

# Sustainable Development and Ecological Modernization: Boundary Discourses between “Strong” and “Weak” Approaches

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## Abstract

The concepts of “sustainable development” and “ecological modernization” are today’s main discourses of action on the global environmental crisis. However, the quest of priorities interpretation within concepts is raised: there is a path dependence of the hegemonic worldview of techno-economic progress that was supposed to be overcome. The objective of this text is to analyse how this dependence influenced the evolution of such concepts and their operational proposals. Methodologically, the research is based on a literature review on discourses of these concepts. A typology of “strong” and “weak” discourses highlights the possibilities of “business as usual” in its operational interpretation as well as the ways to overcome it. The results show that the confrontation between them lead to a conceptual evolution of sustainable development and ecological modernization that merges into a common agenda: the governance of ambivalence between economic and social progress and environmental frontiers. The text concludes by proposing the existence of a discursive game between “survival” and “tranquillity”. This highlights an essential tension between environmental mitigation and institutional change that has accompanied the political agenda in the past 50 years. The resulting reflexive governance as a choice implies a broad participation in decision-making processes so that environmental trade-offs are collectively discussed, and responsibilities are shared. Notwithstanding, the article claims that this essential tension further implies questioning if governance may not also be a new discourse of appeasement and political unaccountability.

**Keywords:** sustainable development, ecological modernization, “strong” and “weak” approaches, discursive boundaries

## 1. Introduction

“Development” and “modernization” gave way to “sustainability” and “ecological” as great narratives in our century. We open the newspapers, we turn on the TV, we go shopping and everything is sustainable, everything is ecological. But what does that really mean? We must not forget that these terms have arisen to express qualities of the former. Saying so, sustainability means that development must follow certain priorities, as well as the term ecological within the context of modernization. However, the ways in which these qualities must be expressed never ceased to be tied to the modern technoeconomic narrative (Jacobi and Giatti, 2015). This is clear in the ambivalence that characterizes the goals of socio-technical transitions agendas (Walker and Shove, 2007). Therefore, the use of the terms “sustainability” and “ecological” raises a problematic between the adjective vs. the substantive, given its dependence on previous terms.

An adjective is added to anything without changing the nature of the thing, working just as an extension, while the change of a substantive requires a deep rearrangement of the core. In the framework of the terms ‘sustainable development’ and ‘ecological modernization’ the adjectives indeed should be the substantives: implying a radical change in the way we do things – not just a mitigation of the environmental problems (Adolf and Neckel, 2019). The literature is clear on the subject by differentiating between “weak” and “strong” approaches (Pearce, 1993; Dietz and Neumayer, 2007; Pelenc et al., 2015), highlighting “business as usual” agencies to play with these terms. This text precisely proposes to explore the duality of meanings within present narratives between those approaches tackling sustainable development and ecological modernization.

Although a diversity of discourses was recently listed (see Leipold et al., 2019), we consider “survival” and “tranquillity” as two boundary discourses (two poles of a continuum) which will be discussed throughout this text.

The contribution of the paper is to systematize and enunciate an essential tension (Kuhn, 1989) between environmental priorities and techno-economic beliefs on the basis of such discourses. This tension is not new, but instead a complexification of the same that was at the origin of the proposal for the concepts of sustainable development and ecological modernization. However, as these concepts spread around and became part of the political and everyday lexicon, the reconciling of the environmental crisis within the capitalist system overlapped the antagonisms of the worldviews which were the concepts shell. Hence, a clarification and updating of this discussion is required for a more reflexive posture in relation to these themes, both for researchers ‘*en herbe*’ and policy-makers.

Methodologically, the article presents a literature review on sustainable development and ecological modernization. The analysis confronts the different visions on the operationalization of these concepts highlighting latent discourses, the implications and constraints at the practical level as well as the path to overcome the latter.

