and much more information will make the core of this article. Therefore, the terms are not further explained here.

3. Transforming the WEIRD paradigm: Blueprint and Limitations

In 1972 "The Limits to Growth" stressed the risk of overshooting the limits of what our planet can bear—followed by growing scientific research on the limitations of expenditure on a finite planet. The International Panel and Climate Change (IPCC), born in 1988, released its first assessment of the dramatic situation in 1990. Rockström et al. published the result of their first assessment of the Planetary Boundaries in 2009. This work has been updated multiple times and we now (2023) overshoot at least 6 out of the 9 identified biological assimilation capacities of our planet. These are pieces of evidence known by most stakeholders in the Global North. Yet, in 2023 the situation did not get any better, and barely any ecological measure shows an improvement in the global ecological condition of our shared planet.

I do not intend to collect proof of the unachieved ecological transition. Briefly looking at the news is enough to show how the most have failed, so far, to mitigate and adapt to the ecological and social catastrophes. With that said, we need to radically shift our structures in order to preserve life on Earth. Theories and already existing ideas provide an idea of the horizon beyond this shift.

3.1. Some of the current failures

Without drawing up the numerous evidence of the polycrisis driven by overshoot of the Planetary Boundaries (Rockström, et al., 2009) or the failure to meet the social decent minima (Raworth, 2017), I would like to rapidly go over some of the reasons we ended up in this situation. These reasons are not exhaustive but would instead represent my own understanding of the reality upon us.

3.1.1. Global governance / UN

The United-Nations is a body for Global Governance aiming to foster sustainable development leaving no one behind. Created and still driven by countries from the Global North, the UN shows the ambivalence of the current situation. Already in 1996, the UNDP showed reluctance toward economic growth as it was 'Determined efforts are needed to avoid growth that is jobless, ruthless, voiceless, rootless and futureless', the focus was on people and the planet with critics toward current patterns in that time. After decades of addressing Human Development, the UN lost critical positions on the economic paradigm and slowly adopted capitalist lenses. In a time when the first empirical studies came to show the non-relationship between the human quality of life and economic wealth over a threshold, the UN kept on promoting economic growth for all nations. Until now, very little context difference has been made to promote different economic strategies in the member countries. The Global North influence is so entrenched in the UN framing process that modern capitalism became a framing parameter rather than a parameter under analysis of relevance for human development.

As a result, attempts to promote sustainable development have failed. The term 'sustainable development' is an attempt to melt sustainability into capitalism without success, and evidence shows the incapacity of sustainable development to solve real issues. In 2023, halfway through the SDGs (Sustainable Development Goals) set by the Agenda 2030, out of the 140 targets established for the SDGs, only 12% are on track to be achieved (ECOSOC, 2023). Even worse, 30% have either seen no movement or regressed below the 2015 baseline of the assessment. Europe is further away from attaining the 2030 Agenda in 2023 than it was in 2022.

"The SDGs are fairy tales, dressed in the bureaucratise of intergovernmental narcissism, adorned with the robes of multilateral paralysis, and poisoned by the acid of nation-state failure." (Horton, 2014)

While the citation from Horton can seem a little extreme (I don't doubt that people who designed the SDGs meant well), it stresses an opinion of the SDGs that many people, among and outside the UN, agree with. Considering the evidence of SDGs' failure, critics are intelligible. The Secretary-General of the UN himself, Antonio Guterres, said in front of ministers of 194 countries, "We lost seven years" (i.e., between the implementation of the SDGs in 2015 and 2023). So where is the rub? As mentioned before, the SDGs are highly entrenched in current paradigms, lacking critical perspective. They pursue the tradition of business as usual in a world that does not question its fundamentals (Veland, et al., 2022) (Horton, 2014). The SDGs keep the same paradigm with all other things being equal, despite the evidence stressed above that we need to radically change our societies' structures.

As defended by scholars on Degrowth and alternatives to development, 'what is needed is an alternative to the 2030 Agenda for Sustainable Development' (Demaria, et al., 2023).

"Even with stringent regulations for environmental protection and social process, the need for employment and economic growth (or at least avoiding economic loss) continuously overrides other needs for sustainability." (Veland, et al., 2022)

After being a research analyst at the UN in New York's headquarters for three months and experiencing it from within, I can also attest to a substantial lack of embodiment. The messages and values stated by this institution often do not match the forces and operations moving it. Advocating for sustainability, but with the overuse of aeroplanes, plastic everywhere, and a headquarters operating the same way any other New York building does. Being in the UN headquarters does not seem any more sustainable than anywhere else in New York. Furthermore, this institution is highly inertial, complex and challenging to work with, making it far from representative of diverse societies. Most people working in the UN have been trained for it, have connections or come from a wealthy background. Voices of hands-on people are difficult to raise in this bureaucratic institution. I would summarise it as a place 'where people know how to talk but don't know what they talk about'.

One last ridiculous example of the UN's contradictions happened during the High-Level Political Forum (HLPF) 2023. Ministries of member countries gather for a week and discuss the SDGs to foster sustainable development. During this event, some countries displayed their initiatives to address sustainable challenges, and I got to witness the publicity coming from NEOM, the "new sustainable city" built in the desert of Saudi Arabia. This project is insanity, a result of humanity's madness, highly criticised by ecologists. Yet, it still finds room in the UN's headquarters during one of the most important summits of the year.



Figure 2 - NEOM, the Line displayed in the UN headquarters during the HLPF

3.1.2. Science and Public Understanding of Science

I believe science is both part of the solution and the problem regarding the current polycrisis. As an engineer, a cartesian who believes in numbers, charts, and other complex figures that most people would have nightmares about, I grew up thinking that findings from science were used to make the world a better place – fed with the belief that everything can be explained and theorised, like a mathematician's law. As I got increasingly into papers, conferences, and discussions, I am scared that my perspective had changed. I see knowledge, concepts, and theories well documented and explained in scientific publications. In sustainability, extensive literature assesses our societal schemes' situation and limitations, proposing shining alternatives, but implementation is still lacking. The gap between theory and application seems huge and not resorbing.

Implementation delays partly because science is not policy-prescriptive. Implementation is viewed as political, normative, and future-oriented and hence not amenable to scientific analysis. This phenomenon is highlighted by the work of influential organisations, such as the Intergovernmental Panel on Climate Change (IPCC), which has focused on providing evidence of the problem and identifying broad pathways (Fazey, et al., 2018). The alarming messages from the IPCC and many other organisations shed light upon threatening predicaments but remained limited in the effect on politics. The IPCC became more solutions-oriented only recently with the creation of Working Group 3, which first released a report on mitigation in 2021 aiming to provide solutions from the scientific literature. However, being solution-oriented has been criticised. The traditional role of science is neutral without interference with politics, and the separation between knowledge and action remains dominant in the public debate. I believe that keeping this gap is not effective and creates a feedback loop of increasingly separating science from action. In a polycrisis situation, action is urgent, and the traditional way of establishing extremely robust evidence before taking action cannot support the needed transformations.

The absence of emotions in scientific discourses is another reason for the lack of public understanding and consideration of science. (Veland, et al., 2022). I can relate to the theory of Veland et al., arguing that post-World Wars trauma led to a deficient trust in humankind. At that time, humans perpetrated such atrocities that we could not trust them, us, anymore. Hence constraining content, art, and story creators to root their work in neutrality. Humans changed their role to spectators rather than actors. Facts, evidence, neutrality... science became distant from scientists, and we have been locked in a rational and impersonal approach. Researchers fear (such as me working on this article) being personally involved in their work, differentiating the object of study from the observer, the so-called 1st order science. All this together made human beings believe that we can overcome subjectivity because we are observers of nature, the object of study, which we are disconnected from. This view is fallacious; every observer is not neutral or objective, undergoing natural biases. Furthermore, science is a very personal field. All the content created serves the prosperity of humankind, doing science for the sake of science is not of great interest. The application is always part of the finding itself, and we cannot ignore the impact of our seeking. Oppenheimer is a great example. Regardless of his talent and the inextricable question of his research, he sincerely believed that science was not policy perspective but rather a go-between reality and politicians. Nevertheless, he could not help but have mixed feelings about his work on nuclear weapons and surely raised the question of the role of a scientist.

This approach demonstrates the incapacity to solve current predicaments in a classic, rational way that is too long and ineffective. There is a need to go beyond, trust the consensus and show caution because the survival of humanity is at stake.

3.1.2.1. *Second order science*

Considering the emergency context of the polycrisis humanity faces and the uncertainty about the future, a movement argues that we must adopt a new scientific approach. When facts are uncertain, values in dispute, stakes high and decisions urgent, the post-normal science (PNS), later called Second-order science, recommends acting differently, without seeking scientific truth but rather 'extended peer community', including all stakeholders in the dialogue, for evaluating the quality of scientific information for the policy process (Funtowicz & Ravetz, 1993) (Funtowicz & Ravetz, 1994). The 2nd order science movement is a call for a change in the role of scientists, affecting the role, the aim, and the way to conduct research.

Embedded in this work is second-order science, a perspective that acknowledges the interrelationship between an observer and their observations. Second-order science stands in contrast to the principles of first-order science, which assert the necessity of an independent stance for the observer with the observed phenomenon. Fazey et al. characterise second-order science as a methodology aligning more closely with the complexities of reality (Fazey et al., 2018). In this approach, researchers have a more active role in knowledge sharing. This proactive engagement serves to mitigate distortions of information that might occur through mediums or other appropriation of the knowledge. It emphasises the active role of researchers and knowledge-holders in society. Therefore, this article might show unusual amounts of personal pronouns, a deliberate choice.

In addition to the 2nd order science, here are some personal thoughts on the possible evolution of knowledge.

3.1.2.2. *Knowledge and consideration of knowledge*

There is an acknowledgement that "subjective" or "interior" dimensions are needed in order to transform our societies (Bentz, et al., 2022). Instinct is a complex, innate, and often unlearned behaviour present from birth. It results from a species' long-term learning and experiences to ensure survival and development when encountering an unexpected situation. The purport of instinct consequently means leaving room for improvisation. Improvising is like playing music, listening and responding to each other to produce a collaborative and intersubjectively generated output (Veland, et al., 2022).

Suppose we base research only on existing literature and observed problems/flows, as it is currently done to feed development. In that case, we remain in the existing realities and hinder the rest of society that does not exist on paper or does not exist yet. Alike many of the cutting-edge discoveries of humanity coming from intuitions, I believe in the possibility of finding new answers inside of us in an irrational way.

A positive side effect of acting more instinctively is the pace of action resulting. A holistic intuition resulting from miscellaneous experiences makes the information process faster in new experiences (Servigne, et al., 2018). And we need a fundamental change when our research schemes enhance incremental change. It's too late for that. Therefore, we need a radical transformation and not just build on the existing. We need a shift from innovation to invention. Invention in all sides of society, not only technological. Inventing without increasing complexity. There is an endless field of inventions to find in low-tech, social protection, social interactions... Moreover, human needs and the human environment are in constant evolution, innovation will always remain a needed aspect.

"The act of questioning and doubting reveals the non-acceptance of predefined structures, but either looking beyond it or not fully considering it from the beginning" **Source spécifiée non valide..**

I believe in plural science, where knowledge emerges from published articles, discussions, art, or other mediums. As Joan Martinez Alier stands that activists and grassroots communities should be considered as theory and knowledge producers in their own right.

3.1.3. Separation nature-culture

"There are many kinds of life. Humans always assumed that theirs was the only kind that mattered. That's how you destroyed your planet." says Robot Spike in the novel *The Stone Gods* (Winterson, 2007). Over the last centuries and probably rooted in the Enlightenment, we have separated nature and humans (Robinson, 2022). Human beings took over nature to establish its domination over all the rest of the living. It is time to change this approach and acknowledge that "nature is us and we are nature" (Sadik, 2020).

Reconnecting emotionally and physically to nature has the potential to address the overarching predicaments we face. Numerous scholars consider reconnection to nature as the fundamental solution. In their framework to reconnect with nature, Ives et al. identify 5 concepts (philosophical, emotional, cognitive, experimental, and material). The philosophical and material ones are considered more "thoughtful" than "feelings". In short, the philosophical and material are more brain-related, whereas the emotional, cognitive, and experimental ones are more soul-related (Ives, et al., 2018). According to them, the brain-related are represented at societal levels while the soul-related are more of an individual connection. I am afraid I have to disagree with this idea and think it is part of our mistake to believe that feelings are individuals and that societies are reasonable, cartesian systems. I believe that our societies have an emotional part, the informal structures, such as taboos and rules of law, often come from common feelings due to shared values.

