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EMERGING RIGHTS (ENVIRONMENTAL AND WATER): SEEKING FRUITION

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ABSTRACT

This paper is based on theories of social, legal, environmental and political sciences, with the purpose of strengthening the effectiveness of these rights, their interrelational possibilities and appearances in the Brazilian legal system. The applied method is called hermeneutic-systemic, which allows a transverse and longitudinal scan in the research. It was found that the theories, liquid modernity, systemic complexity, through the components: interdisciplinarity, systematic and sustainability, subjugated to the specific principles of environmental and water rights, generating possibilities of realizations of the legal dimension, reducing the protagonism of the juspositivist theory centered on a normative-rational limited parameter, anchored in the Cartesian system and its corollaries, linearity and predictability. Moreover, today, despite this reductionist legal theory figuring in the homeland legal system, it should only contribute in a subsidiary way. It is concluded that the theoretical-principled interconnections effectively collaborate with the visibility and enjoyment of emerging rights, and perhaps help in the strengthening the national legal system.

Keywords: ecological; legal; social; theories; water resources.

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DIREITOS EMERGENTES (AMBIENTAL E DE ÁGUAS): BUSCANDO FRUIÇÕES

RESUMO

Este artigo propõe um diálogo com teorias das ciências sociais, jurídicas, ambientais e políticas, com o propósito de fortalecer a efetividade desses direitos, em suas possibilidades inter-relacionais e de aparições no ordenamento jurídico brasileiro. O método aplicado intitula-se hermenêutico-sistêmico, o qual permite uma varredura transversal e longitudinal no trajeto pesquisado. Constata-se que as teorias modernidade líquida, sistêmica e complexidade, por meio das componentes: interdisciplinaridade, sistematicidade e sustentabilidade, jungidas aos princípios específicos dos direitos ambiental e de águas, geram possibilidades de realizações de gozo jurídico, reduzindo o protagonismo da teoria juspositivista centrada em parâmetro limitado normativo-racional, ancorada em sistema cartesiano e seus corolários (linearidade e previsibilidade). Ademais, atualmente, apesar de essa teoria jurídica reducionista figurar no ordenamento jurídico pátrio, deverá contribuir apenas de maneira subsidiária. Conclui-se que as interconexões teóricas-principiológicas colaboram efetivamente com a visibilidade e a fruição dos direitos emergentes, e quiçá possa auxiliar no fortalecimento do ordenamento jurídico nacional.

Palavras-chave: *ecológico; jurídico; recursos hídricos; social; teorias.*

INTRODUCTION

This article is about possibilities for the appearance of legal phenomena in times of liquid modernity. We are impelled to interpret new Brazilian legal knowledge filled with new principles, rights, and social actors. This is explained by the understanding that the established traditional modernity diminished from the Second World War barbarism. New social demands arose through progressive evolutionary processes and eruptively eroded theories/practices established in all Western/Eastern countries' legal systems, resulting in profound legal systems reformulations.

Legal positivism, also called jus positivism, is centered on limited normative-rational parameters anchored in Cartesian systems and their corollaries (linearity and predictability). It currently no longer stands alone in plural society since it can no longer answer the multiple questions formulated by various social actors. Gone are the times when internal structures of Law, namely: expiry, validity, efficacy, *per se*, were sufficient to explain the protagonism of the jus positivist theory. It should be noted that this theory is still valid to support innumerable legal practices. However, it is insufficient to solve the complex conflicts of great magnitude in the planetary ecosystem. Thus, other theories and other legal branches (emerging rights) will plausibly emerge to contribute to solving insoluble problems.

Given the above, the following problem is formulated: what are the relational connections emerging from specific theories (social/legal/environmental/political) in favor of the effectiveness of emerging rights (environmental and water)?

Thus, this article aims to analyze integrated theories of philosophers from the social, legal, political, and environmental fields, to strengthen the effectiveness of emerging Brazilian rights: Environmental Law and Water Law, which a topic below will show as examples of legal phenomena distinct from traditional legal models, insofar as they are shaped by interdisciplinary, complex, systemic, and sustainable principles.

This proposed legal alternative does not entirely disregard Law's tradition, nor does it reject its partial conceptions of jus naturalism, jus positivism, and legal realism. It just does not corroborate protagonist/exclusionary theories, which alone try to solve macro problems on hyper scales, with the use of tiny underlying principles-normative instruments. On the contrary, using the hermeneutic-systemic method is intended to enable some legal-scientific branches' fruition in a dialogical way, exchanging

information through principles, techniques, and processes without generating significant noises and obstacles to the effectiveness of rights.

This article's presentation is dynamized by the hermeneutic-systemic method. This article regulates the research's focus towards reliable arguments with no concerns about the results achieved through guidelines, principles, values, and processes. This method, in the past tense widely used in *stricto sensu* scientific research, allowed local and global replications. This walk favors the capture of legal meanings of laws, decrees, and resolutions, in addition to welcoming the implicit characters of theories, documents, institutions, and entities that are directly or indirectly associated with legal phenomena. Thus, hermeneutics enables to contextualize, understand, and explain normative-institutional transformations of an ecosystemic nature in environmental and water areas, as long as a broad concept of Law is accepted. On the other hand, this article also uses the interpretative technique. Thus, scientific research will use this didactic methodological resource in its actual practice, essential in research with legal and socio-environmental aspects.

