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04: HARMONY / CONFLICT

THE DUAL THEMES OF harmony and conflict are central to sustainability research, highlighting the intricate dynamics of striving for balance in an increasingly complex world. Across diverse academic fields, including clinical science, nutrition studies, economic history, political ecology, philosophy, human rights studies, law, and sociology of law; sustainability is revealed as both a unifying aspiration and a site of tension, where differing priorities, values, and strategies converge and compete.

IN THIS SECTION, sustainability emerges as both a unifying concept and a source of tension, regardless of whether environmental and ethical dilemmas of healthcare, the intricate dynamics of sustainable development, or the challenges of scientific practice are being examined. Shared themes of the following texts are the struggle to balance individual needs with collective well-being, the tension

between short-term progress and long-term resilience, and the inequities that arise when marginalised voices are excluded from decision-making. Sustainability is not merely an ideal to be achieved but a continuous conflict between growth, preservation, and equity.

BY ENGAGING WITH THESE challenges, the texts in this section reflect the authors' critical reflections on sustainability as an evolving process, problematising its various manifestations and, when possible, offering pathways to harmonise ecological integrity, social justice, and economic viability.

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REPLICATION AND GENERALISATION FOR A SUSTAINABLE SCIENCE

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THERE ARE NORMS within the scientific community to produce as much content as possible, e.g., papers, chapters, and books, and scientists are often measured and (de)valued based on their productivity. We should not equate scientific results with knowledge. As we continue to increase our scientific production, we risk mixing real knowledge with merely published results, diluting our knowledge accumulation. I try to frame this as a conflict in the sense of an unsustainable scientific practice and suggest a way to alleviate this problem through replication studies. In my own research I have conducted replication studies[1] aimed at generalising our understanding of phenomena and test the robustness of previously published results.

The scientific enterprise can loosely be characterised as an attempt at systematic knowledge accumulation. We want to obtain knowledge, or at least as good of an understanding of something as possible, and not merely publish scientific results. In 2022, the article total in Scopus and Web of Science was approximately 47 percent higher than in 2016.[2] At a rapid pace, the scientific community publishes increasingly more results. Arguably, this publishing frenzy does not accumulate to a corresponding amount of knowledge. How can we make our systematic knowledge accumulation more sustainable in a rapidly growing scientific landscape?

One suggestion is to critically examine published results before integrating them into our understanding of the world. We need to constantly test and

re-test our results to make sure that they are trustworthy, and we need to generalise our understanding of a phenomenon to see how robust it is. Failing to do so can be costly. In 2015, the 'replication crisis' crippled the field of psychology, as most re-tested results published in some of the field's most distinguished journals, failed to replicate or showed significantly decreased effects.[3] What many thought of as novel understandings of the human mind was not much more than disputable results in a fancy format. Re-testing in other fields, e.g., Economics, Political Science, and Medicine has also shown questionable results.[4] For candidate drug targets, only – 20–25 percent of the published data were in line with the re-analysed results.[5] In oncology, only 11 percent of scientific findings were confirmed when 52 'landmark papers' were re-analysed.[6]

Evidently, empirical results should not be equated with knowledge. As scientific production continues to increase, even more published results will likely fail to replicate and generalise to novel contexts. Therefore, when we keep advancing our understanding of the world, we should make more effort to secure the trustworthiness of what we allegedly already know. As replicating results hopefully becomes the norm within most fields, we also ought to encourage the publication of null results. Having an estimate of how many experiments were performed before obtaining a specific result will indicate the robustness of our understanding of a given phenomenon.

Publishing nulls, valid scientific results, will also take some of the burden away from researchers to publish ever more innovative findings, creating more sustainable scientific practices.

Karl Popper, the great philosopher of science[7] famously suggested that we need to do our very best to falsify our scientific beliefs. Every failed attempt at finding a black swan lets us corroborate our belief that swans are white and that is the best we can hope for when using induction as a means of inference. As scientists know, connections between theories, models, hypotheses and data are intricate, and trying to replicate previous results should not be viewed as merely a dismissive exercise. Popper acknowledged the complexity of scientific theorising and stated that a few empirical contradictions are not enough to dismiss an established theory. For example, observational bias or measurement error might affect results. A good approach for tackling those challenges is to try and replicate, and then generalise, what we already know.

In tandem with sound theorising, what we ought to do is to test and re-rest results to corroborate our scientific beliefs. Replication and generalisation are good ways to safeguard against disputable results and obtain more sustainable scientific policies and practices.

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EXPLORING THE HARMONY BETWEEN SUSTAINABLE EATING AND HEALTH

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TO ME, SUSTAINABILITY means living in a way that supports the long-term health of our planet and its people, ensuring that future generations can thrive within the limits of Earth's resources.