Why are our systems and infrastructures so disconnected from nature? An approach I like is the concept of depreciation. When building a 'capital' (e.g., a building, a car), depreciation says this capital will lose value over time. Our capitalist system is based on this depreciation that requires constant re-make and thus production growth. What happens with natural capital? Well, the longer a forest can live, the more "valuable" it is, in the sense of the ecosystemic services it provides. A forest is appreciating, which is antagonistic to depreciation (the same can be observed with few human-constructed goods such as art or books). Capitalism does not entail the possibility of appreciation. There is a single button on the 'capital': depreciation. Unfortunately, this positive 'value creation' doesn't match the accelerating treadmill of growth that our political and economic structures set us on.

3.1.4. From polycrisis to polypredicaments

To conclude this chapter, building upon the findings presented, I stand for a redefinition of the term "polycrisis" as previously employed in this work to "polypredicaments". A crisis is a time-limited situation where the situation is out of the steady regime of a system. A crisis is a transient condition during which a system deviates from its established equilibrium. A crisis implies the potential for reverting to the preceding stable state. However, it is crucial to recognise that a considerable portion of what is commonly labelled as a crisis might not fall within that category. For instance, the ongoing climate warming is irreversible, precluding a return to the stable conditions of the pre-industrial era. This same irreversibility applies to most of the ecological concerns and, unfortunately, social concerns as well. In contrast to crises, predicaments refer to complex and challenging situations characterised by difficulties and constraints that may not have a straightforward solution. Unlike a crisis, a

predicament is more ongoing and chronic, requiring careful and innovative consideration as well as a deeper understanding of underlying factors.

To address or at least face these predicaments, there is a need to disrupt the mainstream problem-solving approaches. Most already exist, and I will now give a broad overview.

4. Re-entering the wicked problems (or predicaments) for radical different paradigms

Re-entry is where first-order concepts are applied back on themselves, resulting in new meta-concepts and the emergence of new questions (e.g., What norms shape norms associated with climate-related behaviours?) (Fazey, et al., 2018). The present work is not about re-entering the wicked problems entirely but showing that deep questioning is needed to transform societies effectively.

Some answers to adapt and mitigate the current polypredicaments already exist. The requisite knowledge to enact transformative changes within our societies and the necessary resources are at our disposal, yet a deficiency hinders progress in creativity. Unfortunately, we find ourselves locked in outdated paradigms that impede the transformative processes that demand a new foundation.

4.1.1. System-thinking and system-transformation

The scientific literature depicts well the resistance to transformation processes in our societies. In order for a complex society to change, infrastructures and frameworks need to change at a root level. Nevertheless, situations such as lock-in or system inertia hinder the change despite the will of the stakeholders. Words and intention are not enough, and there is a need to understand the deep layers of the systems to act on them and find the leverage points.

This point will be better illustrated in the system-thinking approach below. To summarise it shortly, our modern societies are a complex system. A complex system is defined by three aspects: (1) the boundaries of the system, (2) the components of the system, and (3) the interaction between the components. When stakeholders want to change the system, they tend to forget that the (2) interactions are highly complex and impossible to anticipate fully. Hence the need to act at the system level by changing the components (e.g., companies, organisations, consumers) and acknowledging the inertia and unpredictable aspect of a complex system. An example of a systemic approach gave birth to the canonical work from the Meadows & Randers, "The Limits to Growth". In 1972, the three researchers from the MIT modeled a simplistic model of humanity on Earth, forecasted the trends of that time, and found out that Earth would eventually regulate itself to counterbalance the overshoot of human activities on Earth. To operate a systemic transformation, there is a need to address the deep layers of the system subject to transformation (Meadows, 1999) (Inayatullah, 1998).

Otto Scharmer defines system thinking as a way "to address the deeper layers of where not only the system operates but where we are a part of the making of the world". This view entails the participatory role of system components, us.

4.1.2. Leverage points

The leverage points are the points that would make a fundamental change in a system. We can act upon those components of a system to foster significant changes. An example of the leverage points is the United States electrical grid. There are more than 55 000 transmission substations in the United States, but an attack on just nine substations could plunge the entire nation into darkness, according to a study by the Federal Energy Regulatory Commission (FERC) (Smith, 2014). It's a complex system that could be shut down by acting on a few leverage points. Unfortunately, current stakeholders tend to shoot for the easy problem answers, which often are weak leverage points (i.e., interventions that are easy to make but have limited potential for transformational change).

Abson et al. see 3 major leverage points to transform societies: (i) the role of institutions and institutional decline and failure in systemic change (*re-structure*); (ii) people's connections to nature

and their influences on sustainability outcomes (*reconnect*) and (iii) knowledge production and use in transformational processes (*re-think*) (Abson, et al., 2017). My present focus within the re-structure will be on informal structures such as habits, taboos, moral & ethical rules. These informal structures help the formal structures to be shaped. The formal structures of societies respond to the evolutions of the informal ones, and vice versa. However, I believe the former connection (informal influencing formal) is more critical when changing paradigms. Informal structures come from shared beliefs and habits of living in a community. For instance, professional dress codes are informal structures. It is not mandatory to wear a suit in an office, but most people do so to fit the standards. Nevertheless, suits disguise men to reveal only a talking head. Unintentionally the communication seems to be coming from the head, thus feeding the rational perspective of speeches.

Abson et al. also argue that institutions within systems mainly change by responding to extraordinary events such as wars, pandemics, or other events perturbing the steady state of institutions. In the standard acceptance, we would prefer to change paradigms more peacefully. Further in this article, I will try to emphasise the importance of stories and narratives to influence the institutions and thus avoid undesirable extreme events.

In short, reconnecting helps to re-think and accept to re-structure.

4.1.3. From "thinking" to "feeling"

"Emotions are an inescapable part of normal thought. Indeed, you cannot be rational without emotions" (Lakoff, 2010). As aforementioned, pretending for humans to be thinking beings is both wrong and dangerous. Lakoff, Servigne, Robinson, and many others show with distinction the misconception over the distinction between brain and heart. Physiologically these two parts of the body are strongly connected, but in the functioning of our brain, emotions are intertwined with logical thinking. Emotions lead to reasonable actions. In other words, there is no rationality without emotions (Lakoff, 2010). Thereby, I don't wish for a radical shift from rationality to emotionality but rather embrace feelings and emotions to include them in our decisions instead of neglecting them.

Embracing these feelings leads to subjective judgments. But as I implied so far, subjectivity is part of every work, however scientific, even though subjectivity is of a "secondary quality" in nowadays perception (Robinson, 2022).

4.1.4. A solution to the tragedy of the commons?

The tragedy of the commons is a concept in economics and environmental science that describes a situation where shared or common resources, such as pastures, fisheries, or clean air, are overused and degraded because individual users act in their own self-interest, leading to a collective negative outcome. This approach comes after Milton Friedman's inspirational idea that decisions reached individually will be the best for the entire society. This is only true if education and awareness are spread so that society shares the same values, that is not the case.

In *The Tragedy of the Commons* by Garrett Hardin, the anthropocentric approach defines humans only as owners of the common. If we shift this anthropocentric approach to an ecocentric approach, non-humans would share the common and co-own it with us. As animals are usually not overexploiting their environment to make their species viable, the conflict is more manageable as these "owners" are not conflicting. Being more ecocentric would enable us to consider our neighboring humans and other life forms on Earth as our community and sustainably manage commons (if we have five potatoes to share within a community, everyone is unlikely to go for their personal interests).

According to Lloyd, who initially raised the Tragedy of the Commons in 1833, there are only two exits possible to manage the commons: public & private management (Lloyd, 1833). But Hardin's answers later in 1968 argued a third possible exit: mutual coercion by sharing values (Hardin, 1968). Hardin recognized the finitude of our planet and, thus, the need to limit our expansion. He did this under the umbrella of population control, but similar arguments can be used regarding consumption "The maximum population is, then, less than the maximum" (Hardin, 1968).

4.2. A civilisation to degrow, willingly or not

In the Cosmology analysis of Degrowth, I claim that the degrowth of the economy will happen willingly or not. The difference is that our willingness to anticipate degrowth and plan it might enable us to do it in a safe and democratic context (Parrique, 2022). On the other hand, if our industrialised obese economies do not plan degrowth, it might happen in a chaotic context and, therefore, turn into a recession. This is why unplanned degrowth does not match the definition of the Degrowth paradigm presented above, but rather a recession or degrowth in the superficial sense of the term.

As early as 1972, *The Limits to Growth* demonstrated the unfeasibility of unlimited production growth. Without formally naming it, this work under the lead of Donella Meadows greatly paved the way for the degrowth movement (Meadows, et al., 1972). In the present research, I would like to use other approaches to demonstrate the boundness to happen of degrowth, or recession. I will use two approaches inspired by the engineering approach of an economy. These are models infrequent in the scholarly literature, but they helped me to understand the limitations of our planet, even before I knew about the Meadows or the Planetary Boundaries, I believe it is important to share them.

Kallis defines the economy: "Economy is the instituted process of interactions between humans and their environments, involving the use of material means for the satisfaction of human values" (in Degrowth book). Originally, the term economy means the organisation of the household. We can now extend the economy as the organisation of all the households within a specific region, a society.

4.2.1. G.D.P. and (fossil) energy consumption, an intertwined evolution

The relationship between the energy input in our industrialised civilisation and the G.D.P. has been studied and proven over the last decades (Menegaki, 2014) (Soytas & Sari, 2003).

Energy is about 10% of world households' expenses (Auzanneau, 2014) but the entire economy of every nation relies on it. Simply imagine a day without petrol. Trucks could not run, and most of the urban areas could not supply the food demand of the citizens. As fossil fuels power 98% of world transportation, societies would shortly become static. In just a few days, the whole economy would crash because basic needs could not be met (e.g., how to run ambulances without petrol? How would the Netherlands remain the 2nd biggest food exporter in the world without gas to heat their greenhouses?). In 2019, fossil fuels provided about 84.3% of global primary energy worldwide. Showing almost no evolution over the last two decades, it was 86.1% in 2000 when energy consumption increased by 47% (Ritchie, et al., 2022).

Conceptually, it is also easy to understand that GDP growth relies on energy input into the economy. G.D.P. is a flow indicator, it measures the "stress" of an economy (i.e., how much goods and services are exchanged within the economy in a limited timespan generally assumed to be a year). Goods and services need energy to be produced, exchanged, or transported. Services are materialistic because they rely on materialistic flows (i.e., there would be no car insurance or car marketing agencies without

cars), and only intellectual labour such as tuition or discussion avoid this rule. As energy is a unit measuring the state change in a system (i.e., production, transport, heating, etc.), we can easily draw the link between any economic activity and the underlying energy input. Matthieu Auzanneau, in his outstanding work *Oil, power, and war: a dark history*, elaborates on this idea and powerfully demonstrates that fossil fuels, and oil at the foremost, enabled the expansion of the Global North over the last centuries and drive the current world economy (Auzanneau, 2020) (Jancovici, 2018).

The idea is understandable theoretically but also relies on empirical evidence. Figure 3 - From the engineer Jean-Marc Jancovici shows the linkage between the G.D.P. as a measure of the economy and energy use.

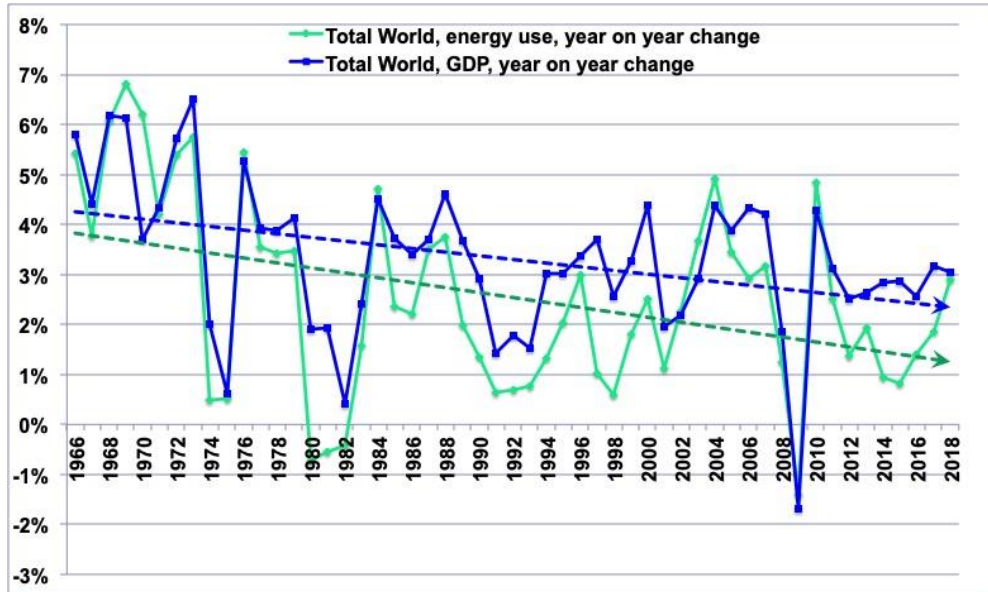


Figure 3 - From the engineer Jean-Marc Jancovici (Jancovici, 2018)

As we mentioned earlier, the energy use remains mostly fossil-based, emitting GHG. Therefore, we can draw the conclusion that the radical decoupling of G.D.P. and GHG emissions, green growth, is a myth and does not work theoretically or empirically (Parrique, et al., 2019).