1 SOCIAL, LEGAL, AND ENVIRONMENTAL THEORIES: RESIGNIFICATION OF LAW

Impactful theories in the contemporary legal world, from this point on, will be appropriately contextualized, analyzed, and recombined to strengthen the two legal branches, Environmental Law and Water Law, presented below as possible models of practical applications in our legal order/system.

1.1 Reflections on the theory of liquid modernity: dialogical possibility with Law

Beforehand, what the social theory of liquid (non-legal) modernity has to do with Law will be clarified. It may not be perceived quickly, but by reflecting in-depth, the erosion of the relationships that took place, especially after the Second World War, will be understood. Some social expressions have been resized, such as individuality, emancipation, time/space, work, and community, generating profound implications in the legal world. Furthermore, the fluidity described by Bauman (2001) cuts across the State, society, and the Law.

Such liquid modernity is not born at the same time as traditional modernity – called solid modernity[3]: the former is intensified with the dismantling of orthodox traditions and rights, which restricted initiatives. This disregard for traditions and legal manifestations opened breeches for the protagonism of instrumental rationality and liberalization of the economy, untangling its parts from political, ethical, and cultural instances. This fluidity (or liquidity) did not emerge through dictatorship, oppression, or slavery; it sprang from the substantial deregulation, flexibility, and lack of control of the financial market. In summary, it is not currently a priority to build a new world order to overcome the old order, as the invisible hand is believed to be in charge of organizing the globalized world (BAUMAN, 2001).

The Law should be noted as having an intimate connection with the State. This, in Bauman's view, at the current stage, is no longer able to act in its job, which is to provide guarantees. In turn, the State's political freedom has been eroded by globalization, which disregards borders and prints imaginable speeds through evasion and escape of various types. Globalization does not consider the concept of sovereignty, let alone acts with ethics in international economic relations. Liquid modernity also knows how to choose its partners, among them, globalization, in the desire to establish itself as a successor expression of the other form of modernity, namely solid modernity (BAUMAN, 2001).

Thus, the Law, seen as a dimension of recomposition of conflicts and restoration of order, has suffered the impacts in two ways, namely: (1) the State and its consequences, nationality, sovereignty, and autonomy, are progressively (de)solidifying and becoming liquefied, creating obstacles to acting in the Law in the search for state defense and pacification of other conflictual natures; (2) at the same time, jus positivism has also been feeling the impact of this modernity and its internal components are beginning to show signs of exhaustion, as they are no longer able to solve the many demands demanded by society.

Thus, the theory of liquid modernity, by rearranging time and space at previously imaginable speeds, feeds back into the technological-informational circuit and cogently forces a rethinking of the legal phenomenon. Given this, it is imperative to know when it begins and what are the modifying elements of this modernity:

3 This *solid modernity* is established in the rupture's political scenario with medieval organizations, the French Revolution's advent in 1789, and the ideological *enlightenment* production.

> Modernity starts when space and time are separated from living practice and from each other and so become ready to be theorized as distinct and mutually independent categories of strategy and action, when they cease to be, as they used to be in long premodern centuries, the intertwined and so barely distinguishable aspects of living experience, locked in a stable and apparently invulnerable one-to-one correspondence.. In modernity, […] time acquires history once the speed of movement through space unlike the eminently inflexible space, which cannot be stretched and would not shrink) becomes a matter of human ingenuity, imagination and resourcefulness (BAUMAN, 2001, p. 16-17).

In summary, currently, speed and acceleration no longer refer to the relationship between time and space, but to technology and artificial means of transport, which deconstruct solid modernity and put liquid modernity in "its place" (BAUMAN, 2001). Hence the need to rethink the Law – avoiding the protagonism of partial legal theories –, by providing it broad communicating principles and resilient characters if one wishes to make use of the legal phenomenon in times of social, political, economic, and ethical resignifications.

National Rights (Environmental and Water) belonging to the normative field may absorb liquid modernity's negative impacts if they do not act in an integrated manner, receiving interdisciplinary, complex, systemic, and sustainable characters. However, if these emerging rights interact, the level of two fundamental elements, synergy and resilience, will increase, reducing the adverse effects arising from the multiple relationships that occur.

1.2 Theories of Fritjof Capra and Systemic Law

Unveiling ecosystemic knowledge written by Fritjof Capra is not new in the environmental epistemological field. This systemic theory, which encompasses biological and social phenomena in a harmonic-communicating format, has already been widely used in scientific research.

Let us go back in time to comment on an excerpt from his work, *The hidden connections: a science for sustainable living*, which seeks to relate social and biological phenomena in a compatible way by stating, *ipsis litteris*:

> When we try to extend the new understanding of life to the social domain, we immediately come up against a bewildering multitude of phenomena – rules of behavior, values, intentions, goals, strategies, designs, power relations – that play no role in most of the non-human world but are essential to human social life. However,

> these diverse characteristics of social reality all share a basic common feature, which provides a natural link to the systems view of life […] (CAPRA, 2005, p. 85).

