

Climate as a Concern or a Heritage?

Addressing the legal structural roots of climate emergency

Clima como uma “Preocupação” ou um Património Comum?

Os fundamentos jurídicos da emergência climática

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ABSTRACT: When, in the 1980s, climate change entered into the UN agenda, the first question raised was: "What is the climate from a legal point of view?" After the Maltese proposal of 1988 to recognize "Climate as Common Heritage of Humankind", the adopted UN resolution considered climate as "common concern of humanity". The concern approach has transformed the positive approach of the Maltese initiative on "the heritage" into a negative approach of a damage containment and sharing system with an undefined obligation to cooperate. This fact makes it technically impossible to build an economy capable of producing positive impacts to recover a well-functioning of the Earth System, and consequently a stable climate. The fact is it fails to build an economic and governance system around the maintenance in a favorable condition of a common good that although intangible exists in natural world and is the very support of life. This paper briefly explores the legal origin of the climate negotiating deadlock resulting from the common concern approach, and the economic and social consequences of the legal non-existence of climate, i.e. a well-functioning Earth System, and points out to the concept of heritage as a way to overcome the obstacles that have prevented collective action.

KEY WORDS: Climate Common Concern; Climate Common Heritage; Earth System law; Intangible Natural Heritage; Law in the Anthropocene.

RESUMO: Quando, nos anos 1980, as alterações climáticas entraram na agenda da ONU, a primeira questão colocada foi: "O que é o clima do ponto de vista jurídico?". Em 1988, logo após a proposta de Malta de reconhecimento do clima como Património Comum da Humanidade, a resolução adotada pela AGNU considerou o clima como "Preocupação Comum da Humanidade". A opção "preocupação" transformou a abordagem positiva da iniciativa Maltesa baseada no "Património", numa abordagem negativa baseada num sistema de contenção e partilha de danos e de uma obrigação indefinida de cooperação. Esse facto tornou tecnicamente impossível a construção de uma economia capaz de produzir impactos positivos necessários para recuperar o bom funcionamento do sistema terrestre e consequentemente, um clima estável. Para todos os efeitos, esta opção impediu a construção de um sistema económico e de governança em torno da manutenção em estado favorável de um bem comum que, embora intangível, existe no mundo natural e é o próprio suporte da vida. Este artigo explora brevemente as causas jurídicas do impasse das negociações climáticas que resulta desta abordagem, e as consequências económicas e sociais da inexistência legal de clima, e aponta o conceito de património comum como forma de superar os obstáculos que impedem uma ação coletiva.

PALAVRAS-CHAVE: Clima como preocupação comum; clima como património; Património natural intangível; Direito do Sistema terrestre; Direito no Antropoceno.

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1. Introduction

1.1. The “concern” as the first attempt for an Earth System approach

What is the climate from a legal point of view? One critical moment of this discussion took place on 12 September 1988, when the Ambassador of Malta, in accordance with rule 15 of the rules of procedure of the United Nations General Assembly (UNGA), requested the inclusion of an additional item entitled “Declaration proclaiming climate as part of the Common Heritage of Mankind”, in the Agenda of the forty-third session of the General Assembly. The proposal was justified in its Explanatory Memorandum, based on the following main arguments:¹

- “It must be accepted that climate is a natural resource which can be significantly altered regionally and globally as result of human activities. The undisputed observational evidence already available demonstrates the need for a comprehensive global strategy for the conservation of climate in the interest of mankind”;
- “The implications of climate change raise serious questions particularly those related to the survival of mankind”;
- “The Government of Malta proposes that the General Assembly declare climate to be the common heritage of mankind”.

At its 3rd plenary meeting, on 23 September 1988, the General Assembly, on the recommendation of the General Committee, decided to include on its agenda the item entitled “Conservation of climate as part of the common heritage of mankind”, and to allocate it to the Second Committee, on the understanding that the item would first be introduced at plenary meeting before its consideration by the Second Committee.²

On the revised draft resolution by Second Committee, the proposal of climate to be recognised as “common heritage” was maintained on the headline. However, in the body of the text it was stated that “*climate change is a common concern of mankind*, since climate is an essential condition which sustains life on earth”.³ This is the key moment that defines the way climate has been addressed in the international negotiation process. This option was finally inserted into the text of operative Paragraph 1 of the Resolution 43/53, of the 70th plenary meeting of 6 December 1988.

In August 1990 at the fourth session of the Intergovernmental Panel on Climate Change (IPCC), the IPCC First Assessment Report Overview was adopted. It proposed an urgent international action for the elaboration of an international convention on global climate, which would serve as a “firm basis for effective co-operation to act on greenhouse gas emissions and adapt to any adverse effects of climate change”. The report stressed that “the

¹ A/43/241, 12 September 1988, United Nations General Assembly.

² A/43/905 30 November 1988, United Nations General Assembly.

³ A/C.2/43/L.17/Ver.1, 18 November 1988, United Nations General Assembly.

Convention should recognize climate change as common concern of mankind” (...). Two years later, in Rio de Janeiro, the United Nations Framework Convention on Climate Change was approved, and in the first item of the preamble explicitly states: “Acknowledging that change in the Earth’s climate and its adverse effects are a common concern of humankind.”⁴

This option of addressing climate as a “concern” remains the formal framework in which we still move nowadays, and definitely paved the way for how societies are tackling climate change. Whether we want it or not, its substantive content and characteristics are inevitably linked to the (lack of) results achieved. Thirty years later, and after 25 Conferences of the Parties (COP) UNFCCC, it is of utmost importance to reopen a discussion that has been abandoned. Although this question seems to be a purely conceptual matter, it has significant practical effects once it is structural to all subsequent discussions, as we will see. We cannot disregard that “law has a critically central normative regulatory role in determining, directing and optimizing organized human responses to an ever-changing Earth system.”⁵

During the meetings and discussions that took place at that time, in 1991, the former Director of United Nations Environmental Programme (UNEP), Mostafa Tolba,⁶ stated: *“It is very important that the concept of Common Concern of Mankind is further elaborated to make its contents and scope understandable and clear; it is also important to make sure how this concept can be interpreted in the terms of rights and obligations of States in the process of its implementation. It is understandable that, since it is a new concept in international law and international relations, it will develop further in the near future and its interpretation given today, will evolve. However, before the negotiations on climate convention start it is needed to identify the main elements of this concept.”* Based on a note of the Secretariat of the Group of Legal Experts meeting 1991, a summary of the main elements and differences regarding the concept of Common Concern and Common Heritage of Humankind, is hereby presented:⁷

— The concept of “common concern of mankind” is deeply rooted in such concepts as common interest, global commons, common heritage of mankind and closely linked to the concept of inter-generational rights. Indeed, the significant controversies and conflicting interpretations which have appeared during the application of the “common heritage” approach in different areas like the law of the sea and space law inspired governments to choose another derivative, i.e. common concern, to serve *concerted actions in equitable sharing of burdens in environmental protection*, rather than of benefits from exploitation of the environmental wealth’s.

— The underlying reason for the option concern, was based on the fact that Common Concern liberates States from controversial treatment of common heritage objects. The existence of a Heritage implies the existence of a legal object that constitutes the Heritage itself.

⁴http://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf

⁵ LOUIS KOTZÉ, RAKHYUN KIM, “Earth System law: The juridical dimensions of earth system governance”, *Earth System Governance*, Volume 1, January 2019, pp. 1-12.

⁶ MUSTAFA TOLBA, The Implications of the “Common Concern of Mankind Concept in Global Environmental Issues”, IIDH, 1991, 13, pp. 237-246. Retrieved from:

<http://www.juridicas.unam.mx/publica/librev/rev/iidh/cont/13/doc/doc 27.pdf>.

⁷ (Emphasis added).

— Common concern does not require the existent of an object, but rather it exists on the subjective side of a collective human feeling, and one voluntary obligation to act. The “concern” element presupposes nothing more than that the States are objectively pushed towards joint and concerted actions.

— It has acquired at least two important facets with long-term implications: spatial and temporal. The spatial aspect means a holistic paradigm - common concern implies co-operation of all states on matters of similar importance to all nations, to the whole international community. Temporal aspect arises from long-term implications not only of present but also of future generations. Indeed, a complex interaction of natural environmental factors preconditions an extended time-lag between the cause and the effect of many human activities.

After the revolutionary and radical developments that international law has experienced, in the last 50 years, particularly the introduction of the concept of Common Heritage of Humankind — proposed by Arvid Pardo in 1967 —,⁸ the Common Concern concept represented the possibility of liberating international relations from the bonds of the territory and the dispute of tangible resources. When compared with how the common heritage concept was applied just after its period of conception, the common concern was not grounded and attached to the territory of the States nor to its space or specific areas but rather exists both within and outside sovereign territory. With the invention of this derivative concept, the axis of the new legal instrument was transferred from the territory to “a relevant concern of the world community as a whole.”⁹ This was a significant attempt to produce one conceptual advance to create for the first time one instrument with the required structural features to embrace global issues beyond self-interests of States. For Dinah Shelton¹⁰ “*the phrase common concern of humanity is rich in implications. As an international law term, it is notable, first for what it does not include, which is a reference to states. It is rather humanity as a whole, the multitude of individuals whose concerns are at issue*”.

After the initial effort to describe the concept of *common concern*, several conceptual challenges were identified, and “many unanswered questions began to arise.”¹¹ “*In other words, since its appearance, the common concern is valuable for the novelty it was, and for*

⁸ ARVID PARDO, “Address by Arvid Pardo to the 22th Session of the General Assembly of the United Nations”, *Official Records of the General Assembly, Twenty-Second Session, 1967, Agenda Item 92, Document A/6695*.