Dietary habits are key drivers of climate change and environmental damage. Human diets are responsible for one-third of greenhouse gas emissions (GHGE), 40 percent of global land use, 70 percent of freshwater use, and 90 percent of biodiversity loss.[1-3] Food systems play a major role in driving environmental degradation and climate change, which in turn affects human health. A more plant-based diet could substantially reduce GHGE and other environmental impacts, while increasing the production of animal-sourced food globally, will further increase environmental damage.[3, 4] Transitioning to sustainable diets is crucial for achieving the United Nations' Sustainable Development Goals and ensuring that human activities remain within planetary limits.[3, 5]

While current human diets are a major contributor to environmental damage, they also play a critical role in global health, with poor dietary patterns significantly contributing to disease and death worldwide. Globally, more than 2.5 billion of adults are classified as overweight or obese, equivalent to 40 percent of all adults.[6] 195 million children under the age of five suffer from stunted growth or wasting, while 20 percent are overweight or obese.[7] The prevalence of non-communicable diseases (NCDs), including

diabetes, cancer, heart disease, stroke and chronic lung disease is at an all-time high. NCDs accounts for a substantial part of morbidity and mortality worldwide, including 74 percent of all deaths globally.[8] Data from the Global burden of disease study suggests that adopting healthy dietary patterns could substantially reduce the risks of morbidity and mortality from NCDs.[9] The study further suggests that a healthy diet could prevent 11 million deaths every year globally. A healthy dietary pattern is high in whole grains, legumes, fruits and vegetables, and limited in red meat and other animal sourced foods.

In response to these health and environmental challenges, we need to find a sustainable way of producing and consuming food. In my research I have demonstrated co-benefits between eating healthy and sustainable. An environmentally sustainable diet also has positive health effects and could lower the risk of mortality,[10] type 2 diabetes,[11] and cardiovascular disease (CVD).[12, 13] While some studies are pointing at an increased risk of micronutrient deficiencies, other have not observed such an association.[14–16]

While the overall relationship between sustainable diets and health is harmonious, concerns about micronutrient deficiencies, economic barriers, and cultural challenges lead some to view these diets through a lens of conflict. However, I think that the biggest conflicts arise from personal opinions. Since eating is an activity we all engage in, it naturally invites a wide range

of experiences and opinions on nutritional research, even among researchers themselves. How much should personal biases influence which results we choose to highlight? While the objective truth might not exist, research about diets should at least aim to have an objective approach. I believe that we as researchers, must carefully consider the role of personal beliefs in how we interpret and present findings even regarding such an everyday experience.

Ultimately, sustainable eating should not be framed as a choice between health and environmental responsibility. Instead, it offers a unique opportunity to align these goals, fostering a future where we can nourish both people and the planet. As researchers and global citizens, we must take responsibility for advancing this narrative, ensuring that personal opinions and potential conflicts do not overshadow the broader benefits of sustainable eating.

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SUSTAINABILITY WITH AN ENGINEERING APPROACH

A REFLECTIVE EXPLORATION

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SUSTAINABLE DEVELOPMENT is often defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs".[1] This definition, coming from the Brundtland Commission, highlights the ethical imperative of balancing present needs with future well-being. As I reflect on my PhD project through this lens, I initially thought of sustainability as a state of perfect harmony – a scenario where technological innovation, environmental health, and social well-being could advance together without big compromises.

However, when a deeper investigation is carried out into the concept, it reveals a more complex reality. Sustainable development comprises multiple dimensions – environmental, social, and economic – which do not automatically coincide or can even conflict. The United Nations' 2030 Agenda emphasises that the global sustainability goals are "integrated and indivisible" and must "balance the three dimensions of sustainable development: economic, social and environmental".[2] My project sits at the intersection of these interests. On one hand, there is the drive for innovation and technical success, an economic and engineering motivation. On the other hand, there are environmental limits and societal expectations that set boundaries on what is acceptable or desirable. Rather than viewing these factors as opposing forces in separate "harmony" and "conflict" boxes, I see them as a continuum of considerations that must be balanced in practice.

Focusing on my research context, when I started working on my PhD, I believed my research would naturally help the planet and support a future where people and nature can advance together. My focus is on improving how we reuse materials in cast iron parts, especially those used in heavy-duty vehicles. In theory, this kind of work should reduce how much new iron ore is mined, saving energy and cutting emissions. Yet I have discovered that sustainability is rarely this straightforward. Although my research may make production cleaner, the end products (internal combustion engine (ICE) vehicles) still burn fuel and produce harmful gases. This creates a tension: Are we really closer to a green future if we keep supporting an industry whose main product is a source of pollution?

I once pictured sustainability as a smooth path where everything lines up: resource use goes down, emissions drop, and society benefits all at once. But the more I look at it, the more I see that progress in one area can cause problems in another. For instance, if improving recyclability makes cast iron production cheaper, it could encourage more production, and thus more vehicles on the road. That extra traffic might lead to higher overall emissions.

At the same time, I do not want to say that my research is useless or harmful. Turning to recycled materials instead of mining fresh ore is a real step in the right direction. Mining iron ore consumes energy, causes land damage,

and can lead to pollution in surrounding areas. By making recycled cast iron more reliable, I hope to lessen the demand for new ore. If a company can produce strong, high-quality cast iron from scrap metal, we get closer to a circular economy.

A good example of the potential harmony is how new cutting tools or modern recycling processes can make production more efficient. My research tests show that if the material's chemical makeup is consistent, it is easier to predict how long cutting tools last. That helps reduce downtime and scrap. When we use recycled material, though, there might be hidden elements in small amounts that throw off those calculations. A tiny bit of tin or copper, for instance, can lead to brittle spots or cause unexpected wear on cutting tools. To address this, I work on testing methods that find and measure these trace elements. If we can deal with them or manage them properly, it becomes easier to plan production schedules and prevent the waste of raw materials.

