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Private Property and Public Commons: Narrowing the Gap

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ABSTRACT: Private property and public commons each represent strongly felt concepts of society but in very different ways. While the protection of private property is at the heart of the capitalist system and deeply embedded in our laws, the protection of the public commons is a mere subset of government policies and often lacks firm regulations. Critically, natural commons such as air, water, biodiversity, and a habitable earth, are hardly protected at all. Environmental laws regulate use and protection of natural "resources" in a strict instrumental fashion, ignoring the intrinsic value of Nature and take Earth's ecological systems for granted. This article traces the "hidden logic" of environmental law and explores some of the history of property and the commons in the European context. It then shows the fundamental importance of ecological integrity for all efforts towards sustainable societies. The overall thesis is that property and commons must be based on ecological sustainability as a fundamental norm of law.

Keywords: Property; Commons; Environmental law; Ecological sustainability; *Grundnorm*

1. Introduction

Private property and public commons each represent strongly felt concerns of society, but in very different ways. While protection of private property is at the heart of the capitalist system and deeply embedded in our laws, the quest for protecting the commons (whether natural or social) has been greatly weakened under the influence of neoliberalism. Today, fewer and fewer people own more and more, while more and more people own less and less. The right to possession and ownership is perceived as fundamental to individual freedom. Ecological sustainability, on the other hand, reflects public morality without direct bearing on the content of individual rights. The sustainability agenda has not yet substantially altered the content of property rights or the context within which they are exercised.

The property regime, as it is today, is unsustainable. However, property rights are not absolutes, hence ever-changing in reflection of social change and now more than ever arguably in need of incorporating environmental responsibilities.

Law in general, and even environmental law has not fully accepted the antagonism between individual user rights and the protection of the common good. This antagonism is best illustrated in Garrett Hardin's classic essay, *The Tragedy of the Commons*, published in *Science* over 50 years ago [1]. To recall a central passage:

"The tragedy of the commons develops in this way. Picture a pasture open to all. It is to be expected that each herdsman will try to keep as many cattle as possible on the commons. Such an arrangement may work reasonably satisfactorily for centuries because tribal wars, poaching, and disease keep the numbers of both man and beast well below the carrying capacity of the land. Finally, however, comes the day of reckoning, that is, the day when the long-desired goal of social stability becomes a reality. At this point, the inherent logic of the commons remorselessly generates tragedy [2]."

On a larger scale, Hardin's pasture can be perceived as the global commons: the atmosphere, hydrosphere (water), geosphere (land), atmosphere (air) and biosphere (life), together forming the Earth system [3]. At this scale, the tragedy will occur when people, companies, and nation states continue to pursue individual claims unhampered by any tangible care for the global commons.

The most interesting aspect of Hardin's essay is the inability or unwillingness of individual actors to look beyond the here and now. They perceive it as rational to maximize individual prosperity and would not question such rationality even if presented with potentially disastrous consequences for everyone. This locks them into a system of self-destruction.

According to Hardin, the way out of the system of self-destruction is self-control. He referred to the need to "legislate temperance" [4] and called for "mutual coercion mutually agreed upon" [5]. What this may mean with respect to the concept of

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private property is the aim of this article. Hardin himself has often been criticized for his reliance on private property and individual rights to protect the commons. Monbiot, by contrast, sees communal ownership as the only way to limit ecological degradation [6]. One could also consider the abolition of any legal entitlements to the commons. However, ownership models are flexible and could accommodate both entitlements and responsibilities.

The concept of property rights, which plays a dominant role in domestic law, is not static, as Hardin assumes, nor is it inevitable to replace it with communal ownership as Monbiot suggests. A solution may be to redefine private property as an individual entitlement qualified by responsibilities for the commons. Modern property rights have been moulded by the divide between the private (property) and the public (public goods, commons), resulting in a number of dichotomies: individual vs. community, private law vs. public law, rights vs. responsibilities, North vs. South, rich vs. poor.

All these spheres must be reconciled and rearranged, but this will only be possible with a deeply felt sense of responsibility for the common good. This sense has almost completely been destroyed by individualism and greed. However, it now faces an unprecedented challenge: the COVID-19 pandemic has accelerated social disparities, economic inequalities and environmental risks to a level where a "new deal" of unprecedented scale is the only hope. Risks to our health are as much of a threat to the global commons, as risks to our environment. Perhaps now we all—including the rich and privileged!—can see more clearly the importance of fundamental values to guide human behaviour. In light of the current pandemic, the call for a "new covenant for Earth" [7] is more topical than ever.