⁹ MUSTAFA TOLBA, “The Implications of the “Common Concern of Mankind Concept in Global Environmental Issues”, *IIDH*, 1991, 13, p.241. Retrieved from: http://www.juridicas.unam.mx/publica/librev/rev/iidh/cont/13/doc/doc_27.pdf.

¹⁰ DINA SHELTON, “Common Concern of Humanity”, *Environmental Policy and Law*, 39/2, 2009, p. 1.

¹¹ MUSTAFA TOLBA, “The Implications of the “Common Concern of Mankind Concept in Global Environmental Issues”, cit.

*what it might still be and represent. It was born as a quasi-concept, as a future project, a proclamation of the need to find an idea for an unsolved problem.*¹²

In 2015, the International Law Commission (“ILC”) removed from its Draft Guidelines on the Protection of the Atmosphere (“Draft Guidelines”) the concept that the degradation of atmospheric conditions is a “common concern of humankind”.¹³ Former Draft Guideline 3 stated, “the atmosphere is a natural resource essential for sustaining life on Earth, human health and welfare, and aquatic and terrestrial ecosystems, and hence the degradation of the atmosphere is a common concern of humankind.”¹⁴ Following debate on the topic at the 2015 session, the ILC deleted Draft Guideline 3 and the concept of common concern from the project, along with the recognition in the preamble to the Draft Guidelines that “the protection of the atmosphere from atmospheric pollution and atmospheric degradation is a pressing concern of the international community as a whole.”¹⁵

As reported to the UN General Assembly in 2015, the reason for the removal was that “the legal consequences of the concept of common concern of humankind remain unclear at the present stage of development of international law relating to the atmosphere.”¹⁶

Delegates to the Sixth Committee of the General Assembly expressed similar views, with some delegations objecting the use of common concern of humankind in the Draft Guidelines because “the concept was vague and controversial, and... its content was not only difficult to define but also subject to various interpretations.”¹⁷

But if in one hand, the concept of common concern of mankind allows us to liberate ourselves from the controversial treatment of common heritage tangible objects, on the other hand it will trap us in the deadlock of indeterminate concepts. Thus, taking into account 1. the existence *de facto* of “climate” in the real natural world, 2. “the view of the importance of the rights involved”,¹⁸ 3. the enormous evolution that has occurred in the Earth System sciences, since the time when this option was taken, and 4. the (lack of) results achieved, it is an obligation to question the option taken, and its consequences on the strategy that human societies are using to tackle climate emergency.

But, taking into account the context of that time, the option of addressing climate as a “concern” was justified for several reasons:

¹² PAULO MAGALHÃES, “A New Object of Law: Attempt for a Legal Construction” Magalhães P., Steffen, W., Bosselmann, K., Aragão, A., Soromenho-Marques, V. (Eds.), *The Safe Operating Space Treaty: A New Approach to Managing Our Use of the Earth System*. Cambridge Scholars Publishing, Newcastle upon Tyne 2016, p. 160.

¹³ *Int’l Law Comm’n*, “Rep. on the Work of Its Sixty-Seventh Session, U.N. Doc. A/70/10”, at 26–27 (2015).

¹⁴ MURASE SHINYA, (Special Rapporteur), *2d Rep. on the Protection of the Atmosphere*, U.N. Doc. A/CN.4/ 681, at 49, 2015.

¹⁵ *Int’l Law Comm’n*, “Protection of the Atmosphere: Texts and Titles of Draft Conclusions 1, 2 and 5, and Preambular Paragraphs Provisionally Adopted by the Drafting Committee on 13, 18, 19 and 20 May 2015”, U.N. Doc. A/CN.4/L.851, at 1.

¹⁶ *Int’l Law Comm’n*, “Rep. on the Work of Its Sixty-Seventh Session”, *supra* note 1, at 26–27.

¹⁷ *Id.* at 13.

¹⁸ ALEXANDRE KISS, “Case Concerning the Barcelona Traction, Light and Power Company, Limited (Belgium v. Spain)”, Second Phase, 1970, ICJ Resp. 3, para. 33.

- 1) the fact that the concept of Common Heritage was considered as exclusively founded in the territorial dimension of the planet and dealt with its tangible resources, with all the subsequent, controversies and conflicting interpretations;
- 2) the state of scientific knowledge about the global functioning of the Earth System was in its infancy;
- 3) the difficulty in defining a stable climate (and in recognizing and defining the Earth System), and consequently in defining the legal object that should be recognized as a Common Heritage of Humankind.

These were insurmountable obstacles, and therefore, "common concern" was the only possible solution at that time. And even if no evolution took place after, one remarkable achievement in the complex and slow evolution of international law must be recognized: it created the basis and awareness of the need of building a holistic legal framework, "expressing in clear terms the philosophy of global interdependence, which underlies the common concern concept."¹⁹

However, we cannot forget that the intention to tackle a problem is not the solution itself. Concern is a "problem word, and not a solution word,"²⁰ but it can nevertheless create the illusion that the matter is being addressed.

1.2 Climate as the challenge to organize global relationships

A stable climate is a visible manifestation of a well-functioning Earth System.

From an Earth System science point of view, it is important to highlight that we are not facing a "concerned community"²¹ with a specific issue with no borders (war, migrants, pandemics...). We are rather confronted with the relationship of the human community to a planetary natural asset that, although intangible, is the very support of life (and, indeed, life is an active and essential component of the Earth System). "Addressing these questions requires a deep integration of knowledge from biogeophysical Earth System science with that from social science and humanities on the development and functioning of human societies."²² What is crucial to include, is an explicit recognition of the relationship between humanity and the global functioning of the Earth System, incorporating all of the underlying internal relationships resulting from the common use of the same system. "It is from the

¹⁹ MUSTAFA TOLBA, "The Implications of the "Common Concern of Mankind Concept in Global Environmental Issues", cit.

²⁰ EDGAR MORIN, *Introduction à la Pensée Complexe*, 1990, Paris, ESF Éditeur, p. 8.

²¹ DINA SHELTON, "Common Concern of Humanity", *Environmental Policy and Law*, 39/2, 2009, p. 3.

²² JONATHAN F. DONGES ET AL., "Closing the loop: Reconnecting human dynamics to Earth System science" 2017, *Anthropocene* 4, pp. 151-157.

relationships established when carrying out the use of the resource that arise concepts as the right to common property or private property.”²³

Beyond from a concerned community, a system that organizes the relationships in this community, that results from the shared use of that common and indivisible system, is the essential requirement for an effective model of governance.

According to Hang, the most relevant is the relationship between individuals: “*Property rights are a relationship between individuals in relation to a resource, not a relationship between an individual and the resource.*”²⁴ Once the use of this limited resource is not exclusive to any “user” and no user can exclude any other from accessing it, in global terms we are facing a situation of some kind of “common belonging”²⁵ extended to the scale of all humankind (*Res communis omnium*). “In my view, it (climate) can be considered as a fine tuned version of the *res communis status* of global natural resources, in the light of the contemporary developments. Such a status determines what kind of conservation measures are required to ensure conservation in the case of climate change.”²⁶ From the moment we discovered that a stable climate that had been considered inexhaustible is, after all, limited and exhaustible,²⁷ a stable climate system became a common good, requiring a reconfiguration of the internal relationships among all users of that resource. “Property rights represent a set of ordered relationships among people which define their opportunities, their exposure to the acts of others, their privileges and their responsibilities for resource utilization”.²⁸ As a result, when the resource in question is a well-functioning Earth System, all users share the consequences of the acts of others.

Constructing a system that organizes each actor’s privileges and responsibilities regarding the use of a common good that belongs to everyone, born and unborn, is the remit of climate emergency. Hardin²⁹ and others “*misrepresent the concept of the commons as an open-access regime, operating in a free-for-all scenario where there are no boundaries to the use, no rules for managing it and no community of users. However, a properly managed commons has boundaries, rules, monitoring of usage, punishments for free riders, and social norms*”. Although Elinor Ostrom considers that the management of local commons requires a different approach to that of the global one³⁰, the question was that she didn’t consider the possibility of defining one global common without borders, as it is possible now³¹. If we

²³ MANUEL ALBERTO FERREIRA, MANUEL FRANCISCO COELHO, JOSÉ ANTÓNIO FILIPE, *O Drama dos Recursos Comuns – À procura de soluções para os ecossistemas em perigo*, Lisboa, Edições Sílabo, 2007.

²⁴ KIM-HANG PHAM DO, *Essays on Game Theory and Natural Resource Management*, PhD thesis, Tilburg University, 2003.

²⁵ For further developments see, *infra*, 3.1. A non-territorial approach to the Common Heritage of humankind.

²⁶ SIMONE BORG, *Key Note Speech at the unveiling ceremony of the Climate Change Initiative Monument*, University of Malta, 21 April 2009, p. 1. Retrieved from: <https://www.um.edu.mt/newsoncampus/features/?a=62770>.

²⁷ JOSÉ MANUEL SOBRINO, “Desarrollo sostenible, calentamiento global y recursos vitales para la humanidad”, *Anuario da Faculdade de Dereito da Univeridade da Coruna, Revista jurídica interdisciplinar internacional*, nº 12, 2008, p. 898.

²⁸ ALLAN SCHMID, “The Environment and Property Rights Issues”. In Bromley, (Ed.), *The Handbook of Environmental Economics*, Blackwell Publishers Inc., 1995.

²⁹ GARRET HARDIN, “The Tragedy of the Commons”, *Science*, 1968, 162(3859), pp. 1243–1248.

³⁰ ELINOR OSTROM ET AL., “Revisiting the Commons: Local Lessons, Global Challenges”, 1999, *Science* 284(5412), pp. 278–282.