4.2.2. Kaya's identity

The degrowth of the G.D.P. in wealthy nations seems bound to happen. I will now use the highly discussed Kaya identity to demonstrate this idea.

$$CO_2 = \frac{CO_2}{Energy} * \frac{Energy}{GDP} * \frac{GDP}{Population} * Population \quad (1)$$

Where:

- CO_2 are the global CO_2 emissions per year
- Energy is the global energy use
- G.D.P. is the Gross Domestic Product
- Population is the world's population

For the sake of simplicity, I would use a simplistic version of the identity (1) as follows. This equation remains with the terms useful for our analysis:

$$CO_2 = \frac{CO_2}{GDP} * \frac{GDP}{Population} * Population \quad (2)$$

$$\Leftrightarrow CO_2 = CO_2 \text{ intensity of the economy} * GDP \text{ per capita} * Population \quad (3)$$

Erreur ! Source du renvoi introuvable. shows the numbers of the terms of the identity, and here are more details:

- Emissions: In order to limit global warming to 2°C (confidence >67%), world CO_2 emissions have to drop by 73% between 2019 and 2050, meaning a multiplication of 0.27 (IPCC, 2023). This number will serve as the basis for the calculation. We want the left side of identity (2) to be multiplied by 0.27, so the right side has to follow.
- The CO_2 intensity of the economy has reduced by 1.43%/year over the last 30 years and 2.05%/year over the last 10 years. This evolution is due to the improvements in the efficiency of technologies and the energy transition towards low-carbon energies. The previous chapter underpinned the non-substitutability of energy sources, and the technologies are getting more efficient at a constant rate of about 1%-2% over the last decades, without significant break or improvement (IEA, 2022). We can assume that the CO_2 intensity of the economy will improve. However, given the inertia of technology penetration in the economy, we surely will not see a radical diminution of this factor in the next three decades.
Therefore, I will assume this term to remain pretty consistent, and expanding the trend of the last 10 years will make the CO_2 intensity of the economy multiplied by 0.537 by 2050.
- The GDP per capita is the unknown, we will see how the term changes to keep the identity balanced. 2019 value comes from the World Bank's data (World Bank, 2023).
- Population: 7.7 billion in 2019 (8 billion in November 2022), will multiply by 1.26 to reach 9.7 billion by 2050 (United Nations Department for Economic and Social Affairs, 2019).

Term	Explanation	2019 level	2050 level	Change factor between 2019 and 2050	Yearly variation over the last 10 years	Yearly variation over the last 30 years
CO_2	World emissions	36.1 GtCO ₂		*0.27		
$\frac{CO_2}{GDP}$	CO_2 intensity of the economy	0.26 tCO ₂ per USD 1000		*0.537	-2.05%	-1.43%
$\frac{GDP}{Population}$	GDP per capita	11,330 US\$/capita (current US\$)		? *0,399	+1.72%	+3.27%
Population	World population	7.8 billion	9.7 billion	*1.26	+1.05%	+1.27%

Table 1 - Kaya identity data on the trend for 2050

Assuming the change factors between 2019 and 2050, to keep Identity 2 balanced, we would need to multiply the GDP per capita by 0.399, or a diminution of 60% over the next 3 decades. Cutting the world economy by 60% per capita is not a homogenous evolution, the Global South will have to grow the GDP per capita to meet the population's needs while the Global North has to cut down its own even more.

Here, it is important to note that degrowing the materialistic economy can work hand-in-hand with the growth of the interactions among humans and non-humans.

5. Theoretical analysis

After reviewing some current struggles and possible different approaches, I will now focus on two alternatives that illustrate my blueprint: Degrowth & Buen Vivir. To define and compare them, I will first review the current capitalist development that Degrowth & Buen Vivir aim at addressing, and then look at Buen Vivir & Degrowth through the lenses of five categories in a theoretical way. The inspiration for the methodology and the framework to adopt mainly come from the study of Ross & Mitchell on *Transforming Transdisciplinarity*. In this research, the authors map the Cartesian-Newtonian paradigm thanks to six meaning systems: Cosmology, Ontology, Epistemology, Axiology, Anthropology, and Social Vision (Ross & Mitchell, 2018). I used this framework to pick and add the relevant categories for my study. As a result, the categories analysed for this research are Cosmology, Temporality and spatiality, Axiology, Social Vision, and Supporting Movements. The literature analysed is a mix of published articles and books.

In this review, the topics under study are at different maturity on the research papers. The capitalist development observes theoretical and empirical analysis for decades. Capitalist development is one of the most important frameworks of current civilisations and, therefore, is underpinned by many different understandings. The present article aims to help drawing alternatives to the capitalist unsustainable paradigm. Furthermore, capitalist development serves as a basis to draw alternatives, so the attention is to be placed on the alternatives rather than the existing paradigm.

The Degrowth literature review differs from the former. This growing movement is made of unorthodox authors who stepped away from the mainstream way of addressing reality. I will primarily refer to two prominent authors: (1) Giorgio Kallis, who has been involved in numerous degrowth projects and gave birth to fruitful, rich literature. I will refer to his latest articles and a systematic review performed in 2018 with Vasilis Kostakis, Steffen Lange, Barbara Muraca, Susan Paulson, and Matthias Schmelzer. No other systematic review of the global degrowth movement has been performed since. Nevertheless, I also include arguments from a systematic review of the solutions promoted by degrowth. Secondly, (2) Timothée Parrique is a French scholar holding a PhD in the Political Economy of Degrowth. His massive work has been popularised in a book, *Ralentir ou périr. L'économie de la décroissance* (translated to 'Slow down or perish. The economics of degrowth') accessible to non-experts. This book provides scientific evidence together with a vision of a degrowing society. Therefore, references to Timothée Parrique will be made in the literature review (his book and other articles from 2020 and later) and in the following article chapters. Considering the few materials analysed in the literature review of degrowth, I will present the findings of one material after another.

Finally, I will bring Buen Vivir in discussion with degrowth. Translated in Spanish from indigenous languages from Latin America, Buen Vivir is a field with many publications both in English and Spanish. I will refer to the work of English speaking authors who tried to share this movement with an international public.

5.1. Capitalist development

Over the course of history, civilisations' development remains impossible to entirely explain despite evidence of geographic, climatic, discoveries or political movements. In the vastness of explanations possible, energy expansion plays a major role. Capitalism arose in its modern form in the 18th century when fossil fuel power was unleashed first with coal, 100 years later with oil and later with gas. The access to virtually infinite energy sources allowed civilisations to grow and develop at a pace never observed in history before (Smil, 2018). Capitalism arose as the ultimate framework of the new thermo-

industrial civilisation (Servigne, et al., 2018) (Feola, 2020), organising societies and steering new trajectories. Capitalism came with the idea of progress, a concept that existed before but without being named. The capitalist umbrella declared progress a priority, and development became the primary means to progress.

In this chapter, I will address capitalist development by drawing up its framework and how the duet Buen Vivir & Degrowth can overcome it. Some scholars argue that Western countries are experiencing an incomplete form of capitalism, so my use of the term "capitalism" refers to the current structure rather than its theoretical definition.

The capitalist way of developing is mostly materialistic. Extractivist societies seek progress by finding new ways to produce and create value from resources. The word *resources* characterises the possible material, energy, and labour that feed the super-metabolism (Hagens, 2020). From its materialistic character, the development draws in nature to find the elements that, later processed, will be absorbed in the economy. With that said, there is the fundamental but often neglected question of capital accumulation and sustainability.

Capitalist development is intrinsically material because development only considers what is measurable in an economy. Despite the extension of the economy through commodification, GDP is a measure entailing material exchanges and the underlying services, making the unpalpable out of the scope of the development.

'Decades after the notion of 'development' was spread around the world, only a handful of countries can be called 'developed'; others are struggling to emulate them, and all are doing this at enormous ecological and social cost. The problem is not in the lack of implementation, but rather in the concept of development as linear, unidirectional material and financial growth.' (Kothari, et al., 2014)

Development is a broad term used widely to define unprecise concepts. Demaria et al. name it 'amoeba concepts' or 'plastic words' (Demaria, et al., 2023). Development is the mainstream response of WEIRD societies to the idea of progress. This development became a doctrine that growth has to serve. According to Demaria et al., the idea of post-development is related to at least five other emerging imaginaries: (1) Post-capitalism – questioning capitalism's capacity to fully occupy the economy; (2) Post- or de-growth – decentring growth from the definition of both economy and social life; (3) Post-patriarchy – challenging the primacy of masculinist approaches to political leadership, moral authority, social privilege and control of property; (4) Anti-racism – fighting the systemic racism and the oppression of marginalized groups; and (5) De-coloniality – untangling the production of knowledge from a primarily Eurocentric episteme (Demaria, et al., 2023).

'Development planning was not only a problem to the extent that it failed; it was a problem even when it succeeded, because it so strongly set the terms for how people in poor countries could live'. Arturo Escobar.

5.1.1. Development for the United-Nations

"Development is a multidimensional undertaking to achieve a higher quality of life for all people. Economic development, social development, and environmental protection are interdependent and mutually reinforcing components of sustainable development." **Source spécifiée non valide.**

Development is a pathway aimed by our civilization, at least the ones having a voice in the drive of humanity's condition (in other terms, wealthy nations). I assume that most people would agree with the first sentence of the previous quote. We probably all want a high quality of life. Yet, the second sentence implies something way more subjective. This assertion was once true but is questionable in the 21st century.

"Sustained economic growth is essential to the economic and social development of all countries, in particular developing countries." **Source spécifiée non valide.**

Even worse, this sentence from the same report is factually wrong. Economic growth is essential in some countries of the Global South but does not weave with social improvement in wealthy nations (Parrique, 2022). Criticising development intrinsically creates a criticism of modernity (Monni & Pallottino, 2015).

5.1.2. Growth as a panacea

The birth of political economy in eighteenth- and nineteenth-century France and Britain formed the economic sphere as separated from the state and nature. These two parameters became external to the economy, with the state as an external intervener and nature as an unlimited and free reserve of resources (Kallis, et al., 2018). Later on, growth became an objective following an even deeper emancipation of the economy from the rest of society, eventually becoming a paradigm. The growth paradigm refers to the entrenched cognitive framework in which economic growth is constructed and conceived as necessary, reasonable, and imperative (Kallis, et al., 2018).

Today, GDP is not just an economic statistic but a means to organise society on the assumption that only markets create wealth. As Kallis et al. note, 'The rise of the growth paradigm was integral to the invention of development'.

In a capitalist context, growth is necessary to avoid unemployment, reduce debt, and fund public services. Put another way, capitalism grows or collapses (Kallis, et al., 2018). In their systemic analysis of degrowth in a capitalist economy, Kallis et al. conclude, 'Recession and depression are possible within capitalism; degrowth is probably not.'

5.2. Degrowth

Degrowth is the planned and democratic reduction of production and consumption to solve social-ecological crises (Parrique, 2022). A planned degrowth serves the objective of reducing the economy's size and slowing it down. In a rough analogy, degrowing the economy reduces the size of the bath and the faucet.

To cut short on a widespread wrong assumption, degrowth is not a recession. The planning of degrowth annihilates the comparison. Using Timothée Parrique's metaphor, putting degrowth and recession on the same level is like saying that a diet and an amputation both help someone lose weight. Our civilisation is obese and needs to lose weight in an organised and measured way, like a diet. Also, a recession is a crisis situation, entailing a back-to-normal state. Degrowth is temporary to reach a new steady state, not the former state outlasted. Kallis et al. argue that 'Involuntary declines are not degrowth in themselves, and countries in recession or depression are not degrowth experiments, unless communities make a virtue out of necessity, building low impact livelihoods that enhance wellbeing and equality'. Degrowth is decided and discussed to reach positive outcomes.