In another passage in the same compendium, Capra brings the German Jürgen Habermas into the debate and summarizes this philosopher's social theory, arguing that his ideas of the science of nature, social sciences, and cognitive philosophies reject the limitations of positivism. On the other hand, he states that the theory – Habermas' – is partial. To be a unified systemic theory, biological and social phenomena should emerge when the concepts of linear dynamics were linked to ideas from areas of study, such as philosophy, anthropology, knowledge science, and social theory. In summary, the author accepts the theory advocated by Habermas only partially.

The central dimension of a systemic theory is the notion of organization or pattern of organization. In other words, living systems are self-generating networks, i.e., their fixed mode of organization is formatted in a network so that each element has a predetermined function, influencing other elements, and at the same time suffers the impact of the other elements. This sense of organization can be applied to the social sphere. In the social field, the definition of the organization reaches a supplementary level. Social organizations, such as business and political institutions, can be described as social systems in which organizations' patterns are specifically shaped to distribute power. In a way, they are rules of behavior that contribute to decision-making and strengthen the power relationship (CAPRA, 2005). It should be emphasized, therefore, that the Law is also a rule that regulates behavior.

Establishing social networks is not enough to make an organization (institution) alive. It is essential for it also to be a unique network since every unique network generates itself, producing similar meanings, a reasonable amount of solidary knowledge, rules of conduct, limitations, and collective perception for its members (CAPRA, 2005). It should be warned that the Law is often defined as a rule of conduct and part of the social scenario linked to numerous institutions.

Given the above comment, it is clear that systemic theory seeks, at all times, to apprehend tangential points between biological elements (lives) and abiotic elements (social). Here, then, emerges the Law as a juridical dimension, formerly intimately integrated with the socio-human components, and now linked with the unfolding of this systemic theory, keeping, therefore, close relations with the biological component. Let us see in a paragraph below such proposal of the author under comment.

Philosopher-environmentalist and physicist Fritjof Capra advances with his systemic theory and recently established a didactic-epistemological partnership with professor-jurist Ugo Mattei from the Universities of California (USA) and Turin (Italy). Such partnership yielded jus pedagogical fruits since such researchers carried out investigations in the legal-scientific area, resulting in the formulation of a legal branch called Systemic Law – not yet fully concluded. Then, they published a book entitled *The ecology of Law: toward a legal system in tune with Nature and community* (CAPRA; MATTEI, 2018).

The question is thus asked: what does the term Systemic Law mean? Before answering such a question, let us see how the two theorists sought to dismantle the structure of the theory of legal positivism or jus positivism.

Initially, the authors presented their central thesis when they reported that scientific knowledge and Western Law's theory collaborated with the world's modern mechanistic paradigm. This occurred as modernity was the protagonist of the materialist-extractive conception of the industrial period, which is presented on the foundations of today's ecological, social, and economic crisis. They say more when proposing the dawn of a new paradigm that replaces the mechanistic view, entitled systemic-ecological paradigm. However, they attest, regarding the theory of Law and Public Law, that dynamism in the same direction has yet to happen. Given the above, the researchers proposed an urgent change in the legal field, which perhaps will result in a new ecological order in human law (CAPRA; MATTEI, 2018).

Capra and Mattei (2018) claim, then, that there once was a holistic sense of nature, but that it was gradually being transformed to function as if it were a machine. With Law, there was a similar movement, based on Cartesian theory, decomposing reality into parts and using the right of property and state sovereignty to use nature as a divisible and valued object. Also, envision Law as an objective dimension, totally separate from the knowing subject. Therefore, to formulate this Law movement, some theoretical-philosophical exponents contributed, namely: Hugo Grotius, John Locke, Thomas Hobbes, and Francis Bacon, among others. However, a thorough understanding of the objective-mechanistic nature only came with the publication of a work in 1637 by Descartes (1596-1650), the French philosopher-mathematician (DESCARTES, 1996). Moreover, this way of capturing nature impacted Law and indirectly strengthened the

theory of legal positivism – which had already been crudely implemented over previous years.

Researchers-philosophers, in turn, define legal positivism or jus positivism as, *in verbis*: "1. School of thought according to which the law derives its binding power from a sovereign, regardless of whether it is just, fair, or even rational. 2. Conception of Law as a pure entity, separate from politics, religion, economics, or morals" (CAPRA; MATTEI, 2018, p. 279).

This legal theory caused fissures in the approach to natural Law with holistic roots. It can be said that the insertion of legal positivism in the European scene has caused an undermining in societies in several countries.

> Institutions such as individual private property, stock corporations, and sovereign states – and also general freedom of contract and fault liability – were created to transform some of these commons into concentrated capital […]. Today we experience a dramatic scarcity of commons and an overabundance of capital (CAPRA; MATTEI, 2018, p. 32).

Still, according to the authors above, commons can mean goods, common resources (vegetation, forests, waters, natural resources, arable land, pastures, animals, etc.), i.e., spaces common to all. In other words, the right or freedom to avail themselves of such goods, as opposed to those who wanted to use them privately.

