

ECOLOGIZING LEGAL SCIENCES: AN APPROACH FROM COMPLEXITY THEORY

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ABSTRACT

This article aims to (re)signify the legal sciences from their anthropocentric basis and to understand a review of the epistemological pillars and theoretical models that, despite legislative changes with environmental content, have not achieved success in the process of the legal sciences transversality. The proposal for ecologizing the legal sciences represents the result of a configuration that starts from a human-human relational notion as a fundamental part of new and final meanings, of complete foundations for the elaboration of law as an object of study. Dialectical methodology was used and it goes from an accumulation stage as a manifestation of the incorporation of environmental problems in law, going through contradiction, integration and synthesis, as a qualitative leap that promotes the ecologization of the legal sciences.

Keywords: legal sciences; environment; complex paradigm.

ENVERDECER LAS CIENCIAS JURÍDICAS DESDE EL PARADIGMA DE LA COMPLEJIDAD

RESUMEN

Este artículo aspira a dar cuenta de la importancia que significa replantear a las ciencias jurídicas desde una base no antropocéntrica y dar sentido a una revisión de pilares epistemológicos y modelos teóricos que, a pesar de cambios legislativos con contenido ambiental, no alcanzan un planteamiento transversal en las ciencias jurídicas. La propuesta del enverdecimiento de las ciencias jurídicas representa el resultado de una configuración que parte de una noción relacional humana-no humana como parte fundamental de nuevos significados

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y por ende, de nuevos fundamentos complejos para la elaboración del derecho como su objeto de estudio. La metodología es la dialéctica y va desde una etapa de acumulación como manifestación de la incorporación de la problemática ambiental al derecho pasando por una de contradicción, integración y de síntesis, como salto cualitativo que propone el enverdecimiento de las ciencias jurídicas.

Palabras clave: *ciencias jurídicas; medio ambiente; paradigma complejo.*

INTRODUCTION

Today's societies are at risk of extinction. In this sense, there are alarming studies that reinforce and offer data on world poverty, as revealed by the Global Multidimensional Poverty Index (IPM), published by the United Nations Development Programme (UNDP). The Red List of Threatened Species worldwide, provided through multiple NGOs and organizations, denounces the interference of Power against nature and life, exposing the current scenario. What is presented shows the probability of the human species going extinct, far from being an unfounded alarm, and becoming, nowadays, a close possibility that demands profound transformations.

In this sense, environmental crises and how they impact social dynamics represent one of the most complex problems faced today. In this context, the legal sciences should offer innovation strategies to face the contradictory stage of the relationship between society-nature-nature-society, with the main purpose of recognizing the systemic, inevitable and non-linear component of this relationship, in addition to the challenge of incorporating a concept that strengthens thinking based on interrelationship, association, and relationship.

For this, the legal sciences should be revised as collaborators of the current bases of the political-legal organization, and the jurist, as an agent of change, should enable the critical debate about his conservative paradigms as a process of self-reflection, due specially to the strangeness caused when, despite the transcendence of these themes, they did not reach the general scope of the socio-legal debate. This occurs because attention is more focused on analyzing legislation, and on the legislator as an agent of change, which reduces the theoretical commitment within scientific communities, since the insufficiency of models, paradigms and theoretical bases that depend on scientific communities is not always reviewed. In this sense, one should seek answers from the scientific communities in relation to the following question: to which society project does one want to contribute? And with that, how to participate from its scope to provide solutions to the problems of the current world?

Consequently, this article is based on the following questions: do the legal sciences, faced with environmental crises and the contradictory relationship between society-nature-nature-society, remain subject to partial solutions that depend on the legislator's proactivity? Or are the legal sciences, based on their own scientific activity, which are in a position to

review their epistemological bases, paradigms, theories and models, which means the revision of the bases that organize their legal knowledge, to deepen the complex society-nature-nature-society relationship?

The objective of this work is to review the theoretical models, premises and paradigms that maintain the anthropocentric and non-eco-social foundations present in the legal sciences and, thus, proposes to ecologize the legal sciences.