³¹ For further developments please see, *infra*, 2.2.

recognize the Earth System as a common good that exists inside and outside all the sovereignties with some necessary adaptations, it seems perfectly possible to use some of the basic design principles of successful commons management on a global scale. The most basic interests and structural conditions that are needed for successful management of commons³² are always similar whatever is the scale.

1.3. The inevitable outcome an undefined concern

The consequences of addressing one vital issue like climate as “a common concern, (*l’*intérêt général**)” as a general concept which does not connote specific rules and obligations, but only establishes a general basis for the community to act”,³³ will progressively impose itself along a path where the limits, gaps, shortcomings of an undefined concept, will inevitably emerge. Then come the problems, the lack of results and the situation beyond which we can no longer avoid the challenge of defining its substantive content and addressing the biogeophysical foundations that form the basis for the emergence of life and the conditions that allowed the development of human civilization.

After 25 years of negotiations, it is clear that the option that avoided the recognition of “an intangible natural resource, which spans across and beyond the national territories of States”,³⁴ was not able to develop the legal instruments required to consider the systemic functioning of the Earth System. This resulted in an insufficient and fractioned addressing of the ecological instability of the human-induced age of the Anthropocene.

The Earth System is not just a ‘concern’; it is a system that exists in the real world, and today its mode of operation is not only definable, but also quantifiable. To approach climate change and the global functioning of the Earth System based on a “concern”, and having as the main strategy *concerted actions and equitable sharing of burdens*, has proved to be clearly insufficient not only to reduce emissions, but also to ensure the future maintenance of the biogeophysical foundations as the basis of life – our intangible common good. A structural reason for this failure was the fact that the ‘concern’ approach did not enable the organization of the two sides of the relations that are required for a successful management of any common good. Because the option *concern* does not recognize the legal existence of the common good itself, the structural conditions that are needed to make possible a successful management of commons are not in place. Any successful management of the commons³⁵ requires not only rules relative to the appropriation of the commons, but also a permanent system of maintenance and restoration to ensure its long-term sustainability.

³² ELINOR OSTROM, *Governing the Commons The Evolution of Institutions for Collective Action. Political Economy of Institutions and Decisions*. Cambridge, Cambridge University Press, 1990.

³³ DINA SHELTON, “Common Concern of Humanity”, *Environmental Policy and Law*, 39/2, 2009, p. 3.

³⁴ SIMON BORG, “Climate Change as a Common Concern of Humankind, Twenty Years Later... From UNGA to UNSC. IUCN Academy of Environmental Law”, *Towards an Integrated Climate Change and Energy Policy in the European Union*, University of Malta, 2007, Retrieved from: <http://www.iucnael.org>.

³⁵ Idem.

This is a key matter for the building of one economy of maintenance and restoration of the system that supports life in our planet. The “concern” approach brought a negative coalition since it only works as a palliative attempt to reduce the burdens. A coalition made not on the basis of the common heritage that we need to maintain, build and improve together, but on what we will lose if we do not cooperate – a damage-sharing system. There is a fundamental difference in this. With the heritage approach, we have the capacity to capture and make visible the positive benefits of restoration and improvement (through ecosystems or human activities) that all countries realize, making visible the improvements that private activities (global public goods produced within any sovereign State) make to the common good. This possibility is a structural factor that allows not only to restore the common good, but also to establish an accounting system of appropriation and provision of the common good - a structural condition for obtaining agreements and collective action. Only by introducing the positive and negative sides of these relations can we build a fair system of duties and rights. The accountancy on both sides – a congruence between the rules of appropriation (negative impacts) and of provision (positive impacts) – is a structural condition for a successful management of commons.³⁶

Among the perspectives and problems identified in the “common concern” concept, are the following weaknesses:

- Despite the calls for the future evolution and a clear definition of the content of this concept in terms of rights and obligations, climate negotiations have bypassed these conceptual/structural discussions since the approval of the United Nations Framework Convention on Climate Change³⁷ (UNFCCC);
- The “concern” element presupposes nothing more than that the States are objectively invited towards joint and concerted actions;
- The outcome is a vague political formula, that could be used to legitimize lack of concrete actions by simply declaring an environmental concern;
- Common concern is not centered on the protection of a certain common good (stable climate) but rather is an appeal to equitable sharing of burdens resulting from a problem/concern – (climate change);
- Common concern has only created a general framework for possible future legal developments to deal with global environmental challenges, but it was not a legal development in itself.
- How can the use of a particular good be regulated in the absence of any form of legal representation or definition of the good itself, within the context of human societies?

³⁶ ELINOR OSTROM ET AL., “Revisiting the Commons: Local Lessons, Global Challenges”, 1999, *Science* 284(5412), pp. 278–282.

³⁷ The UNFCCC entered into force on 21 March 1994. Today, it has near-universal membership. The 197 countries that have ratified the Convention are called Parties to the Convention. The UNFCCC is a “Rio Convention”, one of two opened for signature at the “Rio Earth Summit” in 1992.

Despite its vagueness and lack of clear definition, the “common concern” is still the concept that frames the way that climate change has been approached. In over 25 years of international environmental and climate negotiations, there has been a systematic omission of the most basic requirement that makes any human enterprise possible: *an appropriate legal framework* to manage a global common – Earth System – and not only to share burdens. The question is that climate is still not being recognized as a global common, once its indivisible character is subversive for the foundations of International Law. “Law has played a conspicuously peripheral part in the Earth System governance scientific agenda. To date, earth system governance perspectives have also not significantly infiltrated the juridical domain, despite increasing calls for such convergence.”³⁸

Thus, the status and results of the negotiations must be inevitably linked to this clear theoretical approach whose practical consequences become systemic by creating an intimate connection between legal structures and economic models, as well as between economic models and biogeophysical cycles. These interconnections cannot meaningfully be separated from one another.

1.4. The cascade effects of a “common concern” approach

The concern approach has transformed the positive approach of the Maltese initiative on “the heritage” into a negative approach. From considering climate as a natural resource, i.e., the climate itself is the common good that must be protected, and to which the principles that make possible a successful management could be applied, the focus then became not on the preservation of the common good (climate), but rather on the problem itself (climate change), which is nothing more than a proclamation of a concern and an obligation to cooperate and to adapt to the problem.

This “word problem”, instead of creating a new object for international law – a true common heritage, has significantly weakened the challenge from tackling climate change itself into a tentative mitigation of the damages and has thus prevented the possibility of building a positive economy for maintaining the common good, a stable climate.

There is broad, international scientific agreement that the window of opportunity to avoid breaching the Paris climate target of staying “well below” 2 degrees C (3.6 degrees F), is narrowing rapidly. To have a chance of limiting warming to 1.5°C above preindustrial levels would require very steep greenhouse gas emissions reduction trajectories, starting immediately, as well as a large amount of deliberate carbon dioxide removal from the atmosphere – the so-called negative emissions. However, as much as it is necessary to cut emissions and remove CO₂ from the atmosphere, it is no less necessary that critical biomes

³⁸ LOUIS KOTZÉ, “Reflections on the future of environmental scholarship and methodology in the Anthropocene. In: PEDERSEN, O. (Ed.), *Perspectives on Environmental Law Scholarship*, Cambridge, Cambridge University Press, 2018, pp. 140 and 161.

that play a decisive role in assuring the resilience of the Earth System are restored and preserved. According to a recent study³⁹ a third of the measures required between now and 2030 to keep the world on track to stabilize climate could be achieved cost-effectively by boosting natural ecosystems. That is to say, the activity of repairing, restoring and maintaining the global biophysical conditions that ensure a stable climate must become an activity undertaken by human societies, and as such, the intangible biogeophysical work carried out by ecosystems must become visible in our economies.

This is a problem of defining value: wealth is a dynamic outcome of an evolutionary historical process that has always reflected a world being transformed socially, legally and politically as well as economically. *Value is not a given thing; it is shaped and created.*⁴⁰ This means that new values resulting from the evolution of societies could give rise to new ways of creating wealth, which could produce new desirable behaviours and outcomes.

It is here that the law will have to play its role in defining common principles and values. It is clear that the activity of caring and restoring the Earth System requires a new legal regime that defines different activities. Those should include the activities recognised as beneficial to the conservation of the climate, the mechanisms of measurement and defining value, the entity responsible for the management of this common good. The latter refers to a “system-management” framework that transcends “land-base-management” of the territorial approach of States. But this inevitable process implies the prior definition of the global common good (*Safe Operating Space for Humankind*),⁴¹ its legal status (Common Heritage) and to whom this good belongs (all of humanity). The current legal and economic framework is designed to operate under the paradigm of division and appropriation, unable to cope with the management of common goods. By opting for the concern option, we reinforce this inability, and prevent conceptual evolution from creating, a global legal object, for the first time in the history of international law. This option led to the technical impossibility of recovering a well-functioning state of the Earth System (stable climate is one visible outcome). Since the object (heritage) is not legally recognized, all the positive impacts (those that contribute to maintaining the Earth System within the Safe Operating Space) either created by ecosystems or human activity, do not exist for law, and continue to be invisible for economy.

Because the concern approach only works on the side of the negative impacts (those that push the Earth System away from the Safe Operating Space) it does not enable the development of substantive changes to the socio-economic system, like the recognition of a value-gain to the Common Heritage resulting from the intangible work of ecosystems. This approach can only produce a few incremental improvements that are always absorbed by the exponential need for economic growth, based on what is defined as “wealth creation”.

³⁹ BRONSON GRISCOM ET. AL., “Natural Climate Solutions”, *Proceedings of the National Academy of Sciences (USA)*, October 31, 2017 114 (44) 11645-11650; first published October 16, 2017.

⁴⁰ MARIANA MAZZUCATO, *The Value of Everything. Making and taking from the global economy*, Penguin, 2018, p.18

⁴¹ See further developments in 2.2. Defining our global common.