Yet the conflict comes into play when we consider how the end-product itself (a vehicle) is used, often for many years on the road. All those supposed gains in the factory might be overshadowed by the emissions the engine produces over its lifetime. And it is not only carbon emissions, but also local air pollutants that affect health in cities. This reality makes me pause and think: Is my project actually driving us toward a more sustainable future, or is it just making a polluting system somewhat less harmful?

Another angle to this issue is the incentives set by society and businesses. I ask myself: Are we improving recycling because we genuinely want fewer mines and lower emissions, or because it is getting expensive to mine new ore and materials are scarce? Is it possible that better recyclability supports a system that might keep making ICE parts, delaying a switch to cleaner technologies like electric or hydrogen-based vehicles? This is not a simple yes-or-no question. Of course, I hope that making cast iron recycling more robust is done for good reasons, but I know that economic pressures can play a big role. If recycling makes production cheaper, industry might produce more of the same old engines before deciding to switch to greener alternatives. That feels like a step backwards in the long run.

On the other hand, if we have cleaner, less energy-intensive production, we are at least cutting emissions in the short term. And while the world might eventually move to other engine types, heavy-duty ICE vehicles could still be around for years or even decades. During that time, it is better for the environment to create these parts using as many recycled materials as possible rather than new ore. However, this logic can also become an excuse to keep business as usual. It is a tricky balance between making a current system better and recognising that this system might need to change entirely.

All these reflections lead me to wonder about my responsibility as an engineer. Engineering is about solving problems, often with a focus on costs,

reliability, and performance. Lately, more of us also think about environment and community impact. But in a commercial setting, sustainability often shows up as a "target" or "metric," while the real driver might be profit. I must figure out how to do my work with integrity and ethics, measuring and communicating the benefits as well as the drawbacks.

For example, if I show that my new methods reduce energy use by 10 percent in the factory, I should also mention that the life-cycle emissions of the final vehicle are still quite high. Perhaps that will push some decision-makers to invest further in green technology. Or it might reveal that we should design these iron parts so they can be repurposed or disassembled more easily, encouraging more advanced recycling once the vehicle's life is over. This is the engineer's challenge: how do we design systems with a long-term, multi-stage perspective?

In the end, I have come to accept that no single project will fix all our sustainability problems, especially if it stays inside a larger framework that is not entirely green. Yet I still believe that projects like mine have value. Making cast iron recycling more effective cuts back on mining, saves energy in foundries, and reduces overall waste in production. These are real gains, and they can push the industry to look more closely at their processes. At the same time, I have to be honest that as long as these parts go into vehicles burning fossil fuels, we are addressing only part of the problem.

This conflict does not mean I should stop or feel paralysed. Instead, I want to keep the bigger picture in mind and remain open to the idea that truly sustainable transport may mean moving away from traditional engines altogether. Maybe some of the skills and methods developed in my project can later be used to recycle parts for electric vehicle components or hydrogen systems.

I do believe my research can contribute to a better future, but I also believe that to fully meet our climate goals, we have to look at the entire life-cycle and how the final goods are used. My project is just one piece of the puzzle, and there is still a lot of work to do on both the technology and the policy side to address the real root cause of pollution and resource depletion: our continued dependence on fossil fuels.

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FIGHTING FOR SUSTAINABILITY WITHIN LAW'S ONTOLOGICAL AMBIVALENCE

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SUSTAINABILITY IS A conflict and there are legal reasons for why that is the case. In this short essay, I argue that there are features of law that make the process of doing sustainability inevitably conflictual. To develop my argument, I build on socio-legal theory and examples from my doctoral research project to contend that law provides at the same time a resource for unsustainable and sustainable processes. This tension within law originates societal conflicts, frequently fought in law's terrain, thus making sustainability a conflictual process.

To begin with, I need to clarify what I mean by sustainability. While I am aware that the concept is multifaceted and debates on its definitional province abound,[1] in this essay I consider sustainability and sustainable development[2] as synonyms and adopt the conventional definition outlined in the Brundtland Report,[3] according to which "development that meets the needs of the present without compromising the ability of future generations to meet their own needs, is sustainable. Accordingly, any human activity must be carried out respecting the needs of future generations; this places an ethical imperative over current generations, to design and perform socioeconomic activities in a way that neither depletes resources nor generates harm toward human and nonhuman beings. This imperative invites us to rethink our relationship with nature and amongst us in ecological terms, pushing us to reimagine and redesign our socioeconomic activities. Industries, transportation, and eating habits are all examples of common activ-

ities that have a substantial impact on our planet. These activities can be heavily unsustainable, as they lead to resource depletion and/or are harmful for human and nonhuman beings. For instance, industrial production can be strongly unsustainable. Perhaps, it is ontologically unsustainable, as it is premised on the process of extracting resources from the Earth for the purpose of transforming them into objects that feed unsustainable consuming practices; they can also generate high levels of pollution that are at the origin of global warming as well as toxic for humans and nonhumans. Practices such as industrial activities should therefore be redesigned and restructured, if we want our economic culture to be sustainable, and structures sustaining these activities should thus be dismantled or, at least, rearranged in more sustainable modalities.