Law itself cannot create a new covenant, but it can promote and build on it as, for example, the Earth Charter [8] did. The Earth Charter was the result of a unique collective attempt of people from all nations, cultures and religions to "mutually coerce" ourselves into fundamental responsibilities for the community of life. Principle 2 ("Care for the Community of Life") reads:

"a. Accept that with the right to own, manage, and use natural resources comes the duty to prevent environmental harm and to protect the rights of people.
b. Affirm that with increased freedom, knowledge, and power comes increased responsibility to promote the common good. [9]"

In domestic and international law, ensuring the prevention of environmental harm and promoting the common good is foremost the task of environmental law.

2. The Hidden Logic of Environmental Law

"Mutual coercion mutually agreed upon" is a standard task of any form of democratic governance and is not confined to environmental governance. From the perspective of legal positivism, the government of the day is mandated to formulate its preferences and the majority in Parliament is to act accordingly. With respect to property, government can usually achieve at least some mutual agreement, thus mutual coercion seldom needed. Examples include property protection under criminal law, tax law, or investment regulation. Protecting the environment is more complex. Broadly speaking, policies and laws aiming for environmental protection can rely on mutual agreement. However, environmental law fundamentally differs from the rest of the law because of the peculiar space and time dimensions associated with the natural commons.

First, the space dimension. For the most part, the commons transcend legal boundaries (whether national or international, private or public) and individuals hardly realize their own contributions to the tragedy of the commons. Even if they are aware of their ecological footprint, only some will take action to reduce it. Most people simply cannot or will not understand the connection between their small individual footprint and the gigantic cumulative footprint of all.

Even more important is the time dimension. Unlike any other legal field, environmental law aims to address long time spans. Activities in the here and now must be controlled to achieve something in the distant future. (Compare that to property rights where any infringements are dealt with almost instantly and on the spot). Responsibilities for activities that do not show impact in the here and now are difficult to justify, let alone enforcement [10].

The challenge then is to reconcile two extreme positions. On the one hand, people living today have legal entitlements, but in executing them, we may collectively threaten the commons. On the other hand, protecting the commons demands responsibilities from us now to sustain resources in the future. Trying to reconcile these two extreme positions puts us into a genuine dilemma. Meeting short-term needs at the expense of long-term needs is no viable option but giving priority to long-term needs at the expense of short-term needs may not be viable either. The only logical way out of such a dilemma is to integrate both time horizons into one. We must coerce ourselves into a situation where individual property rights no longer exclude collective responsibilities. In other words, we need to establish *inherent* responsibilities to any entitlement and use of ownership.

Developing a property regime with *inherent* environmental responsibilities is, in fact, the purpose of environmental law. This may sound overly ambitious to the legal profession, but for most environmental law students and scholars, changing the dominant logic of individual rights versus collective responsibilities is a key motivation. The discipline of environmental law emerged from the need to stop an exploitative human-nature relationship.

In legal education and practice, however, the prevailing view of environmental law is that it is a distinctive branch of law with specific rules, mechanisms, and controls for the legal protection of the environment. Environmental lawyers are specialists with an

important, yet rather peripheral role. The general expectation is that environmental standards fit the mould of individual rights and interests that have shaped the Western legal system.

Modern legal systems are complex systems of rights and obligations, including the idea of collective responsibilities. If there is anything that unifies legal systems around the world today, it is the ever-growing influence of public law [11]. The traditional gap between common law and civil law systems is disappearing, giving way to comprehensive codification of individual rights and collective responsibilities. Individual entitlements to commodities like property, public welfare, health, or education are carefully matched by individual duties to pay taxes and respect the entitlements of others. Today's sophisticated system of rights and duties is a system of *interpersonal* rights and duties: one person's entitlement is limited by the entitlement of another person and any duties are justified by the need to ensure everyone's entitlement. Where does the environment feature in this? Without rights or responsibilities, the environment is nothing, legally speaking, but an afterthought in the legal process.

The social construct underpinning modern law is one of mutual coercion to meet social demands, not environmental demands. As a consequence, responsibilities expressed in environmental law appear as externally imposed restrictions on owners of property. Perceived in this way, property rights appeared neutral and removed from ecological realities.