*"Incremental linear changes to the present socioeconomic system... are not enough to stabilize the Earth System."*⁴²

The challenge that humanity is facing is to create a "Stabilized Earth pathway" that steers the Earth System away from its current trajectory toward the threshold beyond which is Hothouse Earth. The human-created Stabilized Earth pathway leads to a basin of attraction that is not likely to exist in the Earth System's stability landscape without human stewardship to create and maintain it. Creating such a pathway and basin of attraction requires a fundamental change in the role of humans on the planet. This stewardship role requires deliberate and sustained action to become an integral and adaptive part of Earth System dynamics, creating feedbacks that keep the system on a Stabilized Earth pathway.⁴³

This "deliberate and sustained action" requires a properly legal framework that enables the economical visibility of these actions, because no one will invest and produce a global public good like a stable climate, if there is no system of common management where the provision of the common good is adequately compensated. This will create price signals to those who use these benefits and contribute to their depreciation. It will also result in an incentive not only to reduce emissions but also to invest in activities that generate benefits of common interest. It is clearly a dysfunctional approach to rely on reducing emissions without changing the patterns of behaviour whereby economic benefits are only obtained by wiping out ecosystems and destabilising biogeophysical cycles. The creation of the necessary policy underlying an economic system for restoring the well-functioning of the Earth System depends on one very first step: the recognition of the common good. Only after that occurs, it will be possible to start building the system for its management. Thirty years after we have refused the recognition of the existence of climate as a Common Heritage, the consequences of the concern approach are already obvious:

- In the absence of a legal regime that regulates its use, the Earth System has been progressively used as *'no man's land'*, operating in a free-for-all scenario, where there are neither restrictions on its depreciation nor compensation for those who maintain or recover its functional aspects.
- The outcome is the tragedy of this truly intangible global commons – The Earth System – which is the most visible manifestation is climate change.
- A damage-sharing system can only reduce the damages, and the improvements achieved are only incremental. Until now, those achievements have not even been sufficient to cover the increase in emissions.
- To this day the positive impacts (made by ecosystems as well by human action) that contribute to the maintenance of a well-functioning Earth System are economically invisible since they benefit a common good that is global and intangible, and for that reason is not legally recognized.

⁴² WILL STEFFEN ET. AL., *Trajectories of the Earth System in the Anthropocene*, Edited by WILLIAM C. CLARK, Cambridge, MA, Harvard University, and approved July 6, 2018 (received for review June 19, 2018).

⁴³ Idem.

- The outcome is that the provision of “global public goods” like a stable climate, continues to decrease with the destruction of ecosystems, because the work of nature produced by these biomes is still invisible for the economy. Currently the only way to generate wealth from these territories on the GDP of the countries where these biomes are located is through their destruction by turning them in raw materials and tradeable commodities.
- Without the new legal object, it is very difficult to build a congruent system between obligations (less negative impacts) and rights (resulting of the provision public goods - positive impacts). In a concern system the goal is only to impose obligations.
- Without adequate legal support for the maintenance of the common good - thus recognizing the Earth System - it is technically impossible to build an economy capable of recovering a well-functioning Earth System, and consequently a stable climate.
- Because there is no congruence between the rules of appropriation and rules for the provision of the global public good, we do not have the structural conditions to achieve one agreement, where those that are bigger providers than consumers of the global public good (climate) feel their interests safeguarded, as well as those that have a negative balance on the use of the common good climate will not understand the reason to contribute for the maintenance of the common good.
- Because there is no the legal recognition of the common good, as a new legal object, there is no legal basis for building the legitimacy of an institutional solution for the permanent management of the Safe Operating Space for humankind i.e. a stable climate.
- Without a legitimate institutional solution, no independent management of the system of compensation is possible, monitoring the accuracy and credibility of the data and defining priorities for the future.

The outcome of a damage-sharing system is the impossibility of a successful outcome. Each actor will promise to try to reduce the production of damages, but without shifting the underlying structural causes that will inevitably continue to produce damages. One structural condition for building collective action is hope based on the possibility of a successful outcome, with positive outcomes for all participants. Only through a system of accountancy, where all the core drivers that determine the state of the Earth System are included, measuring both positive and negative pressures, will it be possible to address the global scale and deep interdependence of the problem, and to open the door for a possible and more equitable solution, with greater justice between north and south, between developed and developing countries. The *common concern* does not create the necessary legal framework to “make a paradigm shift in international environmental law by broadening its

focus toward a more comprehensive system of Earth System law – “Lex Anthropocena” – recognising biophysical changes of the planet in the socioeconomic realm.”⁴⁴

2. Approaching the Earth System from a legal point of view: the structural basis for a paradigm shift

2.1. Distinguishing the System from the Territory

There is a long story of maladaptation and conflict between the international legal-political regulation and the highly interconnected global Earth System. The first signals of conflict between the logic of division of the territorial land and the systemic functional level of our planet emerged on the very first years of the conception of sovereignty itself.

“Confrontation immediately marked its genesis. When the pulverization of territories and political powers took place, symbolized by the Peace of Westphalia, international law was called to accompany and consolidate this fragmentation, and the sea came to challenge international law as it was a reservoir of unity and universality, of which the triumph of *mare liberum* upon the *mare clausulum* was the biggest expression. This first episode would have to be repeated and revised over five centuries.”⁴⁵ Legal-international regulation has always been inhabited by an intense confrontation between water and land, which was later also extended to air space. Water, due to its global circulation, “contrasted the logic of appropriation and segmentation of land; instead, from water invariably came dynamics of unity and integration, on which rested much of the transformation and even contestation of the ideological pillars of the interstate modern system.”⁴⁶

Although water has always been a huge challenge to the land-based and territorial logic of sovereignty, nevertheless it still allowed the principle of territoriality to be applied to it. Consequently, even though the water cycle is global, it is possible to legally divide in an abstract sense, the space of the reservoir where the water molecules are temporally located. In addition, it is possible to realize a legal abstract division of the area of the oceans, in different maritime zones, without being able to divide the biochemical composition of the waters of the ocean or its global circulation. “Indeed, it may be said that the challenge to international law is not so much rooted in “water defying sovereignty” as it is rooted in “sovereignty defying reality”⁴⁷. This represents one of the main obstacles that international law encounters when dealing with shared water resources. “For a variety of reasons, States have permitted international law to reflect only a limited range of the environmental, spatial

⁴⁴ LOUIS KOTZÉ, DUNCAN FRENCH, “A critique of the Global Pact for the environment: a stillborn initiative or the foundation for Lex Anthropocena?”, *International Environmental Agreements: Politics, Law and Economics*, volume 18 (2018), p. 811.

⁴⁵ JOSÉ MANUEL PUREZA, PAULA DUARTE LOPES, “A Água entre a soberania e interesse comum”, *Revista Nação e Defesa*, Instituto de Defesa Nacional, nº 86, 1998, p. 87.

⁴⁶ *Idem*.

⁴⁷ JUTTA BRUNNÉE, “The Challenge of International law: Water defying Sovereignty or Sovereignty Defying Reality?”, *Revista Nação e Defesa*, Instituto de Defesa Nacional, nº 86, 1998, p. 53.

and temporal interdependences described above. International water law remains driven by jealous guarding of sovereignty over water and defined by a perception of water as a resource to be used and allocated, and as somehow separable from the environment in a larger sense."⁴⁸

The confusion between the biophysical quality of the environment, and the concept of territory is the same that applies to the airspace suprajacent to the territory as recognized under international law. The preparatory document - Possible Elements for inclusion in a Framework Convention on Climate Change (IPCC Overview - Annex 1), mentioned that Climate Change Convention would contain a preamble which might seek to address among others: the "recognition that climate change is a common concern of mankind, affects humanity as whole and should be approached within a global framework, without prejudice to the sovereignty of states over the airspace suprajacent to their territory as recognized under international law."⁴⁹

Although this proposal was not included in the final document, it is very interesting in terms of identifying the obstacles that prevented the evolution of law and the conceptual challenge required by the new paradigm of Earth System Science. "(...) because it unfolds a new way of thinking about the Earth. It represents an integrative meta-science of the whole planet, as an interconnected, complex and evolving system, beyond a mere collection of ecosystems or isolated global process"⁵⁰. Such proposal - common concern should not prejudice the airspace - can only arise from approaching two absolutely different realities within the same framework of analysis. The paradigm of division "made believe that the arbitrary cut of the real was the real itself."⁵¹ These conflicts, which result from the global circulation of the water and the atmosphere, are a clear sign of the dysfunctionality of international law, which considers our planet as a mere territory, and does not recognize the functional dimension of the Earth System.

The perception of this dysfunctionality has reached the global level and the highest degree of maladaptation with the emergence of climate change.

Even if it was possible to divide the area of the airspace through a legal abstraction, a similar operation would be impossible at the level of the biogeochemical composition of the atmosphere, because it circulates around the entire planet. International law still does not make a clear distinction between the biogeochemical composition of the atmosphere and the geographic contours of the airspace. Neither it makes a differentiation between the biogeochemical quality of water and its global circulation, and the space where the molecules of water are temporally located. This distinction is still considered as one "legal

⁴⁸ idem

⁴⁹ MUSTAFA TOLBA, "The Implications of the "Common Concern of Mankind Concept in Global Environmental Issues", cit.

⁵⁰ UICN Academy, *Research Committee workshop*, 2019.