In this sense, the central idea developed in this article is not only oriented to demonstrate that environmental crises are a source of scientific problems for the legal sciences, whether for legislative revision, creation of principles and elaboration of legal models, but that they, in addition, put in the agenda the presence of a classic or simplicity paradigm as a strategy to legally address the environmental problem. It is mainly present in the fragmentation of the theme and in the maintenance of the anthropocentric focus; likewise, in the presence of “objectual,” atomistic and, in some way, fragmented thinking with which it is addressed in the themes.

Thus, this article aims to incorporate the contributions of the so-called paradigm of complexity, which came to conceive changes in the subject-object epistemic relationship of knowledge, especially in second-order epistemology, which integrates the subject as a researcher in the object as subject in the reflective process, as addressed by Sotolongo and Delgado (2006). It is also rethought from a new notion of dynamic reality as emerging regularities, without fixed purpose restrictions, considering the contributions of Varela (2006). This to adopt, in the same way, the connection that the categories of complex systems mean, for the study of the social and of the natural, as proposed by García (2006), and, in addition, validate the contributions of the life history and the complex conceptual models of Capra (1992; 1998).

Consequently, the reflection of new thinking is incorporated to address these new notions, such as the Complex Thinking proposed by Morin and which mainly recognizes the objects of study and their problems in a complex way, in interrelations with their dialogues and contradictions, considering the dynamics of movement between whole-part-part-whole in a non-linear way, but in recursion loops (MORIN, 2003). This complex thinking should contribute to the legal sciences to rethink their approaches and even the way to make legal criticisms (GÓMEZ, 2012b), especially to be in agreement and coherence in the face of the environmental crisis depth.

Likewise, the legal sciences, when validating epistemological

dimensions that integrate the subject as a researcher present in the object, not only do the exercise of describing legal norms, but also incorporate subjectivity, or, as stated by Valle (2006), admit that there is an internal legal culture and this implies a subjective mastery of the legal experience that mediates through theoretical models, ways of thinking about Law, determines paradigms and assumptions of readings and interpretations. As Atienza points out, it provides criteria for the production and application of Law (ATIENZA, 2016). In other words, each time the criteria are classified, evaluated or compared, they are selected and, in addition, the object of study is defined and constructed with the contribution of scientific models and paradigms, which leads to the need to formulate an answer more consistent with the environmental issue that expresses the relationship between society-nature-nature-society and legal sciences.

For methodological development, comprehensive knowledge of philosophy and the scientific paradigm of complexity will be used to review the essences and dynamics of their transversal relationships and theoretical limitations. Going from the review of a specific movement for the beginning of the stages and environmental legal awareness to move towards the analytical review of those that, a priori, of the categories and of the legal sciences, as a process of quantitative accumulation of the environmental problem in law. Subsequently, it moves to an integrating stage of ecologization of the legal sciences, as a representation of a qualitative leap, mainly as a legal proposal for a strategy to produce innovative legal knowledge, with an aspiration for survival.

For this, the bibliography that provides relational theories for the critical review of reductionist perspectives was used. Malpartida (2004) is among the authors studied, and he highlights that the tendency in our language is to objectify, to substantiate, which has been supported by a classic paradigm of simplicity, which in the words of Morin (2003, p. 55), “[...] sees it as One, or Multiple, but cannot see that the One can be Multiple at the same time. The principle of simplicity either separates what is connected (disjunction), or unifies what is diverse (reduction).”

For this end, the contributions of the perspectives of complexity proposed by Capra are valued, as his proposal of plots of life and epistemological twists.

1 ACCUMULATION STAGE: INCORPORATION OF THE LAW ENVIRONMENTAL PROBLEM AND THE LIMITATION OF THE CLASSICAL PARADIGM TO INNOVATION

It is necessary to recognize that, for a long time, there was regulation of themes that, nowadays, would be considered environmental issues, such as the water regulations, in force since 1831 (OBANDO-CAMINO, 2009), and even considered in Digesto (MUÑOZ, 2014); or, in general, the different normative managements that aim to contain the negative effects on health and the environment (CAMACHO, 2010). These were strategies designed to provide answers to a specific question and not in the context of a global ecological awareness such as that which emerged in the mid- and late twentieth century, which is why it could constitute a remote antecedent for this stage.