In the first part of this paper a brief history of the emergence of the “environmental issue” within the concepts of development and modernization is presented, highlighting the modern confrontation between two paradigms: the Human Exceptionalism Paradigm (HEP) and the New Ecological Paradigm (NEP), which also configure two great narratives. Based on this confrontation, a second part discusses how these narratives express themselves in a “weak” and “strong” approach to the operationalization of the concepts of sustainable development and ecological modernization. Finally, the text ends with a reflection on the discursive game between “survival” and “tranquillity” and its relevance to discuss the essential tension between mitigation and change that has accompanied the environmental agenda in the last 50 years.

## **2. The Emergence of the “Environmental Issue” in the Concept of Development: A Brief History**

During the last two centuries, the belief that economic growth, science, and technological innovation would enable the continuing development of Western societies persisted (Jacobi and Giatti, 2015). Such ‘future prophecy’ (Bury, [1923] 1955) has its roots in the Enlightenment idea of progress and is at the basis of the system of values that we call ‘modernity’. This worldview was consolidated through the modernization processes (urbanization and industrialization), reinforcing an economic and instrumental rationality that became a dominant discourse of development. One of the ideas in this discourse was that modern industrial society would be increasingly independent of the biophysical environment. Dunlap and Catton (1978a; 1978b; 1979; 1980) characterized this idea as the ‘Human Exceptionalism Paradigm’ (HEP): a deeply anthropocentric, technologically optimistic and anti-ecological perspective (see Table 1).

The emergence of environmental problems is generally associated with the ‘metabolic gap’ (Foster and Clark 2012) created by industrial capitalism (extraction, transformation, consumption and waste of natural resources). The starting point of this gap is generally attributed to the modernization processes following the Industrial Revolution. However, the ‘Great Acceleration’ (Hibbard et al., 2007) of the socioeconomic growth that followed World War II has been understood as its main catalyst (Steffen et al., 2011; McNeill and Engelke, 2016). As a result of the development model adopted by the industrialized countries, such acceleration was quickly spread to lesser developed nations, multiplying the pace, extent and threat of environmental problems. This culminated in the late 1960s with the emergence of modern environmentalism, triggering a triple process of awareness, mediatization and politicization of the “environmental issue” worldwide.

This process was marked by a contribution of a series of environmental criticisms to technological solutions such as *Silent Spring* (Carson, 1962), *The Population Bomb* (Ehrlich, 1968), *The Tragedy of Commons* (Hardin, 1968), *The Limits to Growth* (Meadows et al., 1972) and *The Blueprint for Survival* (Goldsmith and Allen, 1972). Adopting a catastrophic vision regarding the future, these works portrayed the environmental problem from a ‘discourse of survival’ (Dryzek, 1997), proposing accordingly, radical solutions such as zero growth and de-modernization. Such solutions were unfeasible for the political arrangements of modern industrial society. However, they contributed to the fact that the dominant discourse of development was undermined and led to the need to search for new models capable of integrating environmental concerns.

Table 1. Paradigmatic premises of HEP and NEP

<b>Paradigm of Human Exceptionalism (HEP)</b> (matches with a simple modernity)	<b>New Ecological Paradigm (NEP)</b> (matches with a reflective modernity)
1. Men have a cultural heritage accumulated in (and distinct from) genetic heritage and, therefore, are very different from other animal species.	1. Although they have exceptional characteristics (culture, technology, etc.), men are among many other species on the planet, all of which are interdependently involved in the global ecosystem.
2. Social and cultural factors (including technology) are the major determinants of human actions.	2. Human actions are influenced by social and cultural factors and also by intricate cause-effect and feedback relationships in nature. Therefore, voluntary human actions have many unintended consequences.
3. Social and cultural environments are, par excellence, the context of human actions, the biophysical environment being very little relevant.	3. Men live and are dependent on a limited biophysical environment, which causes strong physical and biological constraints on human actions.
4. Culture is cumulative; therefore, technological and social progress has no limits, and is always a solution to social problems.	4. Although apparently human creativity and its potentialities extrapolate the limits of the planet's carrying capacity, ecological laws must be considered.

Source: Catton e Dunlap (1980, in Schmidt 1999, pp. 180-181).