Far from redundancy, what does Systemic Law mean? The authors do not conceptualize it; however, when criticizing the theory of legal positivism, in parallel, they were tracing the contours of a Systemic Law through an ecology of Law or ecolegal order. This can be seen as a legal system whose aim is to boost ecological and human communities. It observes the Law with a dimension that preserves an interdependent association with politics, the economy, and justice. As for the clarification of the term *ecology*, in another section, the environmental philosophers state the following narrative, *ipsis litteris*: "Ecology. 1. Science of relationships between the members of an ecological community and their environment. 2. Pattern of relationships that define the context for a certain phenomenon" (CAPRA; MATTEI, 2018, p. 278).

After the deconstructive/constructive arguments about the Law – which goes from the criticism of legal positivism to the formulation of the proposal for a Systemic Law – we can only recombine these directions and use them in favor of the panorama picture that will be shown in the topic below, through the duality of Environmental Law/Water Law.

1.3 Edgar Morin's theories applied to Law

It is an excellent term to write that the theories advocated by Edgar Morin are complex (we apologize for the redundancy since one of the theories most explored by the philosopher/sociologist/anthropologist is called complexity theory). Add to this that this Franco-Jewish thinker is even trained in Law, history, and geography. Currently, he has researched several scientific-epistemological areas, namely: philosophy, sociology, anthropology, epistemology, and all of them with reflexes in other fields of knowledge, both in the humanistic-social nucleus and in apparently more distant areas such as technological and economic ones. The curious thing is that his research, directly or indirectly, can serve as a basis for investigations in various scientific or fictional spheres of knowledge. As for epistemological knowledge, Law has a direct interest in his formulations, as Law is a complex phenomenon. Depending on the legal branch, it must also be interdisciplinary or perhaps transdisciplinary. These last two themes are also objects of explorations carried out by him.

In its jus positivist facet, the Law may not need an approximation with Morin's theories; however, the emerging branches of law/rights (environmental and water) will certainly gladly accept the inflows explicitly developed concerning the theory of complexity.

Morin (2005a), right at the beginning of one of his books, *Method I*, warns: man, the world, and science are understood in a fragmented and specialized way.

It is immediately possible to interpret that the theory of legal positivism fits into this fractional conception of scientific knowledge, which communicates little with the external environment. Also, certain disturbances caused in society cause changes to it and consequently produce instability in the whole legal system.

The philosopher shows us a tetralogical circuit, graphically so explicit: order-disorder-interactions-organizations. He asserts, then, that such components of the circuit were co-produced simultaneously and reciprocally. Thus, in random circumstances, the initial forces generated the organizational order, and the interactions produced the organizational interrelations. This time, the organization shows itself relatively stable, even when shaken by the force with which it was generated: hence its remarkable feature: once constituted, the organization and its order can resist a large number of disorders (MORIN, 2005a).

Morin (2005a) comments that the tetralogical circuit, seen from another perspective, points to the following direction: the more organization and order are required, the more they become complex; the more they tolerate, use, and even cry out for disorder. In summary, the tetralogical circuit does not allow to fragmentarily analyze each of the components since they only present meanings in their reciprocal relations. In short, they are components that are at the same time complementary, competing, and antagonistic.

The Law, according to the jus positivist theory, always deals with order and disorder. These are always in antagonistic poles: order is the right prescribed in the law; the disorder is subject to a penalty for non-compliance. For their part, the legal branches or emerging rights (environmental and water) must seek the points of mediation between order and disorder, and at the same time, establish relationships with the other two components, organization, and interaction, taking advantage of the entire tetralogical circuit described above. Law should focus on complexity in its teleological perspective, which is ultimately one of this circuit's fundamental objectives.

Anthropologist Morin, in *Method II,* states that one of his purposes is to formulate a method of complexity. Today's scientific methods are insufficient and very simple and focus on elements of the order, classification, and system of thoughts. He expresses his thinking, claiming that "every system integrates and organizes diversity in the unit. Every system is born out of a unit that is differentiated or a difference that is unified" (MORIN, 2005b, p. 57).

The complexity method requires the maximum of human thought to formulate concepts, always seeking to connect dispersed terms, elements, and components. It is added not in a chaotic but organized way, that is, conflicting concepts are joined. Here are some examples, which must be worked out in full and not explained separately: local and global, partial and total, disjuncts and sets, order and disorder, etc. Radically, complexity is true and not true. Complexity is also thinking organizationally, but not only through ordered principles; it is more than that; it is complexified thinking. It understands that complexity is dialogical since there is a dialogue between the internal components, order-disorder-interaction-organization, among others. It should be noted that the tetralogical circuit is not a straitjacket; it is just an example. However, several other elements must be inserted into the circuit (MORIN, 2005b).

Morin (*apud* PETRAGLIA, 1999) emphasizes that the word complexity is a problem, not a ready and finished solution. It is not a simple idea, but the possibility of accepting internal and external information. The difficulty of understanding and/or accepting some people for their insertion in the concrete world lies in the fact that they have to face confusion, uncertainty, contradiction, and at the same time, they relate to the solidarity of multiple phenomena (PETRAGLIA, 1999).

The philosopher-anthropologist, at the end of the work *Science avec Conscience,* describes *in verbis*: "I call *complexity paradigm* the set of intelligibility principles that, linked to each other, could determine the conditions of a complex view of the universe (physical, biological, and anthroposocial)" (MORIN, 1999, p. 330).