- *Early warning phase with partial approaches, legislative commitment:* Regarding what was called the accumulation stage of incorporating environmental issues into the law, it is possible to recognize a process that begins with an early warning phase, with partial approaches. This implies a quantitative accumulation of legal norms – special laws, international treaties, regulations, ordinances and regulations of all times on the subject – that have been incorporated into the law as need to control human behavior, whether in the sphere of doing, of not doing, and responsibilities towards nature. This could be considered, mostly, a social control mechanism in partial areas (pollution, restrictions, consumption, hunting, etc.). This phase is much more oriented towards providing normative answers, where the committed agent of change is the legislator.
- *Integration phase, Environmental Law and jurist commitment:* this phase represents a moment of synthesis and part of a process of normative accumulation and significant response; a stage of a greater degree of unification and pretension to comprehensively address the problems of the society-nature relationship. Here, it is the emergence of a new branch known as Environmental Law, defined as “... the environmental legal system as a system of rules, rules of conduct, principles, norms and social customs and documents written in general, at its different levels or scopes: international, national, district and local ”(FERNÁNDEZ-RUBIO, 2006). Not to mention the various other concepts given by national and international doctrine that can be found in the countless manuals currently existing in the area, such as those by Fernández, who

considers law a science that regulates the actions of society's conduct and, from there, points out in its first part that Environmental Law is a set of principles, laws, norms and jurisprudence that regulate human conduct in the environmental field (FERNÁNDEZ, 2004), also defined as a legal discipline composed of a set of regulatory norms of public and private law relations that discipline the rational use and conservation of the environment (CAFFERATTA, 2004), or to achieve a balance between human relations and the environment to which it belongs, in order to obtain a healthy environment and a sustainable development (ANDALUZ, 2006).

This new branch of specialization that emerges as a new knowledge organization in the legal sciences begins to be refined since the adoption of the Declaration of the United Nations Conference on the Human Environment, (Stockholm, 1972). This stage unleashes a fruitful legal process for creation, development and proliferation of legal norms that range from high-ranking national ones, as constitutions that address the theme of different possibilities and perspectives,² to a varied and important inclination for the generation of international regulations, which perceive that environmental problems are those that cross borders. Among others, it is possible to mention the emblematic ones, such as 1985 Vienna Convention for the Protection of the Ozone Layer; 1982 United Nations Convention on the Law of the Sea; 1992 Convention on Biological Diversity; 1992 United Nations Framework Convention on Climate Change; Declarations as those of 1992 Rio Declaration; and Protocols as the 1988 Kyoto Protocol.

However, this phase involves not only the legislator, but also the legal sciences, the jurist's scientific activity. This implies a theoretical process that translates into a strategy to compromise participation in the context of the environmental crisis – present and future risk. Firstly, it is a normative analysis of monitoring, ordering and elaborating principles of a whole set of rules that regulate human relations, when considering both actions and omissions that contaminate or affect ecosystems.

² As an example, the 1975 Greece Constitution, which states that the protection of the natural and cultural environment is an obligation of the State, as amended later; then, the Constitution of the Portuguese Republic of 1976, which mentions the environment and quality of life in its art. 66 ; the 1978 Spanish Constitution, which not only establishes the right to enjoy an environment, but also establishes the duty to preserve it. In America, 1972 Panama Constitution; 1976 Cuba Constitution; 1979 Peru Constitution; 1983 El Salvador Constitution; 1986 Nicaragua Constitution, and 1991 Colombia Constitution can be recognized, not to mention the evolved protections to nature established by constitutions of the Republic of Ecuador (2008) and the Plurinational State of Bolivia (2009).

Secondly, this discipline also deals with the reflection of itself, its naturalness. For example, Astorga characterizes Environmental Law as a *sustratum ecológico*, that is, as its object is protected by the environment, it is of a singular specialty, where the scope of the standard cannot be adjusted to the limits of borders, with a *preventive emphasis*, with a *regulated technical component*, maintained by different specialties, with a remuneration nature related to the polluter pays principle and with primacy and collective interests (ASTORGA, 2005).