⁵¹ EDGAR MORIN, *Introduction à la Pensée Complexe*. Paris, ESF Éditeur, 1990, pp.17.

impossibility”, once it entails the recognition of the existence of “an intangible natural resource, which spans across and beyond the national territories of States.”⁵²

There exist a main issues when it comes to the sovereignty of the states and the desirable functioning of the Earth System. From a legal point of view, a planet with an inadequate functioning of the Earth System (i.e. facing unpredictable and extreme climate events, a heavily degraded biosphere, etc.) can still continue to be the object of the division of sovereigns powers; however, it cannot support the ecological needs of the human species. Similarly, an acidified dead ocean can still be the object of legal divisions, although it does not longer allow for the development of marine life and humanity in its entirety.

All planets have a physical territory, bigger or smaller than the Earth. What the other planets do not have, as far as we know, is a system that has been created by life and can continue to support life. Thus, an approach that simplistically considers the planet a unidimensional territory of 510 million square kilometres, creates other problems no less important as mentioned in “the unsolved paradox of international law.”⁵³

A group of scientists in their work titled “Global Commons in the Anthropocene”, identified some critical biomes that “play a decisive role in regulating the overall status of the life-support system on Earth, that is, how well Earth can support human development and well-being”.⁵⁴ The study includes the areas where these biomes are located on the list of the Global Commons in the Anthropocene. These biomes are tangible, geographically and territorially delimited, and all of them (excluding Antarctica and Arctic) are under the jurisdiction of one or more States.

From a legal perspective, it is absolutely unfeasible to recognize them as Global Commons, and therefore, to internationalize its governance. The intangible services that this biomes provide to all humankind and the Earth System as a whole, is the real matter that must be protected, opposed to the tangible natural infrastructure that generate those services, currently under the jurisdiction of States.

“The Amazon, as one of the terrestrial ecosystems most critical for the maintenance of a well-functioning Earth System, is inevitably at the centre of this paradox. There is a contradiction between its true value for humanity, and the way in which today’s economic system recognizes value and wealth creation. The outstanding ecological importance of the Amazon cannot be measured in km² cleared, or tons of timber, soy or meat produced; rather it should be measured in terms of the total amount of biogeochemical functions that this ecosystem contributes to functioning of the Earth System as a whole. The fundamental role of the Amazon in the functioning of global biogeochemical cycles as well as of the physical climate system, and hence the stability of the Earth System, is incomparably higher than the

⁵² SIMON BORG, “Climate Change as a Common Concern of Humankind, Twenty Years Later... From UNGA to UNSC. IUCN Academy of Environmental Law - Towards an Integrated Climate Change and Energy Policy in the European Union”, University of Malta, 2007, Retrieved from: <http://www.iucnael.org>.

⁵³ PAULO MAGALHÃES, WILL STEFFEN, ALESSANDRO GALLI, “The Earth System upon which all life depends must be legally recognised if is to be protected”, December 2019, https://together1st.org/blog/the_earth_system_upon_which_all_life_depends_must_be_legally_recognised_if_it_is_to_be_protected.

⁵⁴ NEBOJSA NAKICENOVIC, ET.AL., “Global Commons in the Anthropocene”, IIASA Working Paper WP-16-019, October 2016, pp. 32-33.

*value of the commodities that can be extracted from it. Unfortunately, because the Earth System benefitting from those "goods and services" does not exist from a legal standpoint, this natural "work" is likewise legally non-existent and hence considered as "external" and invisible to the economy. In other words, because this intangible work is spread across the globe in a highly interconnected fashion, we cannot touch it, divide it or store it. Thus, it is ignored by the law and considered an externality to the economy.*⁵⁵

The main issue at stake is that although the Earth System is intangible from a legal standpoint, it exists in the real world, and supports life and humanity. Consequently, the Earth System has the highest relevance for the law, and at this functional level of analysis, we are recognizing a good that is non-territorial. The challenge of addressing a global common that is intangible and highly interconnected, is the possibility to advance on the necessary theoretical step for international law to be able to adequately deal with facts of the global functioning of the system that supports life. Thus, we have no alternative but to address the Earth System as it exists and functions in the real world.

The "territorial obsession",⁵⁶ which continues to mix on the same framework a deeply interdependent, interconnected and highly complex system with the logic of appropriation and segmentation of land, is at the basis of the "disconnection between law and Earth System science, that law and legal science in their present guise have become unsuitable to 'navigate the Anthropocene."⁵⁷ The possibility of distinguishing the geographical area of Planet Earth and its functional system is one of the most important scientific achievements in Earth System science. It enables humankind to formulate a new conceptualisation of our planet and to understand that we have a common good independent from the artificial division created by abstract political territorial borders of States. This unlocks the opportunity of building new concepts with a greater ability to portray the facts and creates instruments that are able to dialogue with the reality of one highly interconnected and indivisible life support system.

2.2. Defining our global common

Throughout the history of Planet Earth on a geological timescale, the Earth System has always existed in a process of ongoing transformation, in which each period had different biogeophysical characteristics that corresponded to different states of the functioning of the Earth System. This means that an Earth System that is outside the well-functioning state of humankind simply cannot serve as our home. Our common home is a well-defined, stable

⁵⁵ Idem 32.

⁵⁶ PRUE TAYLOR, "The Common Heritage: Constructive Utopianism", MAGALHÃES P., STEFFEN, W., BOSSELMANN, K., ARAGÃO, A., SOROMENHO-MARQUES, V. (Eds.), *The Safe Operating Space Treaty: A New Approach to Managing Our Use of the Earth System*, Cambridge Scholars Publishing, 2016, Newcastle upon Tyne, p. 112.

⁵⁷ FRANK BIERMANN, "Planetary boundaries and earth system governance: exploring the links", 2012 *Ecol. Econ.* 81, pp. 4 and 9.

and predictable biogeophysical composition and dynamics of atmosphere, land and oceans, which corresponds to a well-functioning Earth System that can support the great human adventure.

Recent scientific developments have defined and described the Earth System as a whole, and attempted to respond to the challenge of understanding and measuring this non-territorial, intangible and functional “*environment as a whole*” by developing the system-based concept of Planetary Boundaries (PBs).⁵⁸ The planetary boundaries framework is grounded on resilience theory,⁵⁹ in which the Earth system *in toto* is considered as a complex, adaptive, social-ecological system.⁶⁰ The characterization as a complex adaptive system implies that the Earth system self-organizes within certain limits.⁶¹ Within those limits, the system is resilient – that is, it has the capacity to absorb shocks while maintaining function.⁶² When these limits are exceeded the system no longer tends to recover towards its original ‘identity’, but instead tends towards a different configuration.⁶³

These boundaries are a combination of science-based limits to nine core processes (e.g., climate change, ozone depletion, biosphere integrity, ocean acidification, and others) that together describe the functioning of the Earth System. The PBs are a scientifically based framework, the “*Safe Operating Space for Humankind*”, with every boundary process assigned to a safe zone, based on values of a control variable that we must not transgress. If some of the PBs are transgressed, the risk that the Earth System is driven out of the Holocene stability domain (the recent, stable state of the Earth System) rapidly increases. It is important to highlight that the most critical scientific principle that underpins the PBs framework is that the *Earth System functions as a single integrated system* at the planetary level.⁶⁴ If we address a single PB process in an isolated way, we will be ignoring all the other critical processes that interact with this one, as well as all the feedbacks and domino effects that will happen throughout the system because of the interaction of PB processes.

Thus, it is now possible to understand the interacting chemical, biological and physical processes of the Earth System that are conducive to maintaining a favourable state for humanity (i.e., the Holocene) and those that act to push the Earth System out of a stable, desirable state. Qualitatively defining the key processes that underpin the functioning of the Earth System and quantitatively measuring the conditions required to maintain a well-functioning state *is* the scientific answer for the “living space” whose definition was sought by

⁵⁸ JOHAN ROCKSTRÖM, ET. AL., “A Safe Operating Space for Humanity”, *Nature*, 2009, 461(7263), 472.

⁵⁹ CARL FOLKE ET AL., “Resilience and Sustainable Development: Building Adaptive Capacity in a World of Transformations”, 31:5 2002 *AMBIO*, 2002, p. 437.

⁶⁰ ORAN YOUNG AND WILL STEFFEN, “The Earth System: Sustaining Planetary Life-Support Systems”, in: F.S. CHAPIN III, G.P. KOFINAS AND C. FOLKE. (eds.), *Principles of Ecosystem Stewardship: Resilience- Based Natural Resource Management in a Changing World*, 2009, p. 295.

⁶¹ TIM LENTON AND M. VAN OIJEN, “Gaia as a Complex Adaptive System”, 357:1421 *Philosophical Transactions of the Royal Society B*, 2002, p. 683.

⁶² CARL FOLKE, ET AL., “Resilience and Sustainable Development: Building Adaptive Capacity in a World of Transformations”, cit.

⁶³ RAKHYUN KIM AND KLAUS BOSSELMANN, “Operationalizing Sustainable Development: Ecological Integrity as *Grundnorm* of International Law”, *RECIEL – Review of European Community & International Environmental Law*, 24 (2) 2015.

⁶⁴ WILL STEFFEN ET. AL., “Trajectories of the Earth System in the Anthropocene”, cit.

law: "The environment is not an abstraction but represents a *living space*, the quality of life and the very health of human beings, including generations unborn."⁶⁵

The increasing understanding of the functioning of the Earth System, together with the possibility to measure its state through the planetary boundaries represents a giant leap towards the unravelling of the nebula composed of legally vague and undefined concepts disseminated in national and international legal texts. International law expressions such as *the common concern of mankind*, *common interest*, *life-support system*, *intergenerational equity*, *ecological integrity* can now be sustained by a set of indicators that may be used to bypass the lack of legal definitions, opening up new possibilities for the construction of solutions that can decisively contribute to overcome the dysfunctionality between the ecological reality and the existing legal framework.