Democratic degrowth encompasses the population in a representative and active way. Far from a totalitarian agenda, the democratic planning of degrowth is meant to be a collective project. Such a democratic endeavour is hardly compatible with current capitalism, but as Polanyi says, a democratic degrowth shift might be utopist, but far less than the utopia of a market-based solution to the looming catastrophes (Adler, 2015).

Degrowth means reducing production and consumption at a macro-scale, like a country. But within a country, some activities could and actually should thrive, like health protection or other fields that help increase overall wellbeing. However, the degrowth term aims at remembering that infinite growth, even of a sector, is hardly possible. We can seek the population's happiness by increasing the activities fostering social cohesion, like board games. But as we might produce more board games for some time, when the sharing systems are functional, and everybody gets access to most games, there is no need to continue repeatedly producing the same games. We can then focus on the creation of different games, keeping alive innovation and progress to some extent.

The socio-ecological issues have been stressed in the background and the literature review of my research. It is the core motivation for degrowth.

5.2.1. Literature review

In the context of polycrisis and an overshoot of the planetary assimilation capacities, it seems impossible to believe in the pursuit of growth (Adler, 2015) (Parrique, 2022). As a reaction, a movement calling for the degrowth of economic activities emerged in the Global North. This movement is calling for a degrowth of the economy to function within the planetary load capacities. But far beyond the economic perspective, 'degrowth' is a slogan depicting a societal struggle encompassing an entire renewal for rich civilisations.

Degrowth is a movement finding origins in the work of authors such as Ivan Illich or Cornelius Castoriadis in the late 20th century. The first use of the term degrowth (in French 'décroissance') occurred in 2002 after it was used for the first time as a public protest against the dominations of growth and consumerism. Ever since, the movement has gained interest and has been the subject of many excellent works. Some leading authors theorised Degrowth in a very sound manner, paving the way for public and political use of Degrowth. To review the research on Degrowth, I will depict the work of leading authors on Degrowth. First by looking at a review from Giorgos Kallis, Vasilis Kostakis, Steffen

Lange, Barbara Muraca, Susan Paulson, and Matthias Schmelzer, then by referring to Timothée Parrique's recent work on the political economy of degrowth. Parrique wrote a PhD and a book on the topic, creating a resonance between rigorous scientific work and an audible text for the public audience to seize.

5.2.1.1. Kallis et al., Research on Degrowth

The study from Kallis et al. *Research on Degrowth* provides an excellent overview of the evolutions of Degrowth studies. Degrowth is presented as an ancient movement finding roots in the work of physicist-economist Nicholas Georgescu-Roegen who, in the 1970s and 1980s, developed a thermodynamic theory of economic processes, concluding that in the long run economic activity will inevitably "decrease" to a level supportable by solar flows (Kallis, et al., 2018)

Together with other work, including studies from Vaclav Smil with an energy lens to approach history, show that societies lived without growth before the Great Acceleration hit the Global North in the 18th and 19th centuries. Some societies still prosper without growth nowadays, they are counterhegemonic but show alternative ways. In these societies, it is not evident if the population is happier or not. Nevertheless, in such organisations, people spend less time working, only until the energy return on their effort to hunt or gather is enough to sustain their community (Smil, 2018). Nevertheless, some societies, such as Cuba post-Soviet-Union, Leipzig after 1966, or Detroit after the car industry collapse, had to deal with a shrinking economy. Such shrinks are undergoing a recession process but have adopted degrowth strategies intentionally or not.

5.2.1.2. Timothée Parrique, a PhD and a book to mobilise public opinion

Parrique defines degrowth as the planned and democratic reduction of production and consumption as a solution to the social-ecological crises (Parrique, 2022).

The author further extends this approach to the entire economy and the society we want to live in. There are three aspects to consider when deciding on projects: (1) sustainability (the ecological footprint) to decide if a project is possible without degrading the environment more than it regenerates itself, e.g., The Planetary Boundaries. (2) Conviviality (well-being of stakeholders) to evaluate the social interest and acceptance of the project. Finally, (3) productivity (efficiency) to assess the economic interest of the project. Parrique presents this approach as the exact reflection of the current approach. We need to reverse the approach and look at the consideration upside-down.

In his book, Parrique dedicates a chapter to the possibility of Degrowth to happen and concludes that capitalism is not compatible with a sustainable society (chapter 5). This element helps us draw an early conclusion on the research question 1.1.: Degrowth seems to be possible in the Global North but not in a capitalist economy.

5.2.1.3. Others

Hanaček et al. call for 'seven research areas where ecological economics can better integrate these matters [North-South relations and gender issues], namely: the study of post-growth policies for the Global South; the unequal exchanges that sustain an imperial mode of living; the deconstruction of ecological economic concepts that reproduce problematic Western or gendered assumptions; the study of the clash of metabolisms in peripheries of the Global South; the metabolism of care-work in

growth economies; the leading role of women in ecological distribution conflicts, and the reproduction of gender inequalities in alternative post-growth spaces' (Hanačeka, et al., 2020).

5.2.2. GDP, a restrained indicator

For Parrique, the obsession for Growth comes in three steps: (1) obsession for the economy; (2) economic obsession for the monetary added value; (3) economic obsession for the pace of the monetary added value (Parrique, 2023). Obsession (3) is on the Gross Domestic Product. Growth became a term object-free, directly referring to the growth of GDP. In this section, I will not dig into criticism of GDP, which is already highly discussed in the literature, but rather on providing ideas on the use of indicators.

Indicators are intrinsically imperfect: over aggregating, too simplistic, incomplete, or inaccurate... Indicators' limitations are numerous. Donella Meadows and other researchers pointed out these limitations. Let us take an example to demonstrate that. Imagine that you decide to track the number of yoghurts in your fridge. You like to have it twice a day, in the morning and the evening, but on Saturday you do not have time to buy it because you work all day, then it is Sunday when shops are closed and then comes Monday when you can only shop in the evening. So the ideal number is 6 yoghurts in your fridge to sustain Friday evening to Monday evening. Now, let us imagine that you open your fridge at a random moment in the week, regardless of what day it is. You might have more or less 6 yoghurts during the weekdays, and everything is fine. Now you look at it on Monday, and surprise, you have 0 yoghurts left. Suppose now that someone helps you to interpret these numbers. She does not know that you are working Saturdays and that no shop is open near your place on Sundays. This person might say that the situation when there are 0 yoghurts is pretty alarming. She might freak out and adopt correcting measures like ordering yoghurts online because it's a catastrophe. While she is panicking, you are calm because you know that it is Monday and you are going to go to the store by the end of the day, you do that every week. Here, we see that an indicator is necessarily imperfect because it shows just a fraction of the situation, lacking context and consideration of the situation. So, it seems clear that tracking the number of yoghurts needs consideration of the situation. Now you told the economist the situation, and she continues to monitor the numbers but is aware of the weekly variations. Everything is fine then, but one Tuesday, she calls you because the situation is terrible, and you still have 0 yoghurts in your fridge. It is not a holiday, you are at your place, so there is no reason you have 0 yoghurts. When she calls you, you tell her you are very sick, cannot get out of bed, and do not even feel like eating yoghurt. Once more, without context (and now the change was on you, not on external factors like Sunday's closed shops), the indicator showed a scattered reality.

Now, see your number of yoghurts as GDP in society, and the person who helped you could be an economist. Monday is actually January when economic activities are calming down after Christmas, and your Tuesday sickness is a social protestation for something that happened in the public arena. The economist cannot take radical artificial actions to boost GDP, like liberalising the market, just because the GDP sometimes slows down. Yet, this is what is done. Governments and companies seek GDP growth every quarter with limited vision over the context. And yet, even if GDP is doing well, it is a limited vision of the wealth of an organisation. You might have 8 yoghurts in the fridge, but they are the ones with apricot pieces, and you do not like them. The GDP is the same, it is a quantitative indicator, not translating quality of any sort. You can boost GDP by having a car accident, and then your insurance, the garage, and a temporary car rental will boost the economy. Same goes with expenditures for social "bads," such as prisons, disasters, epidemics, and oil spills inflating GDP. GDP thrives, but does that make us better off? Same if you have just 4 yoghurts, but they are your favourites. The economist

might think that the situation is pretty bad, but actually, you are very happy with it, even happier than with 6 regular yoghurts. There is no vital need to boost the indicator.

Thus, the sin is not on indicators' intrinsic utility but on their usage and interpretation. By being aware of these limitations, we must use the indicators adequately to avoid oversimplistic or sophism. GDP is not evil, but our use of GDP is open to criticism.

The GDP was designed in the US during the Great Depression to measure a geographic region's activity. GDP is linked to Keynesian efforts to counter the Great Depression and to plan expenditures for the Second World War and postwar reconstruction (Kallis, et al., 2018). Politicians tracked it during the 30 glorious years post-war and falsely assumed that the growth in economic activities, GDP, was intertwined with the increase in the wellbeing of people. As this assertion was confirmed in the post-war recovery, where both GDP and wellbeing overall increased, we fell into the simplistic assumption that a growth of GDP comes hand in hand with an increase in wellbeing (if we had been able to assess wellbeing with indicators as obvious as GDP, we would have maybe made the assumption the other way around, that a growth of wellbeing would imply a growth of GDP, and this article would not exist). A situation strengthened by people's trust in numbers in the current Cartesian-Newtonian paradigm (Kallis, et al., 2018). Yet, it has been proven that the GDP does not connect to the wellbeing and happiness of a population above a threshold value. This threshold value is about 15,000\$ GDP per capita per year around the globe, which is to be treated cautiously depending on the welfare of a country. But the main point is easy to understand: GDP growth does not make people better off once essential needs are covered. So why are we giving so much importance to the GDP once the threshold value has been reached? Why are we maximising GDP, a human-constructed indicator, instead of trying to maximise wellbeing or happiness in the first place? Degrowth is not only about less but also different. Changing the yoghurts for ones that we prefer, with less packaging, fat, and ecological impact. Why not a plant-based yoghurt?

Donella Meadows argues that "Indicators arise from values (we measure what we care about), and they create values (we care about what we measure)" (Meadows, 1998). The GDP indicator arose from a need to assess the recovery of economies after the Great Depression and later created values and obsessions for economic growth. Parrique reminds us that GDP is a poor map representing the vast socio-ecological territory. Are we using the same maps when driving in a city, hiking, sailing or building a house? Probably not. The map is always limited in representing the reality of a territory. GDP is one map representing an economy, it surely does not translate a reality.

5.2.3. The origins of degrowth

As discussed in the literature review, the degrowth movement got a real boost in 2002 when the first public protests used the slogan, soon backed up by increasing scholarly research. Nevertheless, the movement did not come out of a vacuum and find a deeper origin than the work of scholars such as Georgescu-Roegen or the MIT team led by Donella Meadows. As Parrique argues, the hippie movement of the 1960s and the protests of 1968 were early demonstrations of a clash between the dominant paradigm of development and the wishes of people, especially the younger generations. Kallis also finds origins of the movements in other societal struggles: 'Scholars theorising degrowth learn with, articulate, and apply critical perspectives already embodied by social movements, notably those engaged in environmental justice struggles.' (Kallis, et al., 2018). The 30 years following the Second World War witnessed a significant increase in quality of life and the importance of work, development and the acceleration of an unstoppable treadmill. This growing contestation coming from the population in the Global North probably provided the empirical evidence needed to grow a new field

of research revealing the limitations of the growth-based paradigm. Nicholas Georgescu-Roegen compared the economy to a metabolism, processing natural inputs, rejecting waste, and dissipating energy. *The Entropy Law and Economic Process* published in 1971 places Georgescu-Roegen as a pioneer of degrowth, soon followed by the Limits to Growth that explicitly stressed that a fast-growing society, sooner or later, would have to degrow. Georgescu-Roegen provided a theory that the MIT researchers team empirically showed.

Back to the rapid emergence of the 2000s, in 2002, *Le Monde*, one of the main French newspapers, published an article dedicated to degrowth referring to a broader article published in the media *Silence*. In the same media, another article will soon exhibit the idea of economic degrowth paired with growth in relations and spirituality. From now on, degrowth is not only less but also more. Serge Latouche is an outstanding contributor to the Degrowth movement, giving it a philosophical meaning to go beyond a mere GDP focus. This broadening helped to make Degrowth audible in the public arena, finding an echo in transdisciplinarity and adding a tool to the post-development struggles.

