Law in the Anthropocene

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I. INTRODUCTION: THE ANTHROPOCENE NARRATIVE AND CAPITALIST WORLD ECONOMY

The Anthropocene implies an anthropic transformation of the Earth system, where balanced conditions are substituted with more unstable patterns.[1] Moreover, this human transformation operates on a system where changes are not reversible, given the fact that "[a]ny process either increases the entropy of the universe — or leaves it unchanged. Entropy is constant only in reversible processes which occur in equilibrium. All natural processes are irreversible".[2] Consequently, the awareness of the human transformation of the Earth system goes with the realization that normally it will be not possible to step back. Thirdly, we are uncertain about the effects of this irreversible transformation on the Earth System.[3]

Human action, comprehensive, irreversible and uncertain, is let loose on a finite and vulnerable planet. This is the reason why major changes are needed in ethics and law, focusing on sustainability, which is the fundamental issue raised by the Anthropocene narrative. This is the occasion for the so-called lifeboat and spaceship ethics. Lifeboat ethics are a clear case where sustainability overshadows justice, setting aside the fact that rich people are more responsible for the environmental crisis and building a case against the poor.[4] Some critics of the Anthropocene narrative have underlined that a managerial approach to the sustainability crisis caused by the anthropic action on the Earth system,

[1] See Louis J. Kotzé, *Global Environmental Constitutionalism in the Anthropocene* (Hart, 2016) 4.

[2] See Ronald Brown, 'Entropy and the second law of thermodynamics: how the universe works', <http://www.calpoly.edu/~rbrown/entropy.html> [accessed on February 21th, 2018].

[3] On uncertainty and decision-making processes, see Lukasz Gruszczynski, *Regulating Health and Environmental Risks under WTO Law* (Oxford University Press, 2010) 30ff.

[4] See Garrett Hardin, 'Lifeboat Ethics: the Case against Helping the Poor' (1974), available at <http://www.garretthardinsociety.org/articles/art_lifeboat_ethics_case_against_helping_poor.html> [accessed on February 10th, 2018].

risks forgetting justice issues when focusing on sustainability ones.[5] Spaceship ecology tries to put together sustainability and justice issues.[6]

To move to a better balance between sustainability and justice regarding the political and legal implications of the transition to the Anthropocene, it is necessary to understand how human transformation of the Earth system operates from the social point of view. I think that here the concept of social metabolism is very useful. This highlights the exchange between nature and society, explaining how humans occupy the planet and providing a link between natural and social sciences in interpreting the evolution of the biosphere.[7] Social metabolism acquires a global dimension when a certain form of social reproduction is able to gain a global dimension, i.e. the capitalist world-economy, defined according with the world-systems theory, which is another very useful conceptual tool in this context.[8]

Capitalist world-economy is structured through a hierarchical relationship between centre and periphery, complemented by a semi-periphery, which in a gravitational metaphor implies a transfer of resources to the core of the system.[9] This circulation of resources to

[5] See Andreas Malm and Alf Hornborg, 'The geology of mankind? A critique of the Anthropocene narrative' (2014) 1(1) The Anthropocene Review 62.

[6] See Joshua Chad Gellers, ''Cowboy Economics' versus 'Spaceship Ecology': Constructing a Sustainable Environmental Ethic' (2010), available at <https://poseidon01.ssrn.com/delivery.php?ID=182125067086115014120127122008000097041005024009051078099101094029008102065120075006019036021056062013003070064119115086089029104012021061022089013115078100021091100008060035078087122098023115094122024100081083112126080085001008097121124086084113024118&EXT=pdf> [accessed on February 10th, 2018].

[7] The concept of social metabolism is due to Karl Marx, following the reading of the work of Jacob Moleschott. Marx uses the metaphor in different ways, in *Capital*, but they can be unified in this idea of exchange between society and nature. During recent decades social metabolism has developed into a major concept in contemporary ecologic economics. See Marina Fischer-Kowalski, 'Society's Metabolism: The Intellectual History of Materials Flow Analysis, Part I, 1860-1970' (1998) 2(1) Journal of Industrial Ecology 61; Marina Fischer-Kowalski, Walter Hüttler, 'Society's Metabolism: The Intellectual History of Materials Flow Analysis, Part II, 1980-1998' (1998) 2(2) Journal of Industrial Ecology 107; Helga Weisz, 'Combining Social Metabolism and Input-Output Analysis to Account for Ecologically Unequal Trade' in Alf Hornborg, John Robert McNeill and Joan Martínez-Alier (eds), *Rethinking Environmental History: World-System History and Global Environmental Change* (AltaMira Press, 2007) 289.

[8] This approach has been developed by Immanuel Wallerstein since his book *The Modern World-System, vol. I: Capitalist Agriculture and the Origins of the European World-Economy in the Sixteenth Century* (Academic Press, 1974).

[9] The structure of a capitalist economy between centre and periphery in the global economy was proposed by the Argentinian economist Raúl Prebisch, working for the Economic Commission for Latin America and the Caribbean (ECLAC), in 1949. It has been used by many theorists to explain the structure of the world-economy, particularly by Wallerstein himself. An overview about this distinction is found in Peter J. Taylor, Colin Flint, *Political Geography: World-Economy, Nation-State and Locality* (6th edn, Routledge, 2011) 20 ff.

the centre implies something which has been called unequal exchange.[10] Summing up, the transition to the Anthropocene is dominated by a *growing social metabolism*. This occupies the whole planet, takes advantage of its resources and transforms the biosphere. This is caused by the emergence of *capitalist world-economy*, based on a differentiation between *centre and periphery* under a system of relations based on *unequal exchange*. According to this approach, justice should be connected to sustainability in constructing the Anthropocene narrative and giving it a legal development.

II. THE PRINCIPLES OF RESPONSIBILITY, PRECAUTION AND COOPERATION

Once the interrelationship between sustainability and justice has been considered interpreting the Anthropocene narrative and moving forward into a legal approach to it, we should explore how these twin concepts can develop into principles. To begin with it is important to underline that vulnerability and scarcity of resources in a closed system, creates a scenario suitable for developing sustainability and justice as key legal issues. Added to this is the irreversibility of changes and uncertainty of the effects of human actions. The fragility of the Earth System and the ability of human activity to affect it requires an emphasis on care and responsibility, more than on dominance and self-development.[11]

Sustainability and justice demand for a new approach to social construction The Earth System depends on human activity, which is global, irreversible and uncertain. Given that until now the global social metabolism has developed in an unjust way, firstly we need to consider a holistic approach, aiming to see anthropic transformation of the biosphere as a complex, but unique reality. The Earth Charter, launched in 2000, sets us on the path to transform fundamental concepts of social reproduction, adapting global society to the needs of the Anthropocene.[12] The Preamble states: "We must join together to bring forth

[10] Ecological economists refer to ecological unequal exchange. See Alf Hornborg, 'Zero-Sum World. Challenges in Conceptualizing Environmental Load Displacement and Ecologically Unequal Exchange in the World-System' (2009) 50(3-4) International Journal of Comparative Sociology 237; J. Timmons Roberts, Bradley C. Parks, 'Ecologically Unequal Exchange, Ecological Debt, and Climate Justice. The History and Implications of Three Related Ideas for a New Social Movement' (2009) 50(3-4) International Journal of Comparative Sociology 385.

[11] About the ethics of care, see Virginia Held, *The Ethics of Care: Personal, Political, Global* (Oxford University Press, 2006).