This triple process, highlighting the problems of economic growth models and the complex and multidimensional character of development can be understood in the framework that Dunlap and Catton (1978a; 1978b; 1979; 1980) called 'New Ecological Paradigm' (NEP): the recognition of interdependence relations between socioecological systems (see Table 1). These processes culminated in the first United Nations Conference on Environment and Development (UNCED) in 1972 marking the start of environmental policy (in the contemporary sense of the term) and the publication in 1987 of the Brundtland Report which generalized the concept of sustainable development.

### *2.1 Sustainable Development: Misconceptions and Misunderstandings*

Sustainable development was popularized by the Brundtland Report as "the development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED 1987, p. 56). Emphasizing on the future relationship between 'needs' and 'boundaries', this definition presented a fundamental dilemma: on one hand, it highlights the urge for societies to live within ecological boundaries; on the contrary, the relevance of taking the different levels of development needs to be taken into account. In other words, this definition acknowledges that questions of social justice, intra and intergenerational equity, and quality of life would necessarily have to be considered alongside environmental issues.

Not being explicit about which system of priorities, the document presupposed the possibility of a positive relationship between economy and environment. By differentiating itself from the 'survival discourse' of the previous works, this possibility contributes to the wide acceptance of sustainability as a concept. However, from the earliest academic debates on sustainability, it became evident that, not knowing the needs of future generations, neither how technological innovations would affect the use of resources, the objectives of sustainable development were ambivalent and imprecise (Redclift, 1993; Wilbanks, 1995; Giddens, 1998; Walker and Shove, 2007).

In the social sciences, this imprecision was used to explain the concept as being at the same time a product of modernity as well as an attempt to respond to its various problems. This question can be explored from a sociological perspective as evidence of the confrontation between a 'simple' and 'reflexive modernity', or, in other words, a 'two-speed modernity' (Beck, 2015 [2007]; Beck, 2017). Such ambiguity means that sustainable development does not escape the historical and sociological construction of the Western notion of development;

enabling interpretations of continuity with a HEP worldview. These are some of the reasons why several authors argue that sustainable development should be understood as a discourse and a political program and not as an operational concept (Redclift, 1993; O’Connor, 1994; Wilkes, 1995; Dryzek, 1997; Giddens, 1998).

In economic development models, a common approach is to think of sustainable development in terms of a ‘capital stock’ to be maintained over time (Pearce and Turner, 1990; Pearce, 1993): (1) material (Km = infrastructures, technology, etc.); (2) human (Kh = knowledge, skills, etc.); and (3) natural (Kn = biodiversity, natural resources, etc.). This perspective appears to be polarized in literature between two approaches: the defenders of a ‘total stock of capital’, who understand that there can be ‘substitutability’ between the various capitals (total stock = Km + Kh + Kn); and defenders of a ‘constant stock of capital’, considering that under certain critical stock limits there are components of natural capital which are not substitutable (e.g.: oxygenation; habitat, regulation of water cycles; etc.). The argument of this second approach is that there is a critical natural capital (Knc) that contributes in such a unique way to our well-being, that its replacement is very limited by other capital components (Costanza and Daly, 1992; Ekins et al., 2003). The differences placed in natural capital led to these two approaches being differentiated as “weak” and “strong” sustainability (Pearce 1993, p. 17) (see Table 2).

As we know today, the loss of critical natural capital constitutes the greatest danger which may be passed on to future generations by the present ones. Considering that four (Note 1) out of nine ‘planetary boundaries’ (Rockström et al., 2009) have already been exceeded, the safe operational space for human planetary life is at risk. These boundaries ensure biogeochemical and climatic conditions for the planet to remain within the Holocene, the present time of the Earth Geological Time Scale that began about 12,000 years ago, having been started by the end of the last glaciation (McNeill and Engelke, 2016). The Holocene is characterized by exceptional conditions of temperature and climate stability which allowed “agriculture, larger villages and settlements, and more complex civilizations to develop and thrive” (Steffen et al. 2011, p. 9). As a consequence of this increasing impact on the planet by human activity some scientists were led to propose the use of the term ‘Anthropocene’ (Crutzen and Stoermer, 2000) to characterize the start of a new geological epoch in which humans are the defining geo-ecological force.