Operating beyond all countries and borders, these global cycles that typify the functioning of the Earth System are the constituent biogeophysical conditions that allow all life forms we know to exist. The Earth System represents a single, integrated system that is impossible to divide conceptually, materially or through any legal abstraction. Because everyone has access to it and its favourable state is exhaustible, it becomes a common good at the global scale. Therefore, it must be considered our ultimate global common, because it is shared by every living being on the planet, including humans, and it unites us all, as we are part of it and are dependent on it.

3. The cascade effects of a "Heritage" approach

3.1. A non-territorial approach to the Common Heritage of humankind

The Common Heritage of Humankind as a legal concept is one of the most revolutionary and radical developments in the last 50 years of international law. Since its emergence, it became clear that no other concept, notion, principle or doctrine provoked such intense debate and controversy as did the possibility "of the international management of natural resources of our planet Earth that was to challenge the very foundations of economic thinking and International law."⁶⁶ The proposal of the Permanent Representative of Malta to the United Nations, Arvid Pardo, "was different from the traditional schemes of sovereignty and freedom that applied to territorial sea and the high seas, respectively. The common heritage of mankind was to be a new form of common ownership – in a word, an alternative to the classical Roman Law concept of *res communis*, rather than a contemporary version or

⁶⁵ DINA SHELTON, "Common Concern of Humanity", *Iustum Aequam Salutare*, V.2009/1, pp. 33-40.

⁶⁶ ARVID PARDO, "Address by Arvid Pardo to the 22th Session of the General Assembly of the United Nations", *Official Records of the General Assembly*, Twenty-Second Session, 1967, Agenda Item 92, Document A/6695.

extension of it.”⁶⁷ In fact, at Pacem Maribus Seminar in Rhode Island in 1970, Pardo had said:⁶⁸

(...) we did not think it advisable to use the word *property* - not because I had anything against property - an I don't express any opinion as to the desirability or non-desirability of this ancient institution but I thought it was not wise to use the word property(...) Property is a form of power. Property as we have it form ancient Romans implies the *jus utendi et abutendi* (right to use and misuse). Property implies and gives excessive emphasis to just one aspect: resource exploitation and benefit therefrom”⁶⁹. This novelty and its subversive character with long-held concepts that are unable to explain how the planet functions, connected with the philosophical concept of “humanity”, and the possibility of attributing a heritage to both present and future humanity (unborn generations), open the possibility of this concept being the basis needed to harmonize the spatial and temporal interdependence that Anthropocene raises The idea of “heritage” connected with the idea of “common” can be the axis for questions about legal regimes of resources that are crucial for the maintenance of the “living space” in a trans-temporal dimension - our support life support system - the Earth System.

Although no universal definition exists, according to Shackelford⁷⁰.most conceptions of the CHH share five primary points:

First: there can be no private or public appropriation of the commons;

Second: representatives from all nations must manage resources since a commons area is considered to belong to everyone;

Third: all the nations must actively share in the benefits acquired from the exploitation of the resources from the common heritage region;

Fourth, there can be no weaponry or military installations establish in commons areas;

Fifth: the commons should be preserved for the benefit of future generations.

The concept of a “Common Heritage of Humankind” was already the subject of intense debate in international circles since November 1967, when Arvid Pardo first proposed that the bounties of the deep seabed should be protected and regulated under a new kind of regime that appeared to be revolutionary in its legal implications.⁷¹ The bar for innovation was raised even higher in 12 September 1988 when Borg Olivier, the Permanent Representative of Malta to the UN, presented his proposal titled *Climate as part of the Common Heritage of Humankind*. In his revised draft version of 18 November 1988, one sub-

⁶⁷ KEMAL BASLAR, *The Concept of the Common Heritage of Mankind in International Law*, The Hague, Martinus Nijhof Publishers, 1998, pp. 38-39.

⁶⁸ JEAN BUTTIGIEG, “The Common Heritage of Mankind – From the Law of the Sea to the Human Genome and Cyberspace, The Common Heritage of Humankind”, *Symposia Melitensia: Adaptations*, University of Malta, 2012, in <https://www.um.edu.mt/library/oar/handle/123456789/6883>.

⁶⁹ ARVID PARDO, *The Common Heritage of Mankind: Selected Papers on Oceans and World order 1967-1974*, Malta University Press, 1975, pp. x-xi.

⁷⁰ SCOTT SHACKELFORD, “Tragedy of the Common Heritage”, *Stanford Environmental Law Journal*, 2008, p.1.

⁷¹ TULLIO SCOVAZZI, “The Concept of Common Heritage of Mankind and the Resources of the Seabed Beyond the Limits of National Jurisdiction”, pp. 1-21, http://www.iadb.org/.../Seminaro_AUSPINTAL_2016_04_Scovazzi.pdf.

title was added: *Protection of global climate for present and future generations of humankind*. The substantive content of the proposal is the management of the common good, a *stable climate*, under the legal regime of Common Heritage, this time with a conceptual innovation: referring to an intangible global common that cannot be confined only to areas outside national borders, as others global commons were.

Arguably, this was not the first time that the concept of Common Heritage of Humankind had as its possible object a global intangible asset without political borders.

When Arvid Pardo, in 1967 proposed the initial concept of Common Heritage of Humankind (CHH), during the process of its formulation he clearly realized that the characteristics, principles and objectives of CHH do not fit within the one-dimensional view that reduces the planet to a geographic area measured in hectares and divided by boundaries. Conscious of this, he sought to avoid the limitations of the territorial approach by proposing an ocean space treaty in 1971 that "*attempted to show how the common heritage concept could be implemented in the marine environment as a whole*".⁷² It was inevitable that this proposal was not accepted at that time because it was not possible to legally separate the geographic space and jurisdictions from the fundamental character of biogeophysical cycles that occur within, across and outside of all jurisdictions. Back in the 1960s, there were no scientific instruments to define, measure and delimit what would be this "*marine environment*", and inevitably the project did not have the needed technical requirements to be put into practice.

As there was no scientific support that would enable to make a legal distinction between the system (marine environment) and the territory where the system operates, the CHH was limited to existing concepts, imprisoned within the territorial dimension and confined to leftover parts of State appropriations lying outside State borders, in which the most developed example is the seabed.

The original concept underpinning Pardo's proposal, has intuitively included the vision of what is really common to all humanity and unites us all, as something that transcends the territorial dimension of the planet. The founding motive of the CHH concept already considered the idea of interconnectedness – that global commons cannot only be confined outside national borders, and thus cannot be managed through a governance model based on silo-thinking.

Although the concept was accepted only in an amputated way and restricted to the geographic leftover territories of the jurisdictions of States, the initial purpose of Arvid Pardo paved the way for the CHH to provide the answer for the growing range of possible non-spatial applications of the CHH, for which it was actually imagined. These included common resources (both tangible and intangible, natural or cultural) such as cultural heritage, genetic resources (including the human genome), and digital domains. Nowadays, it is widely accepted that Humanity shares the global chemical, biological and physical processes that are conducive to maintaining a well-functioning Earth System. Additionally, all the necessary

⁷² ARVID PARDO, "The Origins of the 1967 Malta Initiative", *International Insights*, 1993.9(2), pp. 65–69.

technical conditions are available to accomplish the project of building a heritage that belongs to all humanity and to all generations.

Because the Earth System consists precisely of the intangible interacting physical, chemical and biological processes that cycle materials and energy throughout the system at the planetary level, this means it cannot be owned, enclosed or disposed of (i.e., divided and appropriated) by any State or entity. Humanity shares all these processes that are essential for maintaining a favourable state of the Earth System within which we can thrive. In this sense, the biogeophysical conditions of the Holocene epoch are part of the international common heritage and therefore *belong to all humanity in common*.

The consequences of CHH as a non-property concept are highly significant (i.e., belonging to all but owned by none).⁷³ As a commons, can be used, but not owned, either as private or common property or via the claim of sovereign rights. But these characteristics of “belonging to all but owned by no one” do not necessarily prevent it from being used in an organized and regulated way. From a legal perspective, the regulation and collective control of something, has a previous fundamental question: “*How can a good that belongs to no one be subject to a legal regime?*”.⁷⁴ In other words, if our Common Home is a well-defined favorable state of the Earth System, how can we regulate its use in the absence of any form of legal recognition of this vital good within the context of human societies?

With the definition of the *safe operating space for humankind* as a non-territorial concept, we have now the necessary definition in quantitative terms to delimit a new legal object. This approach may thus overcome the initial technical limitations of the *legal concerns*, and provide the answer for the growing range of possible non-spatial applications, that was also the embryonic purpose the CHH.

3.2. Why is the earth System intangible from a legal point of view?

The fact that the Earth System is essentially composed of a non-territorial functionality, that is, by the biogeophysical cycles and energy flows that circulate and cross the entire planet, it cannot be an insurmountable obstacle to its qualification as an ecological phenomenon legally relevant for human societies.

The existence of incorporeal things has long been recognized by human culture. In western culture, the concept of incorporeal objects and its definition structure seek its origins in Greek philosophy, more specifically in the Aristotelian school: in fact, Aristotle tells us that incorporeal things are those that cannot be touched. What can be perceived with the senses is a corpus, a corporeal thing; what cannot be touched is an incorporeal thing, only perceived

⁷³ PRUE TAYLOR, “The Common Heritage: Constructive Utopianism”, MAGALHÃES P., STEFFEN, W., BOSSELMANN, K., ARAGÃO, A., SOROMENHO-MARQUES, V. (Eds.), *The Safe Operating Space Treaty: A New Approach to Managing Our Use of the Earth System*, Cambridge Scholars Publishing, Newcastle upon Tyne, 2016, p. 116.

⁷⁴ ALEXANDER KISS, “La notion de patrimoine commun de l’humanité”, *Académie de droit international de La Haye, Recueil des cours*, tomo 175, 1982, pp. 103–256.

through the intellect. Roman jurists followed the steps of Greek culture and classified the goods as: *res corporales* and *res incorporeales*.