[12] Available at <http://earthcharter.org/discover/the-earth-charter/> [accessed on March 2nd, 2018].

a sustainable global society founded on respect for nature, universal human rights, economic justice, and a culture of peace."[13]

It is important to note here the connection between sustainability and justice. Sustainability consists in maintaining the living conditions of the planet fit for human species; justice consists in treating the human species as a whole and distributing equitably burdens and benefits of a social metabolism in time and space. Moreover, the approach of the Earth Charter reaches beyond the exclusive interests of the human species and considers life as whole, overcoming the traditional separation between human and non-human in traditional anthropocentrism.[14] This has important implications from the point of view of the basis of the legal and political discourse, because it requires a shift in its gravitational centre from rights to responsibilities, taking into account currently less favoured people, future generations, and life as a whole.[15]

i. Responsibility

Nature's vulnerability confronts us with a new scenario. It seems difficult to maintain the appeal of modern logic of the emancipation, sustained upon the twin concepts of rights and development, which promise a future where the full self-determination of human individuals is to be achieved. Rather, it seems that the fragility of nature, subject to the capacity of human activity to transform nature in an uncertain and irreversible way, and the requirement of justice by all human beings, points to a logic of responsibility, strongly embedded in the limits of the biosphere.[16] This responsibility is linked to a strong sense of solidarity among the human community, present and future, where rights and duties are combined to allow the development of strategies of care for the common planet.[17] Solidarity and responsibility are fundamental in the construction of ethics for the transition to the Anthropocene, and are based upon the idea that the scope of anthropic

[13] Ibid.

[14] See John Alder and David Wilkinson, *Environmental Law & Ethics* (Macmillan, 1999) 50 ff.

[15] See Jordi Jaria i Manzano, 'Circles of Consensus: the Preservation of Cultural Diversity through Political Processes' (2012) 8(1) Utrecht Law Review 94.

[16] This is the approach of Hans Jonas in *The Imperative of Responsibility: In Search of an Ethics for the Technological Age* (University of Chicago, 1985).

[17] See Gregorio Mesa Cuadros, 'Elementos para una teoría de la justicia ambiental' in Gregorio Mesa Cuadros (ed), *Elementos para una teoría de la Justicia Ambiental y el Estado Ambiental de Derecho* (Universidad Nacional de Colombia, 2011) 31.

transformation in the present requires a change in the view which has been sustained until now in terms of the conquest of nature. We need to assume a new role of responsibility for the planet and solidarity among humans.

Given the limitation and vulnerability of the biosphere, it seems necessary to build a conception of law and constitution from the basis of responsibility, which is not to be limited to the human species, as it happens through ideas of intergenerational and intragenerational justice, but also extended to an interspecific approach, and finally a responsibility before nature as a whole.[18] The Anthropocene narrative calls for a holistic approach, where sustainability, justice and responsibility acquire a global scope. This is the vision embedded in deep ecology, where justice—environmental, climatic, energy justice—is not only human-orientated, but holistically constructed as ecological justice.[19] It is extremely significant that the only reference to rights in the Deep Ecology Platform is negative "Humans have no right to reduce this richness and diversity except to satisfy vital needs."[20]

The idea of ecological justice is an exotic notion for lawyers, going beyond environmental justice and reaching non-human realities, which in fact is a challenge for the hegemonic legal culture based on the debate over rights.[21] It is here one sees that justice and sustainability, being the fundamental ideas of a legal culture for the Anthropocene, are shaped in a way that demands profound changes in legal thought and culture. As Rolston points out, "[t]he rights paradigm must be left behind in favour of a concept based on what is right: this is the planet that is right for life and it is right that life continue here".[22] This unconditional affirmation of self should be substituted by an attitude of respect and care. This needs to be according to the capacity of humans to modify the Earth system,

[18] See op. cit., p. 40.

[19] Deep ecology has its origins in Aldo Leopold (1887-1948), who understood the community of life as supreme good in an ethical sense —consequently also of law—. This community of life should be integrated by soils, water, plants, animals and, finally, the Earth as a whole. See Aldo Leopold, *A Sand County Almanac: And Sketches Here and There* (Oxford University Press, 1949). Deep ecology goes beyond, overcoming ideas such as separation, superiority and domination over nature, which are decisive in the configuration of capitalism and modern Western civilization. All these can be appreciated in the Eight Points of the Deep Ecology, written by Arne Naess and George Sessions, available at <http://home.ca.inter.net/~greenweb/DE-Platform.html> [accessed on March 5th, 2018].

[20] Ibid.

[21] See Klaus Bosselmann, *The Principle of Sustainability. Transforming Law and Governance* (Ashgate, 2008) 79.

[22] Vid. Holmes Rolston III, 'Rights and Responsibilities on the Home Planet' (1993) 18 Yale Journal of International Law 251, 263.

affecting not only human beings in the present, but also future generations; different forms of life, and life as a whole. This implies repairing the separation between society and nature, embedded in Western modernity, and restoring the idea of interdependence, linking modern thought with traditional cultures, particularly with indigenous peoples.[23]

We are required to maintain a holistic approach coherent with the Anthropocene narrative concerned with issues regarding sustainability as well as justice, based on a sense of responsibility which needs to shape any future idea of rights. For this reason, law, and particularly constitution, should be conceived in a new way which allows us as a global community of human beings to guarantee the continuity of life—including human life—, and distribute burdens and benefits in the context of the global social metabolism in an equitable way. This implies some kind of stewardship regarding nature, which is strongly linked with the responsibility as the core value of a sound concept of law for the Anthropocene.[24] It implies also the enhancement of the idea of dignity beyond human beings, considering the dignity of nature itself, not as a mere repository of resources for human use, but as a serious commitment with care, respect and attention to nature which is in our hands.[25]

The sphere of privacy and self-determination by the individual, which was constructed in the constitutional tradition as a growing space for liberty, and intangibility, should be reshaped into a responsible freedom, a framework where the human individuals contribute to the social mission of the stewardship of nature, according with a general duty of care and respect, aiming to preserve it for future generations and for its own sake. [26] Some contemporary constitutional texts show an emerging concern for responsibility as a core concept of law. For example, the Swiss Constitution of 1999 provides in Section 6 that: "All individuals shall take responsibility for themselves and shall, according to their abilities, contribute to achieving the tasks of the state and society."[27] This is a way

[23] See H. Patrick Glenn, *Legal Traditions of the World* (3rd edn, Oxford University Press, 2007) 66.

[24] See Eduardo Gudynas, 'Derechos de la Naturaleza y Políticas Ambientales' in Alberto Acosta and Esperanza Aguirre (eds), *Derechos de la Naturaleza. El Futuro es Ahora* (Abya-Yala, 2009) 43-44.

[25] See Alejandro Llano, *La nueva sensibilidad* (Espasa. 1988) 181.

[26] See Bosselmann, above n. 21, 132.