Among these structures, one can find law. Law is an instrument that can be utilised to support and sustain unsustainable practices. Law is never neutral; it is the outcome of a struggle, where various players compete utilising their accumulated social, cultural, economic, political, and juridical capital to make the most of their interest, as Bourdieu[4] convincingly argued. It is thus unsurprising to discover that laws reproduce the interests of those who have more socioeconomic power. Law is juridified capital, law legalises and thus legal-reifies social dynamics, inequalities, imbalances. There is something about law's nature that makes it so permeable to non-legal interests;

as Niklas Luhmann[5] showed, law is disinterested in questions of morality. While, of course, it carries an underlying morality, law can legalise any kind of non-legal interest, regardless of its moral implications or societal impacts. This story about law reflects the main tenet of legal positivism, namely, that law is the decision of the political authority and, as such, it reproduces whatever value the groups in power ascribe to it. A Marxist reading of this process leads to conclude that law inevitably crystallizes the unequal economic relationships in society as big economic and financial players have the means to influence the lawmaking process and thus translate their interests in laws and regulations.

My doctoral research project shows this aspect of law quite vividly. We are in Taranto, in the South of Italy, a city that is home to the largest steel industry in Europe, Ilva, which plays a pivotal role in the local and the Italian economy. The industry has created for decades an environmental and health crisis; as proved by proved by epidemiological and public health research.[6] Nonetheless, the Italian state has passed for more than a decade pieces of legislation that have legalised, and thus legitimised, the industrial activity of Ilva. In particular, this legislation has constantly created a favorable legal environment for the factory by adjusting the legal prerequisites of its authorisation to produce. These laws are unsustainable, as they do "compromise the ability of future generations to meet their own needs": Ilva's production is linked to

the degradation of the environment[7] and to serious diseases, as well as death, in the whole population, including children.[8] Accordingly, my research shows that law is a vehicle for unsustainable economic activities. By being permeable to any economic interest, law bends to economic pressures and legalises the interest of the Italian state in Ilva continuing to produce, in order to sustain Italy's political economy of steel, where Ilva plays a pivotal role. In this scenario, law produces and reproduces unsustainability.

But that is not the whole story about law. As Bourdieu[9] explains, not only is law the result of a struggle where players with unequal capital compete. Once it is passed, a law is framed in universal terms, thus obscuring its socio-political underpinnings and the power dynamics that underscored its adoption. So here comes a fundamental tension that is inherent in the way law is and operates: while law is the juridification of particular non-legal interests, it is drafted in a way that conceals such interests. And it is in the concealment of its socio-political underpinnings that law's potential for resistance and emancipation lies. Law contains within itself the seeds for resistance.[10] By obscuring the socio-political interests that lie at its heart with a universal declaration in the interest of all, law has no owners. Laws belong to no one, and thus to everyone. Everyone can appropriate law's terminology and make use of it for their own purposes.

This too is shown in my doctoral project. In Taranto, local residents have formed groups and organisations and have resorted to law to fight Ilva and its industrial pollution. In fact, they have initiated lawsuits at the local, national, and European level, with the overarching goal of shutting down the factory and radically restructure Taranto's economy. They regularly demonstrate and protest utilising legal language to make the Italian government accountable for allowing Ilva to continue producing. Rights discourse permeate their battles; and that is because rights are framed in universal terms, they can be appropriated by anyone and articulated in any battle, including the one for environmental justice carried out in Taranto. For instance, in 2022 Italy amended articles 9 and 41 of the Constitution, which now declare, respectively: "The Republic […] shall safeguard the environment, biodiversity and ecosystems, also in the interest of future generations.", and "Private economic enterprise […] cannot be carried out […] in such a manner as may harm […] the environment, safety, liberty and human dignity. The law shall determine appropriate programmes and checks to ensure that public and private economic enterprise activity be directed at and coordinated for social and environmental purposes." These laws are now a staple of the fight of Taranto's social movements. They show the other side of law's promise to sustainability: laws offer a repertoire

of resources that people can use to make governments and corporations accountable for their unsustainable practices, and to advance a different discourse and practice of development, decoupled from industrialisation and inspired by the rich natural resources that are present in Taranto's territory.

In sum, sustainability is inevitably a conflictual process because any effort towards sustainable development is also a legal effort. In our society, law is an "inescapable presence"[11] and its dual nature generate conflict inevitably. Governments and businesses will pass unsustainable laws to perpetuate and reproduce capitalist extractive development, while marginalised communities will fight for environmental and social justice. This conflict is also a legal conflict, and it is a legal conflict because law is ontologically divided and divisive. Law is impartial and partial at the same time, universal and particular, neutral and political, poor and rich, God and gimmick.[12] Law has a dark and a light side, and any discussion on sustainability must come to terms with this ambivalence, while never disregarding the unequal power relations between state and corporations on the one hand, and ordinary people on the other.

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THE CONFLICTUAL RELATION OF SUSTAINABLE DEVELOPMENT AND HUMAN RIGHTS

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THE 2030 AGENDA for Sustainable Development has become the leading star in the global quest of forming sustainable societies. With its seventeen goals and 230+ indicators, it is supposed to lead the world towards a more sustainable future. Though a relevant question question is: how well is the 2030 Agenda harmonising with other international standards and obligations such as human rights?