Thus, some legal branches, such as emerging rights, perfunctorily explained in previous paragraphs, may benefit from this complexity paradigm and expand their synergistic and resilient dimensions.

2 EMERGING RIGHTS (ENVIRONMENTAL AND WATER): IN SEARCH OF VISIBILITY IN CONTEMPORARY SOCIETY

In a past topic, after the exposition of the theories of liquid, systemic, and complexity modernity, all associated with other minor constructs, the possibility of future connections with Law was vented. In some moments, the plausibility of establishing links between these theories and the Law – *lato sensu* – was preliminarily explained. There is an interaction between the fundamental theories and the *stricto sensu* Law – emerging rights (environmental and water).

The planned and selected trajectory will be based on the construction of 2 (two) legal scenarios, namely: 1. Overview of Environmental Law; 2. Overview of Water Law. Both will be presented through concepts, specific principles, related topics, in addition to their peculiar nature of emerging rights: interdisciplinary, systemic, complex, and sustainable.

2.1 Overview of Environmental Law

The legal narrative intends to show a horizontal-transversal approach to Environmental Law. The focus is not a detailed analysis but to outline general aspects that allow interconnections with other emerging rights.

2.1.1 Concept

Environmental Law is a relatively recent legal branch, also called emerging ecological law. From a formal perspective, it is a new discipline that is part of several conceptual classifications, sometimes seen as a legal branch belonging to public Law, sometimes seen as a mixed right, and sometimes described as a diffuse interest/right. From a material or essential point of view, it contains specific principles, objectives, and characters that make them distinct – *lato sensu* – from any other legal framework, and although it is related to the emerging law – of waters – it differs from this, *stricto sensu*.

The conceptualization of traditional Environmental Law is fleeting, and doctrine does not usually define it precisely. Its concept is formulated by approximation through the following steps: 1. Contextualization. 2. Construction of ecosystemic contours. 3. Addition of specific principles and/or inherent characteristics. 4. Normative inclusion.

Such information about Environmental Law's concept should not be observed in chronological order, much less critical to environmental specialists and/or generalists. The object, Environmental Law in interpretation, as it is recent, has not yet fully emerged and, in a way, lacks further stripping. Beforehand, it is made clear that one disagrees with epistemological neutrality, nor the separation of the object, the Law, with the subject, the researcher, since both are intertwined with the environment and become participants in the planetary ecosystem.

Therefore, it is currently in the positive jus ecologic doctrine to affirm that Environmental Law is a set of principles and regulations that aim to prevent, prevent or repair degradations, deteriorations, and pollutions to the environment. Such a doctrinal concept is necessary, however, insufficient, given not showing that in times of liquid modernity, the social demands claimed by the polytextual society are related to the following terms: individuality, emancipation, time/space, work, community, and State, and emerge with vigor in quantity/quality in the contemporary ecosystem scenario. Here is the systemic paradigm's help, which allows connections between biological and social phenomena, which can favor the Law in its communicating process. If not, see briefly: the biological dimension (it deals with life) and the social dimension (it deals with rules of behavior, values, and power relations). Given the above, a summary picture of the systemic connections is observed. Environmental Law deals

with living beings in their relations with regulations – rules of behavior – and its structure contains values and a power relationship, mainly because it involves the State in its legal relationships. However, the relationship between life/rules of behavior apprehended in the theory of legal positivism is centered on "all or nothing"; the possibility of introducing harmonizing or stabilizing principles in conflictual relationships is not conceived within this theory.

On the other hand, Environmental Law immediately accepts that it must be understood as a complex legal phenomenon, which, depending on the circumstances, may use the tetralogical circuit of order-disorder-interactions-organizations in the search for its effectiveness. Environmental Law should never be limited to internal structures of authority, expiry, and validity in concrete situations that deal with life, rules of behavior, values, and power relations. The latter are essential dimensions in any legal construct. However, they should not be considered exclusively given the unfolding of new elements generated from the new poly-contextual social demands, which must mandatorily appear in the same degree of importance.

To be total, contemporary Environmental Law lacks the following elements: 1. Contextualization. 2. Construction of ecosystemic contours. 3. Addition of specific principles and/or inherent characteristics. 4. Normative inclusion. 5. Principles communicating with other legal branches. 6. Use of the order-disorder-interaction-organization circuit. 7. Openness to the external environment.

2.1.2 Specific principles

Some of the principles of Environmental Law are found in the Brazilian Federal Constitution of 1988; others in infra-constitutional laws, and there are still those resulting from jurisprudential interpretations. They are the determining principles: ecologically balanced environment as a fundamental right, public nature, sustainable development, polluter-payer, user-payer, protector-recipient, prevention, precaution, information, participation, prohibition of ecological regression, and environmental education. Furthermore, Federal Law No. 6,938, of August 31, 1981 (BRAZIL, 1981), which provides for the National Environment Policy, its purposes, and mechanisms of formulation and application, also covers several Environmental Law principles.

2.1.3 Related topics: environmental good and environmental damage

An environmental good can be described as being in common use by the people belonging to all without distinction, aiming at a healthy quality of life, following the described *caput* of Art. 225 of C.F. (BRASIL, 1988). In short, the environmental good is a diffuse good belonging to an indeterminate number of people who hold an indivisible object and who are linked together by a tangible link. Examples of environmental goods: seas, rivers, forests, squares, fauna, water, etc.