Thirdly, in this integration phase, accumulation takes on a particular connotation of dogmatic production and theoretical deepening, especially with the formation of a specialized scientific community through specialization and graduate studies, as well as doctorate and master's degrees in the area; a network of scientific meetings through congresses, conferences, symposia and others, and a variety of specialized magazines, just to illustrate its development.

- *Generalization and deepening phase*: there is not only deepening of the Environmental Law discipline, but there is also a generalization for almost all branches of law, which have started to admit environmental issues, from their different spheres and particularities, including it in their categorical and doctrinal plots and debates. For example, National and International Public Law has been one of the main recipients on the subject;³ in Criminal Law, new considerations or new legal assets, such as the environmental, are debated, (OCHOA, 2014; MATUS ACUÑA et al., 2003), new environmental crimes, new international jurisdictions (MOSCOSO, 2014); also, in civil law, the theme of non-contractual liability for environmental damage appears (MEDINA; AGUIRRE; SARANGO, 2017); in Constitutional Law, the area of recourse to protection or writ of amparo, such as art. 20 of the Political Constitution of the Republic of Chile; and, in the same way, there is the whole range of Latin American neoconstitutionalism, with contributions from the constitutions of Bolivia, Venezuela, Ecuador and Colombia. Notable authors have also started to take on a relevant part of the theme, such as Zaffaroni, with his text *La Pachamama y el humano*, in which he

³ 1968 Intergovernmental Conference for Rational Use and Conservation of the Biosphere, known as the "Biosphere Conference," held in Paris, organized by UNESCO, in collaboration with the United Nations; the Food and Agriculture Organization of the United Nations (FAO); World Health Organization (WHO) and the International Biological Program of the International Council of Scientific Unions and the IUCN; 1972 Conference on the Human Environment, held in Sweden, Stockholm; 1992 Earth Summit in Rio de Janeiro, Brazil; the 2002 World Summit on Sustainable Development in Johannesburg, South Africa. Beyond the prolific range of Summits; about climate change, wetlands etc.

emphasizes that, despite the advances with different legal assets and the creation of criminal types, it is not dissociated from the human being (ZAFFARONI, 2011).

However, despite the progress of these phases, the dialectical process of incorporating national and international standards, even of the highest hierarchies and their qualitative changes, including relevant legal debates, still maintains a reductionist thinking and a sub-discipline approach as a strategy to address the problem of nature-society by the legal sciences. There is no connection between different legal areas. Given the above, this article proposes a qualitative leap in the incorporation of the human-non-human relationship as a more profound adventure and with greater repercussions for the legal sciences. The contribution of the paradigm of complexity allows incorporating systems and perspectives and integrative approaches into the legal sciences.

Finally, in relation to this stage, it can be maintained, from an epistemological point of view, that the legal sciences maintain anthropocentric pillars and classic mechanistic paradigms that serve as a basis for the elaboration of their legal knowledge. Some evidence appears: (a) the double subject-object epistemological relationship of knowledge that promotes and drives the development of a law incompatible with the consideration of the human-non-human unit (GÓMEZ, 2009); (b) the notion of a normative object of study as something like a final “done,” “finished,” “given” and not dynamic entity like human-non-human becoming, and (c) the conception of an object of study characterized by the degree of determinism, causality and prediction that decontextualizes the living movement (GÓMEZ, 2011). Likewise, it is based on analytical thinking, which is quite reductionist and objective

2 SYSTEMIC INTEGRATION STAGE

This stage can be understood as a deeper and more integrated development of complex conceptions of nature and life; articulation and interdependence with other disciplines, and consolidation of post-classic, complex and systemic thoughts. Everything that implies a reverse movement, where specialization is no longer sufficient, but an open inter-multi and trans-disciplinary dialogue and, therefore, the incorporation of new paradigms consistent with this need.

According to the evolution of the theme, there are some considerations that promote a systemic and integrative perspective of thinking about what can be dialectical moments of synthesis. Especially because they go beyond changing the legislation on the subject or the dogmatic elaboration present in Environmental Law. The emphasis is on the self-awareness that this specialty has been acquiring and that promises new and integrating reflections, especially the search for ideologies or approaches that allow understanding of foundations that inspire law or legal sciences and their relationship with ecological thinking;

Aligned with this, one studied the impact that ecological postulates may have on positive legal norms and doctrinal considerations. In this sense, it was recognized that, although ecologism is the basis of the right to a healthy environment, it is still in a moderate way (BADULES, 2015). One should not ignore Zaffaroni's new proposals, which warns that although legal ecologism is considered a more committed possibility in recognizing the environment as a legal asset, awareness advance has not yet been achieved; and that *legal environmentalism* is a more moderate approach that understands that a healthy environment is a human right (ZAFFARONI, 2011).