The 2030 Agenda tells us that the signatories "reaffirm the importance of the Universal Declaration of Human Rights, as well as other international instruments relating to human rights and international law".[1] The claimed harmony between the 2030 Agenda and the human rights framework can also be found on a local level, we can take the city where I live and work as an example. The city of Lund is a so-called "human rights city" which generally means that the local government has declared to follow human rights principles in its governance and that they together with local stakeholders make sure to uphold this standard.[2] The programme that the municipality has set up to ensure that they fulfil this role is a program for social sustainability and the implementation of the Sustainable Development Goals in the city.[3] Human rights fulfilment and SDG implementation seem to go hand in hand both on a global and local level, (a trend that can be found in many more cities than Lund).[4]

As a researcher in interdisciplinary human rights studies, I see it as my obligation to problematise this assumed harmony and to investigate potential conflicts. To start, human rights and the SDGs are built on rather opposing ideas of what global governance is. The 2030 Agenda promotes "governance by numbers" (i.e. the promotion of goals and strong reliance on targets, indicators and big data[5]), as the nature of the Agenda is non-binding where states enjoy extensive leeway.[6] The SDGs are followed-up through a self-promoting reporting system, where progress areas are highlighted and issues sidelined. This moves away from the human rights discourse where global governance is centred foremost around upholding and promoting international law and the adherence to human rights principles. The existing human rights monitoring system is not perfect. However, one of its strengths lies in having a peer-review system, a strength that the SDG framework has not utilised[7]. It seems as if the governance system is moving apart but the language of rights and goals are coming together. This leaves us with an enigmatic question; if human rights claims are understood as goal fulfilment what happens if an SDG is not fully reached? Is it an almost-reached SDG or a is it a human rights violation?

With this said, I do not praise the human rights system, its legalistic approach and rather weak accountability mechanisms might not be the tool to help the global efforts to make sure that life on the planet can be sustained beyond our lifespan. Instead, climate change and human rights might illustrate yet another conflict as human rights are based on the moral idea

that humans have a specific value and dignity, giving us rights, above all other beings and ecosystems. This means that resources, animals, and ecological systems are rights objectives fulfilling human rights, instead of having rights in themselves. Climate change, from a human rights perspective might just mean more of the same, praising the anthropocentric worldview that can be seen as one of the root causes of the sustainability conflict. It might be so that other moral ideas are better suited to harmonise human existence with other beings and ecosystems, and limit humans' entitlements to fit within the planetary boundaries.[8] Thus, maybe neither human rights nor the 2030 Agenda should work as roadmaps in the transformation toward a more sustainable future. We might need to envision a future that is beyond the sustainability imaginaries presented to us by the international system. But to do so we have to start by discussing the conflicts that inherently exist in the sustainability discourse, both globally and locally.

The two example I have illustrated in this text – the assumed harmony between human rights and the SDGs and the moral conflict between human rights and climate change – are important conflicts that we need to address when we discuss sustainability. If we do not discuss conflicts in the quest of finding a sustainable pathway, and there are many conflicts along such path, we risk that the whole sustainability discourse gets kidnapped and that the president of COP29's host country can claim that oil and gas is the "gift of god" without really being questioned.[9]

CONFLICT AND HARMONY ARE NOT ANTONYMS

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ONE OF THE LAST QUESTIONS that I was asked during the interview from which I was selected to join the Agenda 2030 Graduate School was about sustainable development. I don't remember the question exactly, nor my answer. I remember that I said something more or less like "it is the same struggle", referring to the relationships between the Sustainable Development Goals and how I imagined sustainability on the ground of the empirical case I proposed to research. In retrospect, I think that I implied that some kind of harmony between different sustainability agendas must be found. Yet, I also think that conflict is as much a condition of human societies as harmony is. And this makes me wonder whether conflict and harmony are antonyms or not.

Harmony is a polysemic word. Etymologically, harmony refers to multiplicities that are joined or somehow related to each other forming some kind of whole. It is used in music to refer to the relationship between a plurality of notes or chords that are played at the same time or consecutively like in a song. And of course, it has some kind of enabling characteristic when applied to human societies, suggesting that social relations *could* (which is not to say *need, ought to,* or *should always*) be based on things like agreement or consensus. But a stark difference between harmony in music and social harmony is that notes and chords do not play themselves, while social relations are to some degree played by the very agents relating to each other.

And just like there are dominant notes, there are people who can exercise dominance over others and there are people who also discipline themselves according to their own preconceptions, therefore materialising different manifestations of what is commonly interpreted as power. In this simple example, two big conceptions of power are deliberately mentioned: power as a hierarchical mechanism and power as productive.

Power is experienced in everyday life, it can be a mixture of external and internal ways of conducting the self. For example, in Scania, the region where I live, I generally commute between Malmö and Lund by bus. Sometimes I sit in one of the two single seats at the front of the bus but behind the driver. Both seats face a wall with a kid putting their index finger in front of their mouth saying "*sshhh*". Choosing to stay silent in the front seat of the yellow Skånetrafiken bus on my way to and from work or choosing to speak is an internal dimension of power. But it can be something hierarchically imposed by someone onto someone else like the silence sign on the bus. The exercise of power sometimes enters into tension with the idea that social relations are enabled by agreement or consent, when they can also be imposed through mechanisms of power and coercion. And to further complicate matters, several mechanisms of consent, such as some kinds of contracts, are in practice enabled by mechanisms of power manifested in decision making processes, participation, inclusion, and so on. The other

day I tried to end a yearly gym subscription early and asked for a refund equivalent to the time of the contract that I was not going to use, only to find that some terms and conditions said I wasn't entitled to this claim, terms and conditions that I couldn't disagree with if I wished to enter into the gym membership contract in the first place.