For environmental lawyers, the moral and political underpinnings of property rights are more apparent. Environmental law can, therefore, be viewed as a series of arguments concerning responsibility and justice, as a product of sustained reflection on the relationship between property rights and the environment. From this perspective, it is unacceptable to think of rights and responsibilities as conflicting with each other. They may clash in practice, but not in their conception because the natural environment is not a commodity (interchangeable with other commodities), but a physical reality that all life including humans are part of. The only relevant question, therefore, is whether the law can reconcile the environment's instrumental value ('natural resources') with the environment's intrinsic value as a system of all living and non-living things ('Earth'). This is a question of ecological awareness, but equally of moral and legal judgement.

Meaning and status of the environment with respect to property rights are not much talked about in the legal profession, I suspect largely because they are taken for granted. From a perspective of legal positivism, the relationship between humans and nature is no doubt of moral importance, but of no immediate legal relevance. A response I have often heard in my 40 years as an environmental scholar is: "It should not matter why we protect the environment, whether selfishly or altruistically, as long as we do it." A similar version is: "Whether nature is of instrumental or intrinsic value is for philosophers to reason, but not for lawyers concerned with rules, procedures and outcomes." Conversely, from the perspective of natural law, not only environmental values, but also property rights are of interest because they are imbued with morality, religion, and deeply held beliefs [12]. Like all legal constructs, they are embedded in cultural and political traditions leading to specific characteristics of legal thinking.

It is worth looking at these traditions more closely in the context of this article. As will be shown, environmental law has always had an interest in property rights and trys to address the dark side of modern property rights—their ecological blindness [13]. I will first summarize some of the history of the Western concept of property and then sketch the history of its counterpart, i.e., sustainability.

3. Historical Context of Property

The environmental dimension of property can be traced to the Roman concepts of *ius* and *dominium* as the essence of political culture. If someone had a *ius* (right) in something, it did not mean they had *dominium* (total control) over it. The two concepts were separate. A person's *dominium* over their property could include land, slaves, or money, but it was not constituted by *iura* (rights), that is, by legal title or other transaction between individuals. *Dominium* originated in social status, either gained or inherited, and for this reason included the element of protection and care. The concept of *dominium* was central to natural law theorists until the 17th century. Grotius (1583–1645) and Hobbes (1588–1679) conceived property as rooted in natural rights. Although they differed over the characteristics of natural rights, they both saw property as intimately connected with conceptions of social order, which itself reflected natural order, that is, humankind's place in the order of Creation. This "covenant" (Ron Engel) [14] or "grant" as Hugo Grotius called it, underlies the idea of property. Grotius wrote:

God gave to mankind in general, dominium over all the creatures of the earth, from the first creation of the world; a grant which was renewed upon restoration of the world after deluge [15].

At this point, we do not yet have private property in a rigid sense: *ius* and *dominium* over the land are still separate categories. In Grotius' writings, rights retain their objective moral connotations: "A right is nothing more than what is just, [16]" means that all rights are reflective of a just natural order in which humans have *dominium* (protection and care) over natural resources.

The Age of Enlightenment dismantled such covenants and replaced them with social contracts. This change was subtle, of course, and not as radical as it may appear today. For example, Samuel Pufendorf (1632–1694) was involved in constant quarrels with clerics and frequently had to defend himself against accusations of heresy. Yet, all he did was to detach natural law from Christian theology and derived it from the current state of human development. Pufendorf rejected both Grotius and Hobbes. However, like Grotius, he assumed the existence of "a large number of precepts" (as he called them) in the primaeval state. Crucially, he asked:

"[W]hether, if the human race had continued without sin, we would practice the kind of commerce that we now practice, and whether there would have been any use for money. [17]*"*

This quote sums up Pufendorf's mission. In the tradition of Renaissance humanism, he attempted to reconcile the ancient stewardship idea of *dominium* with modern secular society. His solution was to define society as based on reason *and* natural law. He was optimistic that reason and judgment allowed "man":

"[T]he ability to envisage future actions, to set himself to achieve them, to fashion them to a specific norm and purpose, and to deduce the consequences; and he can tell whether the past actions conform to the rule.[18]*"*

This belief in natural law and the ability of foresight makes Pufendorf an early pioneer of environmental law. The big question left unanswered by Pufendorf, and by modern liberal theory, is: How can law as a distinctive intellectual product of society be reconciled with the idea of deeply embedded interspecies relationships (between human and non-human life forms)? Until today the predominant view of the law has been one of interpersonal relationships ignoring the natural context of human existence [19].