In his turn, Lorenzetti refers to the presence of an environmental paradigm that runs through three chronological phases: *rhetoric* phase, with the advance of the environmental movement; *analytical* phase, which incorporates scientific and impacting legal studies, as it follows the development of national and international legal standards; and the *paradigmatic* phase, as an epistemological mutation that displaces the anthropocentric view. Besides, he points out that there is a *sui generis* feature of the environmental paradigm, which recognizes nature as a subject of right (LORENZETTI, 2008).

Another area could be developed to open up more inclusive and relational themes that could systematically integrate the legal sciences, where the notion of environmental justice could be placed; It is currently understood as equitable access to benefits derived from the use of natural resources among members of the global community and an equally equitable distribution of charges (DONOSO, 2018); or, also, defined as the challenge of reporting the normative changes and their systemic logic based on their relationship with the current regulation (COSTA, 2017), which could be deepened by the legal sciences, having its generalized and expanded principles as the basis of consideration of Justice. In addition, notions of

citizen participation have emerged leading to the possibility of integrating the socio-environmental environment and this type of relational disposition, which can open spaces for concepts of planetary citizenship, so that it is possible to take a position on relevant issues, such as climate change (ESPINOZA, 2018), or in the environmental impact assessment system (DONOSO, 2018), and even in a global political context; consequently, expanding participation in the context of the society-nature relationship and planetary community, based on the assumption of species.

On the other hand, the debate about the relationship between Environmental Law and human rights means the same, which, despite being a possibly anthropocentric view, as a human right to live in a healthy environment, also enables a perspective of uniting society-nature-nature-society as a means of integration and deepening in this area, and which could radiate to all legal sciences. This is how the Political Constitution of the Plurinational State of Bolivia addresses it in its art. 33, where it affirms that not only people have this right, but also other living beings, to develop normally and permanently. All of this implies new relational areas between the subjects, those that go beyond this or that legal discipline.

These reflections are theoretical moments with a higher degree of integration as a demonstration of complex thinking, that is, as that which relates the whole to the part in a non-linear way, since they are already in the sphere of the legal sciences and of the jurist as a theoretician and as a producer of legal knowledge, not only in the sphere of the legislator or the law. In spite of these innovations that should be deepened according to the needs of the current world, there is still an essential and relational reflection on Philosophy, which reviews the bases of legal knowledge, respecting the relationship between society-nature-nature-society and moving towards a dialectical movement of synthesis.

3 THE SUMMARY: ECOLOGIZING LEGAL SCIENCES, A QUALITATIVE LEAP

One of the themes that Capra has been developing from the perspective of complexity is how some scientific disciplines, which he exemplifies, change from classic mechanistic approaches to other complex and systemic ones. Thus, Economics passed from a simplifying and reductionist phase, which ignored “that its science is only an aspect of an entire ecological and social structure, a living system composed of human beings that are

continuously related to each other and to natural resources, which, in turn, are also living organisms” (CAPRA, 1998, p. 213) to more comprehensive approaches, like other social sciences. In psychology, the Cartesian paradigm was followed in its first phase, culminating in the mechanistic approach to behaviorism, up to the current trends with comprehensive approaches to the new psychology, which some begin to situate from Gestalt; and in the same way the area of health and medicine with the transition from their biomedical paradigms to biopsychosocial ones.