Environmental damage is a complex, open, and dynamic concept, often defined by court interpretations. According to the authoritative doctrine, two complementary concepts contribute to its definition (OLIVEIRA, 2014). Thus, it requires looking at the concept of environmental quality degradation and pollution before exposing the concept of environmental damage.

Federal Law No. 6,938/81, which deals with the National Environmental Policy, in its Art. 3, II, thus exposes environmental degradation, the adverse alteration of the environment's characteristics. In turn, the same article, in its inc. III, defines pollution as the degradation of environmental quality resulting from activities that directly or indirectly: (a) harm the health, safety, and well-being of the population; (b) create adverse conditions for social and economic activities; (c) adversely affect the biota; (d) affect the esthetic or sanitary conditions of the environment; and (e) launch materials or energy that do not comply with the established environmental standards (BRASIL, 1981).

Here, then, is the concept of environmental damage (*lato sensu*) as one that affects the community's diffuse interests and affects all environmental elements, including cultural heritage (LEITE, 2003).

2.1.4 Nature of Environmental Law: interdisciplinary, complex, systemic, and sustainable

One of the essential characteristics of Environmental Law is its interdisciplinary nature. Such law is flexible and facilitates communication with other legal branches and dialogues with different scientific knowledge areas. However, it is not a subservient branch of law without autonomy. Its primary purpose is to prevent, avoid, or repair degradation, deterioration, and pollution to the environment. It does not depart, under the risk of

disfiguring itself and losing its role as guardian of the environment in its civil, administrative, and criminal aspects.

As described by the psychopedagogue Carvalho (2006), interdisciplinarity is closely linked to Morin's complex knowledge. She says that only by tearing the real, separating an object from the whole from which it is part, can something be known. On the other hand, it is possible to relate incomplete knowledge, denounce all-part interactions, make knowledge complex, and fight the shattering.

It can also be attested that the interdisciplinary component goes beyond the disciplinary view of scientific knowledge. It allows certain legal branches, which have plasticity, to communicate and, through the exchange of normative and non-normative information, is transmuted to a complex whole. For example, when incorporating specific principles (see retro topic), Environmental Law acquires conditions searching for interdisciplinary ecological achievements with other branches of Law, as it happens in its multiple relations with Water Law.

Capra (2005), with his systemic theory, corroborates the strengthening of interconnectivity since the system allows exchange between the parts and the whole, and more, between living and non-living beings. Hence, it can be inferred that Environmental Law is a set of regulations and a harmonious confluence of principles, which function as vectors in the symbiotic process with other knowledge branches. Furthermore, such a system leads to sustainable processes.

The progress of scientific rationality caused an environmental crisis (according to Leff's thought (2001)) in several fields of knowledge, including in the legal field. The jus positivist law did not accompany the change from the Cartesian paradigm to the systemic paradigm. In turn, Environmental Law at least tries to establish initial contacts with the systemic paradigm, as principles in its ecological nature broaden the horizons of connections with different legal branches and other epistemological knowledge. If not, see: sustainable development, which figures as a specific principle of Environmental Law, is also an internal component of the systemic paradigm.

Sustainable development is understood to meet the present's needs without compromising future generations' ability to provide for their own needs. The World Commission formulated this concept on Environment and Development (WCED) under the rubric Our Common Future (BRUNDTLAND, 1987). In summary, sustainable development seeks to

integrate the economic, social, environmental, and political, improve the present and future quality of life, and the economic exploitation of environmental resources.

An influential jus environmentalist conceptualizes the principle of sustainable development, *in verbis*, as: "The maintenance of the vital bases of production and reproduction of man and his activities, also guaranteeing a satisfactory relationship between men and theirs with their environment, so that future generations also have the opportunity to enjoy the same resources that we have at our disposal today" (FIORILLO, 2011, p. 83).

From the above, the principle of sustainable development belonging to Environmental Law is interpreted as relating human beings, other living beings, and the abiotic component, all inserted in the environment, which can be described as a whole: interdisciplinary, systemic, and complex.

2.2 Overview of Water Law

The purpose of this topic is to delineate the contours of the Water Law, aiming to expose general aspects that provide possibilities of fitting with other legal branches.

2.2.1 Concept

Water Law, for some ju*s* environmentalists, still has no didactic-scientific autonomy; for others, it can and should be conceptualized as a set of rules and principles that aim to prevent, avoid, or repair degradation and/or water pollution. Such Brazilian waters can be federal, state, or district.

The Federative Republic of Brazil is a country that adopts the federative principle, which includes the following legal entities under domestic public law: the Union; Member States (26 in total); the Municipalities (total of 5,570), and the Federal District. It has an area of 8,511,767.049 km^2 and a population of 209,504,400 (two hundred and nine million, five hundred and four thousand, and four hundred people). The country is divided into 12 (twelve) hydrographic basins (federal), as well as other state and district basins (BARBOSA; BARBOSA, 2018).