So, what does all of this have to do with sustainable development? I will eventually come back to the reflection about my interview answer. Before, I have to write a few lines about some of the findings of my research. During my PhD I have looked at what is commonly referred to as a resource conflict. This conflict was ignited by the arrival of a Canadian mining company to the Colombian Andean-Amazon, holding a mining exploration license. This exploration license plays with consent and power in very creative ways. The company claims to have rights associated to the place (read: geographical location) bounded by the licence. Yet, at the same time it does not have the right to explore minerals but the obligation. The Colombian national state has the power to impose sanctions to the company, for example, should the company fail in fulfilling its obligations. But the company is not the only actor that has rights over or obligations towards this place. A portion of the mining licence overlaps with the territory of an indigenous reservation that belongs to the Inga people. This collectively owned territory introduces a very specific set of rights and obligations. Further, the

license overlaps with several sensitive ecological locations and lies within the municipality of Mocoa, capital of the Putumayo region. Further, the physical landscape comprehended in the license is the Andean-Amazonic piedmont known for being geologically unstable and prone to events commonly known as natural disasters like the avalanche that ravaged the city of Mocoa in 2017, claiming the lives of hundreds of people, injuring thousands, and leaving more than 900 families homeless.

The exploration that the company has the obligation to conduct is to explore a copper porphyry deposit. But exploration, as I have found, is so much more than looking for a viable concentration of minerals in an underground deposit. It also involves exploring the right social relations that will enable this project to go on. This is where sustainable development comes in. Copper is considered as a strategic mineral for an energy transition. The energy transition is a commonplace academic and political concept that focuses on mitigating climate change by reducing the dependence of energy systems worldwide on fossil fuels. This dependence is considered by many to be a significant cause of CO2 emissions, the main though not the only culprit of the excessive greenhouse effect. During the modern-colonial development era of the past 200 years or so, with an intensification period during the last 70 years, this excessive greenhouse effect has produced an increase in the mean temperature of the Earth and, alongside, a change in the Earth's climate

which increases the severity and frequency of climate related events. Sustainable development rests on the desire to continue modern-colonial development but fixing its social and ecological problems, amongst which climate change receives big attention. Sustainably developing the Putumayo and the planet necessitates newly mined copper, the copper that the mining company is exploring for.

The Putumayo, the company affirms, can save the world by allowing for the extraction of copper from the mineral deposit under the mountains of Mocoa. Mountains that are sacred beings for the indigenous peoples of the Andean-Amazonic piedmont. Mountains from which the water that feeds the Amazon rainforest falls from through an unfathomable number of creeks that become rivers that eventually join the mighty Amazon River. Mountains whose highlands have the moors where the flying rivers return from the air to continue the cycle of water that produces and reproduces life. Mountains that have spirits. Mountains that are Earth beings. Mountains that can destroy cities and towns almost effortlessly. Mountains that the peoples of Mocoa love and respect. Mountains that are the source of so much life.

But the company insists. Copper is a critical mineral for the energy transition. “The future is not stopping and neither are we” they say in their corporate radio show. There is no clean energy without vast amounts of newly mined copper. Mining is necessary to mitigate climate change. At the same

time, there is no escaping the vast pollution of newly mined copper. To remove one pound of copper, hundreds of pounds of sulphur-rich soil must be brought to the surface. This sulphur will react with bacteria, air and water, making water bodies more acidic. More acid water bodies, like rivers, will more effectively dissolve the other heavy metals such as arsenic and mercury. Eventually, these polluted waters will enter the bodies of the flora and fauna, affecting the territory's capacity to produce and sustain life. Yet, through a combination of social tactics under their "good neighbour" strategy the company has earned the favour of more and more communities near to the licensed area, including a portion of the Inga people that inhabit the overlapped territory. The territory, some Inga people will affirm, becomes disharmonised. Fancy that…

Sustainable development here carries many different conflicts. How can threatening the life of the mountains be sustainable? How can ending sources of life be understood as development? Many people in Mocoa and in the Putumayo are quick to emphasise that that is not the kind of development nor the kind of sustainability that they want. The needs for a decarbonised energy system worldwide are in conflict with the needs of keeping the Andean-Amazon a living territory, lush in the material and spiritual senses.

So, how are these the same struggle? This is a very sensitive question regarding harmony and conflict. Throughout the colonial industrial era, the occupation of territories by different empires and nation states has not been conducted by people who think that they are doing the wrong thing. In fact, reality is rather the opposite. This expansions have mostly been legitimised as good. They have been legitimised, and oftentimes *consensually imposed*, as a necessity in the path towards progress of the people in these colonised places while in practice most of them were only exploited for their ability to be a resource, human or natural. Pretending like sustainable development can be harmonious, whether in the present or some imagined future, is noble but it is a perspective that to me cannot be separated from the historical colonial desire of some human societies to access and exploit the resources of another territory. Harmony and conflict in this sense coexist. They are not antonyms. They coexist similarly to how consent and coercion coexist. The harmonious arrangement that leads some people to live in better conditions can be (has been, in fact) the result of making others spit blood, as Atahualpa Yupanqui sings.

¶

HEALTHY PLANET, HEALTHY PEOPLE?