5.2.4. The degrowth paradigm

Degrowth is a movement opposed to the obsession with growth. Beyond the *literary* meaning of degrowing the GDP, degrowth alludes to the *symbolic* meaning of phasing out of the growth ideology (Latouche, 2019). Degrowth literature rests not only on ecological limits, but also self-limitation and voluntary simplicity, equality, global social justice and an end to the exploitative relations of capitalism (Kallis, et al., 2018). The word Degrowth is a mere representation of a much deeper concept. As Latouche describes it, 'It's (degrowth) not an economic project from the outset, even if it's an *other* economy, but a *societal* project that involves breaking away from the economy as an imperialist reality and discourse' (Latouche, 2019). As this article aims to show, degrowth is actually about growth. Growth of social connections, growth of happiness, growth of care...mostly growth of non-economic activities currently on the background of the mainstream idea of development. Therefore, Latouche argues that *a-growth* is more adequate, as an objection to growth.

Parrique distinguishes 3 layers of struggle with growth: the objections to growth, the post-growth and the degrowth. The degrowth is the most radical idea, not only claiming that growth is a problem but proposing degrowth as the alternative needed. Degrowth is not a mere idea of being *in* degrowth but *of* degrowth, giving the term a broader and plural meaning. Following the philosophical visions input in the movement, Degrowth is paradigmatic, entailing complex and vast possibilities. Beyond reducing the size of the economy, degrowth offers a broader idea.

The background of this research stressed the need to change the relationship with nature. Decommodification is one of the economic principles defended by Kallis (Kallis, 2018) – decommodification of activities to stop the absorption of all fields within the economy. Indeed, commodification leads to the perception that a price is the best indicator to assess an asset's quality. Price, a qualitative indicator, is then perceived as a qualitative indicator. For example, the price of a ton of carbon emission is still estimated in a range of 1 to 1000, depending on the value you put on the vitality of ecosystems, life, the position of humans... Thus, price is partial, inadequate in many contexts and cannot encompass an entire reality. Commodification is a simplistic and dangerous tendency. Beside from bringing an economic aspect in all sides of life, commodification of unpaid labour, such as care work, increases energy requirements (Hanačeka, et al., 2020). Like decommodification, other political measures that suppress harmful activities and support positive ones would lead to the natural degrowth of GDP. The degrowth of GDP is not a policy measure but the result of a voluntary effort

made by public actors. Therefore, degrowth is planned to anticipate and organize a driven reduction and slowing down of the economy.

The paradigm of Degrowth, therefore, means going further than economic policies. By reducing the size of the economy, the activities pushed away from the economy and outside of the GDP scope could prosper in a completely different way. The interactions and relations between humans and non-humans could grow qualitatively and quantitatively. With the idea of reaching a decent level of consumption and production to respect the imperatives of life, degrowth would manifest in every corner of life.

5.2.4.1. Social Vision

Degrowth is a democratic movement to solve social issues. Achieving ecological sufficiency comes with a social transformation that degrowth argues to be convivial and fair.

Until now, democracies legitimised capitalism because economic growth helps maintain the pacification of class conflict (Kallis, et al., 2018). Nevertheless, growth increases societal inequalities, creating tension (e.g., the yellow vests movement in France) and spoiling wellbeing. It seems clear that pacifying class conflicts could be achieved another way, essentially through equity. Equity overcomes GDP for the wellbeing of populations in mature economies (Wilkinson & Pickett, 2011). Equity implies a shared but differentiated responsibility, not solely between but also among nations. Some communities around the world already show a 'cosmology of sharing' where the community is the core element of the social organisation.

Strengthening the call for equity, evidence shows that GDP is not making people happier above a certain threshold: around 15,000\$ per person per year. Mature societies above the threshold, varying upon places, would do better for the people but also the strength of the country by achieving equity. The opposite is achieving adverse outcomes. For example, we currently observe that the USA citizens' life expectancy, happiness and wellbeing are degrowing despite economic growth. In the USA, inequities are some of the most important of the Global North. On the other hand, Costa Rica has a similar happiness level to France despite a carbon footprint 70% smaller. The Nordic countries also show more wellbeing despite a smaller ecological load than most of the countries of the Global North with similar economies. Likewise, public service quality, allocation of revenues and democracy are directly correlated with happiness and have a stronger impact than economic variations.

The social value of degrowth is intrinsic to be sufficient. The social aim of degrowth is to reach a stage where everybody has enough to meet their needs. Having enough requires comprehending our own needs, freed from consumerism blinkers. Such an awareness will lead to a shrinking of the production and consumption of the wealthiest people (Parrique, 2022) and a convergence to sustain the needs of the Global South.

5.2.4.2. Current use and support

According to Kallis et al., the term Degrowth appeared for the first time in the public arena in the early 2000s. Activists in Lyon, France, mobilised the slogan 'Décroissance' (translated in Degrowth) in actions against cars, consumerism, and advertisement (Kallis, et al., 2018). After that, the term gained echo in European Latin countries (Spain, Italy and France) in public use, particularly in France for scholarly research. This short review already emphasises Degrowth's two main supporting movements: (1) alternative movements and (2) intellectual works.

I used the term (2) ‘intellectual’ rather than scholar because some non-peer-reviewed publications of books or articles also contribute to the Degrowth movement. Before being well established, Degrowth was already presented in some articles or speeches, which helped eventually reach a shared definition for this concept. Until 2022, more than 600 peer-reviewed articles have been published with degrowth as a subject. This number is still growing (yes, degrowth can allow some growth), and the present work is an example of how the movement became more accessible for paper and PhD students rather than solely experimented scholars who discovered degrowth after many years of economic studies. The people writing about degrowth regularly meet at conferences around Europe. The European Union organized the Post-Growth conference in 2018, followed by the Beyond Growth conference in 2023 (where the opening speech reminded us that ‘economic growth is still needed’). In 2022, the *Degrowth Journal* was officially created, giving room to publications exclusively dedicated to this movement. Nevertheless, some scholars doubt the feasibility of degrowth. For example, the famous Stern Report of 2007 estimated that reducing CO2 emissions any faster than 1 per cent a year would precipitate economic recession (Stern, 2007: 231–232). Stern probably ignored the difference between degrowth and recession but still shows the distrust of classic economists toward degrowth.

The (1) alternative movements I refer to are often post-development or even post-capitalism. Grassroots movements propose alternatives to the mainstream way of apprehending reality. Such groups reunited around degrowth exist around the world, from activism to blogs and media. Only recently came empirical evidence on the movements embodying degrowth. According to research from Brossmann & Islar, living degrowth (at an individual and community level) reveals 5 dominant spheres: (1) rethinking society, (2) acting political, (3) creating alternatives, (4) fostering connections, and (5) unveiling the self (Brossmann & Islar, 2020).

The public sector also shows some use of the term degrowth. It was the hobby horse of Pierre Rabhi's attempt in the presidential elections in France in 2002. Two other candidates from the Green parties also used degrowth as a bow of their program: Yves Cochet, who lost the primary election in 2007, and Delphine Batho, who finished third in the primary election of 2022. In Europe, the Irish president, Michael D. Higgins, said in 2020 in a speech that degrowth is the only sustainable strategy for planet survival (Higgins, 2020). Lately, the economic impact of COVID-19 forced many politicians to react to degrowth, but often backlashed and mistaken with recession. Overall, the main sector lacking in using Degrowth remains the private sector. Driven by economic profit and the satisfaction of the shareholders, companies and leaders struggle to put degrowth on their agenda.

To conclude, staying in the degrowth bubble might show increasing support for the movement, but as Kallis et al. note, ‘Degrowth proposals are to a certain extent utopian—there is no “topos” (place) where they fully exist’. The movement is far from being adopted, even though COVID-19 gave it a new echo in the Global North.

5.3. Buen Vivir

The term 'Buen Vivir', sometimes used as 'Vivir Bien' (good life, or living well), originates in South America as an opposition and an alternative to conventional ideas about capitalist development. Buen Vivir has always been a pluralistic concept, namely 'buenos convivires': different ways of 'living well together' (Acosta, 2020). The Spanish term emerged in the 1990s in Peru, finding roots in some Andean and Amazon Indigenous groups (Acosta, 2023), respectively the indigenous movements of Sumak Kawsay (in Quechua) and Suma Qamaña (in Aymara). The concept of Sumak Kawsay was found in texts dating back to the beginning of the twentieth century as a first fight against illiteracy, poverty and discrimination (Inuca Lechón, 2017). These expressions provide the indigenous roots of the pluricultural vision of Buen Vivir. Buen Vivir shares similar visions with many other South American communities. Nevertheless, Buen Vivir should not be boiled down to an Indigenous movement. The term is plural, encompassing different deepness of ideas that Eduardo Gudynas classifies in three uses ranging from the more superficial to the all-encompassing: (1) a generic use to oppose the conventional form of development; (2) a restricted use criticising the contemporary capitalism framework and thinking about development in a post-capitalist context; (3) a substantive use criticising all forms of development. The substantive use sticks to the initial idea of Buen Vivir, whereas the two other uses come from more recent appropriation of the term (Gudynas, 2014). I refer to the substantive Buen Vivir approach in the present study. This approach is broader and questions current patterns to be able to design new paradigms.

Buen Vivir has a biocentric approach of Buen Vivir (Gudynas, 2011). Figure 4 - Views of the world. The Pluriversal is dashed because boundaries are not clear, if they exist shows some of the world views we can find around the world. While Anthropocentrism is dominant and at the core of the evolution models, it has not always been the case. In different communities, we observe approaches considering animals and living organisms, it is the biocentric approach. Even broader is ecocentrism, where ecosystems are approached holistically to enhance the wellbeing of the system rather than the individuals. Finally, recent discussions enhanced the plural aspect of the world. Where the universe stood once, I placed now pluriverse as the larger vision.

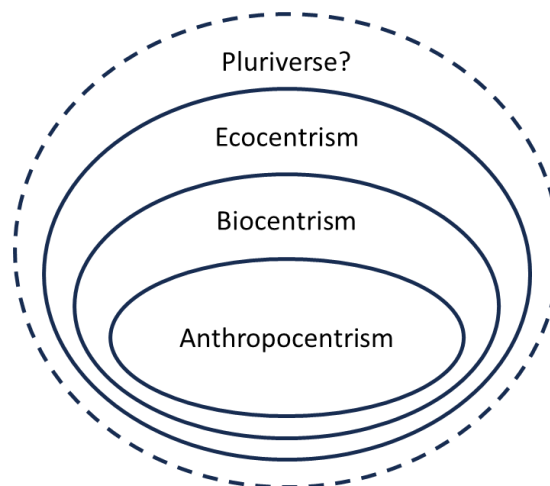


Figure 4 - Views of the world. The Pluriversal is dashed because boundaries are not clear, if they exist.

Biocentrism considers an extended vision of the community where the wellbeing of more than humans matter. Buen Vivir is a great example of a biocentric approach with an extended community considered. With that vision, the community is made of humans and non-humans, where the non-humans entail nature and spiritual beings. It is a sort of Earth community. This aspect has a large effect on the life of the community. The organisation of a community organises it to maximise the benefits for the group,

therefore making a biocentric community aware and cautious about the situation of non-humans. This is opposed to the current economic system that considers nature as an accessible and free reservoir of resources, only made to maximise human wealth.

Another aspect of the Buen Vivir lies in the integrality of life. Life is approached holistically in a material, social, and spiritual way. The material aspect, at the core of capitalist development, is here just one of the aspects of life. Materiality is not an end in itself but rather a means for the bigger aim of wellbeing. The integrality of life comes with a non-linear process of life. Rejecting linearity leads to a rejection of growth. Variations and regression are permitted and even desirable sometimes in a non-linear process.

Finally, an important aspect related to R.Q. 1.1 is the decolonialist and depatriarchalist approach of Buen Vivir (Acosta, 2020). The capitalist system is based on the domination from one to another, from men to non-men, from humans to non-humans, from the Global North to the Global South; Buen Vivir stands for the removal of these visible and invisible patterns to free (non-)humans from oppression. (how to match it among colonialist countries?)

5.3.1. Wellbeing in the Buen Vivir paradigm

Wellbeing in the Buen Vivir paradigm is not only materialistic but seeks a deeper and more complex state that a community can foster. Indeed, Buen Vivir is a local philosophy that promotes an organisation at a community level. The community is made of humans and non-humans who live in a shared and unique environment. Therefore, wellbeing is a complex notion that depends on local specifications and does not follow universal rules.

The extended community in the Buen Vivir paradigm implies a wellbeing reached at multiple levels and also for cattle and crops for example. The wellbeing of cattle and crops helps discard the utilitarian view of nature. The soil and its providence have values themselves, decoupled from the human use made of it.