The failure of 17th century writers to spot the negative environmental implications of their theories is excusable. They wrote in a world of empty spaces and at the beginning of the population explosion (which had grown then from 150 million to 500 million over 2000 years but has since exploded to 8 billion in just 250 years). There would have been a widespread perception that advances in society and technology would go hand-in-hand with the preservation and cultivation of the natural world.

Presumably, John Locke (1632–1704) had this optimistic perception himself when he developed his theory of property [20]. One might, therefore, concede blissful innocence in his dissociation from a nexus between entitlements and responsibilities [21]. In line with most theorists since Grotius, Locke assumed all humankind had a God-given right to use the wild creatures and fruits of the earth as required for sustenance. But this common right is not the same as property. Property now appears as an individual entitlement created either through labour or acquisition. Like Pufendorf, Locke regarded humans as bound by duties of care. But these duties are now seen as purely moral, and no longer legal, because they involve all creatures and all posterity. A right, conversely, is an individual entitlement and can only include duties to other right holders, that is, persons.

This logic of individual rights deprived of inherent duties is the hallmark of all classical liberal thinkers. This includes Blackstone [22] and Bentham [23] despite their opposition to each other. It also includes Kant despite his insistence that public morality must guide the law of reason [24]. In short, the Age of Enlightenment leaves sustainable human-nature relationships in relative darkness.

The dark side of the Enlightenment is its alienation from natural law traditions. By justifying property rights in a secular manner (this is the enlightened part), it also detached them from any collective morality (this is the non-enlightened, dark part). Personally, I have always looked at the Enlightenment as "unfinished business" for the need of reconciling the private with the public, the individual with the collective and rationality with genuine humanity.

Conceptually, environmental law is diametrically opposed to legal positivism. Legal positivism must be opposed because regal authority, legislation, and legal procedures, to this point in time, have shown little recognition of the fundamental importance of nature. Instead, legal positivism takes nature as a mere backdrop for legal design and execution. Environmental law is also opposed to Locke's social contract theory [25] and, in fact, to dominant liberal tradition, which externalizes the environment from economic and legal modelling. Environmental law must oppose these perceptions because they are ignorant of the interconnectedness between all species and ecosystems at local, regional and global levels.

The effort of integrating ecological realities into public policy and law can be described as the search for ecological law [26]. At its core is the duty to preserve and restore ecological sustainability.

4. Historical Context of Sustainability

There is a wealth of sustainability wisdom in the history of *all* cultures, many of them much older than European culture. In a way, the knowledge of surviving and flourishing in human-dominated ecological systems belongs to the common heritage of humanity. In our age of global industrialist capitalism with threats to human survival, it is worth recalling the experience of preindustrial, pre-capitalist Europe.

Sustainability concepts were not introduced at the end of the 20th century, but nearly 700 years earlier when Europe suffered a major ecological crisis [27]. By the mid-14th century, agricultural development and timber use had reached a peak that led to almost complete deforestation. In response, and as a measure of economic reform, land-use systems were created that allowed individual use only on the basis of public ownership of the land. This was the 'law of the commons' in England and the '*Allmende*' [28] in Germany. The socio-economic recovery during the Renaissance was partially the result of these land reforms.

The next ecological crisis hit—again through overuse of resources and population development—in the mid-1800s when Europe's forests were virtually gone. Because of woodcutting for fuel, deforestation was so severe that the entire economy of Europe was threatened. This opened up two options for the future, one was to look for new sources of energy, the other option was to ensure sustainability of existing energy sources (timber, wind).

Tragically, the first option was favoured. Beginning in England and later in France and Germany, wood was increasingly replaced by coal. Initially considered as an "interim" energy source, coal fired up the industrial revolution and left wood behind. This was good news for forests, but bad news for the long-term prospects of humanity. The shift from renewable to non-renewable energy sources—first coal, then oil—previewed the shift from a nature-based economy to a privatized, financially driven economy. The commodification of energy sources meant that the natural resource base lost its intrinsic value and could be substituted by cost-benefit calculations. Ever since, we tend to think of money, not nature, as the main (or only?) wealth-creating factor.