[27] The quotation is from the English version of the text provided by the Swiss Government at <https://www.admin.ch/opc/en/classified-compilation/19995395/201801010000/101.pdf > [accessed on March 7th, 2018]. The Preamble speaks of "responsibility towards creation" as well of "responsibility towards future generation", as has been underlined by René Rhinow, 'Wirtschafts- und Eigentumsverfassung' in Daniel Thürer, Jean-François Aubert, Jörg Paul Müller (eds), *Verfassungsrecht der Schweiz / Droit constitutionnel Suisse* (Schulthess, 2001) 569.

which can be developed in the future, particularly regarding the integration of cultural diversity into the constitutional tradition, as the recognition of the rights of indigenous peoples seems to demand.[28] In fact, this has strongly influenced the current constitutions of Ecuador (2008) and Bolivia (2009), giving way to the worldview of local indigenous peoples, particularly the Andean ones.[29] The strength of the holistic approaches and the ideas of respect and care among indigenous peoples are widely recognized and that influence is extremely valuable at this point.[30]

The principle of responsibility and the implicit idea of care are the consequence of the concern for sustainability and justice. This seems to be derived from any ethical, political and legal approach appropriate to the Anthropocene narrative. This implies reshaping the constitutional tradition and taking into account the contribution of non-Western cultures in the construction of a legal framework adapted to current circumstances of a global social metabolism modifying the biosphere at great scale and breathtaking speed.[31] The principle of responsibility should be the matrix where human rights have to be imagined and constructed in the future, putting distance between this concept and possessive individualism, capitalist ethics and traditional constitutionalism, in accordance with an "alternative worldview that is not so much rights-based as responsibility-based, one that is biocentric and not simply anthropocentric."[32]

The responsibility should be modulated depending on the effective capacity in affecting the Earth System through different social actors. This is shown in the principle of common but differentiated responsibilities, consecrated in the United Nations Framework Convention on Climate Change (UNFCCC), signed in New York on May 9th, 1992, which is the most important international legal text adopting the narrative of the

[28] Two International documents are important here: the Indigenous and Tribal Peoples Convention, 1989 (No. 169), of the International Labour Organization; and the United Nations Declaration on the Rights of Indigenous Peoples, 2007. The former is available at <http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C169> [accessed on March 7th, 2018]; the latter, at <http://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf> [accessed on March 7th, 2018].

[29] See Jordi Jaria i Manzano, 'The rights of nature in Ecuador: an opportunity to reflect on society, law and environment' in Robert V. Percival, Jolene Lin, William Piermattei (eds.), *Global Environmental Law at a Crossroads* (Edward Elgar, 2014).

[30] See Josef Estermann, *Filosofía andina. Estudio intercultural de la sabiduría autóctona andina* (Abya-Yala, 1998) 177.

[31] See Jaria i Manzano, above n. 15, 94-95.

[32] See Rolston, above n. 22, 252.

Anthropocene, i.e. the relevance of human modification on the Earth System, as a foundation.[33] This seems to be a particularly intelligent joint consideration of sustainability and justice, but it is not the only one in the construction of international environmental law. The Stockholm Declaration of 1972 made an explicit reference to the principle of responsibility in its paragraphs 1 and 4.[34] However, this principle was treated in a more cautious way in the Rio Declaration of 1992, where there are no such explicit references as there are in Stockholm.[35] In any case, in this Declaration there is a mention of "common but differentiated responsibilities", mentioned also in the UNFCCC.[36] The Convention on Biological Diversity (CDB), signed in Rio de Janeiro on June 5th, 1992, also provides a basis for the development of the principle of responsibility, in the same way as do principle 21 of the Stockholm Declaration, and 3 of the Rio Declaration.[37]

ii. Precaution

The principle of responsibility should be completed with the precautionary principle, accordingly to the scope of human action upon the Earth System and the uncertainty about its consequences.[38] We should take into account that the Earth System is a complex system where many relations accumulate, making Laplacian approaches unsuitable.[39] In this situation, the knowledge available cannot afford a conclusive and univocal response

[33] See Article 3, para 1. The text of the UNFCCC is available at <http://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf> [accessed on March 7th, 2018].

[34] Principle 1 states that Man, i.e. the human being "bears a solemn responsibility to protect and improve the environment for present and future generations." Then principle 4 establishes the following: "Man has a special responsibility to safeguard and wisely manage the heritage of wildlife and its habitat, which are now gravely imperilled by a combination of adverse factors." The Declaration of the United Nations Conference on the Human Environment is available at <http://www.un-documents.net/unchedec.htm> [accessed on March 10th, 2018].

[35] The most explicit reference is in principle 13, providing that "[s]tates shall develop national law regarding liability and compensation for the victims of pollution and other environmental damage." The Rio Declaration on Environment and Development is available at <http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm> [accessed on March 10th, 2018].

[36] See the principle 7.

[37] See art. 3 CDB, available at <https://www.cbd.int/convention/articles/default.shtml?a=cbd-03> [accessed on March 13th, 2018].

[38] See Jamie Benidickson, *Environmental Law* (Irwin Law, 1997) 18ff.; Marcello Cecchetti, *Principi costituzionali per la tutela dell'ambiente* (Giuffrè, 2000) 169ff.; Wilfried Erbguth, *Rechtssystematische Grundfragen des Umweltrechts* (Duncker & Humblot, 1987) 92ff.; and Raphaël Romi, *Droit et administration de l'environnement* (4th edn, Montchrestien, 2001) 95ff.

[39] See Sergio Conti, *Geografia economica. Teorie e metodi* (UTET, 1996) 501.

to the consequences of anthropic action upon the planet, making the previsions about a concrete action always uncertain.[40] The scope of human action combined with this uncertainty justifies this appeal to the precautionary principle, which develops the fundamental ideas of sustainability and justice wherein the consequences of anthropic modification of the Earth system are mostly unknown, at least precisely.[41] The impact of social metabolism on the biosphere is at the same time relevant and unforeseeable, and this demands some prudence in human activity, which should be channelled through legal institutions.[42]

The precautionary principle is the legal response to uncertainty of our knowledge. It allows a social framework for risk within the Anthropocene narrative, establishing which level of risk society is able to afford.[43] This principle was consecrated for the first time in Germany, within a federal programme for environmental protection in 1971, but it was not fully developed until 1976, when the federal government defined its goals on environmental protection. Since then it has shaped German environmental law, influencing the environmental protection policies and environmental law at a European level.[44] It has also been introduced also in international law, particularly since the Rio Declaration on Environment and Development in 1992, where the precautionary principle is explicitly consecrated.[45]

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[40] See Eduardo Gudynas, 'Seis puntos clave en ambiente y desarrollo' in Alberto Acosta and Esperanza Martínez (eds), *El Buen Vivir. Una vía para el desarrollo* (Abya-Yala, 2009) 46.

[41] See Renzo Respini, 'Tecnica e diritto nell'ambito della protezione dell'ambiente' in *Tecnica e diritto nell'ambito della protezione dell'ambiente. Atti della giornata di studio del 29 de maggio 1990* (Comissione ticinese per la formazione permanente dei giuristi, 1991) 4.

[42] See Yves Nicole, *L'étude d'impact dans le système fédéraliste suisse. Etude de droit fédéral et de droit Vaudois* (Payot, 1992) 21.

[43] See Wilhelm Mecklenburg, 'Über das Apriorische der Bundesfernstrassen' in Ludwig Krämer (ed), *Recht und Um-Welt. Essays in Honour of Prof. Dr. Gerd Winter* (Europa Law Publishing, 2003) 115.

[44] See Dick Hanschel, 'Progress and the Precautionary Principle in Administrative Law — Country Report on Germany' in Eibe Riedel and Rüdiger Wolfrum (eds), *Recent Trends in German and European Constitutional Law* (Springer, 2006) 180-181.