Table 2. Main differences between "weak" and "strong" sustainability

	<b>Strong Sustainability</b>	<b>Weak Sustainability</b>
<b>Key Ideas</b>	The substitutability of natural capital for other types of capital is extremely limited;	Natural capital and other types of capital are perfectly substitutable;
<b>Consequences</b>	Human actions can have irreversible consequences;	Technological innovation and monetary compensation for environmental degradation;
<b>Problems of Unsustainability</b>	To preserve the irreplaceable stocks of critical natural capital for the future generation;	The total value of the aggregate capital stock must be at least maintained or ideally increased for future generation;
<b>Key concept</b>	Critical natural capital;	Optimal allocation of scarce resources;
<b>Definition of Environmental Boundaries and Standards</b>	Scientific knowledge as the basis for public deliberation (procedural rationality);	Technical-scientific approach for the determination of thresholds and norms (instrumental rationality);

Source: Pelenc et al. (2015, p. 3).

“Strong” sustainability requires a constant stock of capital over time (Costanza and Daly, 1992). A balance between the increasing needs and natural capital is at stake: capital needs are required for maintaining economic and social benefits, achievable without a loss of critical natural capital; meanwhile, natural capital should be safe guarded; regardless of losses in terms of economic and social benefits. The difficulty of objectively defining the boundaries between synergies and necessary/possible trade-offs amongst different capitals has led to point out the importance of considering social perceptions in their definition of sustainability (Pelenc et al., 2015). This refers to a qualitative

design of development, meaning that there is not a single (or a better) development model to follow.

This perspective frames a critical view of the Western notion of development (linear and cumulative) that has been affirmed in the context of great uncertainty facing contemporary societies. Notions such as ‘risk’ and ‘reflexivity’ make it necessary to pose questions and to equate new political solutions which integrate broad participation and scientific knowledge (Beck, Giddens, and Lash, 1997). This scientific awareness has been slowly translated to the general public for the building of a new common sense. Policy-makers play a relevant role on this awareness process by involving academia, scientists, economic sectors, NGO’s and the general population in the process of decision-making through formulating and implementing participatory public policies.

Hence, the political and conceptual evolution of sustainable development has accompanied (and driven) a broader political-institutional transformation process that became evident from the early 1990s onwards. These changes have emerged as a response to the intensification of globalization and its challenges, particularly felt at the level of nation-states and their institutions capacities to respond (Beck, [1986] 1992). As a result, we have witnessed the progressive transfer of political power to transnational and subnational levels, favoring new forms of cooperation which transformed and restructured political processes and practices (Dryzek, 1997). Such changes do not remain unnoticed at the level of the themes discussed in various meetings of the United Nations and the resulting agendas, highlighting ‘governance of sustainability’ in the new global-local approach of development. The key milestones in that process have the following chronology:

- Agenda 21, the final document of the United Nations Conference on Environment and Development (UNCED; Eco 92; Earth Summit), which aimed to become a program of action that could be translated into public policies (Agenda 21 Local). This agenda presented sustainable development as a progressive concept that should be defined in partnerships and mobilized by different spatial levels (transnational, national, regional and local) following opportunities and challenges of the ongoing changes;
- Millennium Development Goals (MDGs), adopted for the period 2000-2015 as the first global public development policy that introduced a more thematic, systemic and ethical approach to sustainable development;
- the final declaration of the United Nations Conference on Sustainable Development (UNCSD, Rio + 20), entitled *The Future We Want* (UN, 2012), which recognized governance among different spatial levels as fundamental to the promotion of sustainable development;
- the Sustainable Development Goals (SDGs) – Agenda 2030 – adopted in 2015 with the document *Transforming our world: the 2030 Agenda for Sustainable Development* (UN, 2015). This first ‘global policy of the Anthropocene’ (Seixas, 2014) seems to have a ‘programmatic ambivalence’ (Seixas and Lobner, 2018): an extensive one, composed of 17 objectives and 169 associated goals, oriented towards institutional transformation (top down); and a minimalist, composed of five thematic axes, the “5 P’s” (People; Planet, Prosperity; Peace; and Partnerships) for experimentation and local adaptation (bottom up), highlighting the centrality of governance towards an integrated approach to sustainable development.