But the alternative was—and conceivably still is—available. The other option for overcoming the 19th-century crisis was to follow the reasoning of sustainability. Since the early 18th, century forest management theory had focused on the sustainability of energy as the basis of economic wealth.

Forest management scholars in Germany proclaimed the wisdom of replacing every tree felled by planting a new one, citing the medieval *Allmende* system. If publicly controlled ownership guides private land use, the substance of the land can be protected from overuse and thereby preserved for future generations. In 1714, German economist and administrator Hans Carl von Carlowitz called this effect "*Nachhaltigkeit*" (sustainability) [29].

The first law based on the sustainability principle was the *Weimar Forestry Statute of 1775* requiring *nachhaltiges* forest management [30]. This term and concept shaped the economic theory of forestry and was exported, for example, to the French Forest Academy where, in 1837, Director Adolphe Parade translated it to 'soutenir' (showing its Latin roots: *sustinere*, i.e., to keep, preserve). From there it reached the English translation of *sustainability*. By the mid-1800s the notion of "living from the yield, not from the substance" was widespread among forest academies and science faculties throughout Europe [31].

Heinrich Cotta, the founder of the first European forest academy in Saxony, and many of his contemporary scientists had affiliations with German idealism and holism (Leibniz, Schelling, Goethe, Herder, Hegel, Fichte) [32]. At the beginning of the 19th century, this intellectual scene—known as Romanticism—stood in stark opposition to emerging industrialist capitalism.

That the industrial revolution ignored the sustainability message does not render the idea useless, but it does show that the two concepts were not reconcilable. Only the complete rejection of sustainability traditions allowed industrialism to flourish and expand as it did. Industrialism has been successful in its own way, but at a huge price. Today, we are again facing the same crisis that Europe faced twice, but this time is on a global scale, accelerated by global capitalism, affecting the entire Earth system.

The case for sustainability has never been stronger than today, but it has been made for quite a long time. Throughout European history, the short-term, anthropocentric view of reality was challenged. At least today we should finally accept that humans are *not* separate from nature, entitlements are *not* separate from responsibilities, the private is *not* separate from the public, the local is *not* separate from the global and the present is *not* separate from the future.

The dominant reductionist view of reality has produced a set of distinct semi-realities, even fake realities that compete with each other—a phenomenon that psychologists would diagnose as schizophrenia, a mental disorder resulting in social dysfunction. The Western concept of property over the natural environment displays the symptoms of such a mental and social disorder. Therefore, the call for ecological sustainability should not be seen as an attack on the institution of private property, but rather as a healing exercise to develop healthy property, i.e., property that sustains the prosperity of human and non-human beings. To make this happen, ecological sustainability should be the prime goal of environmental law, then more appropriately referred to as ecological law.

5. Narrowing the Gap between Private Property and Public Commons

Reviewing 50 years of environmental law, a recent report "Harmony with Nature" by the UN Secretary-General stated:

"(T)he weakness of environmental law is directly linked to the fact that it always stopped at the doorstep of private law. Furthermore, environmental law entered the game when all the cards had already been drawn, and the new environmental public law of the 1960s and 1970s added only a few environmental duties to private property rights, without restrictions. Environmental law has therefore continued to be the 'poor relative' of property and commercial law and can only promote insufficient measures on the periphery thereof" [33].

If environmental law has been shaped around, and limited by, private property, then the obvious alternative is to shape private property around *inherent* responsibilities based on sustainability requirements. This is the above-mentioned 'hidden' logic of environmental law.

The last 50 years saw the emergence of environmental law, but equally an explosion of population numbers and economic activities, known as the 'Great Acceleration'—the acceleration of socio-economic processes in collision with the Earth's carrying-capacity. Humans have now transformed the Earth's life systems in ways that pose a real danger to our own survival and the survival of other life.

The dramatic planetary dimensions of environmental impacts caused by humans may be new, but their underlying causes are much older, beginning with the Neolithic Revolution 12,000 years ago, also known as the First Agricultural Revolution. The shift from cultures of hunting and gathering to agriculture and settlement marked a significant change in the human-nature relationship.

Where hunters and gatherers relied on open spaces, agriculture created confined spaces for the domestication of plants and animals. This meant control over defined territories, in legal terms, the invention of property [34].