[45] Principle 15 of the Declaration establishes the following: "In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation." The UNFCCC refers also to the precautionary principle in a somewhat loose way in art. 3, para. 3.

iii. Cooperation

A third principle to be developed from the basic concepts of sustainability and justice is the principle of cooperation.[46] In the circumstances of fragmented governance of a planet subjected to transformation derived from anthropic activity, the cooperation between different actors seems to be advisable—citizens and state, corporations and public powers, different states etc. The Stockholm Declaration paves the way for considering the principle of cooperation as a part of the global reaction to the environmental crisis which results in the Anthropocene narrative.[47] The Rio Declaration is equally concerned with cooperation. It underlines particularly the importance of public participation, building an environmental democracy which is seen as the adequate strategy for governance in the context of the complexity of the global environmental crisis.[48] Social cooperation is completed in the Rio Declaration with institutional cooperation, considered in different parts of the text.[49]

Linking cooperation with responsibility and precaution, the explicit reference to indigenous peoples should be mentioned here, having "a vital role in environmental management and development because of their knowledge and traditional practices." For this reason, it states that we "should recognize and duly support their identity, culture and interests and enable their effective participation in the achievement of sustainable development."[50] Moreover, the UNFCCC states that "The Parties should cooperate to promote a supportive and open international economic system that would lead to sustainable economic growth and development in all Parties, particularly developing country Parties, thus enabling them better to address the problems of climate change."[51]

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[46] See Reiner Schmidt, *Einführung in das Umweltrecht* (3th edn, Beck, 1992), 7-8

[47] Cooperation is referred to in the principles 13, 24, 25 y 26 of the Declaration. The most explicit is the principle 24, stating that "[i]nternational matters concerning the protection and improvement of the environment should be handled in a cooperative spirit by all countries, big and small, on an equal footing. Cooperation through multilateral or bilateral arrangements or other appropriate means is essential to effectively control, prevent, reduce and eliminate adverse environmental effects resulting from activities conducted in all spheres, in such a way that due account is taken of the sovereignty and interests of all States."

[48] See the principle 10, which establishes that "Environmental issues are best handled with the participation of all concerned citizens, at the relevant level."

[49] See the principles 7, 9, 12, 14, 20 and 27. The latter provides that "[s]tates and people shall cooperate in good faith and in a spirit of partnership in the fulfilment of the principles embodied in this Declaration and in the further development of international law in the field of sustainable development."

[50] See the principle 22.

[51] See art. 3, para. 5 UNFCCC.

It seems reasonable to insist that cooperation, along with responsibility and precaution, should be integrated into the fundamental core of the legal response to the Anthropocene paradigm. Furthermore, it is consecrated in international documents exploring this response at the very beginning of awareness about the scope of anthropic activity on the Earth System. But all these principles should be developed within a framework of pragmatism, discarding the utopian main features of modern ideas about law.

III. THE CRISIS OF LAW AND LEGAL CRITICISM: UTOPIA AND SOVEREIGNTY IN THE REALM OF ANTHROPOCENE

The traditional foundation of Western modern law has been based on the idea of rights as defining the status of the members of a community and the idea of sovereignty as defining the status of each community.[52] These two fundamental ideas have characterized the conceptual framework of constitutional law governing a community of subjects entitled to certain rights, and international law developing a community of states, each one of them with an absolute dominion over itself.[53] The modern framework of constitution allowed the capitalist world-economy to expand, causing eventually the ecological crisis which marks the transition to the Anthropocene.[54]

However, maintaining sovereignty as a central idea of international law veils the inequities of the states' system and promotes self-deception about the international relations and global social metabolism.[55] On the other hand, focusing the community on the idea of rights stimulates the construction of the good upon the self-satisfaction and boosts Utopia. As Stephen Humphreys points out "[t]he authority of human rights law […] has always been premised on absolutes and universals rather than on contingencies and compromises."[56] For this reason, even though we admit the importance of human rights in channelling demands for recognition and compensation over climate change mitigation and adaptation, we ought to assume some kind of moderation provided by the

[52] The idea of rights as a foundation for the political community can be traced back to John Locke, *Second Treatise of Government* (C.B McPherson ed, Hackett, 1980).

[53] See Dinah Shelton, 'Equitable utilization of the atmosphere: a rights-based approach to climate change?' in Stephen Humphreys (ed), *Human Rights and Climate Change* (CUP, 2010) 93.

[54] See Georges Burdeau, *L'État* (Points, 1970) 39.

[55] See Astrid Epiney, 'Beziehungen zum Ausland' in Thürer, Aubert, Müller, above n. 27, 872.

[56] See Stephen Humphreys, 'Competing claims: human rights and climate harms' in Humphreys, above n. 53, 39.

idea of responsibility, which we have proposed as a strong principle on the road to a new legal thinking over the Anthropocene.[57]

The Earth Charter is a good example of this approach, exploring a new ethical horizon for a sustainable, equitable and respectful governance of the Earth System.[58] Its preamble states that "[e]veryone shares responsibility for the present and future well-being of the human family and the larger living world. The spirit of human solidarity and kinship with all life is strengthened when we live with reverence for the mystery of being, gratitude for the gift of life, and humility regarding the human place in nature."[59] The paradigm of 'rights' is flawed in the sense that it favours self-indulgence, stimulates Utopia and wishful thinking rather than responsibility, and is Western-biased promoting the capitalist world-economy as a hegemonic social structure.[60] The construction of modern citizenship has acted within strategies for homogeneity and the domination of the Global South, as well as the intellectual premise of the domination of nature.[61]

The construct of rights which boosted constitutionalism through the Revolutions of Enlightenment in the 17th and 18th centuries — in England, the United States, and France— is clearly related with a capitalist world-economy spreading. The creation of the individual entitled with constitutional rights allowed society to break away from the constraints of medieval institutions and promote an open and dynamic economy, which marks the entering into the capitalism.[62] Contrary to legal institutions of ancient Europe, or of non-Western cultures, capitalism strives for social homogeneity and individualism in order to provide an open playing field for commercial and financial exchange.[63] Rights,

[57] See Rolston, 'Rights and Responsibilities on the Home Planet', above n. 22, 252.

[58] See "What is the Earth Charter," <http://earthcharter.org/discover/what-is-the-earth-charter/> [accessed on March 13th, 2018].

[59] Moreover, the Principle 1 refers to "[r]espect Earth and life in all its diversity" and to "[c]are for the community of life with understanding, compassion, and love."

[60] See B.S. Chimni, 'Capitalism, Imperialism, and International Law in the Twenty-First Century' (2012) Oregon Review of International Law 14(1), 17, 28ff.

[61] For the case of Latin America see Consuelo Sánchez, 'Autonomía y pluralismo. Estados plurinacionales y pluriétnicos' in Miguel González, Araceli Burguete Cal y Mayor, Pablo Ortiz T. (eds), *La autonomía a debate. Autogobierno indígena y Estado plurinacional en América Latina* (FLACSO (Sede Ecuador), Cooperación Técnica Alemana (GTZ), Grupo Internacional de Trabajo sobre Asuntos Indígenas (IWGIA), Centro de Investigaciones y Estudios Superiores en Antropología Social (CIESAS), Universidad Intercultural de Chiapas (UNICH), 2010) 274-275.

[62] See Jacques Chevallier, 'Vers un droit post-moderne? Les transformations de la régulation juridique' (1998) 3 Revue de Droit Public 659, 661.

[63] As Alain Touraine has pointed out, in *Critique de la modernité* (Fayard, 1992) 55

based on ancient medieval franchises—more important in the English Revolution—and elaborated in the humanism of the Enlightenment—and crucial in the American and the French revolutions—were necessary to promote social mobility through the suppression of old hierarchies and to boost cultural and social assimilation into the capitalist economic process, as colonialism and particularly the treatment of indigenous peoples shows clearly.[64] In whichever case, the concept of rights in the constitutional tradition has been constructed from the original idea of individual ownership, i.e. possessive individualism.[65]

In the construction of new processes of social exchange in Western Europe at the end of the Middle Ages, culture, economy and politics concentrated on a new construct which operated as a basis for all of them: the human individual. This was an abstract reality deprived of concrete characteristics. This construct promoted innovation, social mobility and freedom, as well as loss of traditional knowledge, destruction of community life and homogenization.[66] In fact, rights are related with a bourgeois ethos and a utopian thought, both crucial in the construction of modern Western thought and in making valid and promoting a capitalist word-economy.