Corporeal things are those that by their nature are endowed with physical, material existence, which can be touched, such as land, a house, etc. On the other hand, incorporeal things are those things that, although they cannot be touched, have an abstract or ideal existence, that is, they exist in human perception and for the law; such as an inheritance, usufruct or an obligation. As a result of a struggle led by those of the intellectuals of the 18th century, who claimed recognition of the "ideas" or "creations of the human spirit", according to the principle that the work is independent of any fixation or materialization,⁷⁵ the Personal rights were also recognized as incorporeal things. The recognition of "human creation" as an incorporeal thing, or the idea conceived after taking shape in the author's intimate forum and externalized by any means so that it can be perceived by the senses, had its recognition as a legally relevant object in 1710 through the famous copyright law of Queen Anne of England. Through this law, the reproduction right no longer belonged in favor of the printers, but became in favor of the authors, simultaneously constituting a personal right of the author and a new immaterial legal object. This allowed for the establishment of a legal division between the author's intangible right and the material support in which the work is recorded, further creating an intangible legal object - the idea, the author's intellectual creation.

Oosterlinck,⁷⁶ in his article "Tangible and Intangible Property in Outer Space", states: "Property in space is certainly one of the most important issues for the future not only in the context of the more classical form of tangible property such as minerals but also intangible property such as orbital slots on the geostationary orbit, frequencies, etc." This is a very interesting achievement, once these intangible objects of space law are not "ideas" or "creations of the human spirit", but rather natural facts that exist in the universe and are exhaustible by the use. Thus, these natural intangible objects are examples in which the need to organize its use, or the relevance (and economic value) of the goods themselves, justified the search for new solutions by the law.

If "International law itself was (and to a certain extent remains) ill-equipped to address state activities affecting negatively an intangible natural resource which spans across and beyond the national territories of states",⁷⁷ and we have already recognized the existence of natural intangible objects of law in space law, why can't we recognize the existence of natural intangible objects of law in Earth?

With the definition of the *Safe Operating Space for Humanity*, the scientific and technical capability to quantify a stable and well-functioning state of the Earth System is in place. But more importantly, having this objective description and well-founded quantification as a

⁷⁵ JOSÉ DE OLIVEIRA ASCENSÃO, "Direito de Autor e Direitos Conexos", Coimbra, Coimbra Editora, 1992, p. 62.

⁷⁶ RENÉ OOSTERLINCK, "Tangible and Intangible Property in Outer Space", In *International Institute of Space Law, Proceedings of the 39th Colloquium of the Law of Outer Space*, Reston: American Institute of Aeronautics and Astronautics, 1996, p. 271.

⁷⁷ SIMONE BORG, *Key Note Speech at the unveiling ceremony of the Climate Change Initiative Monument*, University of Malta, 21 April 2009, p. 1. Retrieved from: <https://www.um.edu.mt/newsoncampus/features/?a=62770>.

point of departure, it is possible to consider as separate legal entities, the biogeophysical global-scale cycles and energy flows of the Earth System on one hand, and the physical planet and the space of territorial sovereignties of the States, on the other. In other words, it is possible to legally separate the quality of Earth System functioning, i.e. the biogeophysical global-scale cycles and energy flows that are temporally inside the spaces of sovereignty, from the physical planet and the space of territorial sovereignties.

The intention is to protect a well-functioning state of the Earth System, not the physical molecules that compose the various components of the Earth System (sea, land, cryosphere...). Thus, a well-functioning Earth System can only be classified as an intangible good, requiring us to identify and define this favourable state, namely:

- 1: We cannot touch it or see it;
- 2: It is global and not geographically defined;
- 3: The well-functioning state of the Earth System is materially and legally indivisible;
- 4: It cannot be appropriated although its quality is exhaustible;
- 5: It is measurable and identifiable, and consequently it is possible to consider it as a separate legal entity.

In fact, also in nature there are other types of heritage beyond those that can be seen and touched. The absolutely vital value for humankind of the *intangible well-functioning state of the Earth System* corresponding to the geological epoch of the Holocene should thus also be a new object of law. It is the intangible heritage, which can be recognised by language and law, that holds the key to the construction of other types of tangible heritage. To understand the relationship that exists between the tangible and the intangible “...two categories of ontology can be used: the difference between *natura naturata* (tangible, corporeal nature) and *natura naturans* (intangible incorporeal nature). *Natura naturata* must be understood as constituted heritage, whereas the intangible/incorporeal heritage must be assumed as constitutive heritage, as this *software* of flows and exchanges in the network of energy and matter, which all unites creatures in the (re) production of existence”.⁷⁸

The recognition of objects of intangible or immaterial character is not new to legal sciences. On the contrary, intangible legal objects were a critical structural support in the creation of the civilization in which we live today. The immaterial cultural heritage recognized through UNESCO, the intangible value of companies in commercial law or intellectual property rights, are all examples where the importance of the values intended to be protected have systematically justified the search for new solutions.

The analogy between these intangible objects of law and the intangible operating mode of the Earth System could also be crucial to understand and represent the global and indivisible functionality of the Earth System in our society, as well as the real value of natural biomes,

⁷⁸ VIRIATO SOROMENHO-MARQUES, “Haverá uma natureza invisível para os olhos”, *Jornal das Letras*, 30.01.2019. p. 30.

where the value of the services for humanity are incomparably higher than the tangible value of the natural infrastructures that produce these services. For example, the current value of forests (e.g., the Amazon rainforest) that are vital for the maintenance of this favourable state, our lives and to the future generations, only becomes visible in the financial and economic transactions of society when these forests are depleted or removed and turned into tradeable material.

As for copyright law, if we are able to realize a legal division between the intangible services from tangible natural infrastructure that provides these services and capture these intangible services in a new global legal intangible object, these services could have their existence recognized and thus have economic visibility. The system used to capture all these positive services at a global scale, could also be used to capture the damages, and build a fair system of accountancy. It is crucial to realize the structural relevance of this issue. As an example, we easily understand that without the legal separation between the intangible idea of the author and the physical support where the idea is recorded there would be no economic incentive to the production of ideas and their dissemination. The society of knowledge that supports our civilization is based on this legal solution. And the same statement could be applied in commercial law, where frequently the value of the intangible goodwill of one enterprise is incomparably higher than that of its tangible assets.

By remunerating the State that has jurisdiction over the territory where the ecosystem service was produced, protection and restoration of the natural infrastructures would be stimulated, promoting in parallel equity and fairness between peoples, and influencing the governance of these territories without threatening the sovereignty of the States. If the recognition of copyright was a structural condition to build one society based on knowledge, to build one sustainable society requires that the intangible biogeophysical cycles that determine the functioning of the Earth System exist from a legal standpoint, and thus become economically visible. In 1998, Pureza, in the line of thought of the embryonic motivation of the Common Heritage of Humankind, envisioned "post-material global common goods".⁷⁹

Because an intangible good must be legally recognized as such, and this recognition is a structural condition to build an economy of maintenance of the Earth System and to make the civilizational journey of evolving from explorers and exploiters to guardians and stewards of our Common Home, we propose that the *intangible well-functioning state of the Earth System* corresponding to the geological epoch of the Holocene should be a new object of law: we propose the recognition of a Holocene-like state of the Earth System as a *Common Intangible Natural Heritage of Humankind*.

⁷⁹ JOSÉ MANUEL PUREZA, *Património Comum da Humanidade, Rumo a um Direito Internacional da Solidariedade?* Centro de Estudos Sociais, Edições Afrontamento, 1998.

3.2. A Heritage for future generations

Even before the common concern was revealed as a project that did not materialize itself and reached the objectives for which it was conceived, one fundamental element of the concept already raised great difficulties in its own definition. Already in 1991, Tolba stressed that "Humankind is the most controversial element of the concept. On the one hand, the legal impersonalization of humankind can be executed through the generally acknowledged subjects of international law – The states. Here it would be expedient to refer to the idea of 'expanded legal standing' on behalf of humankind by the states not directly injured with environmental disturbances (...)".⁸⁰

The discussion on this issue is vast and controversial in International Law doctrine, and for obvious reasons it will not be deeply explored in this paper. However, this discussion in itself reveals the fragility of the legal concept of Humanity and the very legal fiction that the Heritage of Humankind itself constitutes. Even so, "Humanity is repeatedly mentioned in the texts of the International Treaties, without, however, being clear the form of its representation, existence or aptitude to constitute itself as holder of rights. If there is any comment that can be made on the issue of Humanity, it is that the problem itself reveals the paradigm of territoriality as a focal point from which all the facts of the real world are analyzed."⁸¹

The current vision of "Humankind" does not confine to inter-state system.⁸² Humanity as a biological concept does not fit the dogmatic-formal model of territorial organization. And even the combination of the spatial and temporal elements "illuminate the temporal (intergenerational) facet of the common concern of humankind concept, and therefore it gives no reply on how to institutionalize legal representation of future generations."⁸³

In a strictly formal logic, it will be difficult to define a legal relationship with the future, in the sense that it is impossible to define precisely the subject of that future relationship. Wilfred Beckerman⁸⁴ poses the question in a very objectively manner:

"My argument is really very simple and can be summarized in the following syllogism:

- (1) Future generations – of unborn people – cannot be said to have any rights.
- (2) Any coherent theory of justice implies conferring rights on people.

Therefore, (3) the interests of future generations cannot be protected or promoted within the framework of any theory of justice."

⁸⁰ MUSTAFA TOLBA, "The Implications of the Common Concern of Mankind Concept in Global Environmental Issues", cit.