Also, the Brazilian Federal Constitution of 1988 refers to the Union's assets, *ipsis litteris*:

> Art. 20. The following are property of the Union:
> […];
> […];
> III – the lakes, rivers, and any watercourses in lands within its domain, or that wash more than one state, that serve as boundaries with other countries, or that extend into foreign territory or proceed therefrom, as well as bank lands and river beaches (BRASIL, 1988).

In turn, the C.F./88 verbatim exposes: "Art. 26. The property of the states includes: I – surface or subterranean waters, flowing, emerging or in deposit, with the exception, in this case, of those resulting from work carried out by the Union, as provided by law".

Then, federal waters are those crossing at least two Member States of Brazil, in addition to the waters flowing from our country to another country or from there and enter our territory. In comparison, state waters are those that arise and flow into the Member State's territory. In turn, district waters are, analogously, the waters that emerge in their own geographical space and flow into the same territory as the Federal District. As for the Municipalities, from a legal point of view, they do not hold the domain/ownership of the waters; they are only entitled to use water resources that pass through their land (BARBOSA; BARBOSA, 2018).

2.2.2 Specific principles

Advocate/researcher Barlow (2009) proposes a blue pact as an alternative future for the global water crisis, centered on three dimensions, which we will call specific water principles, namely: (a) water conservation; (b) water justice; (c) water democracy.

As for the principle of water conservation, Barlow advocates the thesis that to contain water scarcity, one must fight for its conservation, starting immediately with the restoration of hydrographic basins and water source protection. Aside from such measures, it is also necessary to stop polluting the springs and implement strict laws in degrading and/or polluting uses. The principle of water justice urges changes on unequal access to water, as millions of people live in countries that cannot use good quality water – drinking water. As for the principle of the democracy of water, water must be recognized as a fundamental human right in a cogent way. Thus, the non-corporate control of water is essential since public control must be respected. This does not mean that the private sector cannot exist in this

context. However, regulatory criteria must prevail in the name of the public interest, as water is vital for human survival, other living beings, and sustainable development(BARLOW, 2009).

2.2.3 Related topics: national water resources policy, national water resources management system, and the human right to water

The National Water Resources Policy – PNRH – is based on the following fundamentals: water as a public domain asset; water is a limited natural resource, endowed with economic value; in a situation of scarcity, the priority use of water resources is human consumption and animal drinking; the management of water resources must always provide for the multiple uses of water; the hydrographic basin is the territorial unit for the implementation of the National Water Resources Policy and performance of the National Water Resources Management System; and the management of water resources must be decentralized and count on the participation of the Public Power, users, and communities.

According to the provisions of the Federal Water Law No. 9,433/97 (BRASIL, 1997), water is interpreted as public and not private, in addition to being a non-infinite natural resource and that is economically valued. When the reservoirs are running low on water, there will be a preference for consumption by humans and irrational animals. Furthermore, a single sector, be it industry, agriculture, or any other sector, should not be prioritized, but the resource should be proportionally distributed among all water users. It is even warned that *planning* should no longer be focused on municipal or state geographic areas but hydrographic basins to implement the PNRH. Finally, management must be mandatorily decentralized – deciding local instead of global – in all possible activities and being participatory – in a collegiate manner, with various social actors involved in the problem.

The National Water Resources Management System – SNGRH – contains, among others, the following objectives: coordinate integrated water management; administratively arbitrate conflicts related to water resources; implement the National Water Resources Policy; plan, regulate, and control the use, preservation, and recovery of water resources, and promote charging for the use of water resources.

Following the provisions of Federal Water Law No. 9,433/97 (BRASIL, 1997), the National and State Water Resources Council, the Agencies,

and the Committees are understood as part of the SNGRH. The National Water Resources Council – CNRH – comprises representatives of Ministries and Secretariats of the Republic's Presidency with a management role; representatives of Users and State Water Resources Councils; and civil water resources organizations.

From what was exposed in the last paragraphs, in general, it is interesting to note that the CNRH functions as an appeals body for water resources, i.e., water conflicts not resolved in the administrative area by federal committees can and should be arbitrated by the CNRH. However, it is essential to warn that if any of the parties involved in the conflict want to, they can go directly to the judicial power and ask for their jurisdictional provision.

The Human Right to Water was approved by the General Assembly of the United Nations (UN) on July 28, 2010, through Resolution A/64/292, with 122 votes in favor and no votes against it. The UN, after heated debates, recognized the right to clean drinking water and sanitation as a human right that is essential for the full enjoyment of life and all human rights (BARBOSA, 2017).

In Brazil, the human right to water should be included in the catalog of fundamental rights of the Federal Constitution of 1988. By making it positive, the interpretative process would be strengthened, and the courts, by constitutional force, would provide their decisions in the same direction. Such a procedure would greatly help access water for people without this resource, vital for human survival.

The UN, recognizing water (the chemical substance H_2O or the natural resource) as a human right, directs the emerging Water Law in multiple interrelationships with other knowledge fields. Also, it allows an intimate connection with Environmental Law, as this has as its object the environment, formerly recognized by the UN Conference held in Stockholm (UN, 1972) as a fundamental right.

2.2.4 Nature of Water Law: systemic, interdisciplinary, complex, and sustainable

Water Law, like Environmental Law, uses the *systemic* approach since water interacts with the environment and both being related to biodiversity. In other words, drinking water and a healthy environment are *sine quibus non* conditions for various living beings' survival, including humans.