However, this utopian idea which is implicit in the discourse of rights, which are conceived in terms of absolute entitlements rather than desirable aspirations in a limited and vulnerable world, seems to have difficulty in adapting to the challenges raised by the Anthropocene narrative, where the whole Earth System is subject to transformation

[64] This changed with the Convention 169 of the International Labour Organization (ILO), of 1989, and the United Nations Declaration on Rights of the Indigenous Peoples, of 2007. Previously, the approach was clearly assimilationist, as shown in the Indigenous and Tribal Populations Convention, 1957 (No. 107), strongly influenced by the idea of the superiority of Western modern culture and by considering indigenous peoples as marginal. The treatment of questions such as the application of general legislation for indigenous peoples (Article 3), property (Article 11), removal (Article 12), or national agrarian programmes (Article 14) are examples of this perspective. The text of the Convention is available at <http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C107> [accessed on March 13th, 2018]. The Indigenous and Tribal Peoples Convention, 1989 (No. 169), available at <http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C169> [accessed on March 13th, 2018], has a different perspective, more sensitive to pluralism. This more sensitive point of view is also that of the United Nations Declaration on the Rights of Indigenous Peoples, <http://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf> [accessed on March 13th, 2018].

[65] See Joan Martínez Alier, 'Conflictos ecológicos y justicia ambiental' (2008) 103 Papeles de relaciones ecosociales y cambio global 11, 13

[66] See Jordi Jaria i Manzano, *La cuestión ambiental y la transformación de lo público* (Tirant lo Blanch, 2011) 17 ff.

through human activity in uncertain and entropic circumstances.[67] Utopian concepts over rights are linked to the reliance on the continuous progress of humanity, and also on an individualistic conception of reality, which seems not to fit with the conceptual innovations which the transition to the Anthropocene, and particularly climate change demand. In my opinion, the patterns of thought which the Anthropocene narrative requires should to be based on a pragmatic and holistic approach.[68]

Hence, a paradigm centred on rights should be substituted by one centred on responsibility, according with the fundamental principles mentioned in the previous section (responsibility, precaution, cooperation). This allows to substitute a utopian approach based on an implicit belief in unlimited resources, which is related with the binary all-or-nothing conception of the legal status provided by human rights, with a pragmatic one, centred on responsibilities and solidarity, taking care of limited resources in order to warrant sustainability and promote (intra- and intergenerational) justice.[69] Even recognizing that human rights can provide interesting tools regarding climate litigation and contribute to generate a global climate constitutionalism, they should be incorporated in a wider scheme defined by a less individualistic and utopian conception, i.e. "understanding rights in conjunction with responsibilities owed to nature (as well as future generations)."[70]

The Anthropocene narrative requires a social discipline over technology, which is related to the self-limitation of human aspirations and the assumption of responsibilities regarding the less favoured, future generations, life as a whole, and the Earth System. This implies adapting institutions and values to our capacity of transforming the biosphere, i.e. the support for our own life as individuals, communities and as a species.[71] In this context, we should not abandon human rights, but define them taking into account

[67] This is mostly related with a wide definition of human needs in the hegemonic political and legal discourses in the current world-system, as Dietrich Murswiek points out , 'Freiheit und Umweltschutz aus Juristicher Sicht' in Michael Kloepfer (ed), *Umweltstaat als Zukunft* (Economica, 1994) 65.

[68] See Glenn, above n. 23, 73.

[69] See, for example, the Eight Points of the Deep Ecology, above, n. 19. Particularly, the seventh establishes the following: "The ideological change is mainly that of appreciating life quality (dwelling in situations of inherent worth) rather than adhering to an increasingly higher standard of living. There will be a profound awareness of the difference between big and great."

[70] See Jordi Jaria i Manzano, 'The rights of nature in Ecuador: an opportunity to reflect on society, law and environment' in Robert V. Percival, Jolene Lin, William Piermattei (eds), *Global Environmental Law at a Crossroads* (Edward Elgar, 2014) 58.

[71] See Christian Calliess, *Rechtstaat und Umweltstaat* (Mohr Siebeck, 2001) 65.

the availability of resources and their universal scope, in time and space; hence, also taking into account that human rights in a limited planet shaped by anthropic action should be designed within a sustainable and equitable framework, i.e. conceived within a framework of pragmatic self-restraint.[72]

This nuanced approach allows us to preserve rights, avoiding an ecological fundamentalism insensitive to human dignity, and reshaping it in a realistic, holistic and respectful way.[73] Hence, the legal status of human beings should be based on rights and responsibilities, according to the requirements derived from the Anthropocene, projecting the fundamental values of sustainability and justice into the whole global society and into the future as well.[74] Within this scheme, rights should be combined with the idea of stewardship of nature not only for the sake of future generations, but also for the sake of nature itself, according to the principles of responsibility, precaution and cooperation.[75]

The other basic concept of modern constitutionalism is sovereignty. The constitution has been traditionally conceived as the expression of an original and unlimited power which allows a fundamental body of law to regulate the political life of a defined community. The sovereignty of the state is recognized in the international community, determining two different normative spheres, the international law and the national one.[76] This pattern defines the Wesphalian system, based on the equality between sovereign members, which theoretically can make their own decisions within their borders. This possibility of self-government is highly relative in the current global world-economy, and the equality of the states is at best a pious aspiration in a world-system based in the differentiation between centre and periphery.[77] This theoretical pattern of relations between states allows

[72] This is the point of view of deep ecology, upholding the intrinsic value of non human life and which has a negative idea of rights unless they are linked with "vital needs." See the Eight Points of the Deep Ecology, above, n. 19.

[73] On the risk of ecological fundamentalism, see Stephen Crook, Jan Patulski and Malcolm Waters, *Postmodernization. Change in Advanced Society* (Sage, 1992) 14.

[74] See Douglas A. Kysar 'Global Environmental Constitutionalism: Getting There from Here' (2012) 1(1) Transnational Environmental Law 83, 88.

[75] See Gudynas, above n. 24, 43-44.

[76] Accordingly, the Charter of the United Nations establishes that "[t]he Organization is based on the principle of the sovereign equality of all its Members." (Article 2, para. 1), available at <https://treaties.un.org/doc/publication/ctc/uncharter.pdf> [accessed on March 13th, 2018].

[77] See Antoni Pigrau et al., *International law and ecological debt. International claims, debates and struggles for environmental justice*, EJOLT Report n. 11 (2014), 10ff.

the exploitation of territories and resources to be in a legal framework within the global economy.[78]

There is evidence that economic relations in the global world are "extremely unbalanced and unfair", according to a structure promoting the exports of infravalued products, mostly from the global South, and the financial dependence of the periphery.[79] Hence the system of nation-states is based on extreme inequalities between its members, supposedly equal members of the 'club'.[80] The financial phase of the process of capitalist accumulation increases the inequality in the system of international relations originated in the colonial period. Moreover, a split is growing between the space of social reproduction, i.e. the global market, and the space of institutional representation, i.e. the nation-state. With this, it is not only equality between states which is at stake, but the very concept of sovereignty.[81]

Curiously, in the moment where nation-states cover the majority of the surface of the planet, after the process of decolonization, started at the end of the Second World War, the state is increasingly less able to fulfil its traditional functions. First in the periphery of the system, then in the centre—especially after the financial crisis of 2008, as is shown in the Mediterranean states of the European Union. Within this framework, new regulatory spaces, even new bodies of adjudication, appear and grow, channelling the consensus in the capitalist word-economy in a way which is moving away from the traditional spaces of democracy, severely affected by the crisis of the nation-state.[82]

According to this evolution, the economic space tends to become global, while the political space remains national. In this complex situation "the boundaries between domestic matters and global affairs may be blurred".[83] The global economy of recent capitalism is disjointing territory, power and market, where capital and technology are articulated within the global networks of production of goods and services, and

[78] See Martii Koskenniemi, 'Empire and International Law: the real Spanish contribution' (2011) 61 University of Toronto Law Journal 1, 12.