As a means of peaceful conflict settlement, the invention of property marked an important step of human development. Henceforth, the fruits of labour could be protected by law rendering actions of physical defence unnecessary, even superfluous, and unlawful. So, not the instrument of property is the problem, but how it has been used. Its—legitimate—defence function against "intruders" is one thing; its control function over territory is something different. If this function is exercised as unlimited control over plants, animals, and ecosystems, then their sustainability—apart from natural regenerative potentials—depends on the ecological wisdom of the landowner. The general population is bound to rely on the continued wisdom and foresights of all members, including landowners.

This assumption of mutual trust (*covenant*) has, in fact, worked quite well throughout most of the agricultural age. As shown in the context of European history, sustainable forms of land, forest and energy management were still predominant in Roman and Medieval times (*dominium*). In continuation, early Enlightenment jurists (Grotius, Pufendorf, Locke) insisted on the close nexus between rights and responsibilities associated with property, while Spinoza, Carlowitz, Fichte, Herder, Goethe and other pioneers of modern ecophilosophy defined sustainability as the basis of all economic activities including agriculture, forestry, manufacture and production [35].

The Second Agricultural Revolution from the early 18th to the late 19th century, however, marked a critical turning-point [36]. Starting in England and spreading to Europe and North America, new techniques such as crop rotation, selective livestock breeding, and expansion of markets led to big increases in agricultural production. Increased productivity and therefore the associated decline of the agricultural labour force led to the urban workforce on which industrialisation depended and, in this way, helped to trigger the Industrial Revolution. While land ownership continued, it increasingly shared the characteristics of private property as a means of production. In emerging capitalism, care for the environment became less important than productivity and cost efficiency and private property no longer included an assumption of care for the public commons [37].

The dichotomy between private property and public commons remained throughout the 20th century and caused the tensions under which environmental law developed since the 1960s. Environmental law had to find its place somewhere between individual, anthropocentric rights and collective, ecocentric responsibilities eventually settling for pragmatic, gradual reform. As the past 50 years have shown, this has not made much difference. Environmental law may have saved a few trees, but failed to protect the forest [38], i.e., Earth's ecological system. Whether in domestic or international settings, environmental law achieved nothing to stop global ecological decline and the reasons are not just lack of political will, lack of enforcement or dependence on property.

Ultimately, environmental law is rooted in modern Western law with its tradition in anthropocentrism, dualism, individualism and utilitarianism. Shaped by anthropocentric, fragmented and reductionist characteristics, environmental law struggles to recognize ecological interdependencies. It is also politically weak as it competes with other, more powerful areas of law such as private property and corporate rights. As a consequence, the legal system has become imbalanced and unable to secure the physical and biological conditions, upon which all life, including human life, depends. Recent scholarship in environmental law, however, aims to change this.

The 2016 Oslo Manifesto [39], adopted by over 100 environmental law scholars, acknowledged the shortcomings of environmental law, and called for a new ecological approach:

"To overcome the flaws of environmental law, mere reform is not enough. We do not need more laws, but different laws from which no area of the legal system is exempted. The ecological approach to law is based on ecocentrism, holism, and intra-/intergenerational and interspecies justice. From this perspective, or worldview, the law will recognise ecological interdependencies and no longer favour humans over nature and individual rights over collective responsibilities. Essentially, ecological law internalizes the natural living conditions of human existence and makes them the basis of all law, including constitutions, human rights, property rights, corporate rights and state sovereignty.

The difference between environmental law and ecological law is not merely a matter of degree, but fundamental. The former allows human activities and aspirations to determine whether or not the integrity of ecological systems should be protected. The latter requires human activities and aspirations to be determined by the need to protect the integrity of ecological systems. Ecological integrity becomes a precondition for human aspirations and a fundamental principle of law. In other words, ecological law reverses the principle of human dominance over nature, which the current iteration of environmental law tends to reinforce, to a principle of human responsibility for nature. This reversed logic is arguably the key challenge of the Anthropocene. [40]"

Protecting the integrity of ecological systems is at the core of the ecological approach to law. The integrity of ecological systems is a prerequisite for the sustainability of all forms of life, therefore not based on ethical anthropocentrism and utilitarianism. Ecological integrity defines the commitment to sustainability in clear ecocentric terms and has, in fact, frequently been referred to in international environmental agreements.