Likewise, all sciences that somehow followed the mechanistic Newtonian model to configure their objects of study underwent scientific revolutions and started to assume complex systemic perspectives and even the assimilation of interacting scientific practices in interdisciplinary teams. Among some of the reasons, this is due to the need to admit that the objects of knowledge are interconnected and that they affect themselves as social and natural systems, which, in turn, contributed to inspire the images of reality that science and its scientific paradigms produced (GÓMEZ, 2016). Considering also the contribution of the new proposals of epistemological dimensions that since the last decades of the twentieth century have turned to the study of how the sciences are organized for the production of knowledge; based on consensus and/or paradigms (KUHN, 2004), from Scientific Research Programs (LAKATOS, 1989), or considering the sociological perspectives of scientific communities.⁴ This becomes relevant in order to denature and *deconstruct* the ways of organizing information and developing theories.

Now, it is expected that the legal sciences will be able to rethink their bases and that they will overcome the Newtonian perspective for new alternatives, with emerging and plural legal knowledge; that they not only assume the importance of understanding the identity and indivisibility of the society-nature-nature-society relationship as a systemic and complex reality, but revise categories that deny it or simply prevent this advance, as are the reduced carriers of subjects and abusive individualization and anthropocentric bases.

This stage of the society-nature-nature-society relationship caused epistemological changes in the sciences (GÓMEZ, 2016) and, also, in the field of Law as an object of study of the legal sciences. However, for the latter, as part of historical scientific knowledge, the impact of the crisis on the society-nature relationship has been weak. In particular, considering

⁴ Among some classic works are those by Casas-Guerrero (1980).

the revolution in theoretical models and legal approaches as the way to create knowledge, structure, organize and think about it.

4 LEGAL SCIENCES REPRODUCED IN LAW, THE CLASSICAL SCIENTIFIC IMAGE OF THE WORLD

What is understood by the relationship between society-nature-nature-society, and why it is represented as an area of human-non-human contradiction, is a topic that is currently in full debate. The legal sciences transferred to Law certain notions of reality that are part of the image of the world as an object of study. It is no accident that nature and all non-humans are considered appropriate and crushable things, from which all the attributes of the domain can be exercised, used, enjoyed and discarded.

4.1 The notions of reality maintained by the legal sciences

Science is not only effective knowledge incorporated into products, but also knowledge structured through languages, images, meanings, and evaluations. One of the most relevant tasks is to produce a sense of reality, which the legal sciences also share and reproduce by transferring it to Law. This can be analyzed from the perspective of the object of study, as well as in its quality and in the way of thinking about it. Nature was then, for example, defined as the machine that breaks down into atomized parts, which the legal sciences assume as moving things; and, on the other hand, it recognizes only the subject of right – people – as the only ones who consider themselves to have subjective rights.

On the other hand, classical thinking and the analytical method that comes from modernity with Descartes promote atomization and the notion that the whole is a sum of parts. This atomizing dynamics leads to the division of legal norms and reduces the dynamics of the legal system to disconnected parts. This includes not only the reification of nature, but also bodily and appropriate thinking, as well as human beings and their human rights, rather than their relational connotation, which can lead to paradigmatic legal change.

The mechanism that places reality as a machine composed of countless *res extensa* that can be decomposed and reified reduces the right to things that can be appropriated, where nature is included as immobile and movable things. The legal sciences, on the other hand, give theoretical

support to these possibilities, highlighting, for example, the figure of the subject of right.

Objective legal thinking also helps conceive nature as a divisible set of things and thus protects it: water, seas, biodiversity, forests, climate, etc., which maintains it as an object of protection and norm for each subject, where Environmental Law is different from Civil Law, Criminal Law, etc. It promotes the disconnection between norms, legal branches and thinking about relevant categories, as reflected natural realities; it is the case of the individuals, without understanding their legal complexity (CORRAL, 1990).

On the contrary, from an epistemological basis such as the relational theory, understood according to Lavanderos and Malpartida as an explanatory system that bases its operation on the relationship as a process of generating meaning and world (LAVANDEROS; MALPARTIDA, 2005), nature would be, as Morin points out, an extraordinary solidarity of embedded systems building on top of each other, for others, with others, against others. Nature is a system of systems, in rosary, in clusters, in polyps, in shrubs, in archipelagos (MORIN, 2017). And with that, social life is structured, in short, highly relevant to establish bases for *ecolegal* models and paradigms that incorporate legal sciences as knowledge that can understand and generate new integrated and systemic knowledge.