[79] See Timmons Roberts, Parks, above n. 10, 389.

[80] See Manuel Becerra Ramírez, Adriana Povedano Amezola and Evelyn Téllez Carvajal, 'La soberanía en la era de la globalización' in Manuel Becerra Ramírez and Klaus Theodor MüllerUhlenbrock (eds), *Soberanía y juridificación de las relaciones internacionales* (UNAM. 2010) 63.

[81] See Peter Muchlinski, 'Corporations in International Litigation: Problems of Jurisdiction and the United Kingdom Asbestos Cases' (2001) 50 International Comparative Law Quarterly 1.

[82] See Carlos de Cabo Martín, *Pensamiento crítico, constitucionalismo crítico* (Trotta, 2014) 54-55.

[83] See David Held et al., *Global Transformations. Politics Economics and Culture* (Polity, 1999) 15.

distribution of capital, and the control of territory loses importance. This is caused by the speed of the circulation of information around the planet, which allows speculation, destabilizes democratic frameworks and menaces social cohesion.[84] All this is happening within a regulatory framework which reduces the discipline of capital movements, favoured by the International Monetary Fund, creating spaces of opacity, lacking democratic accountability and control by the courts, with the corresponding autonomy of the financial system from the states.[85]

In this context, "worldwide trading of currencies and government bonds means that exchange rates and interest rates, two critical variables in the formulation of national macroeconomic policy, are determined in the context of global financial markets".[86] This situation is linked to the deregulation of financial markets, boosted by the technological evolution which allows a rapid and global management of information, providing global financial fluxes with more volume and speed.[87] Hence, governance of global social reproduction expands beyond the traditional limits of nation-state, and transnational corporations as well as social movements are now relevant in the construction of international society.[88] This places the nation-states, even in the centre of world-economy, in a situation of power loss against institutions and companies which were subordinated to them in the past.[89]

Consequently, given the globalization of problems, processes and actors in the current phase of capitalist accumulation, the interdependence of states, supranational and international organizations and the incorporation of new actors in the international arena, the traditional concept of sovereignty should be considered relativized. This means major consequences in the constitutional theory and practice, and in the legal discourse as a whole.[90] Particularly, this places the nation-states, which traditionally were centres of

[84] See Miguel Carbonell, "Globalización y derecho: algunascoordenadas para el debate" in Miguel Carbonell and Rodolfo Vázquez (eds), *Globalización y Derecho* (Ministerio de Justicia y Derechos Humanos, Ecuador, 2009) 27.

[85] Vid. Joseph Stiglitz, *The Price of Inequality* (Norton, 2013) 227.

[86] See Held et al., above n. 81, 189.

[87] See op. cit., 201.

[88] See op. cit., 50.

[89] See Ana M. Jara Gómez, 'Agentes transnacionales y eficacia horizontal de los derechos humanos. Una reflexión en torno a la demanda de Hazel Tau contra Glaxosmithkline y Boehringer Ingelheim' (2008) 3 Teoría y Derecho 323, 328.

[90] See Epiney, above n. 55, p. 872.

political power through the idea of sovereignty, in a subordinate and dependent position.[91] As Sam Adelman has pointed out, sovereignty becomes "the largest unresolved problem of political modernity and the biggest impediment to dealing with climate change".[92] It seems that, in order to adapt global society to the Anthropocene and channel political action to sustainability and justice, it is necessary to make a profound critique on the fundamentals of constitutionalism.

IV. JUSTICE AND PLURALISM

Sovereignty and rights, based on a religious and utopian concept of humanity, have been ideological artefacts favouring the exploitation of human resources and inequalities between centre and periphery in the construction of the capitalist world economy. Any governance concept aiming to secure justice should start form a critique of both concepts, recognizing them as culturally biased and related to the construction of hegemonies. These concepts, based on Western dominance, are justifying the state of things and contributing to injustice and unsustainability, drawing "a direct line between the wealth and lifestyles of some and the suffering of others."[93] Pluralism is clearly linked to justice, and we should now explore how environmental justice contributes to design an alternative framework aiming for justice and recognition in the Anthropocene.

Environmental justice was born in the United States around the end of the seventies. With this concept activists aimed to point out the varied exposure to environmental degradation and pollution of non-white communities in the US. In the aftermath of the civil rights movement, they talked about environmental racism.[94] The main concern of original activism over environmental justice was the distribution of harm derived from the use of natural resources, particularly related to pollution, as well as the exclusion of black people in the decision-making processes about facilities with significant environmental impact.[95]

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[91] See Andrés Barreda, 'Geopolítica, recursosestratégicos y multinacionales' (2005) *Pueblos*, available at <http://www.revistapueblos.org/old/spip.php?article311> [accessed on April 22th, 2018].

[92] See Sam Adelman, 'Rethinking human rights: the impact of climate change on the dominant discourse' in Humphreys, above n. 53, 166-167.

[93] See Stephen Humphreys, 'Competing claims: human rights and climate harms' in Humphreys, above n. 53, 38.

[94] See Adam S. Weinberg, 'The Environmental Justice Debate: A Commentary on Methodological Issues and Practical Concerns' (1998) 13(1) Sociological Forum 25.

[95] The US Environmental Protection Agency has defined environmental justice as "the fair treatment and meaningful involvement of all people regardless of race, colour, national origin, or income, with respect

The original idea of environmental justice was centred on the distribution of burdens, ignoring the share of benefits.[96] Even now, the US Environmental Protection Agency (EPA) refers to environmental justice as "protection from environmental and health hazards."[97]

Given the evident shortcomings in the global social metabolism, the idea of environmental justice moved easily to the international arena, appealing to the activists in the global South fighting against environmental degradation, over-exploitation of natural resources and aggressive policies of corporations and governments.[98] Therefore environmental justice has evolved into a regulative system orientated towards a fair distribution in global social metabolism.[99] Hence, environmental justice is here as an alternative pattern to sustainable development, taking into account the vulnerability and scarcity of natural resources in the context of the Anthropocene.[100]

This implies an alternative constitutional idea, aiming for a legal framework which is integrative and equitable, spreading into different legal spheres within the pervasive character of constitutional norms.[101] It seems reasonable at this stage to consider that environmental justice is the thread linking sustainability and justice; hence, an axiological matrix focusing on the main features regarding the transition to the Anthropocene. Besides, it seems to overcome the utopian fundamentals of liberal constitutionalism—sovereignty and rights—in a pattern focused on responsibilities and interconnectedness. Accordingly, environmental justice seems a promising concept in order to advance into a

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to the development, implementation, and enforcement of environmental laws, regulations, and policies". This implies "the same degree of protection from environmental and health hazards" and "equal access to the decision-making process to have a healthy environment in which to live, learn, and work". See United States Environmental Protection Agency, 'Environmental Justice', available at <https://www.epa.gov/environmentaljustice> [accessed on March 13th, 2018].