5.3.2. Current use and support

The philosophy of Buen Vivir appears in Ecuador's constitution since 2008 as Buen Vivir, or 'Sumak Kawsay' (Kichwa), and in Bolivia's constitution since 2009 as Vivir Bien, or 'Suma Qamaña' (Aymara) and 'Sumak Kawsay' (Quechua). Ecuador's adoption in the constitution is more robust and all-encompassing as a paradigm, whilst it is more superficial in Bolivia. In the former, recognising the rights of nature and the fundamental right to water provides the soil for Buen Vivir as a paradigm. In the preamble of Ecuador's constitution, we can read the aim of building a 'new form of public coexistence, in diversity and in harmony with nature, to achieve a good way of living, the sumak kawsay' (Acosta, 2020). In Bolivia, on the other hand, Buen Vivir is part of a set of principles such as dignity, social and gender equity, and social justice, placing them alongside the classic third-generation human rights whilst development and GDP growth are kept as core objectives (Kothari, et al., 2014).

In Ecuador, a recent case came to exemplify the rights of nature. In August 2023, Ecuador's population voted and decided to keep the oil in the soil of Amazonia. Under the Yasuní-ITT Initiative, led by a coalition of Indigenous peoples, youth, and activists from across the country, fought for decades to halt new and roll back existing fossil fuel operations. It is the first example in the world of such a decision. The defenders of the Yasuní-ITT Initiative invoked Buen Vivir in their struggle, demonstrating that extracting oil is against this philosophy, so to say anti-constitutional.

Nevertheless, Acosta, a scholar and former minister in Ecuador, warns us from falling into the trap of Ecuador and Bolivia's governments, who use Buen Vivir and Vivir Bien as propaganda while modernising capitalism (Acosta, 2020). Like Degrowth, Buen Vivir is a movement with limited powerful support in its substantive meaning.

Overall, we observe that Buen Vivir is more mature in its support than Degrowth. Adopted by countries and institutions such as UNEP, Buen Vivir is present in the public and political arena when Degrowth is just starting to arise in public discourses after the COVID-19.

5.4. A meaningful duet

5.4.1. Synergies between Buen Vivir and Degrowth

Some authors mentioned in this document have dedicated some time to confront and sometimes draw paradigms beyond their scope of expertise. In the literature, we find few articles combining Degrowth and Buen Vivir, but mostly as two separate alternatives to capitalist development (see for example (Acosta, 2023) (Chassagne & Everingham, 2019) (Gudynas, 2011) (Gudynas, 2014) (Richter, 2023)). Kallis et al. mention Buen Vivir in their studies of societies living without growth, but no further work is elaborated on possible combinations with degrowth. The Buen Vivir is presented as an example of a degrowth attempt by altering the hegemonical paradigm. Parrique in *Ralentir ou périr* indirectly alludes to Buen Vivir: 'Countries such as Ecuador and Bolivia change their Constitutions to acknowledge the rights of nature' (Parrique, 2022).

Besides these natural allying visions between the two concepts, some scholars became more prudent on the supposedly evident bond between degrowth and movement coming from the Global South as Buen Vivir. As Kothari et al. note: 'While the above-sketched notions [Buen Vivir, Degrowth, and Ecological Swaraj] are internally diverse, and there has been no global attempt at trying to consolidate them into a single coherent vision or framework (if this was even possible or desirable)' (Kothari, et al., 2014). Arora & Stirling raised concern on the colonisation of the degrowth movement, a notion further developed later in this article (5.4.4).

Nevertheless, I believe attempting to bring Buen Vivir in discussion with Degrowth can help frame new paradigms. As we will see throughout this research, both movements are plural and deserve a try at being allied.

The literature review performed by Hanaček et al. highlights 'Buen Vivir are identified frequently as an alternative to natural resource extraction, exploitation and expansion' (Hanačeka, et al., 2020). The same study reveals that 'The analysis finds a common narrative in the degrowth literature, whereby global economic growth is facing limits, and therefore the North should limit itself so that the South has more space to grow' but also warns from putting all the eggs in the same basket and recognising the plurality of the Global South.

5.4.1.1. Capitalism as a common source of criticism

As a common vision of the world, both movements see the human systems within nature when capitalist models believe that nature is incorporated within human systems.

From indigenous origins, Buen Vivir is a concept of having a good, balanced and beautiful life. The concept emerged in the Global South as a criticism of capitalist development in the second part of the

20th century and especially as an opposition to the sustainable development promoted by the World Bank (Richter, 2023).

On the other hand, Degrowth arose in the Global North. But a degrowth of the economies in the global North would allow empowerment of the Global South. Now, the challenge is to remove that pressure from the Global South and let civilizations of the South decide what to do next instead of trying to lead them with another narrative of the universe (i.e., we stated in the introduction that the current world is a pluriverse, opposed to the one-world world). But Serge Latouche, as early as the 1990s, criticises development as a movement using the Global South and impoverishing it, giving roots to the idea of degrowth to reconcile the Global North and South. Latouche defines degrowth as a 'decolonization of imaginaries and growth', demonstrating that degrowth is a movement aiming at no domination from one to another, allowing cooperation between nations.

Parrique argues that capitalism is not born to degrow. Alike a shark, capitalism needs to permanently move forward to survive. Therefore, degrowth must be democratically planned. The remaining question of how to perform a democratic shift away from capitalism is beyond the scope of this work. Nevertheless, Castoriadis even argues that capitalism is incompatible with democracy, questioning the starting point to leave capitalism (Castoriadis, 1987).

In his work, Woodburn finds that current communities living without growth favour immediate consumption over surplus accumulation (Woodburn, 1982). Yet, capitalism is based on surplus accumulation that first appeared following the agricultural revolution (Harari, 2014).

5.4.1.2. The importance of communities

The communities that lived and still live without growth show an organisation based on the community (Kallis, et al., 2018) (Smil, 2018). For example, Bogadóttir & Olsen argue that controversial whale hunts in the Faroe Islands express principles that may nourish degrowth pathways; in communal harvests of sizes that have remained consistent over centuries, meat and blubber are shared among community members for nourishment, and neither money nor profits are generated (Bogadóttir & Olsen, 2017).

Also, cities that suffered from recession and tried to place the wellbeing of citizens at the core of the new political projects organised around communities at the district level (e.g., Leipzig or Detroit, see or watch *Demain* for more insights on Detroit (Dion & Laurent, 2015)). A similar process in Copenhagen, where the municipality wants to create a more sustainable city by creating districts with pedestrian streets where everything needed for a citizen is within 15 minutes of walking reach.

Another area of study by Kallis et al. is the technological studies within the Degrowth paradigm. An answer to the progress of technology is the movement of low-tech. This movement relies on local appropriation of a technology to understand, fix and even create it. Once more, the community level is needed.

There is a remaining question on the size of the community addressed. Human-wise, Harari argues that human societies manage to organise themselves and keep community connections up to 150 people (Harari, 2014). Technological progress can allow communities to expand, digitally facilitating knowledge sharing, open source being a good example such as Wikipedia. Nevertheless, the communities envisioned in degrowth and Buen Vivir are beyond humans and entail non-humans. There is a grey zone on what type and size of community can be built there

The wellbeing of communities is at the core of the objectives. Nevertheless, 'the concept and metrics of wellbeing, largely a UN and World Bank construct, presupposes a Western view of development, and

has little room for considering alternative, indigenous cosmovisions or other diverse ways of living well' (Hanačeka, et al., 2020).

5.4.2. Analysis

So far, Buen Vivir and Degrowth concepts have been relatively well compared in the literature, but synergies analysis is lacking. Most of the work encountered put both concepts as alternatives to capitalist development but didn't focus so much on the possible alliances. They appeared to be articles about Buen Vivir in Degrowth books, or vice-versa, but rarely both are seen as a duet.

With the discussions so far, we noticed similarities between both concepts, as well as differences. They are summarised in Table 2 - Summary of theoretical findings. The references can be found in the text and the literature review.

	Buen Vivir	Common ground	Degrowth
Cosmology	Emerged in the Global South Indigenous origins	Opposed to the capitalist development Cosmology of sharing	Emerged in the Global North Scholar origins
Temporality and Spatiality	Permanent state	Community level	Temporary state
Axiology	Biocentric Integrity of life	Human systems within nature Non-linearity Sufficiency Non-materialistic	
Social Vision	Community (SR) Balance & Harmony (SR)	Wellbeing at core Redistribution of power and wealth Equity	Representative and active democracy
Supporting movements	Present in Ecuador and Bolivia's constitutions (SR) Philosophers	Scholars and activists	Non-private sector

Table 2 - Summary of theoretical findings. The references can be found in the text and the literature review.

5.4.3. Temporality and more

In *Steady-State Economics* (1977), the American economist Herman Daly lays the foundations of 'stationary economics', a term that remains used in economic discussions until now. Daly theorises that growth is a temporary phase (just like degrowth has to be in the previous explanation) that must be considered as a step towards maturity and sufficiency.

Both Buen Vivir and Post-growth entail an equilibrium state. Nevertheless, Degrowth is only meant to be temporary to reach a safe steady-state for humanity. Buen Vivir's equilibrium is not only about equilibrium between human beings but also between humanity and nature, between material and spiritual life, between knowledge and wisdom, between cultures, and between different identities and realities (Salón, 2015). Degrowth on the other hand, is a temporary state leading to a steady, equilibrated state of a post-growth economy. In that steady-state, there is an equilibrium between humans' ecological footprint and the planet's absorption biocapacity. Buen Vivir can provide the framework for this steady-state, furthering Degrowth's horizons (Acosta, 2020). It is not about changing course radically to Buen Vivir but using it as a lighthouse in a backcasting approach. Buen Vivir frames reality and gives an aim of where to go. Ultimately, we probably all want to vivir bien, to live well.

As Kallis et al. note 'slowing down the economy is not an end but a likely outcome in a transition toward equitable wellbeing and environmental sustainability'. Therefore, slowing down becomes a temporary

state because equitable wellbeing and environmental sustainability need a smaller economy than what it is now.

Degrowth towards a steady-state economy

A transition pathway for Europe

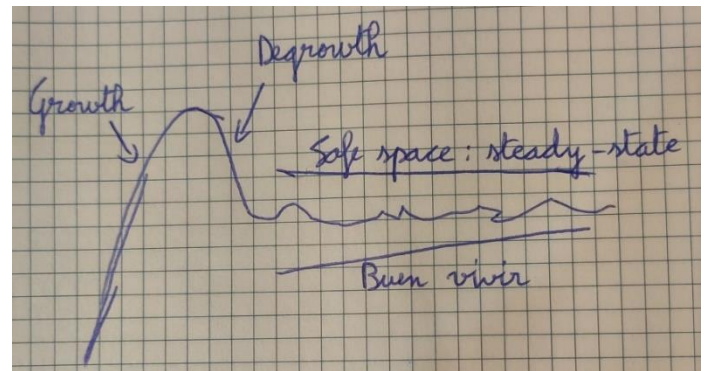
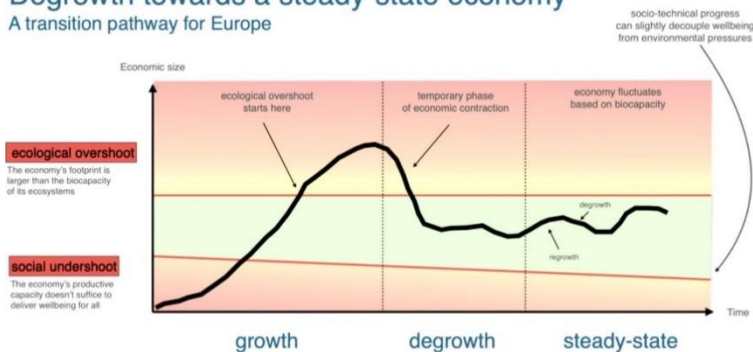


Figure 5 - Timothée Parrique's vision of the state of the economy

Here, it is important to remind that the degrowth of the economy is not an aim itself, but the consequence of a much deeper societal change towards sustainable, desirable, positive societies centred around wellbeing rather than the economy. Put another way, the *homo aeconomicus* is obsolete and needs to perish. Gudynas conceptualises Degrowth as a consequence of Buen Vivir (Gudynas, 2011). Since Buen Vivir rejects the linearity of life, degrowth can exist within a Buen Vivir framework. He also argues that Degrowth and Buen Vivir operate at different conceptual levels, enabling them to cooperate and not conflict. Indeed, Buen Vivir is often told with philosophical lenses and, as Acosta warned us, Buen Vivir can lack embodiment and effectiveness. Degrowth in the Global North can be this operational tool helping to draw on different indicators of a nation wealth (see Figure 6 - New Zealand Living Standard Framework), and Buen Vivir can motivate degrowth with a less contradictory approach that most of the people can relate to (most of us want to live well right?).