Summarizing, there are political and ideological contradictions expressed in the concept of sustainable development. These contradictions reflect on the dilemmas resulting from the confrontation between a still dominant worldwide industrial culture (HEP/first modernity) and a new world resulting from the reflexivity of the risks involved in this same worldview (NEP/reflexive modernity). The two approaches which promote sustainability can be understood in terms of such globalities: (1) “weak” sustainability, where the substitution of natural capital for other capital makes it possible for the actors of modern industrial societies to continue “business as usual”; and (2) the “strong” sustainability by which the synergies and trade-offs of the different capitals are limited by the maintenance of a critical natural capital. This implies a broad participation in the decision-making processes, making reflexive governance as a precondition to any political-economic vision of sustainable development.

### **3. Ecological Modernization: Between New and Old Development Discourses**

The incorporation of sustainable development into the political structure (polity) has boosted and benefited from the transformations which have been taking place in institutional arrangements of various levels of governance. In the specific case of the EU, this process was expressed as an attempt to deal positively with environmental issues within associated policy domains. This has been taken place at each of the spatial levels and was characterized by Mol (1999) as part of a normative trajectory termed as “ecological modernization”.

The concept was originally presented in the works of sociologists Joseph Huber, Martin Jänicke and Udo Simonis throughout the 1980s to explain the evolution of environmental policy in Western European countries. Since then,

it has been developed as a theory of social change and a political strategy (Olivieri, 2012; Sezgin, 2013). Its main assumption is that environmental problems can be addressed within the current socio-economic and political order through further modernization within a framework of micro- and macro-economic restructuring (Hajer, 1993, 1995; Gouldson and Murphy, 1996; Gibbs, 1998). Hence, 'ecological modernization' is generally understood as the incorporation and institutionalization of an ecological rationality, alongside with an economic one in terms of production and consumption processes and environmental policy (Mol, 1995).

In a first generation of literature, the focus of ecological modernization was placed only on industrial and technological aspects, giving little importance to the social context in which they occurred. Assuming that an ecological transition would be a logical, necessary and inevitable step in the development of the industrial system, and given that the processes of technological innovation occur more or less autonomously; these first authors understood that the role of the State had little influence in the reorientation of processes of production and consumption (Gibbs, 1998).

Later, however, Hajer (1993; 1995) extended this approach by differentiating two interpretations: (1) a 'techno-economic ecological modernization' (in which the economics of nature through technological solutions and vertical structures as well as centralized decision-making are emphasized); and (2) a 'reflexive ecological modernization' (in which changes in production and consumption are emphasized, as well as issues of democratization of decision-making, redistribution and social justice). Christoff (1996) characterizes these two versions as "weak" and "strong" ecological modernization, highlighting two boundaries of a spectrum of political and economic development of a critical self-consciousness that would involve public participation and democratic control (see Table 3.).

Table 3. "Weak" and "strong" ecological modernization

<b>Weak Ecological Modernization</b>	<b>Strong Ecological Modernization</b>
The main focus is on technological solutions to environmental problems;	Reforms in the institutional and economic structures of society by the incorporation of ecological concerns;
Technocratic and corporatist ways of elaborating policies, enhanced by the scientific, economic and political elites;	Decision making through open and democratic processes, marked by the participation and involvement of the various sectors of society;
Restricted to developed nations using green modernization to consolidate their global economic advantages;	Concerns about the international dimensions of the environment and economic development;
A closed, rigid and unilateral structure of political and economic development;	Open and participatory approach based on multiple possibilities guided by the assumptions of ecological modernization;

Source: Adapted from Christoff (1996).