In this perspective of reality, it is not a matter of *caring for and protecting the other*, but of not producing it, as a new scientific culture, as another one.⁵ Let us say, then, that the society-nature-nature-society relationship as an integrating self-awareness of a relational legal thinking should imply ending the need of the notion of legal anthropocentrism and of a classic epistemological base.

4.2 Legal categories and principles: rethink what can be assumed in the face of this challenging reality

When conceiving the relationship between *society-nature-nature-society* as relational units, their nebulous limits and new notions of the nature of the human social condition become clear (MATURANA; VARELA, 2003). It is difficult to differentiate when one is in the presence of the social or the natural, but this is a duality that cannot be affirmed today. In this way, is it possible to maintain endorsement of categories, explanatory models and legal provisions of all kinds that reproduce this perspective and

⁵ As Derrida warns about this logic in his book “The animal that therefore I am (Next) (DERRIDA, 2008).

that, consequently, serve as a basis for anthropocentric legal science? This question leads to the need to review all these categories, classifications and relationships, since in their configurations there is the subject; the present subject is an agent of symbolic control of production (BERNSTEIN, 1997). It is possible to mention, for example, the civil classification so classic and studied by generations that separate facts from nature and man, because how to answer the question: is it a fact of nature or of the human a profusion caused by the deficiency in the urban organization that ignores, among other themes, the memory of a river?

The legal sciences have been shaping their object of study – the right – in such a way that the duality of human-nature appears as two realities in dispute. However, considering *Pachamama* as an issue that has been constitutionally incorporated by some countries such as Bolivia implies a process of admitting new legal matters. This challenge represents an injection of blood from the entire body of legal sciences and Law; it ecologizes both in the subject of right and in the way of thinking about it.

In this sense, it is not reasonable to criticize only the way in which the legislation addresses the consideration of nature, animals and *Pachamama* as one thing, a natural resource, but rather, also criticize the fractal impact that may be incalculably deeper. For example, the objectual logic of legal assets, life, health, etc., should be reviewed as an assessment of situational relational fields; in this sense, the relational logic of the legal asset that Juan Bustos proposes is a contribution to relational legal thinking (BUSTOS, 2005), enables the possibility of the invisibility of the society-nature-nature-society relationship as the basis for configurations of legal assets.

The society-nature-nature-society relationship, created from a critical legal awareness, implies that the duality created by a society project based on the ideal of dominating nature can and should be overcome by another one, with impact on ecologizing the legal sciences;

5 SOME CONSIDERATIONS TO ECOLOGIZE LEGAL SCIENCES

5.1 Incorporating new knowledge, plural and inclusive knowledge

It becomes relevant to recognize a normativity to face the new dynamics of sustainable communities, with a pluralist dimension, with principles of local dimension, autonomy, diversity, tolerance. In particular, to recognize, as Wolkmer points out, a legal pluralism, even put in terms of a new paradigm, that gathers the law produced by the community based on its needs as a rupture of the insufficiency of the formal-positivist aspect

(WOLKMER, 2006), in which the inclusive aspect should incorporate the society-nature relationship in a more dialogical way and implement it in the foundations of the legal sciences.

5.2 The whole and the part as relational moments

The promotion of systemic thinking and perspectives favored the perspective of the whole and the part as relational moments. Whether in the way the part affects the whole or as the latter is present in the part, as expressed by the hologrammatic principle proposed for complex thinking by Morin (2002), and which could support legal thinking, as stated by Gómez (2012a). This can be exemplified with the DNA analogy, because, although small, it holds the information of the whole; therefore, legal thinking should make proposals about institutions and interpretations that are related and that can open systemic views and the indivisible integration of the society-nature relationship.

It can be said that a norm in itself is insufficient to solve a cause, which is demonstrated with models such as argumentation (ATIENZA, 2016), in which, the logic of constitutional supremacy or control of conventionality calls for criteria of interconnection, in which the structures confer legal significance. Thus, in contexts of globalization, the notion of wholeness should be recovered, but which, in the current logic, under a complex perspective, involves the construction of pluralist universes, since it supposes the unity of the diverse and of opposites in interaction, but not as externality, verified objectivity, but as a possibility to apprehend social systems and actions (ESPINA, 2005).