Linn Hemberg
/ Faculty of Medicine

FIRST DO NO HARM is the guiding principle of healthcare workers all over the world. In an era of climate change, biodiversity loss and other environmental challenges it can be regarded as quite a paradox that healthcare, which is intended to do no harm account for about five percent of the global net emission of greenhouse gases, contributing to the climate crisis which is regarded as the single largest threat to humanity in the 21st century.[1] Up until now, or at least a few decades ago, the resource-demanding activities of healthcare have been justified by the aim of saving lives. This raises fundamental questions: how do we reconcile the conflicting goals of high-quality individual care with the collective need for a sustainable planet? And can we find harmony between these priorities?

Three important notions regarding the conflicting goals of individual high-quality care and the collective need for a sustainable planet are:

- High-quality care in developed countries disproportionally drives emissions of greenhouse gases
- Expanding care globally would require additional resources, increasing the environmental harm, and
- Redistribution alone is insufficient without systematic innovations to reduce healthcare's footprint.

Here in lies a clear conflict and that is that ensuring equitable access to high-quality healthcare globally would likely exacerbate environmental pressures unless profound systemic changes are made. The question is then how to achieve harmony between these priorities?

Harmony could be achieved by viewing healthcare as part of a broader societal ecosystem. By addressing healthcare's environmental footprint in tandem with other sectors, we can achieve synergies that benefit all. The greatest change, with greatest meaning both great as in positive and great as in huge, is changing from fossil fuels to renewable energy. More than 50 percent of healthcare's impact is attributional to energy consumption, at hospitals but mainly throughout the supply chain and the production of items, pharmaceuticals, fuel for transportation vehicles, and other things needed to deliver high quality care. Since fossil fuels have at least ten times higher climate impact than renewable sources, huge reductions in emissions can be achieved through a transition to green energy. Reducing the use of fossil fuels not only lower the emission of greenhouse gases but also the amount of air pollution let out into the air which is harmful to human health in itself. Another example of how emissions can be cut and at the same time positively affect care, health, and financial costs are through using less animal-sourced food provided to patients at the hospital. Another example is to reduce the amount of single-use material that is used within the hospital system, since this would

reduce the need of virgin resources, reduce the amount of the amount of waste generated and has the potential to lower financial costs. One last example is to refuse low value care, there is several known treatments which are given routinely without any indication that it actually helps the patient. Adhering to evidence-based healthcare would therefore not only decrease potential risk of unnecessary harm that treatments might pose to the patients but also reduce the resource use and environmental load as well as saving both time and money.[2]

To conclude, if systemic changes are made, we might be able to ensure equitable access to high-quality healthcare globally without exacerbating environmental pressures. A healthy planet is an undeniable requirement to ensure the health of future generations, and promoting healthier lives for people today will help us reach that goal by reducing the present demand of healthcare.

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SUSTAINABLE DEVELOPMENT

A TRAGEDY IN THREE ACTS

Mahesh Menon*
/ Faculty of Law

Act I: Genesis
Scene I: A palace of Conference

[Enter the North Wind and South Wind,
in heated debate]

North Wind:
Hear me, hear me, hear me!
O fair South, why dost thou claim the skies?
While nature weeps beneath thy hasty strides?
Shall we not cherish what the earth supplies,
Or let thy greed lead to her woeful tides?

South Wind:
O frosty North, thy chill doth blind the heart!
Our kin in hunger yearn for brighter days.
Shall we, in fear, from progress drift apart,
While hope and promise lead us through the haze?

[Thunder rolls, the stage darkens, and enter a
Shadowy Figure]

Shadowy Figure:
Peace! Ye winds of North and South, take heed!
A path must bloom where both your thoughts collide.
For in this clash, a fertile ground we need,
To forge a way where none need be denied.

[A dim light shines, and "Sustainable Development" appears, wavering]

Shadowy Figure:
Behold! Sustainable Development, a call!
A bond 'twixt growth and care for all mankind,
A promise bright, lest we in darkness fall,
For every heart and hope, let us be kind

North Wind:
What sorcery is this, that doth appear to reconcile our opposed desires?

South Wind:
Perchance this concept, shining clear, May quench our long-embattled fires.

All:
Sustainable Development, thou art
A balm for both the Earth and Man,
In thee, we find a noble start,
A cause to hold and wisdom's plan

[Exits, all nodding in agreement]

Act II: The Clamour of the Square
Scene I: The Public Square

[Enter a crowd of Citizens, Scholars, and Leaders]

Citizen 1:
Hear ye, hear ye, good people all! A wondrous phrase doth grace our ears!

Citizen 2:
Pray tell, what wisdom doth enthrall? What hope now doth at our door stand?

Scholar 1:
'Tis Sustainable Development, friend, A cure for all that ails our sphere!

Leader 1:
From North to South, this trend we'll send, And all shall hold this concept dear!

[The crowd begins to murmur, confusion brewing]

Citizen 3:
But soft! What doth this phrase portend? Its essence shifts like shadows in the night!

Scholar 2:
Fear not! Its power doth extend to many fields, both new and stern!

Leader 2:
In policy and law we'll weave this spell,
Though what it means, we know not, we'll proclaim!

The crowd begins to chant "Sustainable Development" with increasing fervour]

[Enter a Jester, dancing among the crowd]

Jester:
O Sustainable Development, how sweet thy name!
Yet naught can say with certainty thy course!

What shall we gain, and what must bear the shame,
If all must strive to hold thee, in remorse?