A second generation of literature, especially associated with the works of Arthur P. Mol and Gert Spaargaren, has focused on transformation issues such as:

The transformation of the old political institutions of the nation-state in environmental reforms and emergence of the new sub- and supra-national political arrangements, the new role of the markets and economic actors in triggering environmental protection, and the increasing uncertainty and insecurity around environmental risks and management strategies following the changing role of science. (Mol and Spaargaren, 2000, p. 23)

The introduction of these themes contributed to the fact that ecological modernization affirmed itself as a multidisciplinary theory and inserted itself critically into the conceptual debate on "reflexive modernity, institutional changes and environmental reforms". In this sense, the theory of ecological modernization has been used by environmental sociologists to understand how current political-institutional changes have led to, or blocked, improvement in ecological outcomes (Olivieri, 2012).

Despite the several perspectives which have been placed on this topic, Gouldson and Murphy (1996, p. 14) identified the following four recurrent assumptions:

- Environment and economy can be combined in a synergic way by government intervention for further development (mutual benefit between environmental protection and economic growth; environmental protection must be an impetus for economic growth; government has an important role to play in this process);
- Environmental policy objectives should be integrated into other policy areas (most environmental problems are cross-cutting and it is, impossible to address them separately. Thus, environmental policy needs to be mainstreamed into other policy areas);
- Alternative and innovative policy measures should be explored (the need to develop new environmental policy instruments rather than top-down command and control instruments: governance and partnership models in the design and implementation of environmental policies);
- The invention, innovation and diffusion of new types of clean technology are essential.

Additionally, Gibbs (1998, p. 6) summarizes ecological modernization as a political program in three points:

- Compensation for environmental damage and use of additional technologies to minimize the effects of production and consumption on the environment;
- Focus on changing production and consumption processes through the use of clean technologies and economic evaluation;
- Decommissioning and de-industrialization of economies and a transformation to small-scale units and a closer relationship between production and consumption.

Several authors refer to ecological modernization as the EU's strategy for sustainable development policies. Nevertheless, this is not consensual, since it is generally understood in its "weak" version. Another fundamental issue in ecological modernization is the assumption that the basis of environmental problems is the structural "failures" or "errors" of the industrial techno-system (institutions of modern science and technology, as well as the market economy), and not the expansionist character of the capitalist system (Sezgin, 2013).

Following this, authors such as Blühdorn (2001) and Baker (2007) understand adopting this strategy as an EU way to use sustainable development as a discourse to reconcile environmental management with the basic objectives of the European Project: sustained economic integration in the neoliberal ideology; and the construction of the free market as support to the industrial competitiveness. Because it is deceiving of the real intention of a political approach to environmental sustainability, such a discourse is understood as an 'empty rhetoric' (Baker, 2007). Opposing to a 'survival discourse' (Dryzek, 1997), this works as a 'discourse of tranquility' (Blühdorn, 2001), supporting the Western notion of development and ideals of growth, profit and consumption. This argument was reinforced by Sezgin (2013) who spotted a response on this avenue within the EU's growth strategies (the Lisbon Strategy and its substitute, the Europe 2020 Strategy): a link between a commitment to the problem of climate change and energy efficiency as an EU way of reducing all of its environmental policy to a logic that more easily yields economic results.

At the level of the EU Cohesion Policy, or regional policy, where European strategies gain expression among Member States, the potential of the concept of ecological modernization as an operational program has been debated (Gibbs, 1998; Roberts, 2001; O'Neill, 2007; Argüelles and Benavides, 2014; Dias and Seixas, 2018). However, the empirical analysis of regional development programs for the period 2000-2006 by Argüelles and Benavides (2014) revealed little influence between the principles of this concept and the strategies defined in most of the regions studied:

[...] as environmental measures are tailored to the specific needs of the different kinds of regions, the importance of ecological modernization as the operating paradigm behind the Structural Funds OP varies, and is relevant only in the most developed regions of the group. (Argüelles and Benavides 2014, p. 1)

Some exceptions were Germany and the Netherlands, explained by the authors for their higher levels of socioeconomic development and long traditions of environmental policy. More recent work has shown that in Portugal, a strategy of ecological modernization was also instrumentalized as a way to access EU funding in the 2014-2020 period (Dias and Seixas, 2018).