[96] See Luke W. Cole, Sheila L. Foster, *From the Ground Up. Environmental Racism and the Rise of Environmental Justice Movement* (New York University Press, 2001) 66; Susan L. Cutter, 'Race, class and environmental justice' (1995) Progress in Human Geography19(1) 111, 112.

[97] See United States Environmental Protection Agency, above n. 95.

[98] See Ruchi Anand, *International Environmental Justice* (Ashgate, 2004), 15.

[99] See Jordi Jaria i Manzano, "Environmental Justice, Social Change and Pluralism" (2012) 1 IUCN Academy of Environmental Law e-Journal, 18.

[100] See op. cit., 20ff.

[101] See Jordi Jaria i Manzano, "Governing a global community. The necessary transformation of international law into a constitutional order to address unequal exchange,", in Pigrau et al., above n. 77, 98ff.

constitutionalization of the Anthropocene and, particularly, in constructing a constitutional idea to deal with climate change.

In fact, environmental justice has inspired confluent ideas, such as energy justice and climate justice, which are treated in different chapters of this book, clearly related to global governance in the Anthropocene and climate constitution. Here, it is important to underline that justice as a backbone of law should be adapted to the vulnerability of the Earth System and to sustainability.[102] According to this, some equitable distribution of burdens and benefits should be operated within the current generation as well as future generations.[103] This is why the three fundamental principles formulated in Section II make sense within this legal approach to the Anthropocene narrative, based on the basic concepts of sustainability and justice.

But justice is not only distribution, but also recognition. In this context, any model of environmental/energy/climate justice should take into account minorities as well as pluralism, accepting a dialogue between different forms of knowledge and praxis, and overcoming the Western ethnocentrism.[104] A pluralist approach to law and governance allows debate on the fundamental assumptions of a capitalist world-economy, that have defined and determined the hegemonic forms of law in the last centuries.[105] Accepting that the social metabolism derived from this system of social reproduction has to be revised in the event of transition to the Anthropocene, and considering issues of justice and sustainability, the way to think law in an intercultural way should open up giving

[102] Precisely climate change makes visible this vulnerability. See Jesse Ribot, 'Cause and Response: Climate Vulnerability in the Anthropocene' (2014) 41(5) Journal of Peasant Studies 667.

[103] See Richard P. Hiskes, *The Human Right to a Green Future. Environmental Rights and Intergenerational Justice* (CUP, 2009) 58.

[104] See Lourdes Montero Justiniano, 'Una Economía para la Inclusión', in *Miradas. Nuevo Texto Constitucional* (La Paz: Instituto para la Democracia y la Asistencia Electoral, Vicepresidencia del Estado Plurinacional de Bolivia, Universidad Mayor de San Andrés, 2010) 593. These alternative social and economic practices are not necessarily incompatible with market economy, which is not to be developed forcibly through capitalist accumulation. See Amartya Sen, *Identity and Violence. The Illusion of Destiny* (New York, London: Norton, 2006) 136-137.

[105] Environmental crisis, as global crisis of civilization in the context of the Anthropocene narrative, boosts the value assigned to (cultural) pluralism. See Isidoro Moreno Navarro, 'Quiebra de los modelos de modernidad, globalización e identidades colectivas' in José Alcina Franch and Marisa Calés Bourdet (eds), *Hacia una ideología para el siglo XX. Ante la crisis civilizatoria de nuestro tiempo* (Akal, 2000) 129.

voice to other people and other cultures in the construction of a constitutional discourse with global perspective.[106]

The construction of an international community following Westphalian patterns has been flawed by ethnocentrism and Western chauvinism.[107] The establishment of structures of power and legitimacy promoting acculturation imposing the construct of the human individual as a basis of any acceptable political community and the nation-state as an institution have collaborated to implement capitalism and massive resource exploitation. Furthermore, this has excluded significant human groups in the emerging global metabolism.[108] Both, questions of justice and sustainability stand out, making recognition a main issue in any new idea of constitutionalism matching the Anthropocene narrative.

Accepting pluralism in a global community is the way to overcome the cultural crisis which is linked to the environmental one.[109] This is the reason why it is advisable to reject the aspiration to build a global polity governed by a single constitution derived from a unique *pouvoir constituant*.[110] When we talk about global (climate) constitutionalism, a very different idea stands out, some kind of shared constitutional culture defined always in a provisional way and made specific in the decisions of different courts. These decisions derive from different rules and principles against the backdrop of a plurality of sources of law within a constitutional texture. We are proposing pluralist constitutional dynamics where citizenship and identity are also diverse, and where centripetal and centrifugal forces are kept together.[111]

The global playing field should be combined with local spaces of social self-determination accepting complexity as the best way to deal with complexity (social and natural) in the Anthropocene. Curbing the entropy and mitigating climate change have to

[106] With this, the memory of the species is preserved and can be used to confront the enormous challenge of governing the Earth-system. See Víctor M. Toledo, '¿Por qué los pueblos indígenas son la memoria de la especie?' (2009) 107 Papeles de relaciones ecosociales y cambio global 27. This is the approach of the Convention on the Protection and Promotion of the Diversity of Cultural Expressions, of 2005, available at <http://portal.unesco.org/en/ev.php-URL_ID=31038&URL_DO=DO_TOPIC&URL_SECTION=201.html> [accessed on August 1st, 2018].

[107] See William Twining, 'Law, justice and rights: some implications of a global perspective' in Jonas Ebbeson, Phoebe Okowa (eds), *Environmental Law and Justice in Context* (CUP, 2009) 77.

[108] See Chevallier, above n. 62, 664.

[109] See Jaria i Manzano, above n. 15, 94.

[110] Vid. Richard Beardsworth, *Cosmopolitanism and International Relations Theory* (Polity, 2011) 14.

[111] See Riccardo Guastini, 'La Constitución como límite a la legislación' in Miguel Carbonell (ed), *Teoría de la Constitución. Ensayos escogidos* (Porrúa, 2005) 235.

do with reducing homogenization and promoting pluralism. Aspects of justice and efficiency are mixed in this idea. These spaces of self-determination should be put in the context of the principles of responsibility and precaution, giving local communities not only the opportunity but also the duty of care for their immediate environment.

However, we should not give in completely to global governance, implied in the idea of the Anthropocene, but only assume that this governance should consist in fragmentation and pluralism, negotiation and diversity, more than in replicating spaces of homogeneity similar to nation-states[112]. In such a context, groups and individuals can use their autonomy as political and legal actors within complex and plural systems of decision-making, inclusive and participative, aiming to create more sustainable and equitable dynamics through of social exchange.[113] This framework should make possible the vital development of individuals, the flux of cultural reproduction in communities of different scope and the survival of the human species.[114]

Finally, establishing a relationship between justice and cultural pluralism, the entitlement of non-human beings should be explored—particularly the nature as a whole—with some legal status, not by means of human species, but by its intrinsic value. This brings in certain conception of indigenous peoples and the so-called chthonic law.[115] Of course, any attempt at bringing justice beyond the human realm causes some concern.[116] Any holistic perception of an Earth System seems to consider this, and makes it necessary to explore ecological justice, which goes beyond environmental justice to the extent that it includes a non-human perspective.[117]

[112]Some defend the idea that global governance should not destroy particular polities, but rather integrate them. In fact, as Marxists have pointed out, any kind of global government implies the risk of imperialism. See Beardsworth, above n. 110, 139.

[113] Recognition of cultural pluralism at an international level is growing, particularly giving more room to indigenous peoples' demands. See Christoph Beat Graber, 'The new UNESCO Convention on Cultural Diversity: a Counterbalance to the WTO?' (2006) 9(3) Journal of International Economic Law 553, 558ff.