5.4.4. Inextricable question of colonisation

Considering that Degrowth of production and consumption is needed for obese societies in the Global North, demand coming from the Global North should be reduced in extractive countries of the Global South. Therefore, Buen Vivir would reduce material dependence and allow a post-extractivism movement. Parrique states that degrowth in the Global North is a *sine qua non* condition for prosperity in the Global South. Convergence of the Degrowth to endow the global South with the means for their needs. Thus, the possibility to see not only Global North and South as independent components but rather interdependent ones. The Degrowth of the North will help Buen Vivir in the South, and vice-versa. Latouche makes an even clearer statement: 'Building autonomous societies in the South cannot be done under the banner of degrowth (or, for that matter, growth), but must be done under the banner of emancipation from economic, political and, above all, cultural imperialism' (Latouche, 2014).

The main challenge arises from the decolonisation perspective. Arora and Stirling warn degrowth from being colonial in two main pathways: *topological universalism* and *bordered reflexivity* (Arora & Stirling, 2021). The topological universalism refers to the universalist view of degrowth, sometimes ignoring the pluriverse, and focusing on the materialistic/economic side of the story. The bordered reflexivity is the idea that degrowth find allies (such as Buen Vivir) only if they match the degrowth agenda, restraining the horizons of the pluriverse. Degrowth must be a decolonization movement in order to thrive, and Buen Vivir is part of the pluriverse that gives room to a wide range of other realities.

Albeit less materialistic, degrowth would not necessarily remove the cultural hold on the Global South. I believe that acknowledging a pluriversal context would enable different realities to co-exist and remove the dominance of one unique narrative. It is about accepting a shared world encapsulating a myriad of worlds and oneness as a slogan to accept and embrace differences to live together in harmony.

Nevertheless, the actual and future economic crisis, together with the aforementioned evidence, forge post-growth thinking. Currently, we observe a totalitarian answer to the political issues of a stagnant or shrinking economy. The Degrowth movement calls for a radical social-ecological transformation guided by new forms of democracy. Chaos is not the only response to a post-extractivist world, but strong representative, direct, and participative democracies prepare for positive futures.

‘A decolonial theory of degrowth must acknowledge that many post-growth ideas have non-Western roots, and voices of academics and activists from the Global South are as crucial as those critical streams of thought in the North’ (Hanačeka, et al., 2020). Highlighting the decolonisation approach of Buen Vivir, but Degrowth lacks attention on decolonisation. The Degrowth paradigm acknowledges the differentiated situation around the globe, where some countries would not even need to degrow their ecological footprints. Nevertheless, it does not mean that growth should be perceived, but avoided. Remember that degrowth is first and foremost a-growth. Thus the need to forget about economic growth and consign this idea to the garbage heap. Some countries must degrow, some to realign their societal aims. Degrowth is a plural concept transcending economic values.

In *Sortir de la société de consommation* (roughly translated in Walking out of the consumption society), Serge Latouche relates an encounter he had in Bilbao with an Ecuadorian indigenous leader: “What you call degrowth, he told me, is exactly what we Amerindians call buen vivir”. Showing here that instead of relying on the peculiar differences of both movements, we can focus and emphasize on the commonalities to build a differentiated but common world. The common rejections of the capitalist development and the common aim of living all-together, humans and non-humans, in harmony with the world provide a base for beautiful and desirable futures.

5.4.5. Focused on the wellbeing of communities

Both concepts focus on wellbeing, though Buen Vivir details that wellbeing happens at a community level. Degrowth claims that wellbeing is reachable in a degrowing economy, as long as equality is achieved. Generating solidarity not only between humans but between the human and non-human world is a key task for changing how we think of the living world and eventually act towards it. In our current world where consumption is assumed to be life quality, wellbeing is transformed into wellhaving. Both Buen Vivir and Degrowth tackle that by placing wellbeing as an objective and a presupposition for a thriving society.

Wellbeing is a complex notion that is beyond the scope of this research.

6. Discussion

It has been challenging to write down and synthesise the thoughts I processed in the last four years onto a text. This pain of finding words to describe the non-rational or at least non-positivist approach has been experienced by a myriad of other writers (Ghosh, 2016). Nevertheless, here are some discussions on the findings of this research.

6.1. Polarisation

After the discussions so far, we see that many topics are divided into two extreme opinions. Sufficiency/efficiency, technology/behavioral change, depreciation/appreciation... Polarisation arises from the dualism of views in our Cartesian-Newtonian paradigm (Ross & Mitchell, 2018). It can be easy to fall into the trap of opposing ideas and see the truth in one extreme or another. This tension has been enhanced by the media's use of information and the aversion to conflicting debates. Nevertheless, the reality is never just black or white. As the yin-yang sign, there is a white part in the black realm and vice-versa. My aim is not to address polarisation, but it is a reason why I decided to look at 3 paradigms in my study (Buen Vivir, Degrowth, Capitalist Development) instead of just two. It also drove me to study the synergies of these paradigms and not try to simply confront them.

On the same level, a polarised debate can emerge between Degrowth and Buen Vivir to either be confronted or assimilated at being the same. Overall, I noticed in my work and readings that the people putting attention on the differences between Degrowth and Buen Vivir are mostly scientific researchers in the *hard sciences* vein. On the other hand, socialists, humanists and philosophers emphasize the common ground and transcendent values carried out in both concepts. While both approaches are reasonable, I believe in the transforming and humanist approach of the later. Degrowth and Buen Vivir are deeply humanist, actually shifting importance from numbers and facts to life and feelings. In such a world, commonalities prevail to foster cooperation over competition. Let's not fight against each other. Let's not impose one paradigm or another. Embracing both is much more valuable in a world where words serve life and not the other way around.

6.2. Other alternative paradigms

As Latouche stresses, degrowth is a latin concept. When integrating degrowth in a pluriversal world, it becomes evident that degrowth is an answer for certain nations, when an infinity of approaches exist, or are to be built, to tackle the common source of criticism: development and destruction of the environment while not benefiting social networks. He continues 'the rejection of the growth society, so that's the universal aspect, the project is plural'.

6.2.1. Alternatives to GDP

Regarding indicators, disruptive and positive initiatives exist, like the New Zealand initiative to monitor wellbeing, thanks to The Living Standards Framework Dashboard (LSF) made of numerous indicators, see Figure 6 - New Zealand Living Standard Framework.

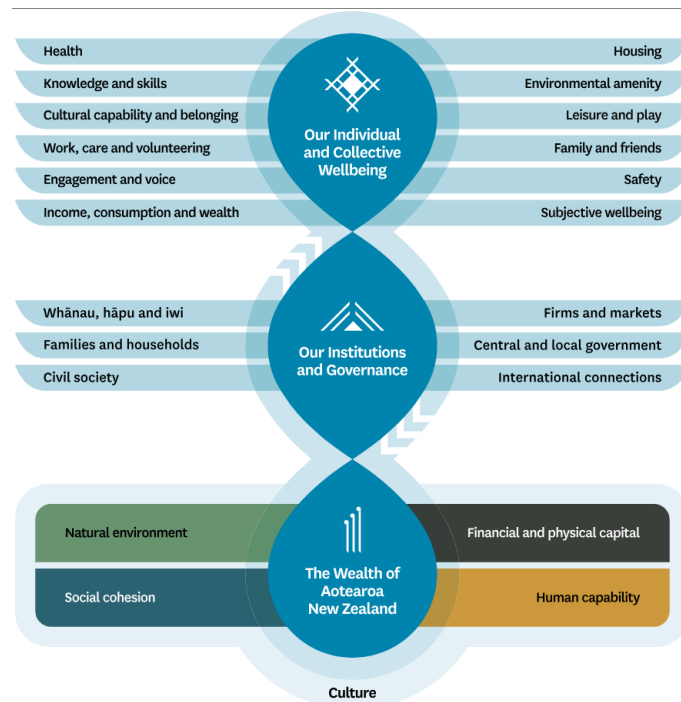


Figure 6 - New Zealand Living Standard Framework

Another example comes from Buthan's Gross National Happiness (GNH) indicator, assessing subjective happiness rather than quantitative economic movements. The Happy Planet Index tries every year to assess nation's happiness and compare them. As a result, the ranking is very different from the traditional ranking, and numerous countries successfully manage to have a happy population despite an 'developing' or 'under-developed' economy.

6.2.2. Philosophies from the Global North

Alternative paradigms to the dominating capitalist development are numerous. This study focused on Degrowth and Buen Vivir because of research gap and personal interest, but much more is to be considered in our pluriverse. 'These alternative approaches cannot be reduced to any single one and therefore do not aspire to be adopted as a common goal by the United Nations, the OECD or the African Union' (Kothari, et al., 2014). Using alternatives as the unique way out of capitalist development would fall into the trap of homogenisation of cultures in a same but different way capitalist development is doing it now.

Among others, we can mention *Ubuntu* in South Africa, *Swaraj* in India, or more recent and local philosophies such as *Buena Onda* in Chile or *Pura Vida* in Cota Rica. In the Global North, other terms emerged as alternatives and critiques to the mainstream development or growth paradigm. *Lagom* in Sweden or *Sobriété* in France share the critics of capitalism with the Buen Vivir approach but find roots in reaction to modernism rather than tradition. At this point, we can note that these alternatives arise from marginal groups. In the Global South or within the belly of the beast, communities that do not melt in the capitalist mould seem to be the ones able to draw consistent and radically different paradigms (Kothari, et al., 2014) (Acosta, 2020). Curing the problem to the roots.

6.3. Feasibility of such a transformation

As Kallis et al. conclude their paper 'Without the voluntary work to conceive and embody alternative ideas, explanations, practices, and institutions today, an involuntary end to growth may well lead to a state of continual economic depression in which islands of wealth are sustained in seas of deprivation, without pretense of democracy and social justice'. This work is my attempt to make my contribution to the transformation towards positive and better futures. The challenge is high, but the stake might be even higher.

To conclude this work, I liked the analysis of Lockton & Candy, that some prophecies are self-fulfilling; therefore, we need to make these prophecies desirable. In other words, we cannot shift to a sustainable future if we believe that such a world's structures will be unsustainable (Lockton & Candy, 2019). It is closely related to the notion of embodiment, 'being the change we want to see in the world', by thinking it and embodying change, it becomes reality. My self-experience of it has been to think that a tremendous majority of (non-)human beings are kind. I assume it and try to behave as such. Ever since I have embodied and imagined the world as such. So far, I have never had a negative experience, and positive things happened in my interactions with people (and living matter). There might be something superior about it, but I have no clue or faith, so I leave it for your interpretation.

6.4. Limitations of the present research

I wrote this article by myself, admittedly with the help of my program-mates, university friends and relatives. However, these persons share similar values as mine such as an academic background and the opinion that our civilisation is jeopardised and needs a radical change. My surroundings and I are privileged people sharing the Western, Educated, Industrial, Rich and Democratic (W.E.I.R.D) background (Henrich, 2020). But despite this individual-biased approach, we know that structures of a more desirable world need to be more collaborative (Fazey, et al., 2020) (Wall, 2006) (England, 1994).

7. Conclusion and Outlook

It is about inspiring deep changes for our civilisation. Life on Earth is precious. We can protect it and cherish it for what it is. I believe in a world where love prevails. A world where beings, humans or not, can grow free from looming catastrophes. A world where values and life aims are not driven by destructive paradigms, but by self-introspection and awareness. Oneness over uniformization. Gentleness over competition. Care over individualism. Convivial societies where decisions are democratic, in harmony with local specifications, including humans and non-humans. This world is possible, it already exists and wait to be seen. All around the globe, extraordinary initiatives exist, giving hope and a glance of what it can be, what it could be.

I hope that my readers could feel the voluntary heart put in this work.

If you found this work interesting and want to discuss it, I would love to hear from you. You can write me cyprien@student.chalmers.se .