In short, the concept of ecological modernization presents itself in operative terms as a potential substitute for sustainable development, for example within the EU. However, its use as a strategy is controversial and seems to

be restricted to a policy-regulatory framework. Regional specificities seem to be decisive for understanding the pinpointed environmental measures. Here, the evidence from the studies of Argüelles and Benavides (2014), as well as from Dias and Seixas (2018) are relevant. The results of these studies reinforces the concerns raised by Baker (2007) and Sezgin (2013) as well as by theorists such as Hajer (1995) and Christoff (1996) which refer the danger of ecological modernization as a discourse to legitimize the interests of the actors of the first modernity and thus, to continue instrumental domination and destruction of the environment. In this way, the reflexive governance processes associated with “strong” ecological modernization became fundamental as a mechanism for regulating and controlling individual interests in favor of collective interests (Adlof and Neckel, 2019). This implies an institutional transformation for more flexible political arrangements in which a collaborative and cooperative planning, as well as management of uncertainties and risks are integrated into public policies.

#### 4. Final Remarks

There are two ‘boundary discourses’ which serve to discuss sustainability and the ecological in a development/modernization framework: “survival” and “tranquility”. Hence, we are facing an ‘essential tension’ on the frontstage, which is in-between institutional change/transformation and environmental mitigation. The theoretical and practical contribution of this text was to systematize and enunciate such tension. This we believe to be central especially for researchers ‘*en herbe*’ and policymakers in order to better understand the main approaches and discourses which compete for the operationalization of sustainable development and ecological modernization as concepts. The “survival” discourse emerges in the context of the affirmation of the environmental issue in the global political agenda. It is a warning, catastrophic and radical discourse that was at the origin of the ecological movements. It was also this discourse that led to sustainable development as an alternative concept which could be adjusted to existing institutions. Since its emergence, the ambivalence of the concept of sustainable development worked as a process of pacifying the most radical visions that demanded the radical transformation of society. This is visible in the in-between approaches towards sustainability: the “weak” one, reproducing the discourse of “business as usual”; and the “strong” one as a resonance of the survival discourse.

“Tranquility”, as the second ‘boundary discourse’, is associated with the concept of ecological modernization. The technological focus characterized the solutions of this approach in the conciliation between environment and economy in the 70’s. Renewal technologies afterwards also appeared as a pacifying resource to the ‘survival discourse’. Conceptual evolution and greater reflexivity eventually reflect the dilemmas which derive from “business as usual” as a possibility opposing to effective change. The case of the EU explains the way in which these dilemmas are translated at the level of politics and policies, becoming evident through the discourse of “tranquility”. This discourse is characterized by an ‘empty rhetoric’, since the main intention is to follow “business as usual”.

According to the law of Thomas (“what is thought to be real is real in its consequences”) the above referred discourses function as a game between self-fulfilling and self-destroying prophecies. This discursive game of “survival” and “tranquility” frames how one may understand the “strong” and “weak” approaches addressed by both sustainable development and ecological modernization.

These ‘boundary discourses’ are relevant for disclosing the essential tension of the last 50 years which results in practical (in)action. In many cases, as in the novel ‘The Leopard’, from Giuseppe di Lampedusa, “Everything needs to change, so everything can stay the same”: mitigating environmental problems through a discourse of change as a way of concealing political inaction rather than true transformation. What contribution can we make, then? What may be interesting to know, built from this ground? What discourses do exist amongst the characterized ‘boundary discourses’? How are they applied/ instrumentalized within the political arena? How are they conditioning political institutions and public policy for change? And lastly, how sufficient could mitigation be? Hence, we propose to remain with these questions for further elaboration.

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### **Note**

Note 1. Climate changes; loss of biodiversity; change of the terrestrial system; and alteration of biogeochemical cycles (phosphorus and nitrogen).

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