Christofoletti's concept (1999) depicts the system as an organized set of elements and interactions between the elements, but which has a diffuse characteristic in scientific knowledge because the system elements are not easy to perceive. Thus, the elements must be delineated, and the extension of the system must fully encompass them. Capra says it is possible to relate biological, cognitive, and social phenomena. The systemic approach to the social domain encompasses, in its interior, the material world (CAPRA; MATTEI, 2018).

Another characteristic of Water Law is its tendency to be interdisciplinary. It deals with regulations and principles, intending to prevent, avoid, or repair degradations and pollutions in its water bodies. It enters into the environmental impact sphere as intermingling with biological diversity. In short, there is an exchange between water, the environment, and biodiversity.

Thus, the Water Law ends when raised to the systemic and interdisciplinary level, ultimately resulting in a complex totality (See retro topic).

As for the sustainable nature of water, its chemical composition always seeks its natural state – without suffering changes in its quality and quantity and/or impacts– always tending to the point of equilibrium, i.e., aiming at achieving water-environmental sustainability. However, in human activities, degradation occurs, and deterioration and incorporation of polluting substances make water unsustainable for various uses.

3 INTER-RELATIONS BETWEEN ENVIRONMENTAL LAW AND WATER LAW: BEYOND THE JUSPOSITIVIST THEORY

This topic shows that both legal phenomena (environmental and water) should appear more visibly in the Law arena. The jus positivist theory still applied in the national legal system after the Second World War has been questioned by contemporary society. The theory of liquid modernity shows that various expressions in the world of politics, the state, labor, and society are liquefied; among these melting expressions, one can include the traditional Law of jus positivist court. Furthermore, Capra's systemic theory also questions traditional Western law – centered on the same jus positivist theory – linked to the modern world's mechanistic paradigm. This fails to overcome the current ecological crisis, and the emergence of a new Law, Systemic Law, is essential. When calling for a Systemic Law, Capra and Mattei (2018) practically ask for the help – our words – of the

philosopher Morin's theory of complexity in the face of not analyzing the systemic expression without understanding the complex totality.

Thus, the overlap between Environmental Law and Water Law, through the interdisciplinary, systematic, complexity, and sustainability components, will favor the dawn of a Systemic-plural Law, which meets the demands demanded by society and at the same time mitigates the ecological crisis, given the speed in the exchange of information.

Perhaps in the future, an Environmental-Water Law that works through specific communication channels will emerge, exchanging elements in the legal system and/or the legal system in different ways, carrying: sustainable principles, regulations, techniques, and socioenvironmental/ecological processes, contributing to the reduction of degradation, deterioration, and pollution at all levels and scales.

This revolutionary movement within the legal system creates conditions for observing the fundamental theories, specific principles, and objectives of emerging rights. Also, it provokes a permanent dialogue with human-fundamental rights without disregarding the paradigm of liquid modernity, systemic theory, and the theory of complexity.

In summary, international organizations widely recognized the environment as a fundamental right, and water, recently approved by the UN as a human right, cogently strengthen the interrelations between Environmental Law and Water Law. Also, fundamental law (internal-constitutional law) and human law (International Law) are complementary dimensions, both from the perspective of dualist-mitigated theory and monist legal theory.

CONCLUSION

Given the emerging Brazilian rights (environmental and water) to be always dynamic and receptive to ecological communicating processes, such rights, among other attributions, discipline or regulate environmental-water expressions that do not accept dominant restrictions and/or impositions. In this way, they exchange information and communicate with biodiversity. Only with the emergent effectiveness the diversity of species in Brazil will be much more protected.

Here, the departure from theories that aim to be protagonists in the arena of law prevailed. It was not intended to reject theories in the face of ideological preferences but to avoid exclusivity. In another sense, we opted

for inclusive postures, with the scope of showing evidence of emerging legal branches that seek fruition in the legal order and/or the legal system in Brazil.

From the above, we aimed to present the jus positivist theory's insufficiency on traditional Western Law. This, in contemporary times, still advocates the Cartesian-mechanistic paradigm, already rejected by almost all the jus philosophers and scientists of the natural sciences.

Consequently, theoretical aspects of liquid modernity, systemic theory, and complexity theory were selected to support the future exhibition of the emerging environmental and water rights. This theoretical triad, directly and/or indirectly, acts in law and revolutionizes the emerging legal branches, which, together with their specific principles and with a focus on ecological objectives, become resilient and synergistic, and in a future instance, may redirect the legal order and/or national legal system in search of realization of human-fundamental rights and satisfactory quality of life for all living beings, especially humans.

Therefore, it became essential to insert four dimensions: interdisciplinarity, systematicity, complexity, and sustainability, to create ecological communicating ties and merge them with the specific principles of emerging rights, generating, through ecological principle-technical synergistic movements, processes on a national geographic scale.

Finally, in conclusion, two scenarios were built, namely, an overview of Environmental Law and an overview of Water Law, with the following components: concept, specific principles, related topics, in addition to describing the intrinsic nature of each emerging legal branch, to facilitate the understanding of its possibilities of exchange and fruition in the legal-ecosystemic world.

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