References

- Abson, D. J. et al., 2017. Leverage points for sustainability transformation. *Ambio*, Volume 46, pp. 30-39.
- Acosta, A., 2020. Buen Vivir: a perspective for rethinking the world. Dans: *Degrowth in movements: exploring pathways for transformation*. Winchester: John Hunt Publishing, pp. 87-99.
- Acosta, A., 2023. Degrowth and Buen Vivir: Perspectives for a great transformation. Dans: *Routledge Handbook of Latin America and the Environment*. s.l.:Routledge, pp. 305-314.
- Adler, P. S., 2015. Book Review Essay: The Environmental Crisis and Its Capitalist Roots: Reading Naomi Klein with Karl Polanyi—Naomi Klein: This Changes Everything: Capitalism vs. the Climate. *Sage Pub*, 60(2).
- Arora, S. & Stirling, A., 2021. *[Blog] Is degrowth already colonial?*, s.l.: University of Sussex.
- Arora, S. & Stirling, A., 2023. *From Growth, through Degrowth, to a Pluriverse of Flourishings*, s.l.: s.n.
- Auzanneau, M., 2014. Gaël Giraud, du CNRS : « Le vrai rôle de l'énergie va obliger les économistes à changer de dogme ». *Le Monde*, 19 April.
- Auzanneau, M., 2020. *Oil, power, and war: a dark history*. s.l.:Chelsea Green publishing.
- Bentz, J., O'Brien, K. & Scoville-Simonds, M., 2022. Beyond "blah blah blah": exploring the "how" of transformation. *Sustainability Science*, Volume 17, p. 497–506.
- Bogadóttir, R. & Olsen, E. S., 2017. Making degrowth locally meaningful: the case of the Faroese grindadráp. *Journal of Political Ecology*, 24(1), pp. 504-518.
- Brossmann, J. & Islar, M., 2020. Living degrowth? Investigating degrowth practices through performative methods. *Sustainability Science*, 15(3), p. 917–930.
- Castoriadis, C., 1987. *The Imaginary Institution of Society*. s.l.:MIT Press.
- Chassagne, N. & Everingham, P., 2019. Buen Vivir: Degrowing extractivism and growing wellbeing through tourism. *Journal of Sustainable Tourism*, 27(12), pp. 1909-1925.
- Corbin, J. & Strauss, A., 2008. *Basics of qualitative research: Techniques and procedures for developing grounded theory*. 3rd éd. s.l.:SAGE Publications, Inc..
- Demaria, F. et al., 2023. Post-development: From the Critique of Development to a Pluriverse of Alternatives. Dans: *The Barcelona School of Ecological Economics and Political Ecology: A companion in Honour of Joan Martinez-Alier*. Barcelona: Springer International Publisher, pp. 59-69.
- Dion, C. & Laurent, M., 2015. *Demain*. s.l.:Editions Actes Sud.
- Döringer, S., 2021. 'The problem-centred expert interview'. Combining qualitative interviewing approaches for investigating implicit expert knowledge. *International Journal of Social Research Methodology*, 24(3), pp. 265-278.
- ECOSOC, U., 2023. *Progress towards the Sustainable Development Goals*, New-York: s.n.
- England, K. V., 1994. Getting Personal: Reflexivity, Positionality, and Feminist Research. *The Professional Geographer*, 46(1), pp. 80-89.

- Escobar, A., 2015. Degrowth, postdevelopment, and transitions: a preliminary conversation. *Sustainability science*, Volume 10, pp. 451-462.
- Essebo, M., 2022. Storying COVID-19: fear, digitalisation, and the transformational potential of storytelling. *Sustainability Science*, Volume 17, p. 555–564.
- Fazey, I. et al., 2020. Transforming knowledge systems for life on Earth: Visions of future systems and how to get there. *Energy Research & Social Science*, Volume 70, p. 101724.
- Fazey, I. et al., 2018. Ten essentials for action-oriented and second order energy transitions, transformations and climate change research. *Energy Research & Social Science*, Volume 40, pp. 54-70.
- Feola, G., 2020. Capitalism in sustainability transitions research: Time for a critical. *Environmental Innovation and Societal Transitions*, Volume 35, pp. 241-250.
- Funtowicz, S. O. & Ravetz, J. R., 1993. Science for the post-normal age. *Futures*, 25(7), pp. 739-755.
- Funtowicz, S. O. & Ravetz, J. R., 1994. Uncertainty, complexity and post-normal science. *Environmental Toxicology and Chemistry: An International Journal*, 13(12), pp. 18881-1885.
- Ghosh, A., 2016. *The Great Derangement: Climate Change and the Unthinkable*. s.l.:Penguin UK.
- Gudynas, E., 2011. Buen Vivir: Today's tomorrow. *Development*, 54(4), pp. 441-447.
- Gudynas, E., 2014. Buen Vivir. Dans: *Degrowth*. s.l.:s.n., pp. 201-204.
- Hagens, N., 2020. Economics for the future – Beyond the superorganism. *Ecological Economics*, 169(106520).
- Hanačeka, K., Roy, B., Avila, S. & Kallis, G., 2020. Ecological economics and degrowth: Proposing a future research agenda from the margins. *Ecological Economics*, Volume 169, p. 106495.
- Harari, Y. n., 2014. *Sapiens: A brief history of humankind*. s.l.:Random House.
- Hardin, G., 1968. The Tragedy of the Commons. *Science*, 13 December, 162(3859), pp. 1243-1248.
- Henrich, J., 2020. *The WEIRDest people in the world: How the West became psychologically peculiar and particularly prosperous*. s.l.:Penguin UK.
- Higgins, M. D., 2020. *President delivers keynote address at Eengineers Ireland conference on climate action*. s.l.:s.n.
- Horton, R., 2014. Offline: Why the Sustainable Development Goals will fail. *The Lancet*, 383(9936), p. 2196.
- IEA, 2022. *Global Energy Review: CO2 Emissions in 2021*, Paris: 2022.
- IGS, I. G. o. S., 2023. *Global Sustainable Development Report 2023*, s.l.: s.n.
- Inayatullah, S., 1998. Causal layered analysis: Poststructuralism as method. *Futures*, 30(8), pp. 815-829.
- Inuca Lechón, J. B., 2017. Genealogía de alli kawsay / sumak kawsay (vida buena / vida hermosa) de las organizaciones kichwas del Ecuador desde mediados del siglo XX. *Latin American and Caribbean Ethnic Studies*, 12(2), pp. 155-176.

- IPCC, 2018. *Global warming of 1.5 °C*, s.l.: s.n.
- IPCC, 2023. *Climate Change 2023, Synthesis Report, Summary for Policymakers*, s.l.: s.n.
- Ives, C. D. et al., 2018. Reconnecting with nature for sustainability. *Sustainability Science*, Volume 13, p. 1389–1397.
- Jancovici, J.-M., 2018. *L'énergie, de quoi s'agit-il exactement ?*, s.l.: s.n.
- Kallis, G., 2018. *Degrowth*. s.l.:Newcastle upon Tyne: Agenda Publishing.
- Kallis, G. et al., 2018. Research On Degrowth. *Annual Review of Environment and Resources*, Volume 43, pp. 291-316.
- Kothari, A., Demaria, F. & Acosta, A., 2014. Buen Vivir, Degrowth and Ecological Swaraj: Alternatives to sustainable development and the Green Economy. *Development*, 57(3-4), pp. 362-375.
- Lakoff, G., 2010. Why it matters how we frame the environment. *Environmental Communication*, 4(1), pp. 70-81.
- Latouche, S., 2014. *Sortir de la Société de Consommation: Voix et Voies de la Décroissance*. s.l.:Editions Les Liens qui libèrent.
- Latouche, S., 2019. Qu'est-ce que la décroissance ? (extractivisme et décroissance). *L'écologiste*, Avril-Juin, p. 54.
- Law, J., 2015. What's wrong with a one-world world?. *Distinktion: Journal of Social Theory*, 16(1), pp. 126-139.
- Lawrence, M., Janzwood, S. & Homer-Dixon, T., 2022. What is a global polycrisis. *Cascade Institute, Technical Paper*, Volume 4.
- Lloyd, W. F., 1833. *Two lectures on the checks to population*. Oxford: Oxford University.
- Lockton, D. & Candy, S., 2019. A Vocabulary for Visions in Designing for Transitions. *Cuadernos del Centro de Estudios en Diseño y Comunicación. Ensayos*, Volume 73, pp. 27-49.
- Meadows, D., 1998. *Indicators and Information Systems for Sustainable Development*, s.l.: The Sustainability Institute.
- Meadows, D., 1999. Leverage Points. *Places to Intervene in a System*, Volume 19, p. 28.
- Meadows, D. H., Meadows, D. I., Randers, J. & III, W. W. B., 1972. *The Limits to Growth*. s.l.:Potomac associates.
- Menegaki, A. N., 2014. On energy consumption and GDP studies; A meta-analysis of the last two decades. *Renewable and Sustainable Energy Reviews*, Volume 29, pp. 31-36.
- Monni, S. & Pallottino, M., 2015. Beyond growth and development: buen vivir as an alternative to current paradigms. *International Journal of Environmental Policy and Decision Making*, 1(3), pp. 184-204.
- Oliver, C., 2012. Critical Realist Grounded Theory: A New Approach for Social Work Research. *British Journal of Social Work*, 42(2), pp. 371-387.
- Parrique, T., 2022. *Ralentir ou périr, l'économie de la décroissance*. s.l.:Seuil.

Parrique, T., 2023. *Université Libé*. Paris, s.n.

Parrique, T. et al., 2019. *Decoupling Debunked: Evidence and arguments against green growth as a sole strategy for sustainability*, s.l.: European Environment Bureau EEB.

Raworth, K., 2017. *Doughnut Economics: seven ways to think like a 21st-century economist*, s.l.: Chelsea Green publishing.

Richter, K., 2023. On Cultural Direction of Socio-Ecological Transformations: Lessons from Degrowth and Buen Vivir/sumak kawsay. Dans: *Degrowth, Decolonization and Development*. s.l.:Cham: Springer International Publishing, pp. 97-113.

Ritchie, H., Rose, M. & Rosado, P., 2022. Energy. *Our World in Data*.

Robinson, J., 2022. Sustainability as transmutation: an alchemical interpretation of a transformation to sustainability. *Sustainability Science*, 17(2), pp. 661-672.

Rockström, J. et al., 2009. Planetary Boundaries: Exploring the Safe Operating Space for Humanity. *Ecology and Society*, 14(2).

Ross, K. & Mitchell, C., 2018. Transforming Transdisciplinarity: An Expansion of Strong Transdisciplinarity and Its Centrality in Enabling Effective Collaboration. Dans: *Transdisciplinary Theory, Practice and Education: the art of collective research and collective learning*. s.l.:Springer, pp. 39-56.

Sadik, T., 2020. *Global Landscapes Forum Biodiversity Digital Conference: One World – One Health*. s.l., s.n.

Salón, P., 2015. *Vivir bien, notes for the debate*, s.l.: s.n.

Sandén, B. A. & Karlström, M., 2007. Positive and negative feedback in consequential life-cycle assessment. *Journal of cleaner production*, 15(15), pp. 1469-1481.

Servigne, P. & Stevens, R., 2020. *How everything can collapse: A manual for our times*. s.l.:John Wiley & Sons.

Servigne, P., Stevens, R. & Chapelle, G., 2018. *Une autre fin du monde est possible*. s.l.:Seuil.

Smil, V., 2018. *Energy and civilization: a history*. s.l.:MIT Press.

Smith, R., 2014. U.S. Risks National Blackout From Small-Scale Attack. *Wall Street Journal*, March.

Snyder, H., 2019. Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, Volume 104, pp. 333-339.

Soytas, U. & Sari, R., 2003. Energy consumption and GDP: causality relationship in G-7 countries and emerging markets. *Energy Economics*, 25(1), pp. 33-37.

Steffen, W. et al., 2015. The trajectory of the Anthropocene: The Great Acceleration. *The Anthropocene Review*, 2(1), pp. 81-98.

United Nations Department for Economic and Social Affairs, 2019. *World population prospects 2022: Summary of results*, s.l.: UN.

- Veland, S., Gram-Hanssen, I., Maggs, D. & Lynch, A. H., 2022. Can the sustainable development goals harness the means and the manner of transformation?. *Sustainability Science*, Volume 17, p. 637–651.
- Wall, S., 2006. An Autoethnography on Learning About Autoethnography. *International journal of qualitative methods*, 5(2), pp. 146-160.
- Wamsler, C. et al., 2021. Linking internal and external transformation for sustainability and climate. *Global Environmental Change*, Volume 71, p. 102373.
- Wilkinson, R. & Pickett, K., 2011. *The spirit level: Why greater equality makes societies stronger*. s.l.:Bloomsbury Publishing USA.
- Winterson, J., 2007. *The Stone Gods*. s.l.:Hamish Hamilton.
- Witzel, A., 2000. The problem-centered interview. *Forum,,Qualitative Social Research*, 1(1).
- Woodburn, J., 1982. Egalitarian societies. *Man*, 17(3), pp. 431-451.
- World Bank, 2023. *GDP per capita (current US\$)*, s.l.: s.n.