[114] See Alejandro Mora Rodríguez, 'La racionalidad de la economíacapitalista y la vidadigna de las personas' (2008) 107 Papeles de Relaciones Ecosociales y Cambio Global 11, 23.

[115] See Glenn, above n. 23, 66.

[116] See Bosselmann, above n. 21, 79.

[117] More remarks on this in Section II of this Chapter.

V. FRAGMENTATION, FLUIDITY AND INTERTEXTUALITY

The very idea of pluralism demands a new concept of constitution.[118] We are used to conceiving constitution as a single document defining the institutional framework and fundamental values of a certain community. Global governance demands an open concept of constitution, where different texts with constitutional intentions merge into a single act of interpretation in each concrete case. Since we start from the relativization of classical concepts of sovereignty and rights, we should conceive of the constitution as an open network of signals where a dialogue between different concepts is argued under the constraints of justice and sustainability rather than a monolithic block of regulations.[119] We are confronting the necessity to abandon classic categories of constitutionalism, preserving this tradition as a normative framework of social life, but transforming it into a fragmented, fluid and intertextual construct, open to changes, allowing us to adapt to the challenges of the Anthropocene.

When we are think about the radical challenges that the Anthropocene narrative imply at all levels of human experience and social reproduction, we should accept that it demands radical changes in the law as well. Considering that lawyers are used to being very conservative in reading reality, innovation is also necessary in their job in order to remain as relevant social actors. In my opinion, this means discussing a fundamental idea strongly embedded in hegemonic legal thought: legal certainty. The construction of normativity seems that could no longer be a mere derivation of an existing body of law but to exert some kind of constructivist effort with different materials in an open way, where law is something to be worked on, not given.[120]

We are progressing from justice to pluralism, and from pluralism to constructivism. All this implies questioning the methodological assumptions of legal positivism, the hegemonic ideology of Western legal modernity and, consequently, the legal framework

[118]A more detailed development of these ideas in 'Introduction: The Global Polity, a Constitutional Approach to the Anthropocene Narrative and Climate Change Governance', written by Susana Borràs and myself, in this volume.

[119] See Anna Margherita Russo, 'Un nuevo "juegointeractivo" en el tablero de ajedrez del derecho transnacional: la cooperación territorial transfronteriza en el marco jurídico europeo' (2013) 47 Revista Catalana de Dret Públic 159, 164-165.

[120]This deliberative and open concept of law is related to the idea of an open society of constitutional interpreters in Peter Häberle. See his work *Europäische Verfassungslehre* (6th edn, Nomos, 2011) 204. In the field of common law, the concept of the constitution as a deliberative process has also got its supporters, following Francis Lieber during the first half of the 19th century. See Guyora Binder, Robert Weisberg, *Literary Criticisms of Law* (Princeton University Press, 2000) 50.

of the capitalist world-economy. The responsibilities associated with justice and sustainability demand a change in the contents of law, which have been summarized in previous sections, but also implying changes in the form of the law. This needs to be conceived beyond the closed systems of state law and international law, and constructed as a crucible of discourse and discussion in a plural, non-hierarchical, integrated and evolving world. Certainly, this a modification in the practice of lawyers, as well as in their training.

Moreover, the holistic perspective linked with the Anthropocene narrative requires an interdisciplinary approach to governance, where law should occupy a place with other disciplines, within truly open politics able to integrate forms of knowledge different from established regulated and traditional science. The hyperspecialization of hegemonic technological knowledge, where the legal form is positivism, should be counterposed to a holistic conception, adequate to manage pluralism and complexity in the global scheme demanded by the necessity to govern the anthropic impact on the Earth System[121]. In my opinion, all this implies the opportunity to incorporate creativity and innovation into legal training, practice and theory and reconsider the role of certainty, most doubtful in a Heisenbergian world.[122]

In accordance with this, I should underline that it is important to have a wide perspective regarding the concept of what law is, which implies overcoming the traditional fragmentation of legal disciplines as well as going beyond the borders of local law, taking comparison seriously as a means to define a new legal discourse.[123] From there, a legal professional should build connections with non-legal disciplines, including social ones, such as economic or sociological, as well as hard science and technology, establishing inclusive platforms of interdisciplinary dialogue. This would have an impact on the construction of evidence, which is another key question in the paradigm shift.

[121] This seems to be the point of the Gaia hypothesis, proposed by James Lovelock, which aims for an integration of human knowledge and action into a holistic reality called Gaia. See James Lovelock, Lynn Margulis, 'Atmospheric homeostasis by and for the biosphere: the Gaia hypothesis' (1974) XXVI(1-2) Tellus 2.

[122] Uncertainty is also growing in the domain of law, eroding the idea of legal certainty within a ductile and changing context. See Eva Desdentado Daroca, *La crisis de identidad del Derecho Administrativo: privatización, huida de la regulación pública y Administraciones independientes* (Tirant lo Blanch, 1999) 45.

[123] See Konrad Zweigert, Hein Kötz, *Introduction to Comparative Law* (3rd edn, OUP, 1998) 21-22.

We are confronted with a complex reality and plural normative materials to be used in specific social conflicts within the framework of social action of a planetary dimension. Hence, it is necessary to go beyond the inductive analogy of precedent, in the case of common law systems, or the subsumption of a case to the general rule, for the civil law tradition.[124] The question is to advance with a law centred on the interpretation and the argument, overcoming the restrictions imposed by legal positivism to provide a labile and evolving constitutional discourse. This should define the social consensus in a provisional form, in concrete social conflicts, recognizing that constitutional discourse as such is conflictive and demands a profound sense of social and political integration in judicial practices.[125] This is where we can speak seriously about an environmental rule of law or *ökologisches Rechtsstaat*, provided that it implies a change of model in the content as well as in methodology.[126]

VII. CONCLUSION: ANOTHER WORLD, ANOTHER LAW

An open, evolving, pluralistic constitution, based on the fundamental ideas of sustainability and justice, and developed through the principles of responsibility, precaution and cooperation, could be called a constitution of fragility. This can be seen as a social tool to channel social action over the Earth System, vulnerable and limited, taking care of it, as well as of the different forms of life on it, and the individuals and communities, present and future. This idea can be a matrix for developing law in the Anthropocene, which should be expressed into a paradigm shift, affecting contents and forms, concepts and practice. This chapter has been devoted to exploring some of these new approaches, starting with a critique of the foundations of the current law, which preserves hegemonies both at international and national levels, leading to the unsustainable and inequitable dynamics of a capitalist world-economy. This is the form of social reproduction which has built a global world while threatening it.

In the end, it seems important to understand the importance of innovation in legal ideas and practice, as well as in other fields of human knowledge, in order to provide tools to

[124] See Chevallier, above n. 62, 668.

[125] Vid. De Cabo Martín, above n. 83, 59.

[126]About the *ökologisches Rechtsstaat*, see Michael Ronellenfitsch, *Selbstverantwortung und DeregulierungimOrdnungs- und Umweltrecht* (Duncker&Humblot, 1995) 10.

adapt to the most important crisis that our species has undergone in its entire existence. Obviously, a theoretical job is to be done—in fact, it has already begun, but it is also important to develop new practice. The courts are the place to test new concepts to develop a new constitutional framework in order to transform legal practices and institutions. This would be a process of adaptation which cannot be limited to the usual political forms of participation, but requires a comprehensive social action where politics, activism and law, together with social practices and economic institutions are involved. This is an exploration of how law can evolve in this situation, preserving its social relevance as a pattern for disciplining society and solving conflicts.