⁸¹ PAULO MAGALHÃES, "Casa Comum da Humanidade - A "Nossa Casa Comum" como uma construção jurídica baseada na ciência", PhD Thesys, Universidade Nova de Lisboa, 2017. <https://run.unl.pt/>

⁸² MUSTAFA TOLBA, "The Implications of the Common Concern of Mankind Concept in Global Environmental Issues", cit.

⁸³ Idem.

⁸⁴ WILFRED BECKERMAN, "The impossibility of a theory of intergenerational justice", *Handbook of Intergenerational Justice*, Edit by Joerg Chet Tremmel, Edward Elgar Publishing Limited, USA, UK, 2016, pp. 53-54.

The fact that impacts on the functioning of the Earth System are cumulative and the relationship between causes and effects necessarily implies a projection of links to the future, various are possible: a) from a strictly legal critical point of view, relations with future generations may be considered impossible, insofar as they do not yet exist, b) under an economic analysis, they may still be uninteresting, in the sense that they cannot return to interests for current generations, c) they can still be considered merely moral duties. Finally, it is also possible to identify an obligation of solidarity with future generations that goes beyond the selfish and utilitarian notion of current generations.

And it is exactly by running away from metaphysical concepts, that John Rawls,⁸⁵ resumes the discussion of the future in a true theoretical framework on intergenerational responsibility. It is a theory that seeks to detach any legal link with the future from a metaphysical view on it, based on the notion of interests as decisive factors for action, and rationality as a criterion of justice. It starts from an elementary temporal assumption, that is, to focus on the present and the range of action of the living generations, even if to generate effects for future generations. In fact, as Fensterseifer⁸⁶ points out, future generations can do nothing today to preserve the environment they will enjoy, which is why all responsibility (and corresponding duties) for preserving life and environmental quality for the future lies with the present generations.

The *Safe Operating Space for Humanity* and the necessity of its permanent maintenance is the opportunity to make one evolution focused on the present and the range of action of the living generations, even if to generate effects for future generations. It enables to overcome the dichotomy between the deadlock of the undefined concept of a legal concern, and the current interpretation of the territorial approach of the Heritage. The Intangible Common Heritage of Humankind – well-functioning Earth System – can be the way to represent the interests of future generations on societies of today. These are the conditions that all generations need to thrive, including the present ones. With the development of a natural intangible global common, not only new forms of cooperation, inclusive multilateralism and management of global commons can then be designed, but also a new legal representation of future generations can be grounded and developed, without metaphysical problems.

Thomas Cottier, argued that: "...there is a close connection between territorial jurisdiction and the production of public goods, Ideally, jurisdiction is built around the need to produce appropriate public goods. (...) On the other side of the spectrum, we are able to identify global public goods in which all mankind shares a common interest".⁸⁷

A stable climate is clearly a global public good, as a visible manifestation of a well-functioning Earth System. The legal concept of heritage can be the *locus* for that vital good, the living intangible space represented by the *safe operating space*, whereupon a system of

⁸⁵ JOHN RAWLS, *Political liberalism*. New York, Columbia University Press, 1993.

⁸⁶ TIAGO FENSTERSEIFER, "Direitos fundamentais e proteção do ambiente: a dimensão ecológica da dignidade humana no marco jurídico-constitucional do Estado Socio-ambiental de Direito", Porto Alegre, Livraria do Advogado, 2008.

⁸⁷ THOMAS COTTIER, "The Emerging Principle of Common Concern of Humankind: A brief Outline." NCCR Trade Working Paper No 2012/20, May 2012.

accountancy can be developed, in which the production of global public goods – production of positive impacts on the quality of the functioning of the Earth System – can be measured and accounted for. In this sense we can argue that the specific state of the Earth System corresponding to the geological period of the Holocene carries the meaning of heritage, as something that needs to be conserved in everyone’s interest. “It enables the recognition of a new value to be legally protected as an international autonomous legal good”,⁸⁸ “Heritage is one idea. It is a philosophical idea, a legal concept, as is something that we need to conserve.”⁸⁹

Because this system is subject to depreciation or qualitative improvement by means of human actions, we need a legal framework that recognizes the existence of a common good inside and outside of all national sovereignties, to build around this new object of international law a permanent system able to assure the provision to all humankind of that public good – a well – functioning Earth System.

Taking into account the most consensual primary elements of a Common Heritage of Humankind legal regime, if they could be applied to an intangible natural global common that spans across all the jurisdictions, allows identification of the key features essential to overcoming the obstacles blocking us from successful action on climate change:

1. The state of the Earth System, which manifests itself through its structure and functioning, depends on the biogeochemical composition of the atmosphere, land, ice and ocean, which in turn influences planetary physical and biological processes and global thermodynamics – the so-called biogeophysical cycles. This kind of natural software is global and can be subject to qualitative depreciation through human actions – but cannot be appropriated by any sovereignty because it is materially and legally indivisible. The *safe operating space for humankind* is a functional and dynamic space of measurable quality that corresponds to a globally stable functional state of the Earth System. There can be no private or public appropriation of this global commons.

2. Around this new intangible Common Heritage with no borders, we could start to self-organize the internal relationships that are required among all users of the same system on a global scale, since all users share the positive and negative consequences of the acts of others. More than the Common Heritage belonging to everyone, everyone is a part of this Common Heritage.

3. Every nation actively shares in the benefits acquired from the use of stable climate, and from the positive impacts provided by ecosystems – as well as shares the *burdens* of its malfunctioning; the common use of the common heritage should be the object of one system

⁸⁸ PAULO MAGALHÃES, “A New Object of Law: Attempt for a Legal Construction”, MAGALHÃES P., STEFFEN, W., BOSSELMANN, K., ARAGÃO, A., SOROMENHO-MARQUES, V. (Eds.), *The Safe Operating Space Treaty: A New Approach to Managing Our Use of the Earth System*. Cambridge Scholars Publishing, Newcastle upon Tyne, 2016, p. 158.

⁸⁹ JOSÉ MANUEL SOBRINO, “Património é Uma Ideia, um Património é Algo que é Necessário Conservar no Interesse de Todos”, *Jornal Quercus*, 50, 2012, Jan-Fev, pp. 4–5. Retrieved from <http://www.quercus.pt/images/PDF/QA/QA50.pdf>.

of accountancy covering both the rules of appropriation (negative impacts) and the rules of provision (positive impacts).

4. The global functioning of the Earth System must not be the object of human actions for military purposes.

5. Since the biogeophysical functioning of the planet is the foundation of the emergence and evolution of life – our intangible common heritage – a stable climate must be preserved for the benefit of future generations. Each generation should bequeath a stable Earth System to the next.

This approach enables humankind to formulate a new conceptualisation about our planet and to understand we have a common good independent from the artificial division created by the political territorial borders of the planet. By doing so, humanity will open the possibility of building new concepts that create a greater ability to understand and legally recognise our highly interconnected and indivisible life support system.

4. Final remarks

“In December 1998 the UN General Assembly in its resolution 43/53 explicitly stated that climate change was a common concern of mankind. This was partially a way out of the controversies related to the common heritage of mankind concept, which had initially been introduced by Malta as a basis for this resolution. At the same time, the resolution wisely indicated a new path to achieving a consolidated set of legal obligations to protect global climate.”⁹⁰

What was at the time a new path, clearly proved to be incapable of meeting the challenges of the global, complex and deeply interconnected functioning that the Earth System poses, and to also tackle the ecological disruption of the human-induced age of the Anthropocene. After 25 years of negotiations, Einstein would argue that you cannot continuously repeat the same actions and expect different results.

This new epoch is challenging our fundamental legal categories and calling for a new normative conception of the Earth, where its functional system and biogeophysical cycles must be at the center of the social organization. To realize this endeavor we do not have necessarily to remove from the map the legal (abstract) borders. On the contrary, it is necessary to represent from a legal standpoint, the highly interconnected and complex functioning of the Earth System.

With the decision to refuse the existence of the climate as an autonomous legal object belonging to all humanity (heritage), there was no awareness of all the cascade effects of

⁹⁰ MUSTAFA TOLBA, “The Implications of the Common Concern of Mankind Concept in Global Environmental Issues”, cit.

that decision. Likely as a result of the lack of the necessary scientific tools to operationalize the proposal. Today it is possible to qualitatively define the key processes that drive the functioning of the Earth System – the *planetary boundaries* – and to quantitatively measure the favourable biogeophysical structure corresponding to a well-functioning Earth System. Thus, it is now possible and imperative to define the common good that should be the object of a legal regime to organise its use.

Sovereignty is deeply grounded in the concept of the physical territorial space, while the Earth System concept is grounded in an intangible qualitative understanding of planetary functioning – so it seems entirely possible from a legal point of view to harmonise the co-existence of both.

Human societies have a long history of recognizing intangible assets and granting them legal protection (i.e. copyright). Those intangible assets even constitute some of the most relevant structural basis of societies' organization, as observed in the study of Space Law, for example. Beyond the obvious technical limitations of the time, the option for a "Concern" instead of a "Heritage" approach was based on an a perspective of the "legal indivisibility" of climate (i.e. well-functioning Earth System) because there was (and still exist) a long-held believe that managing common goods was something that inevitably resulted in a "tragedy of the Commons".

We now face a *tragedy of the commons* at the global scale, where everyone operates in a *free-for-all* scenario and there are neither restrictions on the use of the Earth System, nor compensation for those who maintain it in a well-functioning state.

The first step for a successful management of the commons, is the adoption of a clear *legal definition of the common good*. The failure to do so, will continue to advance the climate and biosphere emergencies. With the present knowledge about the Earth System, the law, economics and the management of the commons, it is not naive to envision putting in practice the Maltese proposal of 1988. The adoption of this proposed legal framework will ultimately allow building a society that is able to restore and maintain the very support of life – The Earth System, to which we belong and are part of.

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