This explains new realities that go beyond the local and the everyday life, the concrete, to think globally and vice versa at the same time. With regard to both social and natural systems. In turn, it represents the individual subject and the new subjects talking legally, such as future generations and social minimums (GÓMEZ, 2018).

5.3 New bioethics

It is necessary to incorporate a new legal ethics from global bioethics, bringing together Potter's contributions, uniting sciences – humanities and the value-cognition relationship (DELGADO, 2008); with new principles of equality in diversity; consider new assessments for the society-nature

relationship, new ethical and moral considerations in the macro context between these systems. All of this should be incorporated into the valuation of the selection of legal assets such as the global rethinking of protection to the right.

5.4 New categories and new subjects

The categories represent the subject-object interaction, that is, they are not mere concepts, but come from mediation with reality. Hence, they are not merely inventions of lawyers; on the contrary, they are based on reality from a practical criterion. Therefore, it may not be just a matter of removing obsolete categories, but rather, that there may be a greater consideration of interrelationships. For example, new relationships between subjective right and others, which are responsible for the social aspect, such as future generations; between women and woman, between indigenous communities indigenous person. Between social and natural systems in a more interwoven way, which implies profound revisions of the meaning of subjective human-non-human right; justice and ecosystem principles; eco-social participation and citizenship.

Admitting, then, categories more coherent with the eco-social interrelationship. An interconnected plot that provides a greater torrent of blood that runs through the veins of all rights through legal sciences that change their anthropocentric paradigm by a relational echo; ultimately, ecologizing the legal sciences.

5.5 Law and politics

Sovereignty should be exercised over the land. The inheritance of the human-non-human subject as a new legal exercise that has a balance between the universal plural aspect. But, for this, the notion of species – human – should be admitted as universal in the survival network, as a planetary citizen, in which future generations can be the limit of actions. This implies reconsidering some of the methodological contributions of power in Foucault (2019) and its scope for areas of biopower in the context of the human-non-human relationship (LÓPEZ, 2019).

5.6 The nation with worldview components

In short, consider the importance of the relationship between society-nature-nature-society as the basis of the *Future Generations* legal subject. The contributions of new considerations, such as those raised by Malpartida and Lavanderos (1995), through what they call the *ecotome* and which promotes a systemic relational configuration to reformulate the culture-nature unity.

Likewise, consider the relationship between society-nature-nature-society as a context of planetary crises, but in search of presenting hope for the future. This is the least that Philosophy of Law can do; otherwise, it could be the Titanic orchestra that plays music for the powerful ones, while the poor die before a magnificent sea.

5.7 Responsibility of the jurist as a social actor

The legal sciences are not neutral and their scientists should be agents of change, which necessarily implies admitting their presence in the elaboration of the object of study with society-nature-nature-society relational perspectives. Therefore, reducing it would be historical irresponsibility. A jurist should not only delve into the legal norms, but rethink the paradigms and thoughts to which he relates.

CONCLUSIONS

Legal knowledge should be transformed into critical thinking within the legal sciences, providing deep epistemic analysis, as well as its axioms, assumptions and in it, its own organization.

It is recognized that the society-nature-nature-society relationship impacts current societies in such a way that the legal sciences are not in a position to continue with categories insufficient to the current requirements and, on the contrary, they should carry the identity of the human-non-human being in the production of legal knowledge.

Although the stage of the relationship between society-nature-nature-society has affected and has relevance in law, it is no less true that the paradigms and bases that serve the scientific knowledge of the legal sciences are still little committed to producing internal scientific revolutions, including highlighting the prefix *eco*.

Finally, the proposal to *ecologize the legal sciences* means to warn that the image of the classical world served to contribute to the ideal of modern domination over nature, which, in terms of legal sciences, was reproduced to create and support paradigms with this orientation. At the same time, it manifests a call, which challenges the legal sciences, for approaching its scientific-legal production from new complex legal thinking, enabling the relational aspects of society-nature-nature-society. All of this with the universalization and depth of going in a transversal direction to new theoretical-legal models, new principles, institutions, and evaluations.

Besides and especially, in order to remind the jurist of his historical responsibility, in addition to the legislator's own responsibility.

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