[The crowd laughs, then continues their enthusiastic chanting]

All:
Sustainable Development, our guiding light!
We'll follow thee through day and night!
Though what thou art, we cannot say,
We'll sing thy praises anyway!

[Exeunt, all dancing and cheering]

Act III: Judgment
Scene I: A Court in a Southern Land

Enter a Judge, wearing robes that change colour. Two figures, one adorned in gold (Wealth) and one in rags (Poverty), watch from opposite corners

Judge:
In this fair land of ancient lore,
We sit to weigh man's fate and tree's,

With sustainable development at our core,
We'll shape what is and what shall be.

[Enter an Industrialist and a Poor Labourer]

Industrialist:
Your Honour, see our factory's might,
It brings us wealth and gives us bread!

Poor Labourer:
But sir, our air turns black as night,
And in our lungs, we feel its dread.

Judge: (**robes turning slightly green**)
Our sacred river must flow free,
We cannot let pollution reign.
Your factory, sir, it must not be,
Lest nature's balance we disdain.

[The Poor Labourer looks relieved, but then troubled]

Poor Labourer:
But wait, my lord! If work should cease,
How shall my children eat this night?

Judge: (robes turning slightly gold)
Ah yes, indeed. Let troubles ease.
Perhaps we'll find another light.

[Enter a Forest Officer and a Tribal Elder]

Forest Officer:
These ancient woods, we must preserve,
For all the wealth that in them lies.

Tribal Elder:
But sir, these forests that we serve
Are homes we've known through joy and pain.

Judge: (robes now a mix of green and gold)
The trees must stand, the air stay pure,
But progress too must have its day.
A balance fine, though rarely seen,
Though some may fall along the way.

[The figure adorned in gold steps forward]

Figure of Wealth:
Your Honour, see the nation's growth,
The promise of prosperity!

Let not old thinking make you loath,
To growth that so doth now abound!

[The figure in rags steps forward]

Figure of Poverty:
But what of those who bear the cost?
The poor who suffer either way?
In flood or drought, their homes are lost,
In growth or green, they're led astray.

Judge: (**robes now predominantly gold**)
A moral dilemma, profound indeed!
To balance all, a task supreme.
Yet forward we must go, though dim,
To shape our law, to plant our seed.

The scales of justice tip.

[All look expectantly at the Judge]

Judge:
Let industries their work resume,
With fines to heal the Earth's own pain.

Let forests fall, though not in gloom,
For greater gain and greater gain.

[The Poor Labourer and Tribal Elder look dejected]

Poor Labourer and Tribal Elder: (together)
In name of balance, we are lost,
Our homes, our health, our ancient ways.
Development at any cost,
Leaves us adrift in future days.

[The Figure of Wealth smiles, the Figure of Poverty weeps]

Judge: (robes now almost entirely gold)
Thus, do we chart our nation's course,
In sustainable development's name.
Though some may call it fraud or worse,
Progress and peace are our aim.

[Exeunt all, leaving the stage to the Figure of Poverty]

Figure of Poverty:
To grow, or not to grow—that is the cry:
Whether 'tis nobler to endure the pain

Of hunger, thirst, and lives undone by greed,
Or to resist, and by resistance, fall.
To stop, to pause—no more—and in that pause
Find ruin, as progress leaves us far behind.
For in that growth, what price must we endure,
When every step brings wealth but not to us?
Thus, do we feed their golden dreams, and starve,
While they build higher, we sink ever low.
To grow, or not to grow? —In truth, no choice,
For we are lost, whichever path we tread.

[Exit Figure of Poverty]

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Fighting for sustainability within law's ontological ambivalence / Carlo Nicoli Aldini / Faculty of Social Sciences

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Healthy planet, healthy people? / Linn Hemberg / Faculty of Medicine

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Sustainable Development – A Tragedy In Three Acts / Mahesh Menon / Faculty of Law

* This piece was written with the aid of ChatGPT. A script along with dialogues was written out in everyday language and uploaded to ChatGPT, with the prompt to re-write the dialogues, mirroring the style of specific pieces from Shakespeare. I chose a dramatic form because I wanted to try something different from the usual academic writing and convey to the reader a dramatic element that unfolds in courts. I chose Shakespeare because the sense of drama is immediately evoked in the reader’s mind when using Shakespearean style. This helps create a dramatic effect without laboring extensively for it. Act I is inspired by Act 1 of The Tempest, which features a storm that sets the stage for the ensuing chaos, symbolising conflict and discord. Act II draws from Act 1, Scene 2 of Julius Caesar, where the public’s reaction to political events and the persuasive rhetoric of characters set the stage for the unfolding drama. Act III is based on Act 5, Scene 1 of Macbeth, which explores the consequences of ambition and moral reckoning. The final monologue is inspired by the famous “To be, or not to be” soliloquy from Hamlet, delving into existential questions.

This dramatic piece connects to my doctoral research, which examines how the principle of sustainable development has influenced Indian Supreme Court decisions on environmental cases, analysing its distributional consequences - who bears the costs and who reaps the benefits when courts invoke this principle to balance environmental protection against economic interests. I used AI because I am fascinated by this new tool and keep thinking of ways to use it creatively - this was one such experiment. I am not quite sure at the moment about the risks and ethical considerations involved in using it for academic writing, so I have been reluctant to use it in other academic contexts. This creative piece seemed like an opportunity to explore its possibilities.