The first agreement to include the notion was the *Convention on the Conservation of Antarctic Marine Living Resources* [40], adopted in 1980, which recognised in its preamble, "the importance of safeguarding the environment and protecting the integrity

of the ecosystem of the seas surrounding Antarctica". Since then, more than 25 international environmental agreements have been adopted with some reference to the integrity of ecosystems in their preamble or in the operative part.

Significantly, most of the key international environmental soft law instruments, including the *World Charter for Nature* [42], the *Rio Declaration* [43], *Agenda 21* [44], the Draft *International Covenant on Environment and Development* [45], the *Earth Charter* [46], the Rio+10 outcome document *Plan of Implementation of the World Summit on Sustainable Development* [47], the Rio+20 outcome document *The Future We Want* [48], the *Paris Agreement on Climate Change* [49] and the draft *Global Pact for the Environment* [50], all contain the concept of ecological integrity in their descriptions of objectives and purposes.

Through such repeated referencing, the concern for the integrity of Earth's ecological system has emerged as a common denominator to define the core of sustainability. The protection of global ecological integrity or ecological sustainability can, therefore, be seen as an overall objective of international environmental law [51].

The functionality of the concept of ecological integrity comes from both its ethical and scientific heritages, and its strength as an emerging legal concept. Ecological integrity originated as an ethical concept in the wake of Aldo Leopold's land ethic proclaiming that: "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise. [52]"

In this vein, sustainability should be perceived as a *Grundnorm* and integrated into our laws in all areas and at all levels [53]. The rule of law, for example, is the most basic tool to ensure the control and responsibility of governments. It demands that a government's decisions are bound by law and that all citizens are equally subject to the law. However, not any law can be taken as a legitimate manifestation of "the rule of law". A purely "formal" or "thin" recognition of the rule of law [54], not reflecting basic human values, could tolerate any law, no matter how outrageous, as being in accordance with the rule of law. A "material" or "thick" rule of law would have to be resonant with commonly agreed, basic human values. Likewise, a rule of law not reflective of the physical and ecological context of human existence is arguably flawed and outdated [55].

This advanced understanding of the rule of law has been described by UNEP as an "important concept at the heart of the UN" [56]. This is encouraging and worth to be explored further. Potentially, the entire legal system should—and can—be transformed, then more appropriately to be termed as "ecological law" [57].

The to-do-list includes a wide spectrum of legal concepts, for example, justice ("ecological justice", "global justice") [58]; human rights ("ecological human rights", "rights of nature") [59]; private property ("enclosure of the commons") [60]; state sovereignty ("territorial sovereignty vs. Earth trusteeship")[61]; liability ("ecocide") [62]; multilevel governance ("governance for sustainability") [63]; democracy ("ecological citizenship"; "earth democracy") [64]; institutions of governance ("World Environment Organisation" and "UN Earth Trusteeship Council") [65]; and constitutionalism ("eco-constitutionalism", "eco-constitutional state") [66]. The list is not exhaustive.

Reframing the concept of private property is foremost a constitutional matter. National constitutions normally include the right to life, well-being and property as forms of expressions of human dignity and individual freedom. The environmental dimension of human rights, therefore, needs to be addressed correspondingly. The first expression of these connections can be found in Principle 1 of the 1972 Stockholm Declaration:

"Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations." [67]

Since then, some 150 constitutions have included specific references to environmental rights and responsibilities [68]. Of these, 92 constitutions contain an individual right to a healthy environment and 140 include a government duty to protect the environment [69]. These mechanisms have helped to further define contents and limitations of human rights, including the right to property, although in an indirect and often diffuse manner.

The ecological approach to human rights [70] is more ambitious. True to its *Grundnorm* character, the protection of ecological integrity must be incorporated into human rights. It is a prerequisite for the enjoyment of freedom, equality and well-being. In this vein, the entire catalogue of human rights ought to be revisited, refined and interpreted as can been demonstrated, for example, with respect to the German constitution [71].

There have been several attempts to implement the ecological approach to human rights in the *Grundgesetz* (Basic Law). The first attempt was made in the late 1980s when the *Bundesrat* (Federal Council = Upper House) adopted a proposal for investigating an ecocentric approach to the *Grundgesetz.* This investigation was made by the *Gemeinsame Verfassungskommission* (Joint Constitutional Commission) of the *Bundestag* (Federal Parliament) and *Bundesrat*. In its final report it concluded that the question of a non-anthropocentric approach was so fundamental that it requires further discussion by experts and in society [72]. Following on from this report and in the light of the German unification, a broad alliance of academics and civil society organisations adopted an entire draft constitution with ecological responsibilities as a "green threat throughout the entire constitution" [73]. The draft constitution rejected a human right to a healthy environment as it would reflect a "problematic anthropocentric viewpoint with respect to nature" [74]. Instead, human rights were defined in ecocentric terms. The right to property under Art. 14 included the duty to preserve the natural conditions of life (not just human life) as a barrier to property use [75].

Eventually, the *Grundgesetz* was amended in 1994 to include a state obligation to protect the environment. To a degree, the wording of the newly introduced Art. 20a reflects a compromise between anthropocentric, intergenerational and ecocentric approaches: "The State, also in its responsibility for future generations, protects the natural conditions of life (…)" [76]. Art. 20a allows for wide discretion, but as a recent decision of the Federal Constitutional Court shows, climate obligations need to be clear and enforceable to protect the fundamental rights of—especially younger—people and future generations [77].

This landmark decision has important implications for Germany's climate obligations, but also for the significance of property rights: "(T)he fundamental right to property under Art.14(1) also imposes a duty of protection on the state with regard to property risks caused by climate change. [78]" While this is not a recognition of ecological limitations to property rights, it demonstrates that climate change causes threats to property. Likewise, so we can conclude, unfettered use of property rights is a threat to the climate! Ecologically blind property rights generate and accelerate the deterioration of the atmosphere and Earth's ecological systems.

The Federal Constitutional Court made it clear that effective climate protection does not impose limitations to individual freedom and property, but—to the contrary—is the pre-requisite of their enjoyment, especially for young people and future generations. We can conclude therefore that ecological realities and responsibilities must determine scope and content of property rights, not the other way round.

The challenge ahead is to incorporate this logic into the concept of property [79]. In 2022, the German Rights of Nature Network launched its "Initiative for Constitutional Reform". At its core is the proposal for redefining human rights based on the recognition of legal personhood of nature [80]. Article 2 of the *Grundgesetz* guarantees every person the right to free development of their personality insofar as they do not violate the rights of others, *including those of the natural con-vironment* ("natürliche Mitwelt"). Likewise, Article 14 guarantees property within the limits of the law. Article 14(2) would be amended to read: "Property entails obligations. Its use shall also serve the public good and the natural con-vironment ('natürliche Mitwelt')". And Article 20a would include a specific state obligation to protect "the rights of nature" defined in this way: "Every living being has its natural dignity and the right to live according to its nature within the framework of natural cycles, food chains and biotopes." If followed through, the most fundamental constitutional basis are not human rights *per se*, but the protection of the integrity of ecological systems that make the enjoyment of human rights possible in the first place and sustainable for future generations.

6. Conclusions

Designing laws around the principle of sustainability, as described here, would ensure the kind of guidance that decision-makers so desperately need. Sustainability aims to preserve the—measurable!—integrity of ecosystems while at the same time acknowledging that humans are part of these ecosystems. In pursuing ecological integrity, sustainability reflects the most basic concern of human existence, namely the desire to live, survive and reproduce, but also the prospect for "a new reverence for life, the firm resolve to achieve sustainability, the quickening of the struggle for justice and peace, and the joyful celebration of life. [81]"

It would most certainly provide the common ground for a fruitful co-existence of private property and care for the public commons.

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19. This blindness to ecological realities is exemplified in John Rawls's theory of justice: "The theory of justice as fairness fails to embrace all moral relationships, since it would seem to include only our relations with other persons and to leave out of account how we are to conduct ourselves toward animals and the rest of nature. I do not contend that the contract notion offers a way to approach these questions which are certainly of the first importance; and I shall have to put them aside. We must recognise the limited scope of justice as fairness and of the general type of view that it exemplifies." John Rawls, *A Theory of Justice* (Belknap Press, 1971), 17. By contrast, a theory of ecological justice aims for incorporating the human-nature nexus; K. Bosselmann, *The Principle of Sustainability: Transforming Law and Governance*, 2nd ed. (Routledge, 2017), 102–128.
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